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Can High-involvement Innovation Practices improve Productivity and the Quality of Working-life simultaneously? Management and Employee Views on Comparison

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ABSTRACT

This paper examines the association of high-involvement innovation practices (HIIPs) and simultaneous improvement of productivity and the quality of working life (QWL). HIIPs refer to work, managerial, and organizational practices that are intended for supporting continuous improvement and broad participation. The data are based on the evaluation surveys carried out by the Finnish Workplace Development Programme TYKES (2004–2010). TYKES was a governmental programme for promoting simultaneous improvements in productivity and the QWL in workplaces through changes in work, managerial, and organizational practices. Information obtained via two different surveys has been combined for the purposes of this article: a survey on HIIPs within a work organization (HIIP) and a self-assessment survey of project outcomes (SA). The survey material comprises altogether 253 responses from 163 different workplaces. The analysis provides evidence in favor of a view that publicly funded workplace development projects constitute appropriate means to support productivity and the QWL simultaneously. The results provide evidence that HIIPs, including decentralized decision making, competence development, internal cooperation, and external cooperation, are of importance when trying to gain better results in both productivity and the QWL from both management and employees' point of view. In addition, the development process itself, that is, how the practices are implemented and good skills in project management, is highlighted. Concerning the supervisor's supportive role in employees' innovation activities, the picture is more mixed and surprising.

KEY WORDS

Innovation / Finland / productivity / research and development / shared leadership / wellbeing

Introduction

The empirical study of the link between changes in workplace practices such as work, managerial, and organizational practices and their impact is a challenging task. The question has been explored by scholars in the field of organizational development and human resource management (HRM) for several decades, and in recent years, discussion has also taken place in the area of innovation research (Appelbaum et al., 2000; Bessant, 2003; Huselid, 1995; Karasek & Theorell, 1990; Lawler, 1992). A variety of "best," "innovative," or "participative" practices have been proposed, each purporting to produce beneficial effects for the organization.

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So far, researchers have been able to indicate positive links between the application of workplace practices and productivity (Guest, 2006; Huselid, 1995, Subramony, 2009; Wright et al., 2005). Instead, the link between diverse practices and well-being of employees did not enter the studies to a more significant degree until the turn of the millennium (Van de Voorde, 2009). Particularly in the Nordic countries, exploring the impact of workplace practices has not been limited to factors of production only, but the emphasis has also been placed on sustainable that also contributes to the quality of working life (QWL). The most recent results have also been able to show links between practices and well-being at work (Böckerman et al., 2012; Butts et al., 2009; Vanhala et al., 2012), but the results have been conflicting in parts. The workplace practices may enhance the QWL, but may also reduce it, for example, through increases in the level of responsibility and greater competence requirements. So far, no generally accepted and evidence-based consensus exists on what kinds of workplaces are at the same time, productive, innovative, and favored by employees.

There also exist other conceptual and methodological problems in earlier studies that have been difficult to solve. One shortcoming in the earlier empirical studies is that their typically one-sidedly are based on the information given by management. The changes and outcomes of workplace practices are studied only from the management point of view. Management views might reflect organizational policy but not necessarily implementation of that policy. The use of multiple data source has been rare. One of the exceptions is the UK Workplace Employee Relations Survey (WERS). In the WERS study, data were gathered separately from management representatives, union representatives, and nonmanagerial employees. The reported results showed that the relationship between the incidence of high-commitment management practises and the climate of employee relations at the workplace level was highly dependent on the respondent group (Cully et al., 1999). It seems that diverse respondent groups may give different estimates of the content of development (Tuomi &Vanhala, 2002), the results of development work (Cully et al., 1999; Ramstad, 2009a), and the factors that affect to the success of the development (Salminen et al., 1999; Tuomi & Vanhala, 2002). Therefore, it is important to look at the results and the implementation process of workplace practices from both management and employees' point of view. The differences in views between management and employees have been attributed, among others, to their different positions in the organization (Ylöstalo, 2003). Employees look at the matter from the point of view of their own everyday work, whereas management may perceive development more through the strategy, finances, and formal organization of the workplace.

Various models have been presented on how certain individual practices thought of as progressive and "bundles" formed of such practices affect to the success of an organization. Typically cited mechanisms of impact are the universalistic, contingency, and configuration mechanisms (Pettigrew & Whittington, 2003). Each of these have their own characteristics; however, they are all rather stable models, as their focus is merely on the current situation in the organization and workplace practices at the time being. In order to get a better understanding of the effect of practices, more information is needed before and after the implementation of the practices.

Also, the development process itself, how these practices are being introduced and adopted, is a factor often overlooked in previous studies, perhaps for the reason that development work constitutes as a part of continuous development work carried out within an organization. However, the development process can have considerable significance for how the practices will become disseminated. How to organize and execute

the development work in a way that enables positive results in both productivity and the well-being of employees? There is initial empirical evidence that shows that the outcomes of workplace practices are not dependent only on the content of practices but also on the nature of the development process (Ramstad, 2009a). One of the reasons to the mixed results of the effects of practices on productivity and the QWL might be attributed to the fact that the nature of development process and approach are not adequately taken into consideration.

