Evaluation of Top-down and Bottom-up Leadership Development Programs in a Finnish Company

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Abstract—The purpose of this paper is to examine and evaluate the top-down and bottom-up leadership development programs focused on human capital that improve the performance of a company. This study reports on the external top-down leadership development program supported by a consulting company and the internal participatory action research of the bottom-up program. The sickness rate and the lost time incident failure rate decreased and the ideas produced for cost savings improved, leading to increased earnings during the top-down program. The estimated cost savings potential of the bottom-up program was 3.8 million euro based on the cost savings of meeting habits, maintenance practices and the way of working in production. The results of this study are useful for those who plan and evaluate leadership development and human capital productivity consultation programs to improve the performance of a company.

Keywords—Leadership, development, human resources, company, indicators, evaluation.

I. INTRODUCTION

DEVELOPING human capital leadership is a primary activity focused on the competencies of human resources and the performance of a company. Human capital leadership has the most important effect on wellbeing at work and on the quality and the outcomes of the organization [1]. The paradigm shift from human resources to human capital to sustain a competitive advantage was the challenge of many previous studies [2], [3]. The most notable and internationally unique scientific contribution of this study is that it gives an example of how leadership development programs can be implemented in a company and their outcomes evaluated.

Many obstacles are encountered on the path to positive organizational outcomes. Resistance to change prevents the mobilization critical to a successful transformation [1]. Holt et al. [4] note that the readiness for change is a multidimensional construct influenced by beliefs among employees that 1) they are capable of implementing a proposed change, 2) the proposed change is appropriate for the organization, 3) the leaders are committed to the proposed change and 4) the proposed change is beneficial to organizational members. This study explores the role of participants in the top-down and bottom-up leadership development programs in organizational performance.

The purpose of this study is to examine how the case company succeeded in the top-down leadership development program, the ideas and development needs the case

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organization identified in the bottom-up leadership program, and how the participants perceived the programs. The research describes the changes in the key performance indicators during the top-down leadership program and the potential cost savings based on the bottom-up leadership development program. Usually the management consultation projects of companies are not evaluated or their results are not published. In this sense, this article brings significant new value and makes a real theoretical and practical contribution to organizational science. The study gives empirical evidence on how leadership development programs can be implemented and their outcomes evaluated in a company.

The company in this study is a Finland-based international multinational paper company with more than 13,500 employees on three continents. The Finnish paper mill employs more than 550 paper industry professionals and produces 735,000 tons of high-quality magazine paper used for premium quality publications mainly in international markets. The challenge of the paper business has been the decreasing sales in the last decades, making the management of human capital and cost efficiency more important than ever. The changing business environment needs the actions of managers to human capital leadership to improve company performance.

The remainder of this paper is structured as follows. Section II consists of the literature review, which depicts the human capital improvements based on the leadership development programs. Section III describes the data and methodology and presents the case company of the study. The results and discussion in Section IV explains and compares the outcomes of the top-down and bottom-up leadership development programs. Section VI offers final comments.

II. LITERATURE REVIEW

The human capital leadership programs presume changes in organizational culture. This is a challenging task because cultural changes require persistence and time. According to Schein [5], one of the most important tasks of leaders is to strengthen the organization culture; this takes from five to 15 years. Managers and leaders must be able to detect weak signals in the environment and organization and open a collective discussion and co-operation to develop the organization knowledge base, processes and products [6].

The habits which are most stubbornly resistant to change are those which had earlier worked well and led to rewards [7]. Harmful habits are difficult to change, and therefore, leadership development programs are critical for the continuous improvement and commitment of the organization

[8]. Leaders must ensure that the working community can evolve and adapt to continuous changes in the business environment.

Participatory action research and development ideas following the bottom-up procedure may lead to workplace innovations which contribute to better business performance [6]. It is important to strengthen competence, take interrelated competencies into account and solve problems in a collaborative way to increase the profit-earning capacity of the company. The participation of the top management in the development process is required before collected tacit information can be implemented.

The meaning of social and cultural worlds is created via social interaction. Knowledge creation is based on communal production and the world we perceive as real is a social achievement which is reached through what people agree upon. Organizational change and development have powerful implications due to this kind of approach [9]. Social interaction can take place in collaborative teams within an organization and networks that reach outside the organization [10].

