

An integrated learning framework of corporate training system: a grounded theory approach

Integrated
framework of
corporate
training

Sergio Barile

Department of Management, University of Rome La Sapienza, Rome, Italy

Maria Vincenza Ciasullo

*Department of Management and Innovation Systems, University of Salerno,
Fisciano (SA), Italy;*

*Faculty of Business, Design and Arts, Swinburne University of Technology,
Kuching, Malaysia and*

Department of Management, University of Isfahan, Isfahan, Iran

Mario Testa

*Department of Political and Communication Sciences, University of Salerno,
Fisciano (SA), Italy, and*

Antonio La Sala

Department of Management, University of Rome La Sapienza, Rome, Italy

Received 4 March 2022
Revised 25 June 2022
26 October 2022
2 January 2023
Accepted 4 February 2023

Abstract

Purpose – Rooting in the literature on training and laying on Kirkpatrick model, this paper aims to explore key drivers of corporate training to identify how they can be combined into an integrated framework of learning for human capital development.

Design/methodology/approach – By adopting the constructivist grounded theory, this contribution analyzes the experience carried out in the last ten years by Virvelle, an Italian corporate training firm.

Findings – Results show the rise of five core categories, giving rise to an integrated model of Kirkpatrick. Their dynamic interplay led to a new orientation of Kirkpatrick model giving rise to a metalearning ecosystem.

Research limitations/implications – Managerial implications have identified key factors on which building and implementing appropriate corporate training programmes capable of triggering co-generative processes of value creation. Particularly, the essential role of learning quality culture, digital technology and personalization are detected in integrating not only hard but furthermore soft shades of learning. Concerning theoretical implications, the emergence of key structural and systems enabling dimensions for learning, and contextual mechanisms involved in reshaping training effectiveness and achieving integrated learning outcomes are detected. The main limitation of this study lies in the need to generalize results: the conceptualized framework needs to be empirically tested.

Originality/value – The value of this research is built along three main points. The first is the integration among the core categories that an integrated learning system can be built on, promoting learning quality culture through positive feedback loops. The second is represented by the chance to enhance an integrated mutual knowledge development among engaged actors, thereby shaping a more holistic and multidimensional

© Sergio Barile, Maria Vincenza Ciasullo, Mario Testa and Antonio La Sala. Published by Emerald Publishing Limited. This article is published under the Creative Commons Attribution (CC BY 4.0) licence. Anyone may reproduce, distribute, translate and create derivative works of this article (for both commercial and non-commercial purposes), subject to full attribution to the original publication and authors. The full terms of this licence may be seen at <http://creativecommons.org/licenses/by/4.0/legalcode>

The authors would like to express our very great appreciation to Dr Luca Senatore, the Chief Executive Officer of Virvelle Srl, and Dr Mario Vitolo, the Managing Director of Virvelle Srl, for their valuable and constructive suggestions during the planning and development of this research work. Their willingness to give their time so generously has been very much appreciated.



learning model. The third is related to the transversal role that digital technology plays in all phases of the training process as it integrates and enriches them.

Keywords Corporate training, Integrated learning system, Kirkpatrick pyramid model, Quality culture, Feedback loops

Paper type Research paper

1. Introduction

The current socio-economic scenario is characterized by extremely fast and competitive evolutionary dynamics. Accordingly, firms need to implement training plans to improve their competitiveness (Boahin and Hofman, 2014; Gil *et al.*, 2015). This greatly affects industries where competition is particularly fierce and calls for vigorous approaches to improve the quality of corporate training to adapt to or even anticipate deep technological, cultural and social challenges (Kesim, 2012; Škerlavaj *et al.*, 2007). Hence, greater flexibility and social intelligence are essential to face these complex challenges, calling for the development and strengthening of human capital (Fannon *et al.*, 2022).

In this line, managerial literature on quality highlights how training is essential and urgent to advance employees (Ajgaonkar *et al.*, 2022; Fannon *et al.*, 2022), making them able to better perform their roles in accordance with goals to be achieved in a changing competitive scenario (Singh and Ahuja, 2015). Accordingly, training can boost employee motivation, generating self-efficacy and volition towards organizational excellence improvement (Swanson, 2001; Wang *et al.*, 2018). These elements, typical of an integrated approach to Total Quality Management (TQM), are configured as strategic values themselves. However, in an overly silos approach, this value has been for long pursued and evaluated by solely strengthening technical controls, paying greater attention to hard levers of human resources quality management. Conversely, the way to perform strategic value lies in enhancing human capital pushing on training and learning, on capabilities and competencies, putting emphasis on the soft side of human resources quality management (Ershadi *et al.*, 2019; Cucino *et al.*, 2022).

More in depth, although the relevance for human capital development, managerial literature has not taken into the right consideration the path that from training and learning (Redden, 2022) crosses motivation (Wang *et al.*, 2018), organizational excellence (Škerlavaj *et al.*, 2007), training costs and expected returns (Kirkpatrick and Kirkpatrick, 2005, 2007; Curado and Martins Teixeira, 2014).

Today more than ever, firms are asked to implement agile and responsive processes that reflect multi-skill organizational models with human resources who are capable of sharing, expanding, updating and renewing their knowledge and experience assets. Hence, unlike in the past, present working context entails the need for a soft-driven and feedback-based extensive learning typology. A positive relationship between soft side of TQM, corporate training and organizational learning can be stressed accordingly (Ajgaonkar *et al.*, 2022; Cucino *et al.*, 2022). Yet, there is limited evidence on the following:

- (1) Training programmes' effectiveness is a still fragmented issue in literature (Bernardino and Curado, 2020);
- (2) Managerial literature disapproves available human resources evaluation models assumptions due to deterministic cause-effect relationships among variables involved (Sitzmann and Weinhardt, 2019);
- (3) Training and learning are mainly framed as internal processes to firms, forgetting the social dimension firms themselves inhabit (Jiménez-Jiménez *et al.*, 2015) and
- (4) Lack of a multi-stakeholder and multi-level perspective able to co-create value on the whole socio-economic ecosystem together with institutions and social actors (Barile *et al.*, 2021).

Following this line of inquiry, particular attention deserves the Kirkpatrick model since, from its introduction in 1959, it has been, at the same time, among the most adopted and the most criticized for human capital evaluation and development because of the hidden, rising, complexity in the passage from a level to the other.

Therefore, this study aims to fill the aforementioned research gaps by answering two research questions including:

- RQ1.* Which are the key drivers of an integrated training system?
- RQ2.* How do these drivers may be combined to generate higher levels of quality along the whole learning process?

To answer these questions, due to its exploratory nature, this study adopts a qualitative approach based on a case study analysis conducted through the Grounded Theory Method in its constructivist shade (Strauss and Corbin, 1998; Mills *et al.*, 2006; Charmaz, 2017), rooted on an abductive inferential process in which new valid relationships between concepts and constructs can be achieved by mediating continually between observation (data), induction (reconnecting data to theory) and deduction (reinterpreting extant theory to propose new theoretical concepts). The core of the analysis was Virvelle, an Italian corporate training which adopts with positive results, a modified scheme of Kirkpatrick's model. This valuable empirical setting allowed the transfer of experiences and practical know-how towards the conceptualization of an integrated theoretical framework for human capital development.

The paper is organized as follows. After a short introduction, Section 2 explores the conceptual background: accordingly, Section 2.1 focuses on human capital role in enhancing quality through training and education; Section 2.2 focuses on the main characteristics and managerial levers of Kirkpatrick model, highlighting the main strengths and weaknesses. Section 3 describes the methodology that has been chosen to collect and analyze data and trace the evolution of the theory. Section 4 reports the study findings. Section 5 sets results discussion while both theoretical and managerial implications are presented in Section 6. Eventually, Section 7 emphasizes final remarks and limitations of the study.

2. Literature review

2.1 *Merging training and education into an integrated training system: the role of human capital in quality improvement*

In the era of knowledge capitalism, the determinants of business success increasingly depend on the ability of firms to extract value from intangibles rather than from physical resources: the added value linked to value chain intangibles (R&D, design and product customization) is becoming increasingly relevant (Collins, 2021). Therefore, the growing relevance of knowledge in value creation requires a rethinking of the composition of intellectual capital itself, no longer built on tangible slack but on cognitive slack, source of learning and resilience (Nohria and Gulati, 1997; Simone *et al.*, 2017; La Sala, 2020; Ciasullo *et al.*, 2022). From this point of view, human capital and learning, the process of developing capabilities and competences, currently represents the most important dimension of intellectual capital, since its pivotal role in nurturing competitive advantage (Kim *et al.*, 2021). Despite this, such a development process is often interpreted as merely functional in steering people towards higher levels of productivity (Dosi *et al.*, 2021). Considering human capital only in instrumental terms is limiting because, through capabilities, competences and experience, the human capital makes it possible to seize unexpected and disruptive opportunities for continuous improvement (Rivera, 2020).

The type of change involving human capital as a result of development activities can be of two types (Bowen and Ostroff, 2004; Peccei and Van De Voorde, 2019; Watson, 2022):

- (1) Strong transformation, of a general type and
- (2) Weak transformation, of a specific type.

Strong transformation occurs when acquired knowledge is not directly linked to an organizational context but can be used in numerous different contexts: this is, in short, what the organizational and managerial literature calls bridging capabilities, elements of horizontal knowledge such as negotiation, creativity and lateral thinking (Teece *et al.*, 1997; Barile *et al.*, 2015). On the other hand, weak transformation occurs when the acquired knowledge is idiosyncratic, i.e. context- or discipline-specific. This type of knowledge, which the literature defines as competence, loses much of its value and usefulness in a context other than its source context (Barile *et al.*, 2015; Paauwe and Boon, 2018). In this direction, therefore, the development of human capital can take place along two different backbones, which are not alternatives (Garavan, 1997; Ragins and Ehrhardt, 2021): that of training and that of education. Training is specific and linked to the weak transformation of human capital: it has the aim of transferring – either through didactic tools or through operational experience – skills that are already defined, codified and easily controlled. This is a transfer modality oriented towards learning by doing (Anzai and Simon, 1979; Grandinetti and Di Bernardo, 2012); education, on the other hand, relates to the strong transformation of human capital and aims at developing transversal capabilities, necessary to govern uncertainty and generate new knowledge through the creativity of the human resources involved, in a logic of learning by interacting (Surdu *et al.*, 2021).

As mentioned, however, these logics are not dichotomous: knowledge-based capitalism, characterized by processes of increasing hybridization between sectors and technological trajectories, requires economies of flexibility, creativity and knowledge integration (Grant, 1996; Salunke *et al.*, 2019) where discontinuity, serendipity, lateral and analogical thinking become central nodes for generating new knowledge both at the process/product/service level and at the strategic/organizational/social level (Perez-Soltero *et al.*, 2019). Therefore, it is necessary to develop a new shade of learning that includes vertical competencies but also (and above all) horizontal capabilities for drawing on and hybridizing distant disciplines and understanding languages and cognitive frames of heterogeneous extraction. There is a need for capabilities that enable and support connections between codified knowledge and new cognitive frames (Wang *et al.*, 2018; La Sala, 2020). Designing human capital development is therefore important not only from a firm perspective, given its influence on intellectual capital (Winterton and Cafferkey, 2019), but also from the perspective of human resources, because it represents one of the main building blocks of the psychological contract, referring to the development of self-efficacy (Bandura, 1997; Kodwani and Prashar, 2019) and intrinsic motivation (Bénabou and Tirole, 2003; Ryan and Deci, 2020). In general terms, therefore, human capital development is pivotal to identify and enhance dynamic and distinctive capabilities that are critical and difficult to transfer (Teece *et al.*, 1997; Eisenhardt and Martin, 2000; Teece, 2018) and it is among the most relevant strategic activities: training and education should be merged in an integrated training system (Verma *et al.*, 2021; Cavallone and Palumbo, 2021). This is not, however, the only potential benefit: effectively implemented development plans, in the constant balancing of training and education needs, have a profound impact on the quality that human resources themselves are able to express through their contribution to the corporate strategy (Chandler and McEvoy, 2000; Verma *et al.*, 2021). There is a direct influence between the development of human capital and the diffusion of quality inside and outside firms. Indeed, quality logic requires a different management philosophy that involves, in an integrated manner, new models of leadership and organizational conflict management and the valorization of needs that go beyond subsistence and security (Ohno, 1988; Ryan and Deci, 2020). Orienting human resource development towards quality, therefore, means adopting a

profoundly transformed logic with respect to the traditional training-behaviour-control taxonomy (Caza *et al.*, 2018). Underlying this transformation and rooted in the thinking of Maslow, McGregor and Herzberg lie three different (but deeply interconnected) backbones of thought (Ohno, 1988; Mom *et al.*, 2019):

- (1) In the long term, quality is closely dependent on the human resources management model. Specifically, the leadership style is a key element of such success as it directly influences the motivation and thus the effort and engagement of people towards the business objectives: if it happens, capabilities and competencies will be integrated accordingly (Barnard, 1938; Ryan and Deci, 2020);
- (2) The learning process is vicarious in nature: in order for learned knowledge to be transformed into behaviours and generate quality, however, management policies will be required that value self-efficacy and do not demean the dignity of people; that provide each individual with a sense of contribution within the firm and enhance it through continuous development plans according to life-long learning, life-wide learning and life-deep learning (Barnett, 2010; Bélanger, 2015); that ensure the intrinsic and extrinsic development of each person motivation (Ryan and Deci, 2020);
- (3) Developing human capital from a total quality perspective means orienting performance management systems towards the recognition of positive elements to be enhanced. This does not exclude the detection of errors or deviations but, from the perspective of total quality, allows a different philosophy of error to be developed: from a cost to a further learning opportunity (Ohno, 1988; Yang, 2006; Lakshman, 2006; Bouranta, 2020).