This article intends to fill in some gaps mentioned above in introduction. The starting point is to study workplace development projects that have been able to improve both productivity and the QWL based on the estimation of both management and employees, and investigate what kind of changes in workplace practices are related to simultaneous improvement. It is argued that when the goal is to produce lasting improvements in productivity and the QWL, it is important that the effects of development work are experienced by the work community in a similar way, at least to some extent. The observation focuses on workplace development projects supported by the Finnish Workplace Development Programme TYKES before and after the implementation of high-involvement innovation practices (HIIPs).

High-involvement innovation practices

A set of workplace practices that lead to efficient functioning of organizations has been a subject of great interest to both academics and practitioners. There is a variation between different studies concerning what practices are included as features of such work systems. The combination of an ideal set of practices has been labeled, for example, "best" (Pfeffer, 1998), "high-performance" (Appelbaum et al., 2000), "high-involvement" (PilandMacDuffie, 1996), or "high-commitment" (Wood, 1996) practices. Each term has little nuances that distinguish each other, and in these, the practices vary from an individual set of practices to bundles of practices.

In this paper, we focus on HIIPs, that is, work, managerial, and organizational practices that support continuous improvement and broad participation of employees and other participants such as customers (e.g., Bessant, 2003). High-involvement innovation management can be seen as a principle for organizational development (especially development of work organization), involvement, and innovation management. The focus is not on traditional HRM practices such as recruitment, selection, rewards, and incentives, but on more recent organizational innovations. In the literature we can identify a set of HIIPs that have the potential to contribute to better productivity and the QWL of organization:

Decentralized decision making

According to Klein (1991), decision making can occur in three different ways. Decision making is centralized if managers make the decision, while decentralized decision making can occur in two different ways. In an independent decision, making responsibility is delegated to individuals, and in a collaborative decision making, the team comes to a decision. In a more open and decentralized authority structure, leadership is less central but distributed over the employees in the organization. Through decentralization

of decision making, for example, participation in decision making process, problem-solving, and innovation activity, organizations allow employees to assume role and responsibilities that enable them to exert a greater influence at work while enjoying greater autonomy (Pare & Tremblay, 2007). The mechanism regarding autonomy is considered to be motivational. The more autonomy the employees are given, the more committed and willing to develop, the team is (Hölkkäand Eteläpelto, 2013). By providing employees with autonomy in performing their jobs, challenging work, and the opportunity for social interaction, employee effectiveness and feelings of competence are maximized (Turner et al., 2002).

Supervisor support

Supervisor support is defined as employees' belief concerning the extent to which supervisors value their contributions and care about their well-being (Eisenberger et al., 1986). Supervisors can play a coercive or an enabling role for employees, with a view to achieving high productive performance in their organization (Adler & Borys, 1996). Perceived supervisor support, the extent to which supervisors value their employees and their contributions, plays an important role in the psychological well-being of employees by affecting employees' organizational commitment, feeling of meaningfulness, safety, and their motivation (Butts et al., 2009; DeConinck & Johnson, 2009). The supervisor support is also critical to employees' innovative and performance behavior. The study by Butts et al. (2009) showed that empowerment led to improved performance when the perceived organizational support was high, while when the company was not supportive, empowerment actually led to slightly lower performance.

Competence development

Competence development refers to an individual's skills and proficiency enhancement of the organization throughout the working career. These practices include, for example, training, mentoring, creation of individual education plans, and programes of the company. In an organization, there must be enough employees with required skills, experience, and knowledge to do all the necessary work for the benefit of the organization. The earlier studies show that acquisition and development of skills is a significant predictor of both change in profitability and change in productivity (Pattersson et al., 1997).The competence development activities enable the employees to understand that they are valued and that the organization is investing them in the long run (Pattersson et al., 2004). The improvement of employee's work-specific skills, knowledge, and abilities is often used in order to enhance the employee work performance and increase the flexibility (Huselid et al., 1997).

Internal and external cooperation

Internal and external cooperation refer to both the quantity and quality of cooperation and information sharing about, for example, the business strategy, outputs, costs, processes,

profitability, and customer reactions. Traditionally, organization and management studies have stressed the significance of internal cooperation within a workplace (management-employees, across colleagues), whereas more recent innovation research introduces a broader perspective to development work and information sharing. In recent years, the following models stressing participation by different parties in development and innovation activities have gained foothold: open innovation approach (Chesborough, 2002), employee-driven and customer-driven innovation (Kalliola and Nakari, 2005; Kestin and Ulhøi, 2010), and innovation-generating model (Ramstad, 2008). Nielsen and Lundvall (2003) stress that innovations are typically generated via interactive processes where organizations act in close cooperation with customers, other organizations in the network, and different knowledge-producing organizations. Through broader networking, it is possible to gain new ideas and perspectives, to enhance the exchange of information, and to speed up the rate of renewal, and in this way offer better quality services and products that are suited for different customers. The information-sharing activities may also enhance employees' feelings of mutual trust and make individuals feel important to the company (Lawler 1992).

