

Competence, co-operation and participation

– factors of innovation-based productivity
growth in Finnish workplaces

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Abstract

Finland needs long-term measures for speeding up productivity growth. The reformation of companies and public organizations and the continuous development of their operations is at the core of productivity growth. Reform requires the ability to create and utilize innovations as well as the ability to foresee and develop the required competencies. Based on research data compiled on Finnish companies and public organizations, we propose four goals for programmatic work life development measures for the promotion of productivity growth:

- 1. Strengthening the digital and development competence of management and personnel.** In an information-intensive economy, productivity growth is increasingly based on organizations' ability to make use of technological development to support their reform. There are significant differences in organizations' readiness and abilities. The differences threaten to keep growing in the coming years, which could diminish our ability to boost productivity at the national level. Improving the digital and development competencies of management and personnel allows us to support organizations' ability to seize opportunities offered by technological development in order to boost productivity.
- 2. Strengthening a participatory culture of development based on trust between the management and personnel.** Extensive participation in development by the personnel is a strength of innovative organizations along with a high level of digital maturity and diverse co-operation networks. These three strengths also support each other. Personnel commitment to development measures requires trust between management and employees. Strengthening trust between the parties enables significantly improving the outcomes of development measures in an organization.

- 3. Speeding up all employees' learning at the workplace.** The need for continuous reform of competencies will continue to increase in organizations as digitalization progresses. This requires measures that enable integrating learning into daily work. Rapidly changing competence needs highlight the importance of developing work and its organization, peer learning, employees' participation in development and co-operation networks as part of the learning environment the workplace provides.

- 4. Increasing inter-organization learning.** Differences in productivity between various organizations have increased over the last years and good practices can be difficult to disseminate between organizations. Organizations that aim to develop their operations lack forums for the exchange of experiences and learning from each other. Industry-specific and other learning networks between various organizations can boost dissemination of good practices and inter-organization learning as well as lay the foundation for joint development and innovation activities.

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Introduction

Companies' success and public organizations' ability to produce high-quality services to the public both require the ability to reform and co-operate. The economy will continue to be powered by workplaces, work communities and the networks these form. The significance of high quality work life and the productivity growth it supports will be further emphasized as the economy continues to become increasingly information-intensive and the working-age population in Finland continues to decrease.

In an information-intensive economy, productivity growth is largely based on technological development, the utilization of new technology and the resulting innovations. In addition to products and services, the innovations can also target business models, practices, processes, sales and marketing as well as new methods of managing and organizing work.

Innovations are not some arcane art form. The learning and insights required by innovations are everywhere where there is human activity – in research laboratories, client meetings, in the practices of work and daily life and on the factory floor. No organization will remain innovative for long with only the effort of its owner, management or a few individual experts. The innovative nature of an organization is communal.

The innovativeness of an organization thrives in environments in which people share their knowledge and experience, dare to question things and boldly bring up their own views. However, simply having initiative and being creative are not enough. An organization must also have well managed processes and a culture that is supportive of learning in order to be able turn feasible ideas and insights into innovations.

In the recent years, high hopes have been attached to digitalization and especially the development of artificial intelligence and robotics as means for boosting Finland's productivity growth that has been stagnant for long. For the time being, there has been significant difference between how companies have managed to benefit from digitalization. According to studies by the OECD and ETLA Economic Research, productivity differences between companies have

grown in the recent years and new technologies, procedures and related good practices do not easily spread from one company to another. This slows down productivity growth at the national level.

Innovations in organizations at the forefront of productivity are important. Nonetheless, they are not sufficient for improving productivity in the entire national economy. That will also require improvements in a larger group of organizations, that are able to learn from experiences of others and make use of technologies and procedures that have been developed elsewhere. Below, based on a statistically representative MEADOW survey for employers and employees, we examine companies' and public organizations' capacity for reform in Finland and factors connected to this on the organizational level. The surveys were carried out in 2021 and 2022, with nearly 1,500 Finnish companies and public organizations of at least 10 persons in size and a total of more than 1,800 of their employees.¹

- In an information-intensive economy, productivity growth is based on innovations.
- All types of organizations can be innovative.
- Differences in productivity between companies have grown in the recent years.
- Good practices do not easily spread from one organization to another.