Therefore, the development of human capital is one of the most critical activities of quality management as it is pivotal to preside over corporate distinctive capabilities and competences, to support the quality of processes and related outcomes. Although the urge to reduce such activities to a mere training, standardized training is strong, especially in firms with a reactive approach to market changes, firms should adopt an attitude of continuous stimulation of individual and collective learning and integrate them with strategy, value system and culture. This is because generated learning represents a powerful tool for stimulating organizational quality (Cavallone and Palumbo, 2021). Precisely for these reasons, interventions that respond contingently to the needs of specific segments of the corporate population exploit only part of the potential of the learning process: involvement in activities that stimulate the learning of new skills and competences should in fact take place on a continuous basis, nurturing the development of human capital and reinforcing the sense of belonging to the corporate community (Pool, 2000). Therefore, launching a virtuous process of human capital development in the logic of quality means designing an integrated learning system that goes beyond firms' vision as mechanical systems and adopts, instead, a systemic lens that overcomes the "internal-external environment" dichotomy. Managerial literature investigates numerous models of human capital development (Kaufman and Keller, 1994; Reio *et al.*, 2017). Among these, the Kirkpatrick pyramid is still one of the most widely used (Kirkpatrick, 1959a, b, 1960a, b, 1996). Despite this widespread use and the undoubted advantages of the model, however, many of its critical issues have not yet been adequately addressed. To this end, the following section will outline its contours to highlight its advantages, criticalities and potential uses.

2.2 Kirkpatrick pyramid: structure, advantages and criticalities

As seen, in the context of a knowledge-based economy and of a complex and flexible labour market, the development of human capital has acquired strategic importance for both individuals and organizations (Dosi *et al.*, 2021). For the former, it can be a resource to cope with changes required by less stable, non-linear and unpredictable working careers; for the

latter, it represents a fundamental lever on which to act to increase productivity and competitiveness, increasingly dependent on human capital quality. In this direction, in four articles published between 1959 and 1960, Kirkpatrick presented a set of techniques for evaluating human capital development articulated in four steps, placed in hierarchical order: the *four-level model*.

In these articles, Kirkpatrick outlines a sequence of evaluation activities characterized by increasing complexity in terms of procedures and resources required. The first level, i.e. *reaction*, refers to participants' impressions on a course outcome and aims at assessing if the learning experience (from course organization and contents to methods and materials) has been positively or negatively received (Kirkpatrick, 1959a, 1994, 1996, 1998); the second, i.e. *learning*, is aimed at determining the extent to which participants learned principles, procedures and techniques proposed during the course (Kirkpatrick, 1959b); the third, i.e. *behaviour*, is concerned with ascertaining the change in behaviours and performances (Kirkpatrick, 1960a); the fourth, i.e. *results*, is aimed at determining whether there have been improvements in organizational performance indicators after the course (e.g. increases in the quality of the products/services offered – Kirkpatrick, 1960b).

It is possible to read these levels in two different ways: the first divides the four levels into internal (focused on the individual learning path) and external (focused on changes after the learning path and influenced by other contextual factors) (Praslova, 2010); the second refers to the individual level (which includes reaction, learning and behavioural change) and organizational (which includes results) (Kirkpatrick and Kirkpatrick, 2007).

Indeed, there are many strengths of the model (Alliger and Janak, 1989; Newstrom, 1995; Holton, 1996; Bates, 2004; Reio *et al.*, 2017): it focuses the assessment on a plurality of dimensions and outcomes, posing the need for diversified measures; it made a clear distinction between learning and behaviours; it emphasized the need to think of learning in terms of results; it had a heuristic function; it reduced assessment complexity by breaking it down into elementary steps that are easily understood by practitioners. However, despite its undoubted advantages, given its diffusion and relevance among practitioners, the model has often been employed uncritically (Newstrom, 1995; Chang, 2010; Kennedy *et al.*, 2013; Reio *et al.*, 2017). However, criticalities may emerge along two trends:

- (1) The focus of evaluative activities is on the first/second level, while attempts to go as far as the third and fourth appear only sporadic (Kirkpatrick, 1998);
- (2) Evaluation practices are often superficial and subjective (Catalanello and Kirkpatrick, 1968).

Although the third and the fourth levels are those to which Kirkpatrick attaches most importance, they are the most neglected as well. In this direction, Kennedy *et al.* (2013) show that, underlying difficulties in implementing the higher levels of the model, there are reasons linked to the increasing complexity and randomness of evaluation from one level to the other (Chang, 2010; Reio *et al.*, 2017). A first problematic assumption (Alliger and Janak, 1989; Tamkin *et al.*, 2002; Bates, 2004) concerns the existence of a linear causal relationship among levels: that is, it is assumed that levels depend on each other in a causal chain (Bates, 2004) and that all correlations among levels are positive (Alliger and Janak, 1989; Chang, 2010). The misleading nature of this assumption has been confirmed by numerous studies (Fung and Songan, 2016) which show that reactions are difficult to use as surrogate measures of learning. The relationship between the second and third levels is also problematic since it points to the complex issue of learning transfer (Reio *et al.*, 2017). Kirkpatrick himself declared that each level is a necessary premise but not a sufficient condition for moving to the next level (Kirkpatrick, 1959a). Indeed, even more decisively, he recognized that if learning is necessary for a change in behaviour, other concomitant conditions such as motivation, an

effective opportunity to apply what has been learned, and a professional context offering support and encouragement are also required (Kirkpatrick, 1960a). When entering the fourth level, the number of factors involved increases further due to the subjectivity in measuring benefits in terms of behaviour (Kirkpatrick, 1960b). Thus, in agreement with Holton (1996), it can be argued that Kirkpatrick was not clear about the relationship among levels: on the one hand, he acknowledges that many factors can influence the outcomes of the development plan and thus that relationships among levels are not simple and linear; on the other hand, however, he proposes statements and concepts from which it seems possible to infer a simple sequential causal relationship among levels.

Eventually, it may be useful to dwell on a further assumption. The model implies a hierarchy of value among levels: proceeding from the first to the fourth makes evaluation more difficult and costly, but also more meaningful (Kirkpatrick, 1996). The assumption that the four proposed dimensions constitute hierarchical levels, placed in ascending order according to the value of the information they provide, can be considered problematic both because it may lead to the first levels being neglected and their relevance underestimated, and because it conveys the idea that what only counts is firms' point of view (Alliger and Janak, 1989; Bates, 2004). With respect to this issue and its potential criticality, Stokking (1996) suggests that it would be more appropriate to talk about criteria rather than levels of evaluation. Therefore, the Kirkpatrick pyramid needs additional support in terms of relevant factors and contextual mechanisms involved in achieving valuable learning outcomes (Tamkin *et al.*, 2002). Next sections will address this issue.

3. Methodology

3.1 Research design

This exploratory study is based on the GTM adopting a constructivist lens (Glaser and Strauss, 1967; Strauss and Corbin, 1998; Mills *et al.*, 2006). We opted for GTM given its usefulness in exploring single, yet fuzzy, contexts of investigation. Indeed, while quantitative research aims at verifying pre-existing theories in a causative sense, GTM aims to systematically collect and analyze research data consistent with the context of detection adopting an interpretative lens when it is uneasy or challenging to set variables and statistical relations among them (Corbetta, 2003).

Indeed, this method was deemed suitable for the study for the following reasons: 1) the lack of an integrated framework oriented towards human capital development that transcends firms' boundaries; 2) the multiple factors that contribute to the effectiveness of the human capital development and the difficulty of defining its overall relevance; 3) the wide variety of approaches to human capital development (internal and external, indoor and outdoor, for hard and soft skills, traditional and innovative, face-to-face and online, etc.) that produced heterogeneous information on management practices that require systematization to draw renewed theoretical approaches. The following section illustrates the methodology implemented and describes the business case, the composition of the sample investigated and the data coding process.

3.2 Context of investigation

Virvelle is an Italian consulting and training firm and employment agency that offers integrated services for human capital development. Indeed, case company's mission is to design and deliver highly engaging and integrated training programmes aimed at improving participants' capabilities, professional skills, and competencies, pushing on self-efficacy and intrinsic motivation.

Various training methodologies and multidisciplinary educational interventions such as classroom laboratories, Outdoor Management Training, coaching and so on are put in place.

Furthermore, integrated training systems are managed aiming at merging supply and demand of work also thanks to the support of innovative digital technologies (e.g. platforms for online teaching, live chat, cloud systems, etc.).

A global training service is thus offered which spans from demand analysis to learning assessment.

Specifically, by drawing on Kirkpatrick pyramid, a deep analysis of learning needs is carried out to implement educational paths in line with customer needs (i.e. firms' gap in terms of capabilities, competencies and skills) and is capable of affecting the improvement of organizational processes and human resource management. This is realized by tailoring each plan according to customer-based needs and their AS IS state. The goal is to develop knowledge consistent with trainees' professional needs. Individual, group, outdoor, online, and creative training methodologies respond to the different learning styles of both younger and older people, and they are renewed according to scientific and pedagogical updates.

3.3 Participants

In four months, 38 among employees, managers, trainers and freelance accounts belonging to Virvelle were interviewed: answers were grouped according to respondents' role. [Table 1](#) describes the final sample.

The sample did not include trainees as they were all university students with three to six months of work experience. The largest category was that of office workers ($n = 21$; mean age = 35.2; SD = 5.6; graduated = 20; 5% male), which included a wide range of study paths. The 21 employees can be separated into three different organizational areas: 1) delivery (7), 2) operational support (7) and 3) design and development (7). Following the first phase of coding, the "theoretical sampling" was updated ([Birks and Mills, 2015](#); [Charmaz, 2017](#)): the initial sample, made up only of employees and managers, was then extended to include trainers as well. All 31 people involved in the firm were interviewed, using the process of theoretical sampling. It was considered appropriate to include freelance accounts only later, and they had a predominantly commercial role on a national basis. All the people were interviewed, reaching the total number of 38 members. The aim was to "saturate the categories" ([Birks and Mills, 2015](#)), identifying further cases to explore and deepen corporate training and describe it in all its complexity.

3.4 Data collection: interview protocol

Three rounds of in-depth interviews were conducted following a semi-structured questionnaire with open questions ([Patton, 1990](#)). This technique has been chosen because

Level	Type	Description	References
4	Results	It relates to the improvements that the training has made	Bates (2004) , e Cunha et al. (2010) , Holton (1996) , Yamhill and McLean (2001) and Cheng and Ho (2001)
3	Behaviour	It refers to how much the participants actually changed in terms of skills in their daily work	Baldwin and Ford (1988) , McLean and Moss (2003) , Burke and Baldwin (1999) , Grossman and Salas (2011) and Chiaburu et al. (2010)
2	Learning	It evaluates what the participant has actually learned in terms of skills, knowledge and attitudes	Florea et al. (2016) , Steele et al. (2016) , Perez-Soltero et al. (2019) and Filmer et al. (2020)
1	Reaction	It refers to what the participants think and feel at the end of the course; it is the satisfaction of those who have received the training	Ward et al. (2006) , Phillips and Phillips (2009) and Noe et al. (2010)

Table 1. Kirkpatrick's four-level training evaluation model

it is suitable for the analysis of elaborated in this research since it collaboratively builds intersubjective representations and interpretations of variables under investigation through the reciprocal process of perception, interaction, communication and meaning exchange between interviewers and the interviewees (Charmaz, 2006).