The role of development process

The development process, that is, the way, how the workplace practices are being introduced is typically being ignored in the earlier studies. There exist several different types of development approaches that are being used to implement the organizational change processes (e.g., participatory action research, concept-driven change model, developmental work research, and socio-technical approach) (e.g., Engeström, 2005; Gustavsenet al., 1992; Levin, 1985). The development approach illustrates the basic attitude to the organizational change and directs the change project from goal setting to implementation and evaluation of the project. They may represent different values, theoretical assumptions, intervention strategies, and experiences of experts. The role of development approach and process becomes more important, particularly today, when processes to alter work practices are often implemented in the form of projects that often enlist the help of outside experts and external funding. In such situations, the significance of good practices in project management is highlighted (Saladis, 2013). Such factors crucial for the success of the development process include realistic and feasible objectives, resources and schedule, commitment from management, the opportunity of employees to influence planning, and the practices employed by the experts used in the project (Ramstad, 2009a; Salminen et al., 1999). The capacity of the work organization to skilfully employ outside expertise and various external networks to support the development work holds a key position in the successful implementation of the project.

Productivity and the quality of working life

The starting point in the study is the idea that it is possible to support productivity and the QWL simultaneously (Kasvio et al., 1994). Productivity improvements, in practice, can mean improvements in work productivity, product quality, customer service, throughput times, and so on. Improvements in QWL are typically related to better job satisfaction, well-being, social relations, and greater opportunities for learning and

exerting influence at work for employees. Previous studies have shown that the productivity and the QWL are interlinked. A study by Vanhala et al. (2012) on the metal and retail industries showed that employees working in facilities within high productivity reported better work capacity and greater commitment to their work community. Correspondingly, the well-being of employees predicted better productivity for the organization (Vanhala and Tuomi, 2006). Better QWL may reduce absences (due to both sickness and other reasons) and the turnover of employees and costs generated by these (Böckerman et al., 2012; Vanhala et al., 2012). This may have a positive impact on work climate, which, in turn, may result improvements in the quality of customer service.

Research task

This paper examines development projects at workplaces that have been able to improve both productivity and the QWL based on the estimation of both management and employees. We will explore whether there is a positive association between HIIPs and the simultaneous improvements of productivity and the QWL. On the basis of the earlier studies:

1. It is hypothesized that the following HIIPs:
   a) decentralized decision making,
   b) supervisor support,
   c) competence development,
   d) internal, and
   e) external cooperation
   are positively associated with a simultaneous improvement of productivity and the QWL.

2. In addition, we will study what factors related to the development process are connected to the simultaneous improvement of productivity and the QWL?

The answer to the research questions is sought by comparing the results in two groups: in projects where productivity and the QWL were improved simultaneously and separately in the projects that were not succeeded in the simultaneous improvement. The comparison helps to better understand whether there is a connection between diverse HIIP practices and project success or failure. All the development projects are supported by the Finnish Workplace Development Programme TYKES that will be introduced in the following chapter.

Promotion of high-involvement innovation practices in a program context

During the last 20 years, Finland has put a lot of effort into working life development compared with many European countries. Until the early 1990s, Finland clearly lagged behind other Nordic countries. The deep economic recession of the early 1990s accelerated the developments of technology, productivity, and workplace development, in order to improve the competitiveness. Other contributing factors that increased the workplace

development activities in Finland were the long tradition of tripartite cooperation between labor market organizations and public authorities, and the upsurge of working life research and specifically, in the beginning of 1980s, the rise of action-oriented working life research in universities and institutes (Ramstad & Alasoini, 2006). The first government-funded TYKE-program was launched in 1996 and it was coordinated by the Ministry of Labour. It was implemented in two phases, 1996–1999 and 2000–2003. The TYKES-programme started in 2004, and in 2007, it was transferred to another governmental agency, the Finnish Funding Agency for Technology and Innovation (Tekes). Between 2004 and 2010, altogether 996 development projects were funded by the TYKES program, covering over 3000 workplaces of all sizes and all sectors of the economy.

The workplace-level objective of TYKES was to help workplaces adopt practices that promote productivity and the QWL at the same time (e.g., qualitatively sustainable productivity growth). The initiative of the project came from the workplaces themselves, and they set their own goals for the projects. The most typical targets of TYKES projects were the development of work processes, work organization, working methods, team working, supervisory work, and external networking. The projects needed to be implemented in close cooperation between management and employees. External experts were used in each project. In more than 60% of the cases, the experts were private consultants. The share of universities or governmental research institutes was 20% and the rest of experts came from lower-level educational institutes. Typical methods used in the projects were different types of analysis and mappings, development groups, interviews, coaching, process consulting, action research, team training, and process analyses. The projects were also required to measure the project outcomes for both productivity and the QWL at workplace level.

The self-assessment survey and the high-involvement innovation practice survey

The TYKES program has monitored the impact of its development projects on the workplace level using two different surveys: a self-assessment survey (since 1996) and an HIIP survey (since 2004).[1] The results discussed in this article combine information from both surveys since 2004.

The self-assessment survey (SA) has been used to collect information on the impact of the projects on productivity and the QWL at the workplaces from the perspectives of management and employees who took part in the projects and from the perspective of experts who have taken part in the implementation of the projects. The survey has also been used to collect information on the implementation of the project, the contributions of the different parties to the planning and implementation, the successfulness of the project, and the significance of the financial support provided for the projects. The survey consists of some 10 main questions, many of which are divided into several sub-questions, to a total of more than 40 questions. Both productivity and the QWL are monitored with five questions on the basis of subjective assessments. According to Kemppilä and Lönnqvist (2003), a subjective indicator of productivity may even be more suitable for measuring productivity because it makes possible to ask tailored questions, compare different organizations, and produce results with a better general applicability. It can be used to gather information on productivity, for example, in sectors where quantitative data about outputs and inputs

are not readily available, such as the public sector or knowledge-intensive expert organizations. In these cases, the subjective measurement can be a source of valuable information.

