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Evaluation of Skills and Knowledge Transfer in Human Resources : Analysis of Methodological Approaches

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Abstract

The human capital is a key element that form the basis of the organisation's creativity and productivity. Creativity and productivity are well-observed phenomena. These results are due to investment in continuous learning through training, which enables collective cognition and flexibility. The results of these processes are reflected in performance. However, assessing these processes remains complex due to the immaterial nature of knowledge and the social dimension of its dissemination. This article discusses methods that can be used to evaluate management of knowledge and skills. To this end, it is important to identify what we call qualitative and quantitative evaluation systems, analyse their performance indicators, and highlight the main difficulties that can hinder the success of this process.

Keywords : Human capital, Knowledge transfer, knowledge management, knowledge transfer assessment

Introduction

“The acquired and useful abilities of all the inhabitants or members of the society, are... a capital fixed and realized, as it were, in his person” a reflection initiated by Adam SMITH in his work *An Inquiry into the Nature and Causes of the Wealth of Nations* in 1776, which revolutionized economic thought having gradually integrated the idea that a human represents an important productive capital beyond his simple labor force. The works that emerged subsequently, inspired by this idea, include those of (SAY, 1803), (MARSHALL, 1890), (Fisher, 1906), (Friedman, 1955), (Schultz, 1961), (Becker, 1964), (Romer, 1986), (Lucas, 1988), (Mincer, 1993), have given birth to several concepts linked to the development of this human capital: professional training, accumulation of knowledge, endogenous growth (Lucas, 1988), thus showing the close relationship between skills and productivity. ...etc.

Human capital refers to the set of knowledge, skills, experiences, etc. that make employees and civil servants productive. At the organizational level, continuing education is a strategic tool for the development of this capital. Recent studies have clearly shown that continuing education activities are positively associated with organizational performance

(Joonyoung , Huikun , & Bradford , 2025) (Garavan, et al., 2020). In addition to this investment, an adequate approach to training impacts the effective development of skills as well as their transfer to work. Recent research has also shown that the transfer and sharing of knowledge and skills (from peers and managers) increases the transfer as well as the operationalization of acquired skills in the workplace. (Mehner, Rothenbusch, & Kauffeld, 2025).

A policy of transfer of skills and knowledge with a good analysis of needs, with effective and operational transfer devices and an organization having a learning environment improves the return on human capital and organizational performance consequently. Its role also persists in the absorption and exploitation of intellectual resources, through the absorptive capacity, which links the transfer of knowledge and skills to financial and innovative outcomes (M. Cohen & A. Levinthal, 1990) (Zahra & George, 2002).

However, the evaluation of these processes of transfer of skills and knowledge presents several difficulties, notably: the intangible nature of knowledge, the complexity of social interactions and tacit mechanisms (Szulanski, 2000) (Argote, 2024). However, several studies in particular (Szulanski, 2000), have revealed that the nature of some environments of organizations (turbulent environment for example, excess of memory, etc.) can make this transfer unfavourable. Organizations must therefore adopt well-developed, rigorous and adapted methods to evaluate the impact of this process in their complexity (Mehner, Rothenbusch, & Kauffeld, 2025).

An important question must therefore be raised: *What methodological approaches should be adopted to successfully carry out an evaluation of a knowledge and skills transfer process?*

To address this research question, it is important to first discuss qualitative and quantitative types of knowledge and skills transfer assessment. We will then analyse the performance indicators for each type and conclude with some challenges that may interrupt the assessment process.

I. Assessments of a skills transfer: A variety of methods

The process of transferring transversal skills within an organization requires rigorous evaluation to assess its effectiveness and optimize results. To this end, various evaluation frameworks have been developed, incorporating diverse methodological approaches and specific success indicators. These frameworks not only analyse how skills are transferred but also measure the actual impact on individuals and the organization. Methodological approaches include

qualitative and quantitative tools that allow data to be collected on learning processes, skills retention, and their application in the professional context.

Success indicators, meanwhile, vary depending on the specific objectives of the skills transfer, relying on criteria such as improved individual performance, organizational effectiveness, or increased employee engagement. However, measuring the success of this transfer remains a major challenge, due to the difficulty in quantifying certain intangible aspects, such as motivation or behavioural impact. This point therefore raises the crucial question of the most suitable evaluation methods to overcome these measurement challenges while providing reliable and relevant results for the organization.