The first round of interviews involved all the participants (see previous section). It included general questions aimed at knowing what is meant by learning and what corporate processes of human capital development entailed (Table 2).

The second round involved less respondents, identified as those knowledgeable on emerging opportunities and issues. Questions focused on problems faced, from the training programme design to the learning outcomes evaluation, with a special emphasis on main critical issues handled. Interviews were analyzed and interpreted by the whole research team and further questions were aimed at deepening the perception of respondents on categories and concepts emerged.

Then, the last round of interviews was conducted again involving all the participants. This included further questions on the four phases around which the Virvelle training systems orbit: needs analysis, planning, delivery and evaluation.

3.5 Data analysis: coding process

As Figure 1 shows, data were analyzed over a period of five months along three coding rounds, (1) “open coding”, (2) “axial coding” and (3) “theoretical coding”: the first two rounds attain the substantive coding phase and the third attains to the conceptualization phase (Strauss and Corbin, 1998; Charmaz, 2017).

Starting from the base of the pyramid (Figure 1), during the first round, open interviews were audio-recorded and later listened. The first listening did not involve transcription but only the recovery of key concepts. After a second listening, interviews were transcribed and read again. The first reading stressed issues to be addressed, and subsequent ones allowed a first memorizing process.

After this initial open coding process, we moved to axial coding. This was aimed at bringing out possible interpretative paths through the identification of “units of minimal meaning” and after the attribution of names to categories (Strauss and Corbin, 1998). This allowed proceeding to the “method of comparisons” among key concepts, highlighting differences and similarities and saturating the “theoretical sampling” by extending the initial sample (i.e. freelance accounts). Therefore, salient themes, interpretative categories and relationships among them were achieved, and causal links were hypothesized.

Nvivo software was used for automatic and semi-automatic analysis of qualitative data and text interpretation by adopting the technique of Verbatim (see Section 4.1).

By testing causal links emerged from axial coding, and identifying core categories, the theoretical coding led to a more abstract conceptualization of data according to which new theoretical concept has been detected. We discussed the data structure among all researchers involved to ensure data analysis reliability. A final analysis report was sent to case company for control of accuracy.

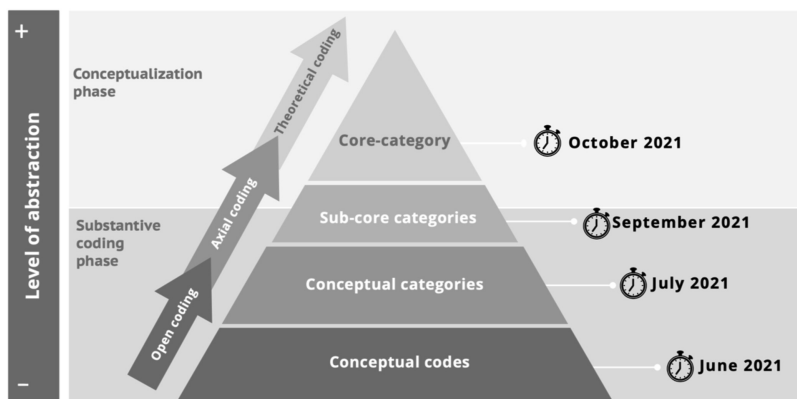
4. Research findings

4.1 Substantive coding and categories emersion

Data collection, interview administration and observation take place at the same time as the coding, as GTM states. Particularly, drawing on the first round of interviews, it was possible to get some primary data (Strauss and Corbin, 1998). The transcription of the semi-structured interviews, as part of the coding, made it possible to grasp the overall meaning from responses and proceed with word-by-word coding. Respondents shared their experiences and reported critical moments by explaining activities and practices carried out. Accordingly, to

Table 2.
Sample summary

	N	Age		Male %	No/not yet	Law	Economics	Graduated		
		Mean	SD					Sociology	Psychology	Engineering
Employees	21	35.2	5.6	5	1	3	7	7	3	-
Managers	4	42.2	1.8	75	-	-	3	-	1	-
Trainers	6	43.8	5.5	66.6	-	-	-	1	1	4
Accounts	7	43.4	12	71.4	-	1	4	-	1	1



Integrated framework of corporate training

Figure 1.
Research steps

elicit the process followed in the conceptual codes' extraction, a *verbatim* approach has been adopted, and events were analyzed and compared to similar/dissimilar episodes. The main topics that interviews addressed were about the following:

- (1) The meaning given to corporate training and learning;
- (2) Critical issues most frequently encountered in training provision;
- (3) Critical issues that constrain training effectiveness;
- (4) Research of financial opportunities and analysis of socio-economic needs;
- (5) Co-design of intra-firm or inter-firm training programmes;
- (6) Search for public and private partners to engage in the training offer;
- (7) Exploration of new methods and tools for training outcomes evaluation.

Furthermore, respondents' reactions and non-verbal behaviours have been reported and coded (Eldh *et al.*, 2020). A plus (+) or a minus (-) has been added to qualify the direction of the emotional reaction:

- (1) Presence/absence of doubts while speaking → *code "A"*;
- (2) Strength/weakness in supporting opinions → *code "B"*;
- (3) Involvement/lack of participation → *code "C"*;
- (4) Non-verbal agreement/disagreement → *code "D"*.

This led to the emergence of numerous issues then grouped around 63 conceptual codes (Table 3).

The first coding process turned out to be complex. Several crucial issues emerged, such as difficulty in promoting the strategic importance of training, hiring of top management, the involvement of workers, the need for technical and managerial features, the evaluation of learning, the need to promote collaboration, the engagement of entrepreneurial texture and other relevant stakeholders. Also, it emerged a general climate of uncertainty linked to the possible alignment/misalignment between what has been culturally exposed values and base assumption. Starting from the identification of conceptual codes, the next coding phase was conducted by merging a second round of interviews with an interpretative attitude (axial

Verbatim quotations from transcript (sample)	Verbatim codes	Substantive codes
<i>"It is not easy to induce a person who has been working for 20, 30, 40 years to have to change their way of working. 'We have always done in this way' represents a resistance to the new"</i>	A ⁻ B ⁺ C ⁺ D ⁻	1. Continuous training 2. Formal, non-formal and informal learning 3. Learning to learn
<i>"Learning from experience and with experience is a composite process, which includes and guides the evolution of learning. Learning, in the intertwining of formal, non-formal, and informal training, develops understanding, promotes conceptualization, facilitates the identification of significant objectives with respect to one's needs to define them in realistic terms, helps to seek and select opportunities. . . Learning to learn is essential in the current world of work and beyond"</i>		
<i>"Some still believe that once they have entered the world of work, they have finally closed the studio: thinking like this means being out of the market in a short time"</i>	A ⁻ B ⁺ C ⁺ D ⁺	4. Experiences 5. Existential skills 6. Awareness of one's own identity
<i>"The use of experience before any active technique makes the subject in training the protagonist. Only with experience will he be able to develop existential skills, both personal ones, such as the ability to recognize emotions and know how to manage them, self-reflection and awareness of own identity, both social ones such as the ability to cooperate and communicate effectively, and those of self-government, such as knowing how to define objectives, evaluate one's resources, obstacles and constraints, plan one's actions"</i>		
<i>"Whole groups of teachers and trainers who do not know the studies of pedagogy, effective communication, multiple intelligences, . . ."</i>	A ⁺ B ⁻ C ⁺ D ⁺	7. Individual 8. Emotion 9. Personalization 10. Multiple intelligences
<i>"The existence of an individual is not shattered into non-communicating segments. People bring their life into work and bring work issues into their personal life. It is necessary to understand how training courses contribute to improving the quality of life, through the integration among existential and professional, technical, personal and relational skills"</i>		
<i>"We are in the era of feedback and emotion is internal feedback. The evaluation of a training path cannot ignore what the participants feel"</i>	A ⁻ B ⁺ C ⁻ D ⁺	11. Satisfaction 12. Reaction 13. Feedback 14. Emotion 15. Improvement
<i>"The role of emotions in learning is fundamental: it is learned by sympathy. The emotion goes together with the memory because the amygdala and hippocampus are connected. Learning means remembering and this can be more effective by touching emotional chords"</i>		
<i>"After school, many young people are tempted not to enroll in university, continue to deal with things that excite them and pursue the brands in which they recognize themselves most . . ."</i>	A ⁻ B ⁺ C ⁺ D ⁺	16. Specific skills 17. Organizational culture 18. Engagement 19. Academy
<i>"For some time now, training has been going through the so-called corporate academies that impart specific skills by virtue of real needs. Not infrequently, the training effectiveness of these offers is lower because there is a lack of engagement, a component that can only be provided through an adequate organizational culture"</i>		

Table 3.
Sample of the
substantive coding

(continued)

Verbatim quotations from transcript (sample)	Verbatim codes	Substantive codes
<p><i>“Training means helping people to re-elaborate their own experience, to conceive new ideas, to better connect concepts, emotions, attitudes regarding the important and critical things in their work. Training means facilitating the acquisition of tools and methods to be more effective in one’s organizational role and moreover it means making people reflect on the lived experience, learn from these new resources to give new meanings, and direct it towards values, goals and needs by mobilizing new energies and a new spirit of research”</i></p> <p><i>“Perhaps the most critical aspect of training concerns the learning culture. Sometimes it takes months to convince companies to start pre-funded training courses. Whether they are workers or managers, one often encounters a certain skepticism. The real success of training occurs when people come to understand the importance and strategic nature of training courses, for individuals, groups, and the entire organization”</i></p> <p><i>“One of the problems of education is that, historically being a one-to-many model, based on a directive approach, it does not value individual characteristics and flattens out differences. Technology customization now allows you to choose your own training path, bringing the person back to the center of the learning process, to promote growth and intellectual, cognitive, emotional, and behavioral development”</i></p> <p><i>“The offer of online lessons on demand or daily recaps can help commuters or those who are busy not to be left behind, allowing them to follow a lesson several times until they have mastered the subject”</i></p> <p><i>“In these months of pandemic emergency, very strong intellectual resistance has been felt on the part of a wide range of users who remain deeply analog and fear a decrease in human contacts. The goal of this literacy, however, is not the total rejection of face-to-face teaching, but a hybridization of traditional methods with new technologies to amplify their effects”</i></p> <p><i>“There are managers who, before a training course, tell you ‘We work here, we don’t play’ . . . but then, at the end of the course, they became our biggest supporters”</i></p> <p><i>“Play can be defined as a pre-cultural factor, determining in any society in the pedagogical learning process; but when a managerial training through play is proposed, an initial resistance of the participants must be considered. Yet computer games are fundamental for the development of cognitive, metacognitive and socio-cognitive skills”</i></p>	<p>A⁺ B⁻ C⁺ D⁺</p> <p>A⁻ B⁺ C⁺ D⁺</p> <p>A⁺ B⁺ C⁺ D⁺</p> <p>A⁻ B⁺ C⁺ D⁺</p> <p>A⁺ B⁻ C⁺ D⁺</p>	<p>20. Important things 21. Culture 22. Values 23. Goals 24. Strategicity of training</p> <p>25. Directive-transmissive approach 26. Technology 27. Personalization 28. Choose your own path</p> <p>29. Innovative methodologies 30. Daily recap 31. Every moment is a good moment to learn 32. Traditional methodologies 33. Blended learning 34. Hybridization 35. Synergies</p> <p>36. Game 37. Technology 38. Computer games 39. Integration between generations</p>

(continued)

Table 3.