The development process in SA survey is monitored with six different questions, concerning the initiation of the project, influence of different parties on the planning and the implementation of the project, methods used by experts, internal and external collaboration during the project, success of the project, and the role of financial and other support from the program.

Correspondingly, changes in practices implemented at workplaces are monitored with the HIIP survey. The HIIP survey was used to collect information from the participating workplaces at the start of the project and after its completion. Five separate criteria were used in the selection of workplaces for the HIIP survey, in order to identify the workplaces that were the most active in the implementation of the projects: at least 10 individuals from the workplace take part in the survey, at least 25% of employees at the workplace take part in the project, funding received by the workplace from the program is at least EUR 10,000, with the exception of local and regional authorities where the limit was EUR 5000, the duration of the project is at least 10 months, and a maximum of three workplaces per project took part in the survey (Alasoini et al., 2008). Responses were requested from a representative of management (production or personnel manager) and a representative of the largest employees group (chief shop steward or staff representative). The aim was that, as a general rule, the same representatives of management and employees would respond to both surveys.

The content of the HIIP survey has been influenced by literature on strategic HRM and innovation management concerning various organizational-level factors impacting innovation capacity (Bessant, 2003; Chesborough, 2003) and workplace-level surveys implemented previously in Finland, such as Nakari's (2004) study on the QWL in local government and Ylöstalo's (2005) study on the dissemination of new ways to organize work in Finland.

The HIIP survey consists of some 20 main questions, which are divided then into several sub-questions, with a total of more than 80 questions. The changes in the HIIPs have been monitored on five dimensions that are divided further into several sector-specific questions. The first is the *decentralized decision making* that focuses, in particular, on the role of teams in the continuous development of products and services and of their own operations. Teamwork is a typical way of organizing work at Finnish workplaces these days. However, the level of responsibility differs from one workplace to another. The survey characterizes decision making with nine questions. The second dimension is how the workplace supports *employees' competence development*. This is measured by how extensive and systematic personnel training is. The third dimension is *the role of supervisors in supporting employees*, which measures how actively supervisors encourage employees to learn and take part in the development and innovation process. The fourth and fifth is the *internal and external cooperation of workplace*. Internal cooperation focuses on the cooperation between management and employees and across colleagues and the external cooperation measures how actively and regularly the workplaces use external information to support development.

The results of questionnaires have been analyzed and reported earlier separately (e.g., Alasoini et al., 2008; Ramstad, 2009a). For this article, the information on the projects obtained through the SA and the HIIP surveys has been combined. Technically, the merging of the data was implemented by involving only projects focusing exclusively

on a single workplace. This way, the assessment of change and outcomes focuses exclusively on a development project implemented at a single workplace. The assessments of different surveys and background information on the workplace and respondent in question were entered on a single row in the database. Only answers from respondents who answered all three questionnaires are included in the analysis. This rigid definition of data naturally reduced the number of responses to be included in the analysis.

Data

The number of responses is 253, representing 163 workplaces; 168 answers from managers and 85 answers from employees. There are two respondents from 52 workplaces and one respondent from 149 workplaces. The entire HIIP entry survey material consisted of 643 responses (response rate 74%), and the entire HIIP exit survey material consisted of 570 responses (response rate 59%), and the self-assessment survey material consisted of 1347 responses (response rate 19%). The respondent was the same for initial, final, and self-assessment surveys in almost 80% of the cases. The 253 responses are divided according to industrial branch as follows: industry 44% (112), the private service sector 35% (88), and local and regional authorities 21% (53). In total, these workplaces employ approximately 185,000 workers, more than 20,000 of whom took part in the development project. More than half of the workplaces (57%) contain more than 100 employees, with the remaining 43% smaller than this.

Indicators

Productivity and the QWL are multidimensional phenomena allowing for a variety of interpretations, and their definitions vary from one study to another. When forming indicators for productivity and the QWL, factor analysis was utilized (maximum likelihood). Moreover, it was detected that the communality of the variables was high suggesting that the factor structure created would explain their variation with some reliability. Five variables created *the productivity factor*: the quality of products and services, the flexibility of customer service, the productivity of work, fluency of operations, and the quality of operations. The indicator describes the impact of the project on functional productivity, not financial (profit, market value, growth in sales, and so on). The range was from one (clear decline) to five (clear improvement) and Cronbach's $\alpha = 0.797$ ($F = 2.309$, $p = 0.056$). The performance measurement is corroborated to the productivity measurement used in evaluation research for the action research projects conducted by the Swedish Worklife Fund (Gustavsen et al., 1996).

Correspondingly, *the QWL indicator* constituted a separate factor consisting of the following five variables: mental well-being, social relationships, development of professional skills, working as a team, and cooperation between management and employees. The range was from one (clear decline) to five (clear improvement). Reliability was greater for the QWL than for productivity when Cronbach's $\alpha = 0.838$ ($F = 34.808$, $p < 0.001$). The indicator corresponds to the QWL indicator employed by Nakari (2004).