Da Silva et al. [11] underlined that organizational learning demands rethinking of organizational design and the change in individual behavior. Furthermore, learning takes place after a knowledge acquisition process based on information-processing mechanisms. Organizational learning process stems from skills in systematic problem solving, new approaches for experimenting, learning from prior know-how, learning from others' know-how and best-practices and knowledge diffusion in a fast and efficient way.

The concept of competence is normally used in the strategic context for achieving competitive advantage and it includes core competencies, which are essential for business survival and company differentiation from other competitors [11]. Competence should be defined according to Sanchez [12] through five types of flexibility: 1) cognitive flexibility to conceive alternative strategy paths, 2) cognitive flexibility to conceive alternative management processes, 3) coordination flexibility to identify, set up and allocate resources, 4) resource flexibility to be used in different activities and alternatives and 5) operational flexibility for mobilizing available resources according to individual skills and capabilities.

The concept of capability is more comprehensive than the competence because besides competence it includes strategy orientation and the connection between resources and skills. The manufacturing strategy requires the creation of organizational capabilities and competence, which will allow the company to make competitive products in the future [12]. Hence companies need capabilities to implement the strategies.

Human capital can be defined as current and future income, which is estimated under assumptions about future annual income and discounted to the present [13]. Labor productivity and human capital productivity are connected, but represent different concepts. Labor productivity considers only the present, while the human capital productivity considers both the present and the future. People who have completed a higher level of education usually have more human capital than people with less education.

Evaluation can be described as a set of planned activities which include information gathering and analytical methods of providing a satisfactory evaluation of progress for managers and stakeholders. Evaluation is essential in management and should be used at the end of a leadership development program. Without an evaluation, a researcher cannot verify whether the improvement was achieved or objectives met [14]–[16]. The evaluation types can be categorized as 1) process (formative, during intervention), 2) outcome (summative, after intervention or longitudinal, after specific time) and 3) theory-based (or theory-driven) [14].

It is also important to acknowledge to what extent the development program was responsible for the observed outcomes [16]. It is problematic to measure the independent impact of an intervention in a case study. Although measures show improvement, it is difficult to prove that the difference is the consequence of the organization development intervention and not of other changes in organization, competitive factors, society or other variables [14].

III. DATA AND METHODOLOGY

Forestry has been the driver of the Finnish economic growth and wellbeing for centuries. The paper industry is a traditional sector in Finland. Over the last decades, the paper industry has changed significantly. The growth of electronic communication has had a serious impact on traditional print media. Big paper companies and their employees are in an unprecedented situation as the demand for paper is declining, prices are falling and employees are aging.

The case company is a Finnish paper mill which is a leading European producer of coated fine paper used in premium magazines, catalogues, books and high-end print advertising. The paper mill is part of the multinational consolidated corporation, which has over 13,500 employees and manufacturing operations on three continents. Its sales offices are in 50 countries and customers in more than 100 countries around the world. The case company annually produces 735,000 tons of high-quality magazine paper which is used for premium quality publications all over the world. The paper mill employs more than 550 paper industry professionals. Over 90% of the production of the paper mill is exported.

The trend of net sales has decreased slightly during the last decade. Operating income has fluctuated notably because of changes in sales and prices. There have been some new investments like the construction of a new boiler plant. Generally speaking, business has stagnated or decreased slightly, so cost efficiency is very important. While the organization needs to change because of the major changes in the external environment, the organizational culture must be modified. Change management is used to support the company to define and achieve new targets in a changing environment [17].

The rapidly changing business environment demands a change in business strategies. Large investments in paper

machines are less profitable and many paper mills are shutting down. Companies are announcing employee cooperation negotiations and employees are being laid off. Quality needs to be improved, because the cost of poor quality is usually greater than expected [18]. Most of the quality costs consist of poor working practices [19]. The changing business environment requires improvements and change management skills in paper mills.

The renovation of the leadership culture and human capital improvements can achieve the goals of business performance. Ability to jump on the next level presumes the participation of every member of the organization. The leaders have to understand their influence and responsibility to lead. In addition, the know-how of the organization has to be acknowledged. Finally, participation has to be enabled and honest listening, contributing, sharing and collaborative co-creation supported [19], [20].