The evaluation of the transfer of transversal skills relies on a variety of methodological approaches, allowing us to grasp the complexity of this phenomenon. These methodological approaches vary depending on the specific objectives of the skills transfer, organizational contexts, and available resources. The methods chosen must meet criteria of scientific rigor while being sufficiently flexible to capture the different aspects of the process. They generally fall into three broad categories: qualitative, quantitative, and mixed approaches (Kerlinger & Lee , 2001)

1. Qualitative methods

Qualitative approaches focus on gaining an in-depth understanding of the experiences and perceptions of individuals involved in the transfer process. These methods explore contextual factors, personal motivations, and barriers perceived by employees and managers. Some of the most used qualitative methods include (GUBA & Lincoln, 1994):

- **Individual interviews:** They allow us to collect detailed information on the participants' experiences, to identify perceptions related to the transfer of skills and to explore in more depth the reasons why certain skills are better transferred than others.
- **Focus groups:** They offer the advantage of capturing collective dynamics and identifying the obstacles or levers perceived by different groups of collaborators, making it possible to understand the phenomenon in a broader context.
- **Case studies:** These studies allow us to delve deeper into a particular case of an organization or department, to examine how the transfer of skills was carried out and

what impact it had on individual and collective performance.

These approaches are particularly effective in collecting rich and contextual data which, although not generalizable on a large scale, provide an in-depth understanding of the phenomena studied.

2. Quantitative methods

Quantitative approaches rely on the collection and analysis of numerical data to establish causal relationships or correlations between different variables. These approaches are particularly suited to measuring the impact of skills transfer on objective criteria, such as performance or productivity. Common quantitative methods include (Saunders , Lewis , & Thornhill, 2009):

- **Surveys and questionnaires:** These instruments allow for the collection of standardized information from a large sample, facilitating statistical analysis. Questionnaires are often designed to measure employee perceptions of the relevance, ease, and effectiveness of skill transfer.
- **Performance analysis:** Pre- and post-training performance assessments allow for objective measurement of the impact of skills transfer on individual or collective results. Indicators such as productivity rates, work quality, or error reduction can be used for this analysis.
- **Knowledge and skills tests:** These tests make it possible to assess whether the skills acquired are effectively transferred to the workplace, by measuring the level of mastery of know-how following the training or the transfer process.

One of the main advantages of quantitative methods is their ability to provide measurable and generalizable results, which allows for objective conclusions to be drawn about the effectiveness of the skills transfer process.

3. Mixed Approaches

Mixed-method approaches combine qualitative and quantitative methods to leverage the strengths of each method. For example, a quantitative survey can be used to identify general trends and correlations, while qualitative interviews can provide insights into the underlying reasons for these findings. This approach offers a more comprehensive and nuanced view of the transfer process by combining numerical data with contextual information (JW & Clark, 2011)

Mixed-method approaches are particularly useful when evaluating the transfer of transversal skills, as they allow for the exploration of both measurable and subjective aspects of the process. For example, a study combining employee satisfaction questionnaires and in-depth interviews can provide both quantitative and qualitative data on the impact of skills transfer on employee engagement and job performance.

Table1: Comparison of methodological approaches

Method	Data type	Benefits	Boundaries
Individual interviews	Qualitative	Deepening of perceptions, flexibility of adaptation to the context	Difficulty of generalization, long analysis
Discussion groups	Qualitative	Capturing collective dynamics, contextual analysis	Risk of group bias, limited sample
Case studies	Qualitative	In-depth understanding, study of specific contexts	Less generalizable, may be subjective
Surveys/Questionnaires	Quantitative	Large sample, objective measurement	Superficial answers, lack of context
Performance analysis	Quantitative	Measurement of objective results, comparability	Does not consider subjective factors
Knowledge tests	Quantitative	Objectivity, direct measurement of skills	Does not measure the application of skills
Mixed approach	Qualitative and Quantitative	Complementary data, complete vision	Complexity in analysis and interpretation

Methodological approaches to assessing the transfer of transversal skills are diverse and should be chosen based on

the specific objectives, available resources, and the type of data sought. Integrating qualitative, quantitative, and mixed methods allows for leveraging the strengths of each approach, thus providing a more comprehensive and robust assessment of the transfer process. However, these approaches must be applied with rigor and adaptability to ensure their relevance and effectiveness in the specific context of each organization.