¹ The used data is described in detail in the appendix.
The report's other results are also based on the MEADOW study.

Portrait of an innovative company

We used the employer data of the MEADOW study to explore which factors set apart companies that have carried out product or service innovations. Companies that had produced innovations within the past two years were further split into two groups based on whether the innovation was new to the market or only to the company in question. Nearly every other company had produced a product or service innovation. Roughly one in four companies had produced products or services that were new to the market (figure 1).

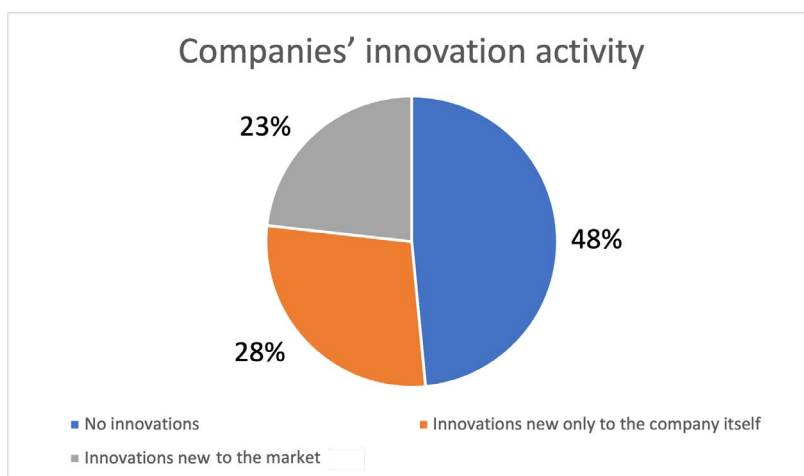


Figure 1. Division of the number of companies based on innovation activity.

We used statistical analysis to examine which factors are connected with innovation activity. After controlling for several background factors, the analyses brought up three strengths that were connected to differences in companies' innovation activity. These were the company's digital maturity (measured by the diversity of using data analytics), diversity of the company's co-operation networks and the scope of personnel involved in the development activities.

The three strengths support each other. The more strengths are present in a company the higher the odds that the company has produced new products or services. The positive combined effect is at its strongest in innovations that are new to the market (figure 2 and 3).

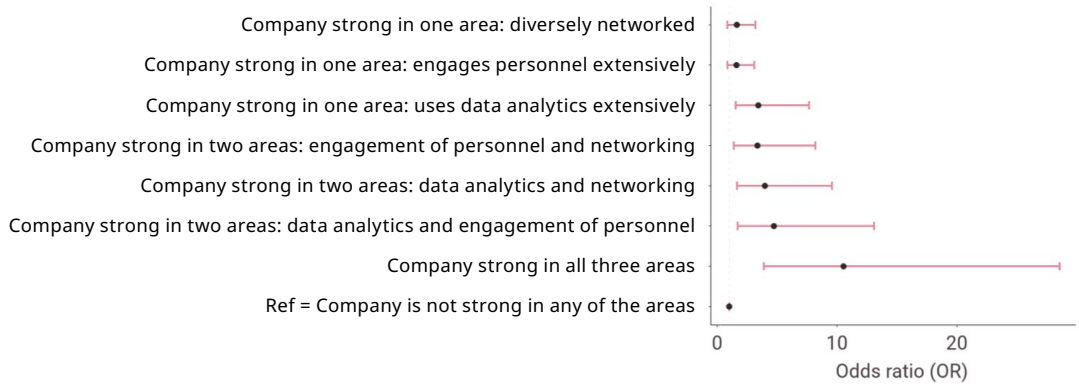


Figure 2. Companies that produced innovations new to the market vs companies that have not produced innovations.