Decentralized decision making was measured at the team level. The survey contained a total of nine questions on the characteristics of teams, but on the basis of factor

analysis, seven of these were selected for the sum of variables. The sum of variables for the decentralized decision making was formed of the following questions: the team is responsible for the quality of their work themselves, the members perform several tasks, members of the team decide on their daily tasks themselves, the team has direct connections to other teams, the team has connections with parties outside the workplace, the team develop their operations continuously, and the team develop products and/or services continuously. Questions concerning the opportunity of the teams to choose their own leaders and members were excluded from the indicator, as they correlated negatively with the factor. The sum of variables was internally coherent (Cronbach's alpha = 0.794 and the response options were 1–4, 1, completely inaccurate to 4, highly accurate).

Competence development was explored with two questions: Estimate how many employees have an individual education/training and development plan? and Estimate how many employees have taken part in employer-paid training within the last year? The alternatives were 4, everyone to 1, none/no one. Cronbach's alpha remained low for this sum of variables, because the number of variables was just 2 ($\alpha = 0.423$).

Supervisors support was measured by using three statements. The respondents were asked to assess how well the following claims reflect the management methods employed by managers at the workplace: Supervisors support and encourage employees in their work, Supervisors encourage employees to learn new things and to develop in their work, and Supervisors encourage employees to take initiative and develop new procedures. The response options were 1 to 4 (1, completely disagree to 4, completely agree). On the basis of factor analysis, the results correlate well with one another. The sum of variables was internally coherent ($\alpha = 0.857$).

Internal cooperation was explored with five questions. The respondents were asked to evaluate how well the following claims describe internal cooperation at the workplace: relationships between different employees groups or professional groups are open and confidential, relationships between management and employees groups are open and confidential, management and employees engage in genuine development cooperation, management takes a constructive approach to employees development proposals, and employees takes a constructive approach to management development proposals. The response options were 1 to 4 (1, completely disagree to 4, completely agree). A sum of variables was formed on the basis of the questions, and it was internally coherent ($\alpha = 0.855$).

External cooperation was explored by the way how the workplace utilize external information to support development work: Please estimate how actively and regularly workplace use information from following sources to support development: customers, subcontractors, public authorities, universities, research institutes, polytechnics, other educational institutions, and organizations in the field of economic policy. The response options were 3, actively and regularly to 1, not at all. The indicator was internally coherent ($\alpha = 0.782$).

In the SA survey, *the implementation of the development process* was explored through six themes: who initiated the project (top management, middle management, employees, representative of employees, expert, external party); the impact of different parties on the planning and implementation of the project; methods used by experts (operation and methods of experts used); internal collaboration in development work; external collaboration (with experts and other work organizations); success of the project

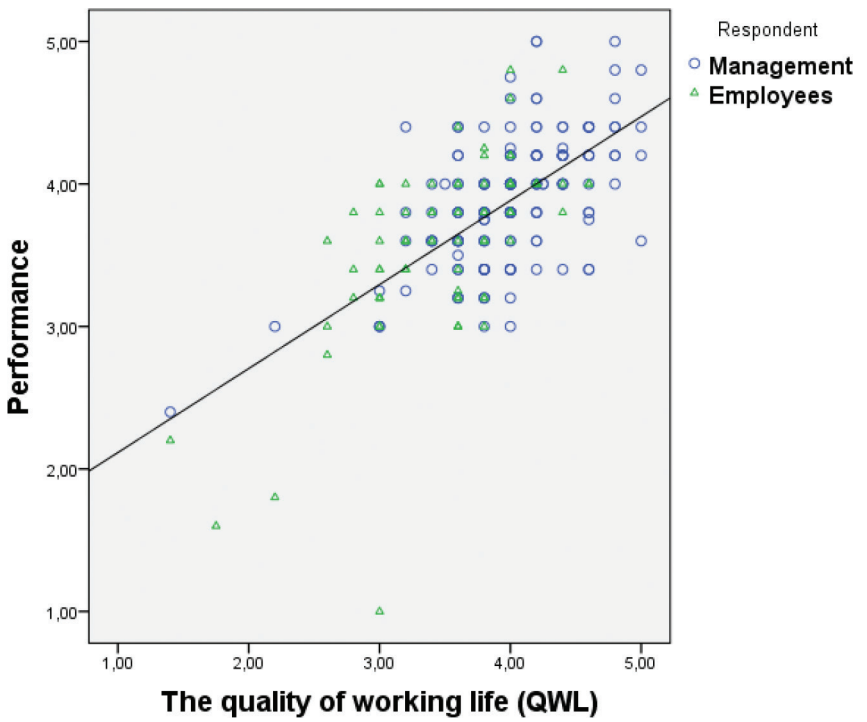
(realization of objectives, schedule, and budget); and financial and other support for the program (impact of the support for the setting of goals, implementation, and the establishment of schedule). For questions 2 to 6, the response options were 1 to 4 (1, completely disagree to 4, completely agree).