Verbatim quotations from transcript (sample)	Verbatim codes	Substantive codes
<p><i>“The tracking system of interactions and experiences through a shared chain, and therefore not alterable, capable of recording titles, activities, working and non-working relationships, storing them in such a way that they are always accessible and highlighted, is the opportunity for new use of a system up to now little known, above all for its ability to create economic value”</i></p>	A ⁺	40. Tracking system
	B ⁺	41. Curricula online
	C ⁺	42. Blockchain
	D ⁻	43. Record of results
<p><i>“The Blockchain can be used to certify and collect experiences and skills, attributable to the world of education and culture. This is because it allows to record the actual participation and the results of a course of study or training, even if not formal and informal, to make it visible and recallable, testable, and recognizable, thanks to the structures that issue it”</i></p>		44. Verified skills
		45. Training supply/demand
	A ⁻	46. Individual and worker
	B ⁺	47. Improving life
<p><i>“Coaching, mentoring, focus groups, cross-functional training, etc. have a dual objective: to develop role and personal skills, with a view to efficiency, as well as to increase collective well-being. Too often the interests of the worker and those of the organization are interpreted as different or even divergent. Work takes up at least a third of our days, therefore, the purpose of training is to improve not only work performance, but our life”</i></p>	C ⁺	48. Collective and individual well-being
	D ⁺	
	A ⁺	49. Operationalize the constructs
	B ⁺	50. Measuring the skills
<p><i>“In the context of so-called ‘first generation’ teaching, the measurement took place based on the number of hours provided. But that doesn’t tell you what you’ve done or what you can do. We need to operationalize skills, find descriptors that measure knowledge, know-how and knowing how to be. You cannot manage what you are unable to measure, and you cannot improve what you are unable to manage”</i></p>	C ⁺	51. Long-term analysis
	D ⁺	52. Training evaluation
	A ⁻	
	B ⁺	
<p><i>“Obviously, it is easier to measure a two-year training process aimed at developing leadership skills than 16 hours of public speaking. Training requires long times and integrated processes”</i></p>	C ⁺	
	D ⁺	
	A ⁻	53. Public-private partnership
	B ⁺	54. Multiplayer offering
<p><i>“Unfortunately, we work in watertight compartments: learning must be a strategic choice for the entire country. Many of the limitations of the training plans derive from the poor integration between Government, Research and Businesses. The business model towards which we are moving is that of Public Private Partnerships, this also involves learning and training”</i></p>	C ⁺	55. Integrated service
	D ⁺	
	A ⁻	
	B ⁺	
<p><i>“Integrating institutions, universities and businesses means knowing what the strategic levers of the country are and focusing on those through the education and training system. The players in the training are many, they must work in synergy”</i></p>	C ⁻	
	D ⁺	
	A ⁻	56. Companies networking
	B ⁺	57. Knowledge economy
<p><i>“In other countries, companies can network and promote training actions for (often technical) company positions that they could not individually develop. In Italy, this does not happen; yet the industrial fabric, composed mainly of SMEs, does not offer many other solutions”</i></p>	C ⁻	58. Synergies
	D ⁺	59. Interaction
	A ⁻	60. Country system
	B ⁺	
<p><i>“Never before has it been possible to share resources and, when it comes to ‘knowledge’, achieving networked economies is even easier”</i></p>		

Table 3.

(continued)

Verbatim quotations from transcript (sample)	Verbatim codes	Substantive codes
<p>“At the European level, work has been done in recent years to be able to bring to visibility and recognition even the so-called non-formal or informal experiences and acquisitions, that is, acquired and put into practice in non-school contexts. The same is true for workers, for whom the role played by personal and relational skills is fundamental”</p> <p>“The financing fund mechanism has advantages but also generates many distortions, offering training actions that are not always in line with what is really required by the industrial fabric”</p>	<p>A⁻ B⁺ C⁺ D⁺</p>	<p>61. Non-formal and informal learning 62. Financing funds 63. Industrial fabric</p>

Table 3.

coding). The aim was to conceptualize ideas and events that respondents named in a different way even if referring to the same issues (see Table 4).

At the end of this round, 16 conceptual categories emerged. These were integrated and read through the lens provided by codes that emerged during the axial coding phase. To summarize and contextualize results, a third round of interview has been conducted. This third phase of coding made it possible to avoid misunderstanding of the main activities around which Virvelle organizes learning design, provision and evaluation. This led to a higher level of abstraction in which five sub-categories have been detected, as shown in Figure 2.

This first result emerging from both open coding and axial coding rounds highlights the breadth and transversality of human capital development, which has taken on a transformative role for firms to the point of playing a leading role in sustaining

Substantive codes	Conceptual categories
Life-long learning, continuing education, formal, non-formal and informal, learning to learn	<i>Life-long/wide/deep learning</i>
Experiences, existential skills, awareness of one's own identity	<i>Self-awareness</i>
Individual, emotion, personalization, multiple intelligences	<i>Emotion and personalization</i>
Emotion, satisfaction, reaction, feedback, improvement	<i>Emotion and satisfaction</i>
Specific skills, organizational culture, engagement, academy	<i>Culture</i>
Important things, culture, values, goals, strategicity of training	<i>Categorical values</i>
Directive-transmissive approach, technology, personalization, choosing your own path	<i>Digital technology</i>
Innovative methods, daily recap, every moment is a good moment to learn	<i>Metalearning</i>
Traditional methodologies, blended learning, hybridization, synergies	<i>Onlife learning</i>
Game, technology, computer games, integration between generations	<i>Gamification</i>
Tracking system, curricula online, blockchain, record of results, skills tested, training supply/demand	<i>Blockchain</i>
Individual and worker, improving life, collective and individual well-being	<i>Organizational excellence</i>
Operationalize the constructs, measure the skills, long-term analysis, training evaluation	<i>Training effectiveness</i>
Public-private-partnership, multiplayer offer, integrated service	<i>Systemic logic</i>
Companies networking, knowledge economy, synergies, interaction, country system	<i>Collaboration</i>
Non-formal and informal learning, financing funds, industrial fabric	<i>Supply/demand balance</i>

Table 4.
From substantive
codes to conceptual
categories

socio-economic development. Figure 2 provides an overview – still structural – that highlights its main strategic and operational pillars, i.e. (1) customization, (2) hard and soft skills, (3) measurement, (4) digital technology and (5) integration.

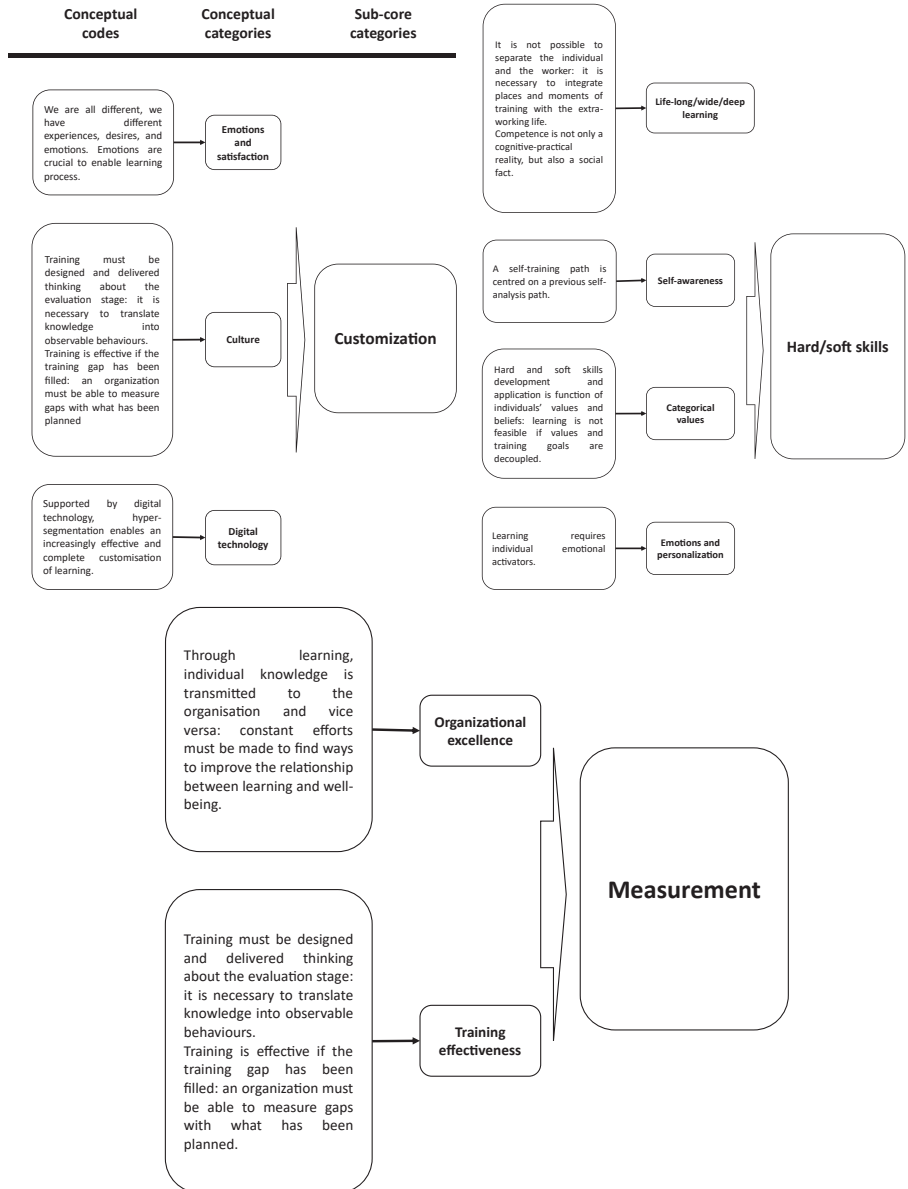


Figure 2.
The five sub-core categories of corporate training

(continued)

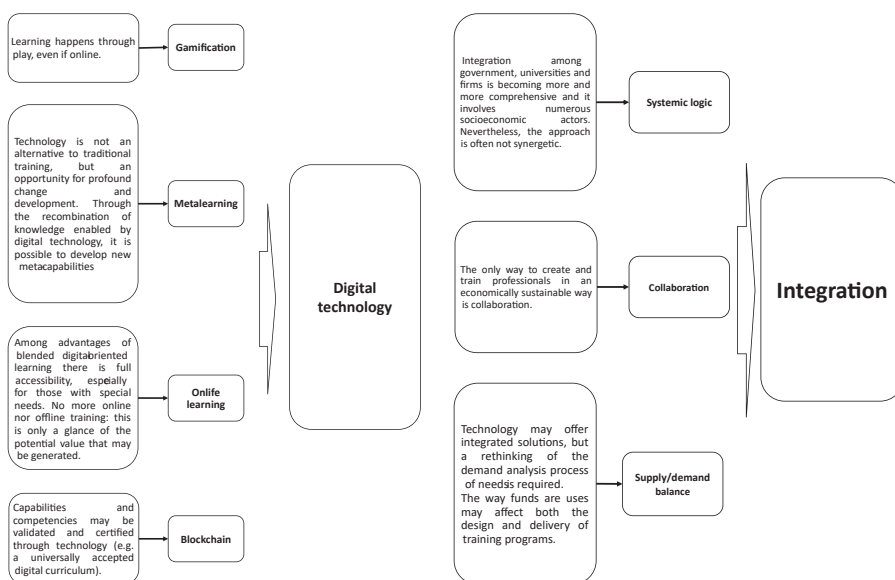


Figure 2

4.2 Theoretical coding and the emerging conceptual framework

The theoretical coding phase returns to the unified meaning of the phenomenon under investigation: through a continuous process of induction/deduction, typical of Constructivist GTM, novel relations among old and new categories have been detected. Answering the first research question (RQ1), sub-core categories (see Sec. 4.1) have been merged together with original Kirkpatrick's model (reaction, learning, behaviour and results) giving rise to an integrated Kirkpatrick model, rooted in new theoretical themes (i.e. core categories), that overcomes previous hierarchical logic, embracing a circular and all-encompassing one. Lower side of Figure 3 shows the emersion of an integrated learning system at an individual and organizational level, while the upper side shows the projection of such model and how it affects and influences policies and welfare at a socio-economic level.

4.2.1 Customization – reaction. The first pair to be framed is that of customization – reaction resulting in (1a) values alignment/(1b) culture alignment. Ongoing radical technological, economic and social transformations imply the need to personalize both capabilities and competencies being trained, even to the extent of personalizing the entire learning process. Human capital development programmes, thus, can no longer be generalist, unidirectional and standardized, but necessarily require the activation of customization processes based on the specific needs and cultural characteristics of firms, trainers and learners (Bélanger, 2015). A lack of integration among culture, values and training programmes could result in a cultural block preventing a positive reaction. Thus, it is pivotal to work on the emotional structure of human resources because it could enhance their motivation to learn (Ryan and Deci, 2020).