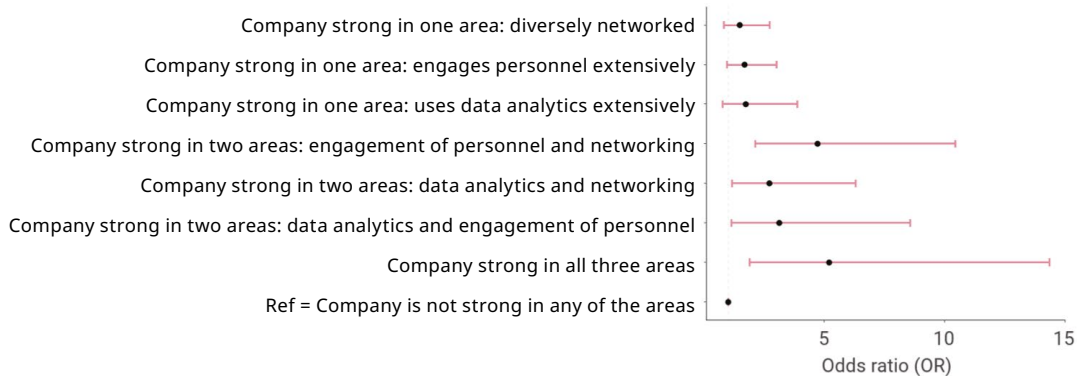


Figure 3. Companies that produced innovations new only to the company itself vs companies that have not produced innovations.

The results are similar for both innovations new to the market and those new only to the company itself. However, in the case of innovations new to the market diverse use of data analytics also has an independent positive correlation with innovation activity. This might mean that innovations new to the market typically utilize latest developments of science and technology.

In the case of innovations that are new to only the company, the combination of diverse networking and extensive personnel engagement produces almost the same odds as all three strengths together. This may be connected to the fact that, compared with innovations new to the market, for those new only to the company itself a bigger role is played by factors such as client feedback, ideas provided by partners and the significance of interaction and learning within the company.

- Producing innovations requires companies to combine a variety of competences.
- Innovations new only to the company itself highlight the role of networks and personnel.

The digital gap between organizations

The ability to skilfully make use of the opportunities of digitalization is an important source of innovation and productivity. From the perspective of productivity growth, the key question is how extensively and skilfully can different organizations make use of the opportunities of digitalization. Will the difference between various organizations continue to grow as digital technologies continue to develop? Or will the differences even out as different digital applications become more commonplace and the opportunities of digitalization are better understood?

To find this out we asked the management of companies and public organizations about using data analytics for various purposes. This information was combined with another question, in which we enquired if the organization was planning to increase the use of data analytics in the future. We split the organizations according to their level of digital maturity into pioneers, followers, adaptors and those who didn't see digitalization as important for them. The last group comprised only about five per cent of all organizations.

An organization's digital maturity is in clear positive correlation to both current use of data analytics and the intent to increase the use of data analytics in the future (figure 4). This results points to the fact that the digital gap between various organizations seems to not be about to decrease in the future, but rather vice versa. The growing digital gap threatens to further exacerbate differences in productivity between organizations.