Results

Simultaneous improvement of productivity and the QWL

On the basis of the findings, the majority of projects in the data had a positive impact on productivity and QWL. The mean for the productivity indicator was 3.77 (range 1–5, SD = 0.52) and for the QWL 3.83 (range 1.4–5, SD = 0.58) for the data as a whole. Figure 1 illustrates the link between the indicators for productivity and the QWL in different respondent groups and linear distribution for the data as a whole. Employees' assessments of the impacts of the project on productivity and the QWL were more critical than those by the management. The mean for productivity was 3.88 for management and 3.58 for employees. The corresponding figures for the QWL were 3.99 and 3.49. A further difference was that the management sees positive impacts in the QWL more

Figure 1: Respondents' assessments of the impacts of the project on productivity and the QWL.



often than in productivity, whereas the employees view the improvements in productivity to be somewhat greater than in the QWL.

In order for us to be able to say that productivity and the QWL had improved simultaneously, the mean for the answers of both management and employees concerning both productivity and the QWL had to be at least 3.5. This covers almost two-thirds of respondents (64%). The rest of the respondents estimated that only productivity was improved (11%), only the QWL was improved (14%), or no improvement took place in either productivity or the QWL (11%). There was a clear difference in perspectives between the respondent groups: 73% of management and 41% of employees perceived a simultaneous improvement in productivity and the QWL.

Association between changes in HIIP practices and simultaneous improvements in productivity and the QWL

In the following, we perform a comparison of means as concerned changes in HIIP practices (situation before and after the project) in two groups: in projects where productivity and the QWL were improved simultaneously and separately in the group where only one or none of the factors was improved (Table 1). The responses of management and employees are examined separately. A statistical comparison of means before and after the project is performed using a t-test between two dependent samples.

According to the estimates of management, in projects where productivity and the QWL were improved simultaneously, the means for the decentralized decision making, competence development, supervisor support, internal cooperation, and external cooperation differed significantly ($p < 0.05$). On the basis of the estimates of employees, the means differed as concerned the decentralized decision making and competence development in a way that was statistically significant ($p < 0.05$). The differences for internal cooperation and external cooperation based on employee views were at an indicative level ($p < 0.10$). Instead, no changes were perceived in the role of supervisors. Statistical significances are marked in the table in bold.

The mean differences were fewer in the comparison group. No improvements were detected in decentralized decision making, internal cooperation, competence development, and supervisor support. Only external cooperation improved during the projects according to both management and employees.

The link between the development process and simultaneous improvement of productivity and the QWL

Similarly, the implementation of the development process has been observed by a separate comparison of means in two groups: management and employees. The most significant findings are presented in Tab. 2. Statistically significant results are marked in bold.

Clear differences can be identified between the two extremes in the implementation of the development project. In both groups, the initiative originated with top management, followed by middle management or supervisors and experts. In the comparison group, the initiative never came from employees, shop stewards, or external parties. At

Table 1 Means for changes in high-involvement innovation practices before and after the implementation in two groups (t-test on dependent variables)

	Group 1: Simultaneous improvement of productivity and QWL					
	Management before	Management after	Sig.	Employees before	Employees after	Sig.
1. Decentralized decision making	**3.04**	**3.26**	$p < 0.001$	**3.06**	**3.22**	$p < 0.05$
2. Competence development	**2.42**	**2.71**	$p < 0.001$	**2.29**	**2.42**	$p < 0.05$
3. Supervisor support	**3.12**	**3.35**	$p < 0.001$	2.84	2.88	$p > 0.10$
4. Internal cooperation	**3.11**	**3.28**	$p < 0.001$	**2.80**	**2.94**	$p < 0.10$
5. External cooperation	**1.96**	**2.00**	$p < 0.10$	**1.84**	**1.92**	$p < 0.10$
	Group 2: No simultaneous improvement in productivity and QWL					
	Management before	Management after	Sig.	Employees before	Employees after	Sig.
1. Decentralized decision making	2.94	2.95	$p = 0.103$	2.87	2.74	$p > 0.05$
2. Competence development	2.31	2.63	$p > 0.05$	2.06	2.10	$p > 0.05$
3. Supervisor support	3.04	3.42	$p > 0.05$	2.56	2.50	$p > 0.05$
4. Internal cooperation	3.05	3.05	$p > 0.05$	**2.67**	**2.35**	$p < 0.05$
5. External cooperation	**1.81**	**2.07**	$p < 0.05$	**1.63**	**1.76**	$p < 0.05$

the planning stage, the role of management and experts was highlighted, whereas the share of employees increased at the implementation stage of the project.

As concerns management, differences in means can be detected between the groups in terms of impact by top management, middle management and employees, methods employed by experts, internal collaboration, and success of the project. The findings were statistically significant. In this respect, the results were more positive in the group where simultaneous improvements in productivity and the QWL were achieved. For employees, the results were almost identical, with the exception that no differences were detected in the impact of top management, whereas the means for support from the program were different. To summarize, in projects that achieved simultaneous improvements, both management and employees felt that different parties acted as initiators, middle management, and employees were more actively involved in the planning and implementation of the project, internal collaboration during the project was more active, the respondents were more satisfied with the experts used and the methods employed in the project and the aims of the project were reached and schedules adhered to more effectively. Moreover, management experienced the significance of participation by top management stronger, whereas employees experienced the support from the program as stronger than the comparison group.