Fig. 1 depicts the case company's top-down and bottom up leadership development programs. These programs aim to improve the company performance in a stagnant business environment. Improvement in performance is measured by the improved human resource indicators during the top-down program and the potential cost savings of the bottom-up program.
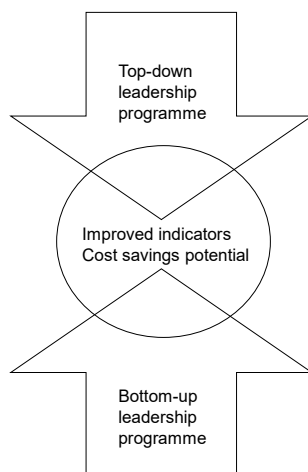

Fig. 1 The top-down and bottom-up leadership development programs

IV. RESULTS AND DISCUSSION

A. Top-Down Leadership Development Program

The top management of the company, in collaboration with an external consulting company, planned the leadership development program for the 76 managers and supervisors of the paper mill to change its leadership culture. The members of the top management already had a sense of what had to be changed. The leadership development program was started in the spring 2014 and consisted of 22 training days. The theme of the program, intended to describe the desired leadership culture in the paper mill, was "courageous, fair and inspiring."

The top management set benchmarks for the leadership development program so that it could track the progress of the change in leadership culture. The top management set generic aims for the human capital costs, including sickness rate, the lost time injury frequency rate, sustainable engagement and personnel efficiency. The top management wanted to know whether the leadership development program had any effect on these human capital metrics.

A leadership development program is an educational intervention to introduce a new way of leading people in changing business circumstances which presume changes in the company values and processes [5]. The assumption underlying this kind of procedure is to train all managers and supervisors in shared concepts of leadership so that they can reinvent the leadership culture. The aim was to achieve a common way of working and to make the culture one that was characterized by listening, collaboration and a feedback-giving leadership style.

The leadership development program started with interviews of the members of the top management team, selected managers, supervisors and blue-collar workers. The interviews were followed with intensive training and workshops. The workshop themes were the rules of leadership, communication skills, giving feedback, development discussions and courageous, fair and inspiring leadership. The key leadership tools were reviewed in the workshops and compiled into a Manager's Manual. A series of short videos on leadership tools was filmed and added to the electronic learning environment of the case company.

B. Bottom-Up Leadership Development Program

The bottom-up leadership development program was based on an internal consultation facilitated by Kati Skarp, one of the authors of this article, using the participatory action research method [19] in 2016. All 76 managers and supervisors of the paper mill were invited to participate in the assessment and algorithm workshops. They were in the target group and were able to contribute to change management.

When a researcher studies his or her own organization, the assumption is that he or she undertakes an explicit researcher role. This means that the researcher needs to balance his or her regular functional and researcher roles [21]. The participants identify problems, tailor development steps and disseminate results in the participatory action research. Reliable information can be obtained with a representative random sampling, but in this case it was not necessary, because the full population of managers and supervisors evaluated the data [22].

Participatory action research combines systems engineering with management problems. Its objective is to empower and engage the population of the research and to have their voices heard and respected [23], [24]. Participative observation makes it possible to understand whether or not people are acting the way they should. The method addresses problematic situations through discussions and understanding multiple perspectives of the topic.

The participatory action research included a pre-questionnaire backed up with intermediate interviews and

three sequential workshops. The pre-questionnaire received 26 answers which included 94 problems. Thirty-four problems were associated with leadership. The other problems were related to processes, hurry, inefficiency, extra work and the lack of motivation. The methodology can be divided into assessment and algorithm workshops for the managers and supervisors, and action workshops for the top management.

When completing the anonymous pre-questionnaire, participants give their opinions about the problems that are interfering with their work. In the assessment workshop, participants discuss these problem areas. The problems were evaluated in the workshops and validated using cause and effect analysis. The participants' understanding of, and agreement on the obstacles is essential. The evaluation must be fact-based instead of relying on secondhand opinions or the beliefs of top management.

The algorithm workshops are in the action planning phase. Solutions to the identified problems are worked out. The purpose of the workshop is to clarify what should be improved and how. The participants will also evaluate the costs and describe the effects of the development steps. The team-based problem solving and executing via workshops have widely been used in quality and knowledge management [25], [18]. Twenty-eight improvement proposals were made in the three algorithm workshops.