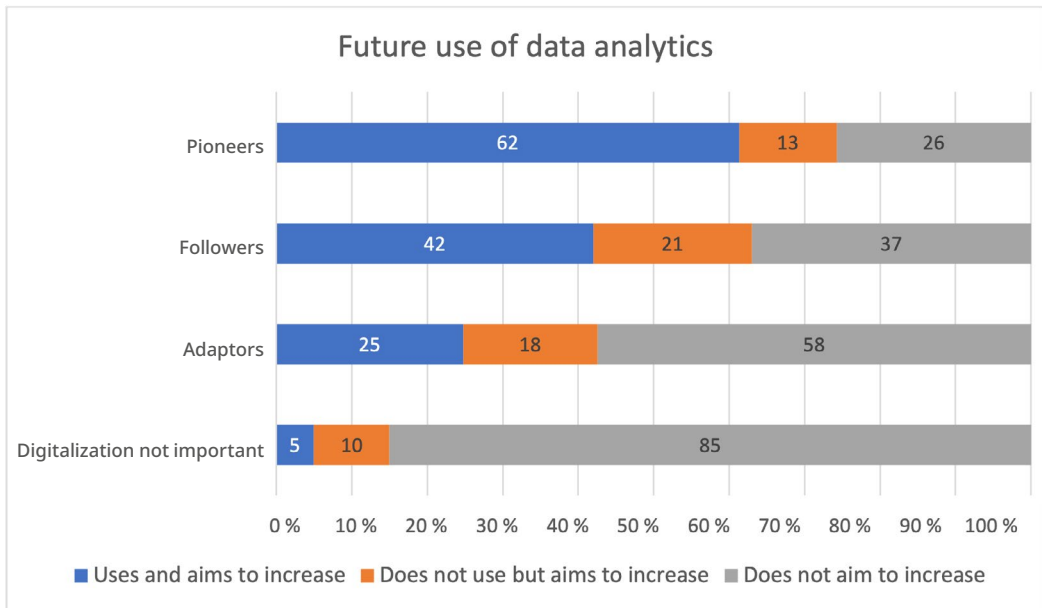


Figure 4. Companies’ and public bodies’ use of data analytics and intentions of future use according to their level of digital maturity.

We used further statistical analysis to explore how the impact of digitalization has been visible in companies and public organizations. The analysis revealed two types of effects. We named these the deepening and lightening effects of digitalization.

The *deepening* effects of digitalization in an organization describe how digitalization in its different forms – such as new products and services, reforms of the production and service processes or new competence requirements – has increasingly integrated as part of the organization’s operations. On the other hand, the *lightening* factors of digitalization are visible as outsourcing functions, commissioning work via platform companies and reducing the number of personnel. The deepening effects of digitalization have been clearly more common in all sectors compared with the lightening effects. This result is in clear contradiction with the international discussion, which has often focused on highlighting the streamlining and displacing effects of digitalization.

- The digital gap between organizations threatens to grow.
- The deepening effects of digitalization, the integration of digitalization as permanent part of an organization’s entire operations, have been more common than the lightening effects.

Trust as a competitive factor for organizations

In addition to digital maturity, extensive participation in development by personnel is a key characteristic of an innovative organization. We studied the significance that trust within an organization has on how extensively employees participate in development and what are the outcomes of development measures. We utilized responses by both employers and employees in this examination.

Trust and personnel participation in development

Based on employers' responses, we formed a sum variable which depicts the trust between the management and personnel of an organization. Based on this trust score, we divided the organizations into three equally-sized groups of approximately 500 organizations each. The groups were named the lowest, average and highest trust organizations.

In most cases development is one of the key tasks of management and many senior salaried employees and, as such, their role is highlighted. As we move from the lowest-trust organizations to average and then on to highest-trust organizations, the role of other employee groups in development grows. In other words, participation in development activities is in positive correlation with the strength of trust within an organization (figure 5).