II. Measuring success: the strategic role of success indicators

Success indicators are a key element in evaluating the transfer of transversal skills within organizations. They make it possible to measure the effectiveness of the process, analyse the impact of training or educational activities, and identify performance levers. These indicators are essential for both trainers and human resources managers to determine whether skills development objectives have been achieved and whether the acquired skills have been effectively transferred to the workplace. A good system of success indicators must be adapted to the specificity of the targeted skills, the organizational context, and the transfer methods (training, experiential learning, coaching, etc.).

Success indicators can be grouped into three broad categories: qualitative indicators, quantitative indicators, and behavioural indicators. (J & Crozet, 2010).

1. Qualitative indicators

Qualitative indicators are often used to assess subjective and intangible aspects of the skills transfer process. They allow for the analysis of participants' satisfaction, commitment, and skills appropriation. These indicators can be collected through interviews, open-ended questionnaires, or direct observations. Qualitative indicators include:

- **Participant satisfaction:** Measure learners' satisfaction with the training or learning experience. This includes assessing the relevance of the content, the quality of the trainers, and the learning climate.
- **Perception of training quality:** Assess how participants perceive the quality of the content, the accessibility of the resources, and the suitability of the transfer methods with the expectations of the learners.
- **Perception of personal development:** Measure the extent to which participants believe that the skills acquired improve their performance and personal development.

2. Quantitative indicators

Quantitative indicators are used to assess the impact of skills transfer in a measurable and objective manner. These indicators are particularly useful for analysing results in terms of numbers, percentages, and other specific measures. They can include aspects such as (Gagné, 2009):

- **Skill retention rate:** This indicator measures the length of time acquired skills are retained by employees after training. A high rate means that skills transfer was successful.
- **Rate of skill implementation:** It measures the percentage of participants who apply the skills acquired in their daily work.
- **Reducing errors or improving productivity:** By measuring the results before and after training or learning, the direct impact of skills transfer on organizational performance can be assessed.

3. Behavioural indicators:

Behavioural indicators are used to assess the extent to which transferred skills influence employees' behaviours and attitudes in the workplace. These indicators are particularly relevant for monitoring behavioural change after a training process. They may include (Perrenoud, 2001):

- **Change in professional practices:** Observation of employee behaviour before and after skills transfer to identify whether new working methods or strategies have been adopted.
- **Improved interpersonal relationships:** Assess whether the transfer of skills led to better collaboration and communication between team members.
- **Leadership and initiative:** To measure whether participants take more initiative and demonstrate leadership in their professional environment after the transfer process.

4. Choosing success indicators

The choice of success indicators depends on several factors. It is important to consider the specific objectives of the training or skills development program, organizational needs, as well as the expectations of stakeholders (employers, trainers, learners, etc.). In addition, the indicators must be adapted to

the nature of the targeted skills (technical, transversal, behavioural, etc.) and the specific context of the organization (Dumont & Mairlot, 2017).

A good success indicator system should also allow for ongoing and regular assessment of skills transfer. The results should be used to adjust training processes and implement corrective actions if necessary. This involves regular data collection and in-depth analysis of results, often through performance reports, satisfaction surveys, or follow-up interviews (Dumont & Mairlot, 2017)

Table 2: Table of success indicators

Indicator type	Specific indicator	Objective
Qualitative indicators	Participant satisfaction	Measure adherence and perception of training
	Perception of training quality	Evaluate the quality of content and teaching methods
	Perception of personal development	Estimate the perceived gains in terms of skills and autonomy
Quantitative indicators	Skill retention rate	Measure the retention period of acquired skills
	Rate of skill implementation	Analyse the frequency of application of skills in the workplace
	Reduced errors / Improved productivity	Quantify the impact of skills transfer on performance
Behavioural indicators	Change in professional practices	Observe adjustments in professional behaviour
	Improved interpersonal relationships	Measuring changes in social and professional interactions
	Leadership and initiative	Assess initiative and leadership after training

Success indicators are essential for measuring the effectiveness of transfer of transversal skills in a professional setting. Their role goes beyond simply evaluating the training process: they also allow for the adjustment of teaching practices, the optimization of interventions, and the guarantee of a tangible and lasting impact on individual and organizational performance. The implementation of these indicators requires careful consideration of the objectives and systematic monitoring of results to ensure the sustainability and success of the transfer process.

III. Measuring the immeasurable? The challenges of assessment

The process of transferring transversal skills, although widely studied in the field of human resource management and organizational learning, presents complex measurement challenges. These difficulties arise mainly due to the multidimensional nature of the transfer, the irregularity of organizational contexts, and the individual specificities of learners. In this context, the implementation of an effective and reliable measurement system is a major challenge for organisation wishing to ensure the relevance and effectiveness of transferred skills. It is essential to understand and address these challenges to ensure accurate monitoring and make informed decisions regarding the evolution of skills development strategies.