The action workshop is held in the decision-making phase. In this workshop, top management must agree on how the suggested development plans are put into action. Its objective is the confirmation of company-specific methods, decision-making about the actions and approving the outlines for measurement. The workshop elicited ideas and proposals from the bottom-up approach to the decision making of the top management to increase human capital productivity. The accepted proposals must be written into the action plan, sufficient financing and human resources allocated and timetables set to achieve the desired outcomes.

When companies pursue cultural leadership changes via development programs, there are pitfalls and human behavior easily reverts to old habits after the program. A wellbeing day was scheduled for the managers and supervisors to ensure the sustainability of the bottom-up leadership development program. The progress and continuity of the leadership culture were ensured by lectures and discussions. The participants could reflect on their contribution and influence on their teams and develop their own work to increase the sense of wellbeing, employer engagement and improved leadership culture.

C. Results of the Leadership Development Program

Table I depicts the indicators of the human capital productivity in the paper mill during the top-down leadership development program. Many of the indicators measuring the personnel efficiency improved during the top-down program. The indicator values of the sickness rate, the lost time injury frequency rate and the produced ideas for cost savings improved clearly improved, but the sustainable engagement of personnel remained unchanged. The usage deviation, which indicates the difference between the budgeted raw materials

and actual figures, was 1.6 million euro. The earnings before interests, taxes, depreciation and amortization rose 5.1 percentage points.

TABLE I
THE INDICATORS OF THE HUMAN CAPITAL PRODUCTIVITY IN THE PAPER MILL DURING THE TOP-DOWN LEADERSHIP DEVELOPMENT PROGRAM

	2014	2015
Sickness rate, %	5.5	5.2
Lost time injury frequency rate, %	2.3	0.7
Sustainable engagement, %	73	73
Produced ideas for cost savings, €	200 000	297 000

The results of the bottom-up leadership development program indicate that the most of the improvement proposals focused on maintenance resources, production stops, prioritization and information-sharing between departments. According to the participants, the biggest needs for improvement were in meeting habits and the ways of working in the maintenance and production. In order to reduce the costs of poor quality, it is extremely important to set priorities for the effective use of resources. That requires the identification of contributing factors to the costs of poor quality [26].

Table II depicts the carefully estimated annual cost savings potential in the case paper mill due to the bottom-up leadership development program. The cost savings potential was estimated for the three major improvements: meeting habits, maintenance practices and the way of working in production. The annual total savings potential of these challenges was estimated to be about 3.8 million euro, a notable sum of money even in a big paper mill.

The annual cost savings of the improved meeting guidelines, rules and habits were estimated to be 1.2 million euro. The annual efficiency improvement of the maintenance was 0.9 million euro. It is based on the better organization of work so that the maintenance employees can avoid unnecessary waiting time and focus on their activities. The fixed and expensive ways of working in production are real obstacles to the managers and supervisors. If the way of working in production could be made more flexible to support the production process, the annual cost savings could be 1.7 million euro. Top management decided to take these three improvement proposals under development.

TABLE II
THE ESTIMATES OF THE ANNUAL COST SAVINGS POTENTIAL IN A PAPER MILL DUE TO THE BOTTOM-UP LEADERSHIP DEVELOPMENT PROGRAM

	Million euro
Meeting habits	1.2
Maintenance practices	0.9
Way of working in production	1.7
Total	3.8

D. Comparison of Top-Down and Bottom-Up Approaches

Feedback about the top-down and bottom up leadership development programs was collected from all the managers and supervisors using the Webropol survey. The purpose of the survey was to know how the participants experienced the possibility to contribute to and learn from both leadership

development programs. The top-down program was reported to be useful for 89% of the respondents and the bottom-up program was useful for 84% of the respondents.

When the respondents were asked about the benefits of the top-down development program, they mentioned 1) the iteration of the key issues related to leadership, 2) the explanation of why it is important to intensify the development discussions, 3) the summary of the program and 4) the Manager's Manual. When the respondents were asked about the benefits of the bottom-up program, they mentioned 1) the ability to discuss problems, 2) suggestions for improvements, 3) the discussions with people from different departments about their problems and understanding how each person can assist with the work of others and 4) it was good that the problem areas were identified and the same problems were evaluated in various departments. The bottom-up program was more difficult because it affected the participants' work.