This, however, is not enough. As stated during interviews, customizing learning cannot ignore considerations that embrace the value system and cultural models that guide public policies and funding. Thus, a double level of customization emerges, whose effects on learning provision value can be read along two axes: on the one hand, the customization of a training programme enables a better fit in value between the knowledge transmitted and

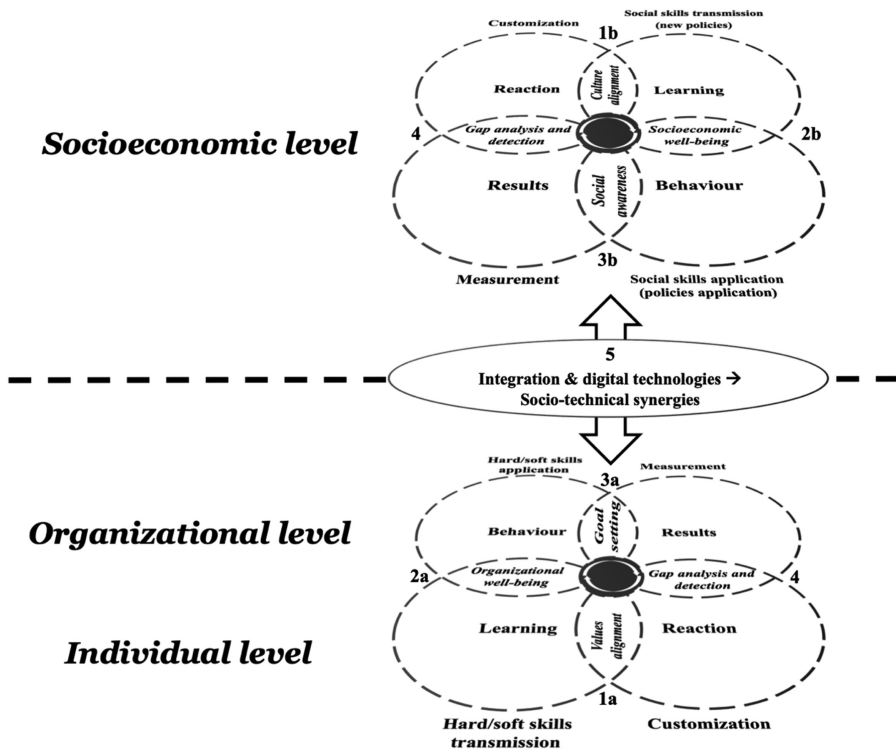


Figure 3.
Integrated
Kirkpatrick model

human resources to whom it is destined; on the other hand, the different actors involved in training provision, as socio-economic players, need to accomplish a new mindset of doing education and training programmes that reflect a convergent strategic orientation grounded on a cohesive learning culture.

4.2.2 Hard and soft skills transmission – learning. The second pair is that of hard and soft skills transmission – learning resulting in (2a) organizational well-being/(2b) socio-economic well-being. Firm performances are achieved by integrating both visible and hidden organizational elements such as hard skills, and particularly soft skills (Marchiori et al., 2022). Moreover, learning is a function of positive emotions (Clarke, 2010) and managing learned capabilities, competencies, and hard and soft skills can be only partially taught (Mattingly and Kraiger, 2019). This clearly emerges from interviews, where different actors involved (employees, freelance accounts and managers) stressed the need to frame learning as a game (e.g. gamification) as a lever of engagement and happiness at work. Therefore, if learning crosses emotional elements, it is also based on people engagement pushing on and enhancing their sense of community. In this sense, organizational well-being is the humus which enables and fertilizes the transfer of capabilities, competencies and skills to the socio-economic level: pushing on learning generates necessary creative energy in even more competitive and changing scenarios.

4.2.3 Hard and soft skills application – behaviour. The third pair is that of hard and soft skills application – behaviour, resulting in (3a) goal setting/(3b) social awareness. Indeed, corporate strategic and operational goals need to be transformed through acted behaviours. Although defined in relation to a specific set of competences, a goal is a social device that regulates behaviours, gives a purpose and often legitimizes actions performed by all human

resources involved in corporate activities (Locke and Latham, 1990). While setting challenging goals (i.e. Specific, Measurable, Achievable, Realistic, Time-bound – SMART) generates a powerful drive for improvement, setting them incorrectly can be dangerous. The lack of goals understanding, for example, could manifest in the growing struggle to manage behaviours: human resources may modify their actions – implementing gaming or cheating behaviours – for the sole purpose of reaching the set goal (Gray *et al.*, 2015).

Therefore, goals have a strong bearing on behaviours that human resources learn to perceive as desired and integrated with the strategy: this interaction cannot be ignored.

Positive behaviours towards corporate goal achievement depend on the ability to influence levers that underlie the soft elements such as motivation, self-efficacy and commitment to taking risks. During the interviews, it emerged that goal setting is concerned with both the effective stimulation towards the development of soft skills and attitudes at work and the teaching of how to set such goals in generating new actionable knowledge. This allows to anticipate, prevent and recover from possible relapses into obsolete behaviours, pushing on social awareness and increased ability to solve emergent socio-economic issues by simulating the necessary coping skills.

4.2.4 Measurement – results. The fourth pair is measurement – results, which translates into (4) gap analysis and detection. Giving value to the acquisition and subsequent application of knowledge requires constant analysis of key skills, their mapping and measurement not solely following a quantitative logic but above all a qualitative one, involving both trainers and learners to share acquired knowledge with their real-life context (Praslova, 2010). This implies the need to carefully assess the effects that human capital development has on individuals, firms and at a contextual level, putting in place a continuous process of identifying and filling knowledge gaps.

Indeed, the focus must be on the development of employees' soft skills, mindset, and attitude towards behavioural change, aimed at acquiring and integrating new knowledge (Reio *et al.*, 2017).

At the same time, a very important purpose is to determine whether goals have been achieved, to evaluate in a systematic and comprehensive way training needs and the effectiveness of training programmes along the whole training process and its main phases and not solely at its end. Indeed, interviews stressed that this ability to fill in the knowledge gaps helps to raise the awareness of human resource managers, professional experts and even governments to educate both trainers and learners to adjust their prior knowledge developing new learning tools and approaches. The active participation of learners and trainers and the opportunity to experience what has been learnt have an impact on changing old habits into desired new ones that can have an impact on the work environment and the entire socio-economic scenario.

4.2.5 Digital technology – integration. The last pair is that of digital technology – integration giving rise to (5) socio-technical synergies. The activation of combined technological infrastructures enables all previous categories to interact among each other. Indeed, digitalization empowers possibilities previously unthinkable, offering integrated platforms of interaction and evaluation, measurement devices, and personalization tools with significant impact on the socio-economic development of societies at large (Bernardino and Curado, 2020). The ongoing disruptive technological wave involves the transfer of values and the creation of social bonds far beyond the sole training provision.

To develop, human capital requires the constant improvement of both education and learning practices by integrating information and sharing knowledge via collaborative networks among corporate training organizations, firms and public/private institutions, such as universities, research centres and government agencies. In this line, from interviews, managers stressed the role of blockchain technologies for certifying and validating capabilities and competencies, thereby providing a tougher base for competitive advantage not solely for firms but above all for territories on which they operate (Barile *et al.*, 2021).

Overall theoretical coding showed how human capital development represents an ineliminable strategic task not only for firms but for overall socio-economic context since it combines individual learning (individual level), multiplies effectiveness in results (organizational level) and generates synergies with the whole community (socio-economic level). Indeed, as explained, lower part of [Figure 3](#) shows the emersion of an integrated learning system, while the upper side shows the projection of those effects of mutual combining among previously discussed core categories. However, this requires a broader understanding of mechanisms that might best engender this joint combination. This will be discussed in the next section.

5. Discussion: highlighting systems feedback spreading learning total quality culture

Results section stressed the need to uncover mechanisms thanks to which learning programmes enable knowledge spreading and value transfer at socio-economic level. This demands for a wider investigation of learning needs and a deep understanding of the integration among individual, organizational and related socio-technical motives, considering the entire human resources development in a holistic view that crosses organizations' boundaries.

This is allowed by integrating motives and goals of firms and socio-economic stakeholders and digital technologies (such as blockchain) able to customize training offerings; to certify skills; to reinforce the contextual impact of knowledge acquired by human resources at the organizational level; and to act as a knowledge amplifier thanks to network effects ([Jain et al., 2021](#)). Therefore, capabilities and competences developed at organizational level constitute policymakers' fuel for customizing social skills, thereby designing policies and norms for the satisfaction of emerging socio-economic needs.

Indeed, although core categories can be read alone and facilitate the emergence of new specific learning initiatives both at the individual and at the organizational levels, it is only in their joint reading that is possible to nurture the creation and dissemination of new knowledge and the diffusion of a quality culture at the socio-economic level. Interaction is central since it emphasizes the need for actors that traditionally operate separately to work together: policymakers with welfare policies; firms, with generation and transfer of knowledge customized on specificities of their human resources; and individuals, with both an active role in their working and life context enacting what they have learnt.

In fact, human capital needs to be considered in its dual dimension of uniqueness and interaction: customizing learning provision along these two lines allows human resources to perceive knowledge as co-created and as an improving personal experience. Knowledge transmission is a cultural process that shares with training the sole content transferred: developing capabilities and competences is a function of soft variables such as positive emotions, curiosity and organizational well-being.

Moreover, to allow knowledge created at the organizational level to spread and permeate the whole socio-economic system, it is necessary to involve policymakers, and public and private institutions, in targeting crucial capabilities, competencies and skills for socio-economic strategic development.

Accordingly, looking at [Figure 4](#), it is possible to identify two mechanisms, both involving human capital, operating at two different levels of analysis: customized capabilities and competencies development, at an individual and organizational level; and learning TQ culture spread, at the socio-economic level.

The first mechanism follows a "weak transformation" logic where the acquired knowledge and behaviours are context-specific. However, if read in a sole contextual logic, learning may lose much of its effectiveness, value and usefulness in a context other than its source. For this reason, it is needed to involve a strong transformation of human capital.

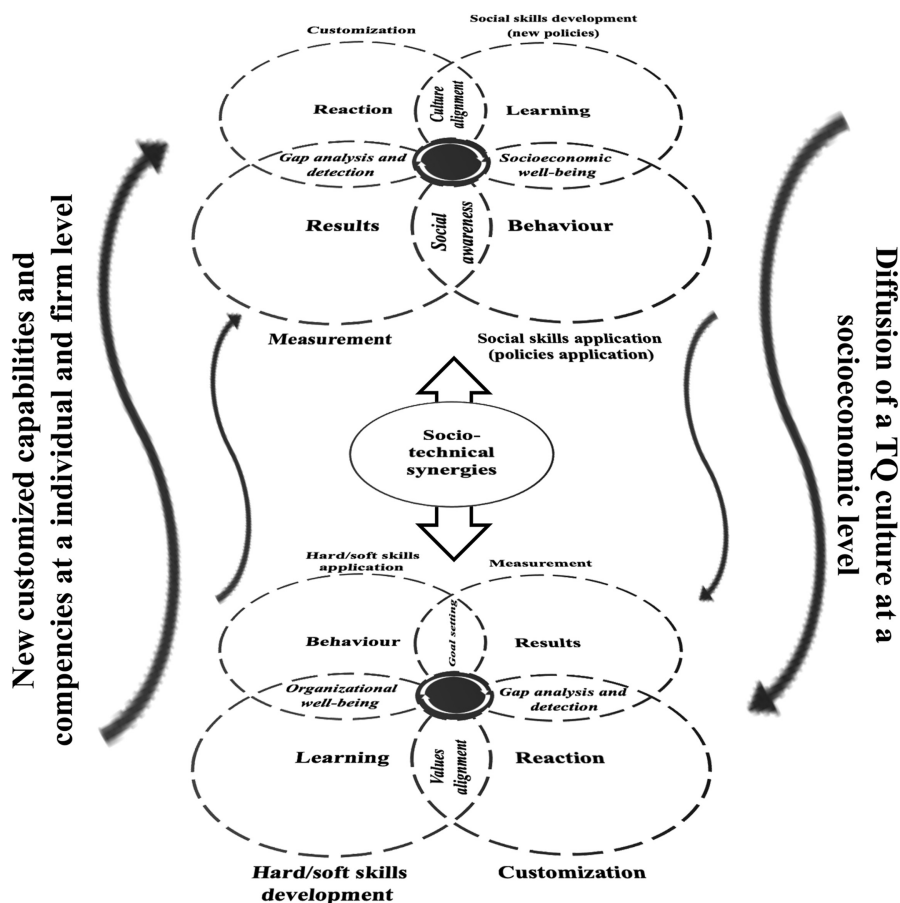


Figure 4. Metalearning model

As seen (Section 2.1), strong transformations occur when acquired knowledge is not directly linked to a single context but can be used in multiple heterogeneous scenarios. Thus, to transform contextual knowledge into behaviours and generate quality, management policies need to be oriented beyond firms' borders: this shade of learning is essential given its influence on intellectual capital development.