1. Complexity and multiplicity of factors influencing transfer

The transfer of transversal skills is based on the interaction of many factors, both individual and organizational, that influence how a skill is perceived, acquired, and subsequently implemented in the workplace. Key factors include employees' personal characteristics (such as motivation, learning styles, and prior skills), organizational contexts (culture, managerial support, work environment), and the characteristics of the training courses themselves (teaching methods, duration, relevance). This interaction of factors makes it difficult to establish a single, uniform measure of transfer, as everyone and organization may react differently to the same learning conditions (Boudarbat & Gagné, 2008).

2. Difficulty in quantifying transversal skills

Soft skills, by their very nature, are difficult to measure quantitatively. Unlike technical or job-specific skills, which can be assessed through concrete performance tests, soft skills (such as communication, leadership, time management, etc.) do not lend themselves easily to objective measurement. Their assessment often depends on subjective criteria, such as the perceptions of individuals or evaluators, which complicates the standardization of measurement processes. Moreover, these skills are often expressed contextually, meaning that observed behaviours can vary across situations, making their assessment difficult to replicate consistently (Lemoine & Lambert, 2011).

3. *The time and deadline for implementing skills*

Skills transfer does not always occur immediately after a training or transfer program. Indeed, the application of skills in a professional environment depends on the time it takes for individuals to have the opportunity to use them in real-life situations. Moreover, some transfer effects, such as improved productivity or changes in professional practices, may take several months or even years to become evident. This lag phenomenon presents a major challenge in assessing skills transfer, as it requires longitudinal monitoring and long-term evaluation, rather than immediate or short-term measurement (Gagné & Tremblay, 2013).

4. *The subjectivity of evaluation methods*

Skill transfer measurement often relies on subjective assessment methods, such as surveys, interviews, or supervisory evaluations. While these methods provide valuable insights into learner and manager perceptions, they have limitations in terms of reliability and validity. The inherent subjectivity of these assessments can lead to biases, including overly favourable assessments by supervisors or participants, or overly critical feedback based on the assessors' personal expectations. The lack of standardized measurement tools makes it difficult to draw comparisons between different individuals or groups of learners, which undermines the robustness of the results. (Perrenoud, 2004).

5. *Considering the organizational context*

One of the most significant challenges in assessing skills transfer is considering the organizational context. The workplace in which an individual operates directly influences how they apply acquired skills. Factors such as organizational support, corporate culture, talent management, and leadership structures can promote or inhibit skills transfer. Furthermore, some organizations may not be ready to fully integrate or support skills transfer, which can lead to poor application of these skills in daily practices. Therefore, measurement must include an assessment of the organizational environment to accurately interpret transfer results. (Hamel & Prahalad, 2007).

6. *Biases in measuring instruments*

Instruments used to measure skill transfer, such as questionnaires or assessment tools, can introduce biases that distort the results. For example, self-assessment questionnaires can lead to biased responses, as participants tend to overestimate their own performance or conform to what they believe to be the assessor's expectations. Similarly,

assessments by line managers can be influenced by external factors, such as interpersonal relationships or power dynamics. It is therefore essential to design measurement instruments that minimize these biases and achieve results that are as objective and reliable as possible. (Tremblay & Rousseau, 2008)

The challenges of measuring the transfer of transversal skills are numerous, but not insurmountable. They stem from the complexity of the transfer process, the difficulty of quantifying intangible skills, and biases related to assessment methods. However, with an appropriate methodological approach, consideration of the organizational context, and appropriate monitoring, it is possible to effectively measure the impact of skills transfer and adjust development strategies based on the results obtained. This will ensure that investments made in employee training and development lead to tangible and sustainable results.

Conclusion

Human capital is, without a doubt, an important resource for an organisation. It encompasses an individual's entire body of knowledge, expertise, and talents, all of which enhance and promote creativity and productivity. Its development is a function of training, and dissemination and transfer of the relevant knowledge that fosters collective and adaptive learning. Nonetheless, the assessment of such processes remains challenging owing to the knowledge's intangible nature and the social factors that revolve around it. Hence, it is paramount for an organisation to deploy appropriate and effective strategies to optimize their employees' potentials and turn such capital to a persistent source of competitiveness and performance.

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