The external top-down leadership development program was preferred to the internal bottom-up program. The result was related to the questions about the amount of time dedicated to discussion with colleagues and the usefulness of the program in terms of the participants' own work. The top-down program focused on enhancing basic leadership skills such as manager's role, communication, feedback and development discussion, but the bottom-up program focused on identifying the obstacles that managers and supervisors encountered in their own work. The participants in the bottom-up program had to propose ways to eliminate these obstacles.

The results of the internal bottom-up development program are more practical and tangible and therefore they can have more concrete practical outcomes than external top-down leadership consultation programs. This is why it is extremely important for the top management to decide upon a clear action plan for these results. It is also critically important to control the way in which the action plans are implemented to achieve the targets. The results of this study support the finding that the managers and supervisors like more the vague external top-down leadership development program, because it does not show problems and increase responsibilities as well as the bottom-up program does.

As a conclusion of the management programs, it is evident that the top-down and bottom-up approaches are both necessary, because they have different purposes. The effectiveness of the external leadership development program can be complemented by the internal program. Beer et al. [27] also note that the top management should collect feedback about the obstacles to organizational effectiveness and performance and how they are related to the behavior of senior managers.

V. CONCLUSION

This study examined two kinds of leadership development programs focusing on human capital productivity. The objective of this study was to find out how the case company succeeded with the top-down leadership development program, what kind of ideas and development needs were identified by the bottom-up program and what kind of comparisons and conclusions can be drawn from these two programs. Participatory action research was used to arrive at a theoretical and practical understanding supported with empirical evidence about the conditions, practices and consequences of the leadership development programs.

The results of the study indicate that the key performance indicators of the human capital productivity increased during the top-down leadership development program. The sickness rate decreased from 5.5% to 5.2%. The lost time incident failure rate decreased from 2.3% to 0.7%. The produced ideas for cost savings rose from 200,000 euro to 279,000 euro. These changes resulted in increased earnings of 5.1 percentage points during the top-down program.

The estimated annual cost savings potential due to the bottom-up leadership development program were notable. The improvement of the meeting habits could save 1.2 million euro. The improvement of the maintenance practices could lead to cost savings of 0.9 million euro. The largest cost savings were estimated at 1.7 million euro due to the improved way of working in production. The estimated total amount of cost savings was 3.8 million euro. These estimates were collected from the participants in the participatory action research in the paper mill. The implementation of the savings potential is one of the key responsibilities of the management in 2017 and 2018.

According to the Webropol survey, the top-down leadership development program was preferred to the bottom-up program, which was change management and presumes challenging behavioral changes and transition from convenient to demanding working conditions. The bottom-up program identified obstacles that managers and supervisors perceived and brought solutions to the decision forum of the top management. Both approaches to leadership development are useful and needed, because they complement each other and increase human capital productivity.

The limitation of the study is that the company performance is affiliated not only with the leadership development programs but also with other business metrics such as sales prices and volumes. Based on the results of this study, we cannot attribute all of the increased productivity numbers to improvements in leadership, but leadership behavior and decisions can have an enormous impact on human capital productivity. Another limitation of the study is that it was done only for the case company and the results cannot be generalized to other companies. Based on the limitations of the study, further studies should examine the effects of leadership development programs on the organizational culture from the points of view of employees and strategic management.

REFERENCES

[1] S. H. Appelbaum, M. C. Degbe, O. MacDonald, and T. Nguyen-Quan, "Organizational outcomes of leadership style and resistance to change (Part Two)," *Ind Commer Train*, vol. 47, no. 3, pp. 135–144, 2015.

[2] N. Bontis, and J. Fitzenz, "Intellectual capital ROI: A causal map of human capital antecedents and consequences," *Journal of Intellectual Capital*, vol. 3, no. 3, pp. 223–247, 2002.

[3] J. McGregor, D. Tweed, and R. Pech, "Human capital in the new economy: Devil's bargain?" *Journal of Intellectual Capital*, vol. 5, no. 1, pp. 153–164, 2004.

[4] D. T. Holt, A. A. Armenakis, H. S. Field, and S. G. Harris, "Readiness for organizational change: The systematic development of a scale," The *Journal of Applied Behavioral Science*, vol. 43, no. 2, pp. 232–255, June, 2007.