Accordingly, the second mechanism is oriented towards the spread of a TQ philosophy at a socio-economic level. Quality philosophy involves, in an integrated manner, new models of leadership and conflict management and the valorization of needs beyond subsistence and security: launching a virtuous process of human capital development in the logic of quality means designing a learning system that goes beyond firms' as mechanical systems and overcomes the "internal-external environment" dichotomy (Perez-Soltero *et al.*, 2019). From a continuous improvement perspective – the cornerstone of the TQ philosophy – this allows policymakers to trace virtuous and iterative circles that, starting from the development of new competences and capabilities, end with the generation of new policies with a direct impact on socio-economic well-being.

Hence policymakers, together with universities and corporate training organizations, should define strategic priorities and goals, facilitating the rise of real metalearning ecosystems and directing their effects towards the co-creation of value (Ratten, 2020; Ciasullo *et al.*, 2020).

Consequently, a metalearning ecosystem is conceptualized: it materializes when learning structures and processes, and behaviours combine synergistically improving individuals (e.g. development of capabilities/competencies/skills, self-efficacy and motivation), organizations (e.g. commitment, and development of firm-specific knowledge) and the whole socio-economic context (e.g. quality of life, quality of institutions and services, welfare, and territorial competitive advantage) towards quality.

Therefore, answering the second research question (RQ2), it is possible to argue that total quality constitutes a true values system that inspires and realizes the virtuous circle underlining integrated learning. Every result achieved at firm level is thus harmonized with the socio-economic fabric in an integrated and organic engine of continuous improvement that constantly restarts the learning cycle.

6. Theoretical and managerial implications

This study has interesting managerial and theoretical implications. With regard to the managerial implications, findings from the first part of this research made it possible to identify key factors on which build and implement appropriate corporate training programmes. By expanding the level of analysis, it is possible to set managerial implications along two lines of thought: from a first point of view, a renovated mindset for education and training programmes design that reflects a cohesive learning culture should be taken into consideration by both public and private actors, such as corporate training organizations, universities and governments, with the strategic orientation aimed at implementing an integrated learning system capable of triggering co-generative processes of value creation. In accordance with this evidence, both public and private institutions should orient policies and related investments towards shaping, financing and supporting integrated learning systems able to reflect this multifaceted scenario. Indeed, the overall research highlights a new conceptual model that is more consistent with the current knowledge capitalism. Furthermore, since training processes have increasingly become the result of multi-level integration among different actors, the evaluation criteria of Kirkpatrick need to involve people, firms and communities.

From the second point of view, results achieved in the second part of this research highlight the essential role of quality culture, digitization and skill customization in integrating hard/soft sides of learning. Through the synthesis of these processes, the research highlights the need for an andragogical change that sees people at the centre of any training process oriented towards integrated learning. Trainers and training firms, supported by digital learning platforms and in-depth gap analysis and detection processes of technical and personal capabilities, competencies and skills, will have the opportunity to develop increasingly personalized, relevant knowledge.

Furthermore, important implications also emerge from a theoretical point of view. The proposed model, obtained from a complex mediation between induction and deduction, intends to bring out systems dynamics by relating core categories and training phases of the integrated Kirkpatrick model. Although the result of an exploratory study, this study suggests new correlations not yet investigated, systematized and understood in detail to researchers and academics. Then, from a theoretical standpoint, a research agenda is introduced that encourages future research to explore how metalearning ecosystem emergence can be fostered by corporate training through the proposal of an original classification of 1. the key structural and systems enabling dimensions; 2. the contextual mechanisms in which these dimensions can reshape training effectiveness in achieving integrated learning outcomes.

7. Conclusion, limitations and future research

From seminal Kirkpatrick's contributions relating to the centrality of competences, many reflections have taken place. However, the literature on the topic under investigation does not categorize the drivers and mediated mechanisms that characterize an all-encompassing corporate training process. Drawing on the collected data analyzed through the lens of constructivist grounded theory, and by investigating an Italian best practice, the study proposes a multi-level and multi-actor perspective that can support further research to systematize and measure the categories and outcome of the business skills learning process.

The overall research highlights three important issues. The first one is the essential integration between strategic elements of corporate training and the core categories that an integrated learning system can be built on. The proposed conceptual framework allows the definition of a broad theme and, at the same time, multiple economic, social and political interconnections. Therefore, interesting scientific considerations arise thanks to this systematization on a theoretical construct that has been mainly investigated in a fragmented and non-organic way. The proposed model allows to hypothesize the existence of causal links and recursive feedback loops among different levels, paving the way for further investigations based on quantitative approaches. Moreover, findings underlined that knowledge integration rising from human capital development can be extended to both public and private actors, who participate in policies provision, giving rise to a metalearning ecosystem. This starts from individuals, goes on to include economic organizations and extends up to socio-economic institutions and the scientific and political world.

The second relevant issue is represented by the relevant role of the evaluation. The main result that emerges from the analysis of this second issue lies upon the opportunity to achieve more holistic and multidimensional models of learning evaluation.

The third issue is related to the transversal role that technology plays in all phases of the training process as it integrates them. In the next few years, to give an example, blockchain technologies will allow the certification and validation of core capabilities and competencies, also providing a stronger base for an improved shape of competitive advantage. This is also thanks to the support it can guarantee for the correct analysis of training needs at an individual, organizational and socio-economic level. Moreover, a pivotal role is played by the total quality mindset and culture which, set as a bundle of categorical values, enables – in a constant feedback – the integration among individuals, firms and socio-economic fabric giving rise to a true metalearning ecosystem.

On the other hand, the main limitation of this study lies in the need to generalize results: the conceptualized framework needs to be empirically tested. A possible path, for instance, may be found in examining how the proposed recursive feedback loops affect different knowledge at individual, organizational and socio-economic levels in the long run. Generalizable results can be produced this way, and the relationships between the main drivers and outcomes hypothesized in this work can be tested.

References

- Ajgaonkar, S., Neelam, N., Behl, A., Dao, L.T. and Lang, L.D. (2022), "Exploring human resource work design, learning mechanism and TQM: through the lens of activity theory and contextual learning theory", *The TQM Journal*, Vol. 34 No. 1, pp. 70-101, doi: [10.1108/TQM-03-2021-0085](https://doi.org/10.1108/TQM-03-2021-0085).
- Alliger, G.M. and Janak, E.A. (1989), "Kirkpatrick's levels of training criteria: thirty years later", *Personnel Psychology*, Vol. 42 No. 2, pp. 331-342, doi: [10.1111/j.1744-6570.1989.tb00661.x](https://doi.org/10.1111/j.1744-6570.1989.tb00661.x).
- Anzai, Y. and Simon, H.A. (1979), "The theory of learning by doing", *Psychological Review*, Vol. 86 No. 2, p. 124.
- Baldwin, T.T. and Ford, J.K. (1988), "Transfer of training: a review and directions for future research", *Personnel Psychology*, Vol. 41 No. 1, pp. 63-105, doi: [10.1111/j.1744-6570.1988.tb00632.x](https://doi.org/10.1111/j.1744-6570.1988.tb00632.x).

-
- Bandura, A. (1997), *Self-efficacy: The Exercise of Control*, Freeman, New York, NY.
- Barile, S., Ciasullo, M.V. and Testa, M. (2021), "Measuring the impact of Italian corporate training programs. The relevance of socio-economic dimension", *Excellence in Services 24th EISIC International Conference Proceedings*, University of Salerno, Salerno, pp. 1-11, ISBN 9791220091718.
- Barile, S., Saviano, M. and Simone, C. (2015), "Service economy, knowledge, and the need for T-shaped innovators", *World Wide Web*, Vol. 18 No. 4, pp. 1177-1197.
- Barnard, C.I. (1938), *The Functions of the Executive*, Harvard University Press, Cambridge, MA, Vol. 11.
- Barnett, R. (2010), "Life-wide education: a new and transformative concept for higher education?," *Enabling a More Complete Education Conference e-Proceedings*, University of Surrey, Guildford.
- Bates, R. (2004), "A critical analysis of evaluation practice: the Kirkpatrick model and the principle of beneficence", *Evaluation and Program Planning*, Vol. 27 No. 3, pp. 341-347, doi: [10.1016/j.evalprogplan.2004.04.011](https://doi.org/10.1016/j.evalprogplan.2004.04.011).
- Bélangier, P. (2015), *Self-construction and Social Transformation: Lifelong, Lifewide and Life-Deep Learning*, UNESCO Institute for Lifelong Learning, Hamburg.
- Bénabou, R. and Tirole, J. (2003), "Intrinsic and extrinsic motivation", *The Review of Economic Studies*, Vol. 70 No. 3, pp. 489-520, doi: [10.1111/1467-937X.00253](https://doi.org/10.1111/1467-937X.00253).
- Bernardino, G. and Curado, C. (2020), "Training evaluation: a configurational analysis of success and failure of trainers and trainees", *European Journal of Training and Development*, Vol. 44 Nos 4-5, pp. 531-546, doi: [10.1108/EJTD-10-2019-0177](https://doi.org/10.1108/EJTD-10-2019-0177).
- Birks, M. and Mills, J. (2015), *Grounded Theory: A Practical Guide*, Sage, Thousand Oaks, CA.
- Boahin, P. and Hofman, W.A. (2014), "Perceived effects of competency-based training on the acquisition of professional skills", *International Journal of Educational Development*, Vol. 36, pp. 81-89.
- Bouranta, N. (2020), "Does transformational leadership influence TQM practices? A comparison analysis between manufacturing and service firms", *The TQM Journal*, Vol. 33 No. 3, pp. 706-728, doi: [10.1108/TQM-12-2019-0296](https://doi.org/10.1108/TQM-12-2019-0296).
- Bowen, D.E. and Ostroff, C. (2004), "Understanding HRM-firm performance linkages: the role of the 'strength' of the HRM system", *Academy of Management Review*, Vol. 29 No. 2, pp. 203-221, doi: [10.5465/amr.2004.12736076](https://doi.org/10.5465/amr.2004.12736076).
- Burke, L.A. and Baldwin, T.T. (1999), "Workforce training transfer: a study of the effect of relapse prevention training and transfer climate", *Human Resource Management*, Vol. 38 No. 3, pp. 227-241, doi: [10.1002/\(SICI\)1099-050X](https://doi.org/10.1002/(SICI)1099-050X).
- Catalanello, R.F. and Kirkpatrick, D.L. (1968), "Evaluating training programs: the state of the art", *Training and Development Journal*, Vol. 22 No. 5, pp. 2-9.
- Cavallone, M. and Palumbo, R. (2021), "Delving into the soft side of TQM: an analysis of the implications of employee involvement on management practices", *The TQM Journal*, Vol. 34 No. 5, 2022 pp. 1096-1115, doi: [10.1108/TQM-05-2021-0148](https://doi.org/10.1108/TQM-05-2021-0148).
- Caza, B.B., Moss, S. and Vough, H. (2018), "From synchronizing to harmonizing: the process of authenticating multiple work identities", *Administrative Science Quarterly*, Vol. 63 No. 4, pp. 703-745.
- Chandler, G.N. and McEvoy, G.M. (2000), "Human resource management, TQM, and firm performance in small and medium-size enterprises", *Entrepreneurship Theory and Practice*, Vol. 25 No. 1, pp. 43-58.
- Chang, Y.H.E. (2010), *An Empirical Study of Kirkpatrick's Evaluation Model in the Hospitality Industry*, UMI Dissertation Publishing.
- Charmaz, K. (2006), *Constructing Grounded Theory: A Practical Guide through Qualitative Analysis*, Sage, Thousand Oaks, CA.
- Charmaz, K. (2017), "Constructivist grounded theory", *The Journal of Positive Psychology*, Vol. 12 No. 3, pp. 299-300, doi: [10.1080/17439760.2016.126261](https://doi.org/10.1080/17439760.2016.126261).