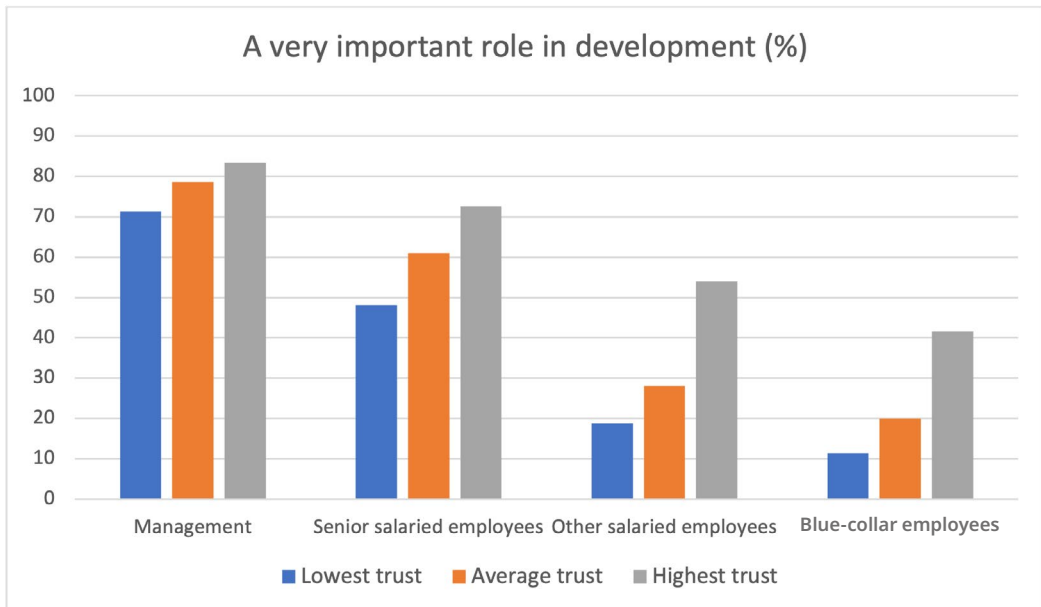


Figure 5. Organizational trust and the role of different groups in the development of products, services and operations (perspective of the management).

Participation in development activities is clearly wider in scope in the highest-trust organizations compared with others. Figure 5 demonstrates this especially in the extent to which employee groups other than senior salaried employees participate in development. Where only six per cent of management representatives of the lowest-trust companies considers the role of all employee groups in development very important, this same share is 32 per cent for the highest-trust organizations.

Based on the employee survey conducted at the same organizations, we further examined how the trust between management and personnel correlates with employees' initiative with regard to development. Based on employees' responses, we formed a sum variable which depicts the trust between the management and personnel of an organization. Based on this trust score, we divided the organizations into three equally-sized groups, which were named the lowest, average and highest trust organizations.

In the highest-trust organizations, the employees' spontaneous development activity was more common compared with other organizations. This applies to

solutions that improve the person’s own work, development of products and services as well as presenting new ideas to the management and supervisors. On the other hand, participation in operational development groups, which can be considered as a more employer-led form of development than the others, is most common in average-trust organizations (figure 6).

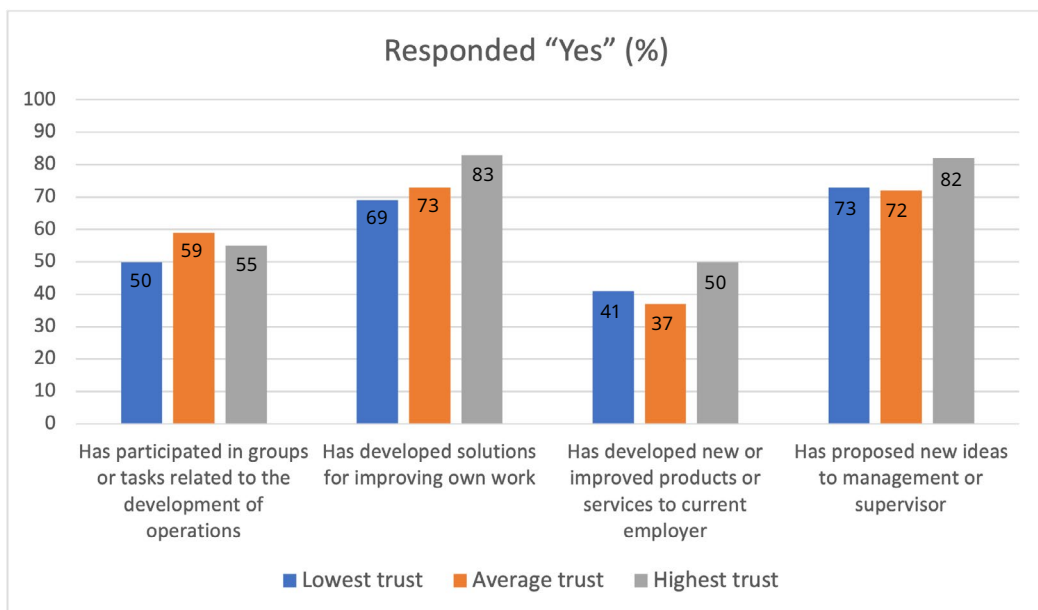


Figure 6. Organizational trust and own development activity during the last 12 months (perspective of personnel).