[5] E. H. Schein, *Organizational Culture and Leadership*. San Francisco, CA: Jossey-Bass Publishers, 1997.

[6] M. Kesti, and A. Syväjärvi, "Human tacit signals at organization performance development," *Ind Manage Data Syst*, vol. 110, no. 2, pp. 211–229, 2010.

[7] J. Gharajedaghi, *Systems Thinking: Managing Chaos and Complexity: A Platform for Designing Business Architecture*. Amsterdam: Elsevier, 2011.

[8] B. de Wit, and R. Meyer (1998). *Strategy: Process, Content, Context: An International Perspective*. London: International Thomson Business Press.

[9] F. J. Barrett, "Social constructionist challenge to representational knowledge: Implications for understanding organization change," in *Dialogic Organization Development: The Theory and Practice of Transformational Change*, G. R. Bushe, and R. J. Marshak, Eds. Oakland, CA: Berrett-Koehler Publishers, pp. 59–76, 2015.

[10] J. Kettunen, "Innovation pedagogy for universities of applied sciences," *Creative Education*, vol. 2, no. 1, pp. 56–62, 2011.

[11] M. A. da Silva, G. Zangiski, E. P. de Lima, and S. E. G. da Costa, "Organizational competence building and development: Contributions to operations management," *Int J Prod Econ*, vol. 144, pp. 76–89, 2013.

[12] R. Sanchez, "Understanding competence-based management: Identifying and managing five modes of competence," *J Bus Res*, vol. 57, no. 5, pp. 518–532, May 2004

[13] B. M. Fraumeni, "Human capital productivity: A new concept for productivity analysis," *International Productivity Monitor*, vol. 24, pp. 20–26, 2012.

[14] W. J. Rothwell, R. Sullivan, and G. N. McLean, *Practicing Organization Development: A Guide for Consultants*. San Francisco: Jossey-Bass/Pfeiffer, 1995.

[15] M. Kubr, *Management Consulting: A Guide to the Profession*. Geneva: International Labour Office, 2002.

[16] J. C. McDavid, I. Huse, and R. R. I. Hawthorn, *Program Evaluation and Performance Evaluation: An Introduction to Practice*. Thousand Oaks, CA: Sage Publications, 2013.

[17] W. W. Burke, *Organization Change: Theory and Practice*. Thousand Oaks, CA: Sage Publications, 2002.

[18] T. Malmi, P. Järvinen, and P. Lillrank, "A collaborative approach for managing project cost of poor quality," *Eur Account Rev*, vol. 13, no. 2, pp. 293–317, 2004.

[19] P. Järvinen, K. Artto, and P. Aalto, "Explorations on the integration of fractured process improvement: The 3A-workshop procedure," *Project Management*, vol. 6, no. 1, pp. 77–83, 2000.

[20] J. P. Kotter, *Leading Change*. Boston, MA: Harvard Business Review Press, 2012.

[21] D. Coghlan, and T. Brannick, *Doing Action Research in Your Own Organization*. London: Sage Publications, 2014.

[22] S. Chen, B. Poland, and H. A. Skinner, "Youth voices: Evaluation of participatory action research," *Canadian Journal of Program Evaluation*, vol. 22, no. 1, pp. 125–150, 2007.

[23] B. Williams, and R. Hummelbrunner, *Systems Concepts in Action: A practitioner's Toolkit*. Stanford, CA: Stanford University Press, 2011.

[24] C. J. Dold, and R. A. Chapman, "Hearing a voice: Results of a participatory action research study," *Journal of Child and Family Studies*, vol. 21, no. 3, pp. 512–519, June 2012.

[25] I. Nonaka, and H. Takeuchi, *The Knowledge Creating Company*. New York, NY: Oxford University Press, 1995.

[26] H. Ali, W. Arif, D. S. Pirzada, A. A. Khan, and J. Hussain, "Classical model based analysis of cost of poor quality in a manufacturing organization," *Afr J Bus Manag*, vol. 6, no. 2, pp. 670–680, Jan. 2012.

[27] M. Beer, M. Finnström, and D. Schrader, "Why leadership training fails – and what do to about it," *Harvard Business Review*, pp. 50–57, Oct. 2016.