- Cheng, E.W. and Ho, D.C. (2001), "A review of transfer of training studies in the past decade", *Personnel Review*, Vol. 30 No. 1, pp. 102-118, doi: [10.1108/00483480110380163](https://doi.org/10.1108/00483480110380163).
- Chiaburu, D.S., Van Dam, K. and Hutchins, H.M. (2010), "Social support in the workplace and training transfer: a longitudinal analysis", *International Journal of Selection and Assessment*, Vol. 18 No. 2, pp. 187-200, doi: [10.1111/j.1468-2389.2010.00500.x](https://doi.org/10.1111/j.1468-2389.2010.00500.x).
- Ciasullo, M.V., Montera, R. and Douglas, A. (2022), "Building SMEs' resilience in times of uncertainty: the role of big data analytics capability and co-innovation", *Transforming Government: People, Process and Policy*, Vol. 16 No. 2, pp. 203-217, doi: [10.1108/TG-07-2021-0120](https://doi.org/10.1108/TG-07-2021-0120).
- Ciasullo, M.V., Troisi, O., Grimaldi, M. and Leone, D. (2020), "Multi-level governance for sustainable innovation in smart communities: an ecosystems approach", *International Entrepreneurship and Management Journal*, Vol. 16 No. 4, pp. 1167-1195, doi: [10.1007/s11365-020-00641-6](https://doi.org/10.1007/s11365-020-00641-6).
- Clarke, N. (2010), "The impact of a training programme designed to target the emotional intelligence abilities of project managers", *International Journal of Project Management*, Vol. 28 No. 5, pp. 461-468, doi: [10.1016/j.ijproman.2009.08.004](https://doi.org/10.1016/j.ijproman.2009.08.004).
- Collins, C.J. (2021), "Expanding the resource-based view model of strategic human resource management", *The International Journal of Human Resource Management*, Vol. 32 No. 2, pp. 331-358, doi: [10.1080/09585192.2019.1711442](https://doi.org/10.1080/09585192.2019.1711442).
- Corbetta, P. (2003), *Social Research: Theory, Methods and Techniques*, Sage, Thousand Oaks, CA.
- Cucino, V., Del Sarto, N., Ferrigno, G., Piccaluga, A.M.C. and Di Minin, A. (2022), "Not just numbers! Improving TTO performance by balancing the soft sides of the TQM", *The TQM Journal*, ahead-of-print, doi: [10.1108/TQM-01-2022-0034](https://doi.org/10.1108/TQM-01-2022-0034).
- Curado, C. and Martins Teixeira, S. (2014), "Training evaluation levels and ROI: the case of a small logistics firm", *European Journal of Training and Development*, Vol. 38 No. 9, pp. 845-870, doi: [10.1108/EJTD-05-2014-0037](https://doi.org/10.1108/EJTD-05-2014-0037).
- Dosi, G., Guarascio, D., Ricci, A. and Virgillito, M.E. (2021), "Neodualism in the Italian business firms: training, organizational capabilities, and productivity distributions", *Small Business Economics*, Vol. 57 No. 1, pp. 167-189, doi: [10.1007/s11187-019-00295-x](https://doi.org/10.1007/s11187-019-00295-x).
- e Cunha, M.P., Clegg, S.R. and Mendonça, S. (2010), "On serendipity and organizing", *European Management Journal*, Vol. 28 No. 5, pp. 319-330, doi: [10.1016/j.emj.2010.07.001](https://doi.org/10.1016/j.emj.2010.07.001).
- Eisenhardt, K.M. and Martin, J.A. (2000), "Dynamic capabilities: what are they?", *Strategic Management Journal*, Vol. 21 Nos 10-11, pp. 1105-1121.
- Eldh, A.C., Årestedt, L. and Berterö, C. (2020), "Quotations in qualitative studies: reflections on constituents, custom, and purpose", *International Journal of Qualitative Methods*, Vol. 19, doi: [10.1177/1609406920969268](https://doi.org/10.1177/1609406920969268).
- Ershadi, M.J., Najafi, N. and Soleimani, P. (2019), "Measuring the impact of soft and hard total quality management factors on customer behaviour based on the role of innovation and continuous improvement", *The TQM Journal*, Vol. 31 No. 6, pp. 1093-1115, doi: [10.1108/TQM-11-2018-0182](https://doi.org/10.1108/TQM-11-2018-0182).
- Fannon, S.R., Munive-Hernandez, J.E. and Campean, F. (2022), "Mastering continuous improvement (CI): the roles and competences of mid-level management and their impact on the organisation's CI capability", *The TQM Journal*, Vol. 34 No. 1, pp. 102-124, doi: [10.1108/TQM-03-2021-0083](https://doi.org/10.1108/TQM-03-2021-0083).
- Filmer, D., Rogers, H., Angrist, N. and Sabarwal, S. (2020), "Learning-adjusted years of schooling (LAYS): defining a new macro measure of education", *Economics of Education Review*, Vol. 77, pp. 1-30, doi: [10.1016/j.econedurev.2020.101971](https://doi.org/10.1016/j.econedurev.2020.101971).
- Florea, N.V., Duică, A. and Duică, M.C. (2016), "Using models and evaluation planning to improve corporate training activity and trainee performance", *Valahian Journal of Economic Studies*, Vol. 7 No. 1, pp. 45-57.
- Fung, C.S. and Songan, P. (2016), "The dynamics of training outcomes in a training experience", *Journal of Cognitive Sciences and Human Development*, Vol. 1 No. 2, pp. 34-45, doi: [10.33736/jcshd.196.2016](https://doi.org/10.33736/jcshd.196.2016).

-
- Garavan, T.N. (1997), "Training, development, education and learning: different or the same?", *Journal of European Industrial Training*, Vol. 21 No. 2, doi: [10.1108/03090599710161711](https://doi.org/10.1108/03090599710161711).
- Gil, A.J., Garcia-Alcaraz, J.L. and Mataveli, M. (2015), "The training demand in organizational changes processes in the Spanish wine sector", *European Journal of Training and Development*, Vol. 39 No. 4, pp. 315-331, doi: [10.1108/EJTD-09-2014-0067](https://doi.org/10.1108/EJTD-09-2014-0067).
- Glaser, B.G. and Strauss, A.L. (1967), *The Discovery of Grounded Theory*, Aldine Publishing Firm, Hawthorne, NY.
- Grandinetti, R. and Di Bernardo, B. (2012), *Exploring Knowledge-Intensive Business Services: Knowledge Management Strategies*, Springer.
- Grant, R.M. (1996), "Prospering in dynamically-competitive environments: organizational capability as knowledge integration", *Organization Science*, Vol. 7 No. 4, pp. 375-387, doi: [10.1287/orsc.7.4.375](https://doi.org/10.1287/orsc.7.4.375).
- Gray, D., Micheli, P. and Pavlov, A. (2015), *Measurement Madness: Recognizing and Avoiding the Pitfalls of Performance Measurement*, John Wiley & Sons, Hoboken, NJ.
- Grossman, R. and Salas, E. (2011), "The transfer of training: what really matters", *International Journal of Training and Development*, Vol. 15 No. 2, pp. 103-120, doi: [10.1111/j.1468-2419.2011.00373.x](https://doi.org/10.1111/j.1468-2419.2011.00373.x).
- Holton, E.F. (1996), "The flawed four-level evaluation model", *Human Resources Development Quarterly*, Vol. 7 No. 1, pp. 5-21, doi: [10.1002/hrdq.3920070103](https://doi.org/10.1002/hrdq.3920070103).
- Jain, G., Sharma, N. and Shrivastava, A. (2021), "Enhancing training effectiveness for organizations through blockchain-enabled training effectiveness measurement (BETEM)", *Journal of Organizational Change Management*, Vol. 34 No. 2, pp. 439-461, doi: [10.1108/jocm-10-2020-0303](https://doi.org/10.1108/jocm-10-2020-0303).
- Jiménez-Jiménez, D., Martínez-Costa, M., Martínez-Lorente, A.R. and Rabeah, H.A.D. (2015), "Total quality management performance in multinational firms: a learning perspective", *The TQM Journal*, Vol. 27 No. 3, pp. 328-340, doi: [10.1108/TQM-01-2014-0002](https://doi.org/10.1108/TQM-01-2014-0002).
- Kaufman, R. and Keller, J.M. (1994), "Levels of evaluation: beyond Kirkpatrick", *Human Resource Development Quarterly*, Vol. 5 No. 4, pp. 371-380, doi: [10.1002/hrdq.3920050408](https://doi.org/10.1002/hrdq.3920050408).
- Kennedy, P.E., Chyung, S.Y., Winiiecki, D.J. and Brinkerhoff, R.O. (2013), "Training professionals' usage and understanding of Kirkpatrick's Level 3 and Level 4 evaluations", *International Journal of Training and Development*, Vol. 18 No. 1, pp. 1-21, doi: [10.1111/ijtd.12023](https://doi.org/10.1111/ijtd.12023).
- Kesim, E. (2012), "The economic contributions of developing e-learning technologies from the perspective of educational organizations", *Procedia - Social and Behavioral Sciences*, Vol. 47, pp. 2070-2074, doi: [10.1016/j.sbspro.2012.06.950](https://doi.org/10.1016/j.sbspro.2012.06.950).
- Kim, K., Ok, C., Kang, S.C., Bae, J. and Kwon, K. (2021), "High-performance work systems with internal and external contingencies: the moderating roles of organizational slack and industry instability", *Human Resource Management*, Vol. 60 No. 3, pp. 415-433, doi: [10.1002/hrm.22030](https://doi.org/10.1002/hrm.22030).
- Kirkpatrick, D.L. (1959a), "Techniques for evaluation training programs", *Journal of the American Society of Training Directors*, Vol. 13, pp. 21-26.
- Kirkpatrick, D.L. (1959b), "Techniques for evaluating training programs. Part 2: learning", *Journal of the American Society of Training Directors*, Vol. 13 No. 12, pp. 21-26.
- Kirkpatrick, D.L. (1960a), "Techniques for evaluating training programs. Part 3: behavior", *Journal of the American Society of Training Directors*, Vol. 14 No. 1, pp. 13-18.
- Kirkpatrick, D.L. (1960b), "Techniques for evaluating training programs. Part 4: results", *Journal of the American Society of Training Directors*, Vol. 14 No. 2, pp. 28-32.
- Kirkpatrick, D.L. (1994), *Evaluating Training Programs: The Four Levels*, Berrett-Koehler Publishers, San Francisco, CA.
- Kirkpatrick, D.L. (1996), "Great ideas revisited. Revisiting Kirkpatrick's four-level model", *Training and Development*, Vol. 50 No. 1, pp. 54-59.
- Kirkpatrick, D.L. (1998), "The four levels of evaluation", *Evaluating Corporate Training: Models and Issues*, Springer, Dordrecht, Vol. 46, pp. 95-112.