Trust and outcomes of development activities

Extensive personnel participation in development does not itself provide an organization a competitive advantage. The key question is what results it can lead to. In order to examine this, we surveyed the employees’ perspectives on participation in development activities. As before, we divided the organizations into three groups, based on the prevailing trust. The objective was to find out if and how the degree of trust between the management and personnel is reflected in the results achieved with development activities.

Based on figure 6, the strength of trust did not consistently separate the organizations in how large part of the personnel regularly participates in groups or tasks related to the development of operations. However, trust between management and personnel is in clear and consistent correlation with what kind of results this brings about (figure 7). In the highest-trust organizations, employees are significantly more likely to consider that the development has brought about improvements. The differences apply to both improvements in the quality of operating procedure, products and services as well as personnel well-being and co-operation between management and personnel. Personnel of the lowest-trust organizations are much less likely to perceive the benefits and are also more likely to have had distinctly negative experiences related to participation (figure 7).

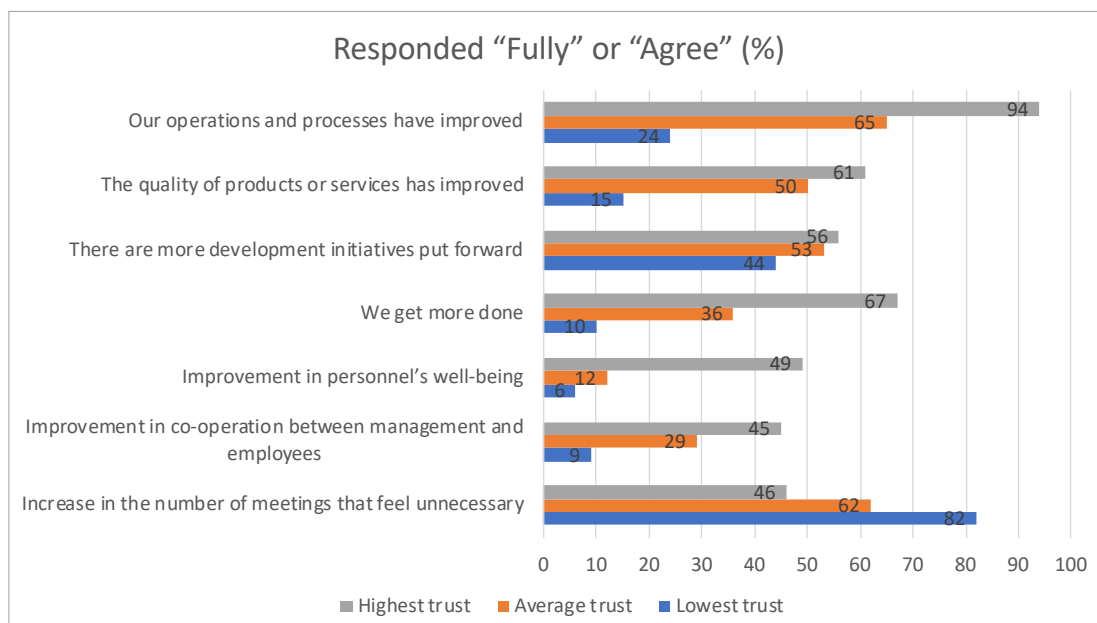


Figure 7. Organizational trust and results of participating in development groups and tasks (perspective of personnel).

- The trust prevailing in an organization and employees' development initiatives support each other.
- Trust improves the outcomes of development measures.
- In low-trust organizations, participation in development causes frustration.

Competence development measures

Reform of products, services and operations requires for the personnel to have sufficient ability to participate in development. That is why organizations must be able to forecast changes in competence needs and to ensure their employees' competence and opportunities for continuous learning. At best, workplaces can be learning environments in which competence development is continuous and responds to changes in the operating environment. Time pressure and urgency can form a significant obstacle to this, especially in tasks that offer little opportunity for self-management.

We asked the management and personnel of organizations that participated in the study how important or significant they find different means of competence development.

The management highlighted the importance of peer learning and performance appraisals as well as participation in the development of products and services for the development of employees' competencies. More than 80 per cent of the respondents found these measures to be either very or fairly important (figure 8).