Table II The link between the development process and the impacts of the project (t-test)

	Management			Employees		
	Group 1: Simultaneous improvement	Group 2: no simultaneous improvement	Sig.	Group 1: Simultaneous improvement	Group 2: no simultaneous improvement	Sig.
1. Initiator	top management 70%, middle management 17%, expert 5%, employees 2%, shop steward 2%, other party 1%	top management 71%, expert 29%	$p < 0.001$	top management 57%, middle management 18%, employees 10%, expert 8% shop steward 2% , other party 2%	top management 76%, middle management 10%, expert 14%	$p <. 0001$
2. a) Impact of top management on planning and implementation	**3. 37**	**3.04**	$p < 0.05$	3.16	3.13	$p > 0.05$
b) Impact of middle management	**3.33**	**2.96**	$p < 0.001$	**3.02**	**2.31**	$p < 0.001$
c) impact of employees	**2.95**	**2.50**	$p < 0.001$	**2.69**	**2.00**	$p < 0.001$
d) impact of representative of employees	2.37	2.11	$p = 0.09$	2.17	1.75	$p > 0.05$
e) impact of expert	3.41	3.43	$p > 0.05$	3.29	2.97	$p > 0.05$
3. Development methods used by experts	**3.34**	**2.93**	$p < 0.001$	**3.09**	**2.61**	$p < 0.05$
4. Internal collaboration in the project	**3.39**	**2.97**	$p < 0.001$	**2.89**	**2.07**	$p < 0.001$
5. External collaboration during the project	2.20	2.02	$p > 0.05$	2.78	2.61	$p > 0.05$
6. Successfulness of the project	**3.38**	**2.82**	$p < 0.001$	**3.09**	**2.29**	$p < 0.001$
7. Support from the program	3.26	3.05	$p = 0.07$	**3.37**	**2.93**	$p < 0.001$

Discussion and conclusion

Finland has been one of the frontrunners on workplace innovation activities at company level (European Company Survey 2013) and related program-level activities in Europe (Ramstad, 2009b; Totterdill et al., 2009). The first Workplace Development Programme was launched in 1996 with an aim to support work, managerial, and workplace practices in order to promote productivity and the well-being at workplace. What is remarkable that the program has systematically evaluated and developed the evaluation system of the development projects, since the beginning.

The starting point in this paper was to study what the relationship between HIIPs and simultaneous improvement of productivity and the QWL based on the views by management and employees. New knowledge was created by combining two different workplace-level inquiries of TYKES program; HIIP and self-assessment survey of project outcomes (SA). The results were reported separately to the management and employees in two different groups: for projects where productivity and the QWL were improved simultaneously and for those where just one or neither of the two indicators was improved. The findings presented in the article are unique, as they enable comparisons between the situation before and after the implementation of workplace development project.

The empirical analysis shows that the adoption of HIIPs can play an important role in enhancing positive outcomes for organization and employees. Approximately two-thirds of the respondents argued that the workplace development projects resulted in simultaneous improvements. As hypothesized, the results show that decentralized decision making, employee competence, and internal and external cooperation were positively associated with simultaneous improvements. More specifically particularly decentralized decision making, where decision making was distributed to a team-level activity, was positively related with outcomes. Decentralized decision making increases the autonomy and power of employees to make decisions that are important to the performance and to the quality of their working lives. Similarly, numerous studies have found that teams with greater autonomy have better performance and employee well-being (e.g., Bonsdorff et al., 2014; Butts et al., 2009; Gallie et al., 2012; Karasek & Theorell, 1990; Vanhala et al., 2012). Butts and his colleagues (2009) found that a high involvement of employees heightened employee autonomy and increased feeling of empowerment, which in turn resulted in greater job satisfaction, greater organizational commitment, and higher job performance. From a theoretical standpoint, autonomous team performance outcomes are assumed to accrue from the motivational benefits of enriched jobs, from the opportunity for team members to respond flexibly to work demands, and from gains in members' skills and knowledge which greater involvement affords (Leach et al., 2005). Furthermore, organizations can benefit of autonomous team work by indirect labor costs, that is, a reduction in managerial support costs.

Also, the result concerning employee competence is supported by earlier studies (Appelbaum et al., 2000; Huselid, 1995). The link between competence development and the simultaneous improvement can be explained by the fact that employees need appropriate work-specific and innovation-related skills, in order to improve work productivity, to perform multiple tasks (job rotation), and to be able to react in a flexible way to a changing environment. In addition, competence development gives employees the signal that organization is willing to invest them and giving them security (Appelbaum et al., 2000; Felstead & Ashton, 2000; Pare & Tremblay, 2007).

The positive relationship between internal and external cooperation and simultaneous improvement is consistent with studies related to information sharing, social exchange, and innovation management. Information sharing in teams and organization enhances employees' feelings of mutual trust, and make individuals feel important to the company (Lawler, 1992; Meyer & Allen, 1997). In addition, effective information sharing of firms operations enable employees to contribute more effectively to the firm's success. Cooperation across workplace boundaries helps the organization to fill the knowledge gap within the organization, and bring in new knowledge from customers and other organizations and this way increase customer understanding and foster organizational learning and innovation. In a knowledge-based society characterized by globalization, innovations, customer orientation, and information and communication technology, employees' ability to network and work actively outside the workplace has become more important.