- Kirkpatrick, D.L. and Kirkpatrick, J.D. (2005), *Transferring Learning to Behavior: Using the Four Levels to Improve Performance*, Berrett-Koehler Publishers, San Francisco, CA.
- Kirkpatrick, D.L. and Kirkpatrick, J.D. (2007), *Implementing the Four Levels. A Practical Guide for Effective Evaluation of Training Programs*, Berrett-Koehler, San Francisco, CA.
- Kodwani, A.D. and Prashar, S. (2019), "Assessing the influencers of sales training effectiveness before and after training: mediating role of motivation to learn and moderating role of choice", *Benchmarking: An International Journal*, Vol. 26 No. 4, pp. 1233-1254, doi: [10.1108/BIJ-05-2018-0126](https://doi.org/10.1108/BIJ-05-2018-0126).
- La Sala, A. (2020), *Resilience in Complex Socio-Organizational Systems. From the State-Of-The-Art to an Empirical Proposal*, Edizioni Nuova Cultura, Roma.
- Lakshman, C. (2006), "A theory of leadership for quality: lessons from TQM for leadership theory", *Total Quality Management and Business Excellence*, Vol. 17 No. 1, pp. 41-60, doi: [10.1080/147833605002497h29](https://doi.org/10.1080/147833605002497h29).
- Locke, E.A. and Latham, G.P. (1990), *A Theory of Goal Setting and Task Performance*, Prentice-Hall, Upper Saddle River, NJ.
- Marchiori, D.M., Gouveia Rodrigues, R., Popadiuk, S. and Wagner Mainardes, E. (2022), "The relationship between human capital, information technology capability, innovativeness and organizational performance: an integrated approach", *Technological Forecasting and Social Change*, Vol. 177 No. 2, doi: [10.1016/j.techfore.2022.121526](https://doi.org/10.1016/j.techfore.2022.121526).
- Mattingly, V. and Kraiger, K. (2019), "Can emotional intelligence be trained? A meta-analytical investigation", *Human Resource Management Review*, Vol. 29 No. 2, pp. 140-155, doi: [10.1016/j.hrmr.2018.03.002](https://doi.org/10.1016/j.hrmr.2018.03.002).
- McLean, S. and Moss, G. (2003), "They're happy, but did they make a difference? Applying Kirkpatrick's framework to the evaluation of a national leadership program", *The Canadian Journal of Program Evaluation*, Vol. 18 No. 1, p. 1.
- Mills, J., Bonner, A. and Francis, K. (2006), "The development of constructivist grounded theory", *International Journal of Qualitative Methods*, Vol. 5 No. 1, pp. 25-35, doi: [10.1177/160940690600500103](https://doi.org/10.1177/160940690600500103).
- Mom, T.J., Chang, Y.Y., Cholakova, M. and Jansen, J.J. (2019), "A multilevel integrated framework of firm HR practices, individual ambidexterity, and organizational ambidexterity", *Journal of Management*, Vol. 45 No. 7, pp. 3009-3034, doi: [10.1177/014920631877677](https://doi.org/10.1177/014920631877677).
- Newstrom, J.W. (1995), "Review of 'Evaluation training programs. The four levels'", *Human Resource Development Quarterly*, Vol. 6 No. 3, pp. 317-320.
- Noe, R.A., Tews, M.J. and McConnell Dachner, A. (2010), "Learner engagement: a new perspective for enhancing our understanding of learner motivation and workplace learning", *The Academy of Management Annals*, Vol. 4 No. 1, pp. 279-315, doi: [10.5465/19416520.2010.493286](https://doi.org/10.5465/19416520.2010.493286).
- Nohria, N. and Gulati, R. (1997), "What is the optimum amount of organizational slack?: a study of the relationship between slack and innovation in multinational firms", *European Management Journal*, Vol. 15 No. 6, pp. 603-611, doi: [10.1016/S0263-2373\(97\)00044-3](https://doi.org/10.1016/S0263-2373(97)00044-3).
- Ohno, T. (1988), *Toyota Production System: Beyond Large-Scale Production*, Productivity Press, Portland.
- Paauwe, J. and Boon, C. (2018), "Strategic HRM: a critical review", in Collings, D., Wood, G. and Szamosi, L. (Eds), *Human Resource Management: A Critical Approach*, 2nd ed., Routledge, pp. 49-73, doi: [10.4324/9780203876336](https://doi.org/10.4324/9780203876336).
- Patton, M.Q. (1990), *Qualitative Evaluation and Research Methods*, Sage, Thousand Oaks, CA.
- Peccei, R. and Van De Voorde, K. (2019), "Human resource management–well-being–performance research revisited: past, present, and future", *Human Resource Management Journal*, Vol. 29 No. 4, pp. 539-563, doi: [10.1111/1748-8583.12254](https://doi.org/10.1111/1748-8583.12254).

-
- Perez-Soltero, A., Aguilar-Bernal, C., Barcelo-Valenzuela, M., Sanchez-Schmitz, G., Meroño-Cerdan, A.L. and Fornes-Rivera, R.D. (2019), "Knowledge transfer in training processes: towards an integrative evaluation model", *IUP Journal of Knowledge Management*, Vol. 17 No. 1, pp. 7-40.
- Phillips, P.P. and Phillips, J. J. (2009), "Return on investment", in Watkins, R. and Leigh, D. (Eds), *Handbook of Improving Performance in the Workplace*, John Wiley & Sons, Hoboken, NJ, pp. 823-846.
- Pool, S. (2000), "The learning organization: motivating employees by integrating TQM philosophy in a supportive organizational culture", *Leadership and Organization Development Journal*, Vol. 21 No. 8, pp. 373-378, doi: [10.1108/01437730010379276](https://doi.org/10.1108/01437730010379276).
- Praslova, L. (2010), "Adaptation of Kirkpatrick's four level model of training criteria to assessment of learning outcomes and program evaluation in Higher Education", *Educational Assessment, Evaluation and Accountability*, Vol. 22 No. 3, pp. 215-225, doi: [10.1007/s11092-010-9098-7](https://doi.org/10.1007/s11092-010-9098-7).
- Ragins, B.R. and Ehrhardt, K. (2021), "Gaining perspective: the impact of close cross-race friendships on diversity training and education", *Journal of Applied Psychology*, Vol. 106 No. 6, pp. 856-881, doi: [10.1037/apl0000807](https://doi.org/10.1037/apl0000807).
- Ratten, V. (2020), "Coronavirus (covid-19) and social value co-creation", *International Journal of Sociology and Social Policy*, Vol. 42 Nos 3/4, pp. 222-231, doi: [10.1108/IJSSP-06-2020-0237](https://doi.org/10.1108/IJSSP-06-2020-0237).
- Redden, G. (2022), "Organizations and power: a critical evaluation of the rise of performance measurement", *Research Handbook on the Sociology of Organizations*, Edward Elgar Publishing, pp. 329-346.
- Reio, T.G., Rocco, T.S., Smith, D.H. and Chang, E. (2017), "A critique of Kirkpatrick's evaluation model", *New Horizons in Adult Education and Human Resource Development*, Vol. 29 No. 2, pp. 35-53, doi: [10.1002/nha3.20178](https://doi.org/10.1002/nha3.20178).
- Rivera, L.A. (2020), "Employer decision making", *Annual Review of Sociology*, Vol. 46, pp. 215-232.
- Ryan, R.M. and Deci, E.L. (2020), "Intrinsic and extrinsic motivation from a self-determination theory perspective: definitions, theory, practices, and future directions", *Contemporary Educational Psychology*, Vol. 61, pp. 1-11, doi: [10.1016/j.cedpsych.2020.101860](https://doi.org/10.1016/j.cedpsych.2020.101860).
- Salunke, S., Weerawardena, J. and McColl-Kennedy, J.R. (2019), "The central role of knowledge integration capability in service innovation-based competitive strategy", *Industrial Marketing Management*, Vol. 76, pp. 144-156, doi: [10.1016/j.indmarman.2018.07.004](https://doi.org/10.1016/j.indmarman.2018.07.004).
- Simone, C., La Sala, A. and Montella, M.M. (2017), "The rise of P2P ecosystem: a service logics amplifier for value co-creation", *The TQM Journal*, Vol. 29 No. 6, pp. 863-880, doi: [10.1108/TQM-04-2017-0047](https://doi.org/10.1108/TQM-04-2017-0047).
- Singh, K. and Ahuja, I.S. (2015), "An evaluation of transfusion of TQM-TPM implementation initiative in an Indian manufacturing industry", *Journal of Quality in Maintenance Engineering*, Vol. 21 No. 2, pp. 134-153, doi: [10.1108/JQME-04-2013-0017](https://doi.org/10.1108/JQME-04-2013-0017).
- Sitzmann, T. and Weinhardt, J.M. (2019), "Approaching evaluation from a multilevel perspective: a comprehensive analysis of the indicators of training effectiveness", *Human Resource Management Review*, Vol. 29 No. 2, pp. 253-269, doi: [10.1016/j.hrmr.2017.04.001](https://doi.org/10.1016/j.hrmr.2017.04.001).
- Škerlavaj, M., Indihar Štemberger, M., Škrinjar, R. and Dimovski, V. (2007), "Organizational learning culture—the missing link between business process change and organizational performance", *International Journal of Production Economics*, Vol. 106 No. 2, pp. 346-367, doi: [10.1016/j.ijpe.2006.07.009](https://doi.org/10.1016/j.ijpe.2006.07.009).
- Steele, L.M., Mulhearn, T.J., Medeiros, K.E., Watts, L.L., Connelly, S. and Mumford, M.D. (2016), "How do we know what works? A review and critique of current practices in ethics training evaluation", *Accountability in Research*, Vol. 23 No. 6, pp. 319-350, doi: [10.1080/08989621.2016.1186547](https://doi.org/10.1080/08989621.2016.1186547).
- Stokking, K.M. (1996), "Levels of evaluation: Kirkpatrick, Kaufman and Keller, and beyond", *Human Resource Development Quarterly*, Vol. 7 No. 2, pp. 179-183, doi: [10.1002/hrdq.3920050408](https://doi.org/10.1002/hrdq.3920050408).

-
- Strauss, A. and Corbin, J. (1998), *Basics of Qualitative Research: Techniques and Procedures for Developing Grounded Theory*, Sage, Thousand Oaks, CA.
- Surdu, I., Greve, H.R. and Benito, G.R. (2021), "Back to basics: behavioral theory and internationalization", *Journal of International Business Studies*, Vol. 52 No. 6, pp. 1047-1068, doi: [10.1057/s41267-020-00388-w](https://doi.org/10.1057/s41267-020-00388-w).
- Swanson, R.A. (2001), "Human resource development and its underlying theory", *Human Resource Development International*, Vol. 4 No. 3, pp. 299-312, doi: [10.1080/13678860110059311](https://doi.org/10.1080/13678860110059311).
- Tamkin, P., Yarnall, J. and Kerrin, M. (2002), *Kirkpatrick and beyond: A Review of Models of Training Evaluation*, Institute for Employment Studies, Brighton, England.
- Teece, D.J. (2018), "Business models and dynamic capabilities", *Long Range Planning*, Vol. 51 No. 1, pp. 40-49.
- Teece, D.J., Pisano, G. and Shuen, A. (1997), "Dynamic capabilities and strategic management", *Strategic Management Journal*, Vol. 18 No. 7, pp. 509-533.
- Verma, P., Kumar, V., Mittal, A., Gupta, P. and Hsu, S.C. (2021), "Addressing strategic human resource management practices for TQM: the case of an Indian tire manufacturing company", *The TQM Journal*, Vol. 34 No. 1, pp. 29-69, doi: [10.1108/TQM-02-2021-0037](https://doi.org/10.1108/TQM-02-2021-0037).
- Wang, M.C., Chen, P.C. and Fang, S.C. (2018), "A critical view of knowledge networks and innovation performance: the mediation role of firms' knowledge integration capability", *Journal of Business Research*, Vol. 88, pp. 222-233, doi: [10.1016/j.jbusres.2018.03.034](https://doi.org/10.1016/j.jbusres.2018.03.034).
- Ward, P., Williams, A.M. and Hancock, P.A. (2006), "Simulation for performance and training", in Ericsson, K.A., Charness, N., Feltovich, P. J. and Hoffman, R.R. (Eds), *The Cambridge Handbook of Expertise and Expert Performance*, Cambridge University Press, Cambridge, pp. 243-262.
- Watson, A. (2022), "How organisations can remove barriers to increase workforce collaboration", *Strategic HR Review*, Vol. 21 No. 1, pp. 31-33, doi: [10.1108/SHR-11-2021-0057](https://doi.org/10.1108/SHR-11-2021-0057).
- Winterton, J. and Cafferkey, K. (2019), "Revisiting human capital theory: progress and prospects", in Townsend, K., Cafferkey, K., McDermott, A.M. and Dundon, T. (Eds), *Elgar Introduction to Theories of Human Resources and Employment Relations*, Edward Elgar Publishing, pp. 218-234, doi: [10.4337/9781786439017.00023](https://doi.org/10.4337/9781786439017.00023).
- Yamhill, S. and McLean, G.N. (2001), "Theories supporting transfer of training", *Human Resource Development Quarterly*, Vol. 12 No. 2, pp. 195-208, doi: [10.1002/hrdq.7](https://doi.org/10.1002/hrdq.7).
- Yang, C.C. (2006), "The impact of human resource management practices on the implementation of total quality management: an empirical study on high-tech firms", *The TQM Magazine*, Vol. 18 No. 2, pp. 162-173, doi: [10.1108/09544780610647874](https://doi.org/10.1108/09544780610647874).

Corresponding author

Mario Testa can be contacted at: mtesta@unisa.it

For instructions on how to order reprints of this article, please visit our website:

www.emeraldgrouppublishing.com/licensing/reprints.htm

Or contact us for further details: permissions@emeraldinsight.com