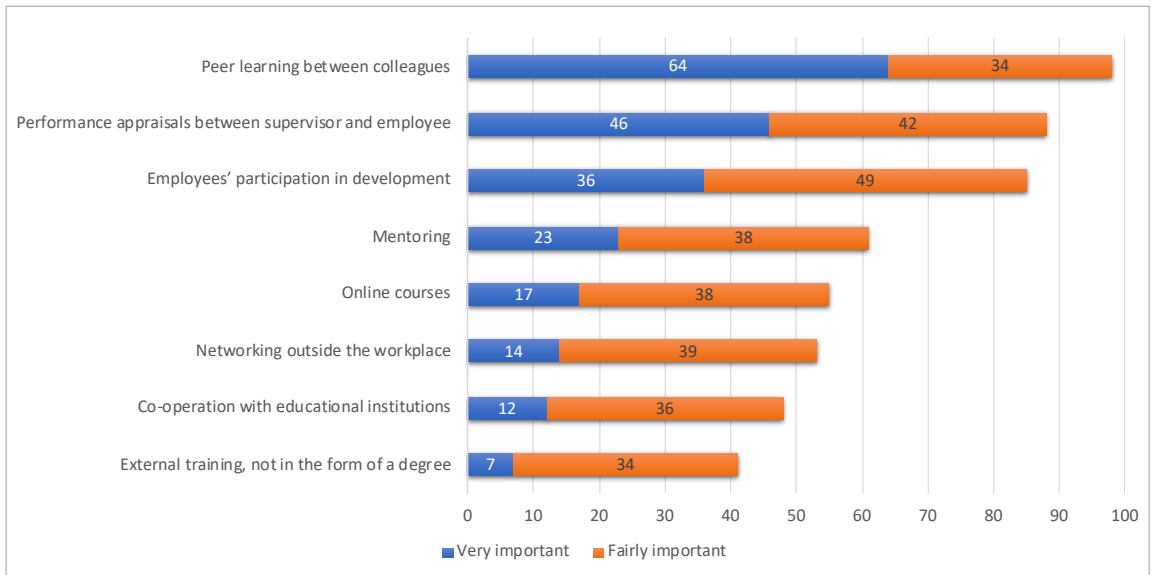


Figure 8. Importance of measures for developing employees' competencies (perspective of management).

Employees' perspectives aligned with those of the management. The most common means of developing one's own competence was learning at the current job and from colleagues along with taking on new tasks and responsibilities. Employees are slightly more likely to find participation in development important compared with, for example, training within or outside the workplace (figure 9).