Instead, the empirical analysis did not support our hypothesis on the relationship between supervisor support and the simultaneous improvement. According to management, this relationship exists, whereas employees did not see the situation in the same way. What does this surprising result mean? Several explanations can be suggested. Firstly, this could be explained by the attribution error (Campbell & Sedikides, 1999), which means that people tend to attribute positive things to themselves and negative things to outside factors. Management perceived more changes in its own operating methods than was apparent to employees. However, this is not a sufficient explanation. Secondly, the question arises whether responsibility for development activities has been outsourced to external experts to the degree that employees feel that it is not sufficiently supported by management? Management role is high in the planning stage, while in the implementation stage their role is minor compared with employees and external experts used in the project. However, the third and the most obvious explanation might be that the employees with an autonomous position do not need any specific "encouragement" or "support" from their supervisors in order to be productive, innovative, and feel satisfied at their jobs. In Finland, teamwork is most often based on an autonomous teamwork compared with other European countries (European Company Survey 2013). It could be that the autonomous employees want to practice their agency (Eteläpelto et al., 2012) as equals to their management. Autonomy allows team members discretion over when and how to deal with job demands and jobs to be done (Karasek & Theorell, 1990). Similarly, Wood and Menezes (2011) found that high-involvement management, measured as an orientation toward encouraging employees to be proactive and flexible, was negatively associated with contentment. Researchers suggested that proactive orientation may create greater pressure on employees to improve their performance and raising concerns about their own competencies. Employees might also be uncertain what greater initiativity, creativity, and proactivity requires and also leads to confusion over the amount of time that should be allocated to these proactive activities.

Our finding is a cause for concern, as earlier studies have shown that perceived organizational and supervisor support is of importance in promoting innovative behavior of employees, well-being, and productivity at workplace (Butts et al., 2009; Eisenberger et al., 1987; Kesting & Ulhøi, 2010; Parzefall et al., 2008). On the basis of the results of this study, it is suggested that supervisor work should be developed into the direction of shared leadership (Kocolowski, 2010) whereby influence is distributed to teams, for the purpose of achieving beneficial outcomes for the organization. In order to work

with bottom-up processes, the managers have to develop a non-directive attitude and to investigate profoundly the needs and expectations of the employees and use this information for organizations best. The role of supervisors would not be to supervise but to coordinate and transfer information to and from the teams, and between them. Employees need to be given freedom to practice their innovativeness, generate new ideas, and experiment these ideas in practice. When leaders give power to employees, they feel trusted and they may naturally want to take on more responsibility and often want to work harder. In future, further theoretical and empirical work is required, both to assess our speculation that the supervisors' role in supporting and encouraging employees may not be that significant for autonomous teams.

The aim of the paper was also try to better understand what factors related to the development process are connected to the simultaneous improvement of productivity and the QWL. Concerning the nature of development method, the study showed that active employee and middle management participation in planning and implementation phase of the project, close internal collaboration during the process, competence in project work, methods used by external expert, and external networking were related to simultaneous improvements in productivity and the QWL at workplaces. According to Fröhlich and Pekruhl (1996), early participation of employees in change projects is one way to overcome resistance to change and to make work practices function and disseminated in the organization. Direct participation of employees can function as a "change agent," as the implementation of practices may become easier and less time consuming when employees participate. Good project management skills and methods used by external experts are also of importance in order to implement the project effectively and efficiently (Kerzner, 2003).

In general, there was a clear difference between management and employee views, concerning nearly all questions, except the decentralized decision making. The employees gave more critical answers than the management. It can be argued that it might even be unrealistic to assume that an individual development project would bring radical changes to the perspectives, while the employment relationship between management and employees is intrinsically both cooperative and antagonistic at the same time. Employment relationship is cooperative, as employers and employees are mutually dependent on one another to secure their goals, and it is antagonistic because of the relationship's indeterminacy and underlying contradictions (Edwards, 2006). Management perceive development more through the strategy, finances, and formal organization of the workplace, while employees look at the matter from the point of view of their own everyday work. However, it can be argued that when the goal is to produce lasting improvements in productivity and the QWL, it is important that the effects of development work are experienced by the work community in a similar way, at least to some extent.

Caution must be exercised in drawing conclusions from the results of the surveys so far, because there is relatively little integrated material for comparison. However, the results discussed here do not seem to differ substantially from the whole of the individual survey materials reported so far, which prompts the extrapolation that the studied data may in fact be universally applicable (Alasoini et al., 2008; Ramstad, 2009a). Certain reservations should also be borne in mind regarding the results: the findings are based on subjective views by representatives of workplaces, the survey was implemented by a financing body, and the results have only been analyzed on the level of respondent groups.

However, a study by Wall et al. (2004) shows that subjective and objective indicators on workplace productivity correlate positively with one another and measure largely the same thing. In addition, compared with many earlier studies, our results are not only based on management views but also on both management and employees' views from the workplaces balancing the typical respondent bias. In the future, as the data accumulate, the findings can be viewed in a more diverse manner from different perspectives, taking into account the sector and the size and objectives of the organization. This article provides indications of the future.

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End note

[1] In addition to the internal evaluation of the projects by the program, several evaluations have been done by the external evaluators during the years (e.g., Arnkil et al., 2003; Kalliola & Nakari, 2005).