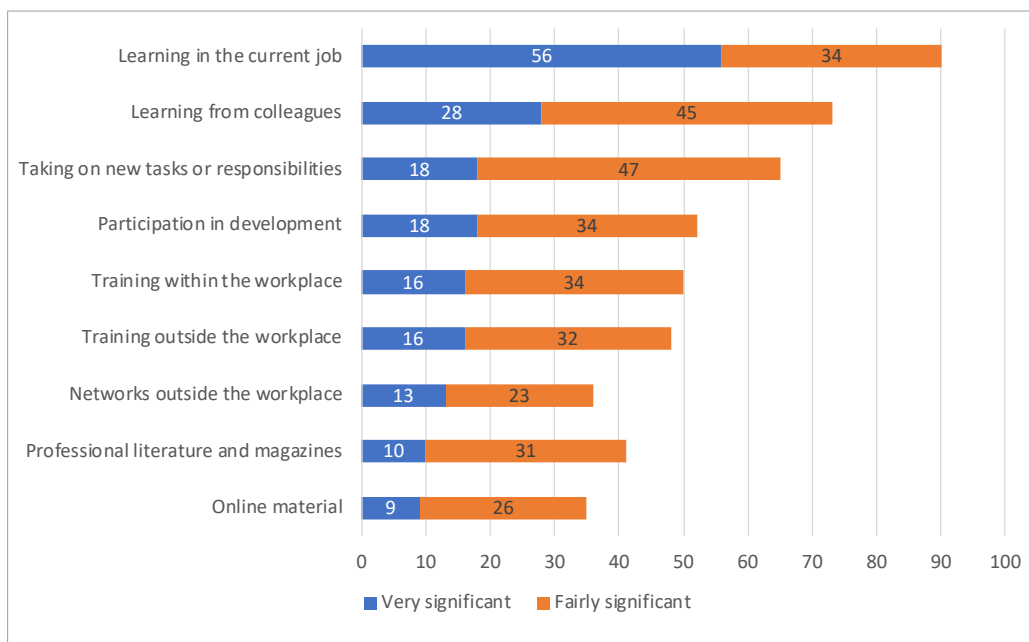


Figure 9. Importance of measures for developing own competencies (perspective of personnel).

- The best way of developing competencies is to ensure opportunities for continuous learning in daily work.
- Participation in development is both a measure and a reason for competence development.

Conclusions

In an information-intensive economy, productivity growth is largely based on innovations resulting from technological development. The innovative nature of organizations is communal. In addition to technological and business competencies, it is also based on the ability to diversely make use of various co-operation networks and engaging employees in development.

In Finland, there are organization at very different levels of digital development. The digital gap between organizations threatens to continue to widen. This growing digital gap threatens to further exacerbate differences in productivity between organizations. This makes speeding up productivity growth more difficult at the national level and increases inequality in work life and the labour market.

Trust between management and personnel is a key characteristic of an innovative organization. Employees of high-trust organizations participate more actively in development activities and demonstrate more initiative for development compared with other organizations. High-trust organizations also achieve better results with their development activities. On the other hand, in low-trust organizations, development activities can even decrease productivity by causing frustration in personnel and undermining work motivation.

Work that promotes learning opportunities, working together and a learning-oriented work community along with opportunities for participating in development are the most important measures for developing employees' competencies in modern work life. New products and services would not come about without the competence of individuals and especially work communities. By investing in learning, organizations can complement the traditional training system and accumulate competence and skills that they need. All workplaces are learning environments and everyone can play an important part in development.

Speeding up productivity growth in Finland requires long-term measures that support the dissemination of new technologies, operational models and related good practices in work life.

A key role will be played by solutions that allow organizations to better utilize evolving digital technologies, such as data analytics, artificial intelligence and robotics in order to create productivity-boosting innovations.

This requires:

1. Strengthening the digital and development competence of management and personnel.
2. A participatory organizational culture based on trust between the management and personnel.
3. Speeding up employees' continuous learning at the workplace with various means such as developing competence management, work contents and the organization of work and peer learning.
4. Promoting inter-organization learning.

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Appendix. Description of the data.

Statistics Finland collected the MEADOW data in two stages. In the first phase, between October 2021 and January 2022, **employer data** was collected and addressed to managers. The survey was carried out as a stratified random sample in companies and public entities included in the company and place of business register, which employed at least 10 people. The respondent was a management person, such as the owner or an executive, finance, personnel or other manager, who is able to answer questions about the organization in question. The survey was carried out as a combination of an online survey and telephone interviews.

A total of 1478 responses from management representatives were received for the employer survey (response rate 34). About three out of four were from the private sector and a quarter from the public sector. Response activity varied by industry and in organizations of different sizes. The most active response was in the state and in private education, health and social services, as well as in the financial, insurance and real estate sectors. The lowest response activity was in municipalities and construction. Correspondingly, in small organizations with less than 50 people, the response activity was lower than in larger organizations. The bias caused by the loss of responses was corrected with the help of weighting coefficients, so the results can be generalized to Finnish organizations with more than 10 employees.

In the second phase of the survey, between March and June 2022, an **employee survey** was carried out. From the organizations that had responded to the employer survey, a sample of four to eight people was taken, to whom the online survey was sent. A total of 1816 responses were received to the survey (response rate 26). The most active response was among women, university graduates and older workers. Among industries, the response activity was highest and lowest in the same industries as in the employer survey, which causes a double bias in the data. The loss of employee data was also corrected with the help of weighting factors, so the results can be generalized to employees working in the organizations that participated in the employer survey – not to all Finnish wage earners.

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