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Innovative profiles of TQM in banking management. The relationship between employee training and risk mitigation

Mario Testa and Antonio D'Amato
University of Salerno, Salerno, Italy
Gurmeet Singh
University of the South Pacific, Suva, Fiji, and
Giuseppe Festa
University of Salerno, Salerno, Italy

Abstract

Purpose – This paper aims to investigate the relationship between employee training and bank risk to verify whether and to what extent an increase in employee training, as a soft component of total quality management (TQM), affects bank risk.

Design/methodology/approach – The research adopts a panel regression, based on a unique dataset of a sample of Italian banks over the period 2011–2018, to test whether employee training affects bank risk, measured alternatively in terms of Z-score, a proxy of bank stability and non-performing loans (NPLs)/gross loans ratio as a proxy of credit risk.

Findings – Research findings reveal that increasing employee training leads to growing bank stability. In contrast, credit risk is not affected by employee training. However, by investigating training heterogeneity, this study found that the increase in the number of managerial training hours, as a proxy for soft skills training, negatively impacts credit risk. Therefore, an increase in soft skills leads to a reduction in bank credit risk.

Research limitations/implications – This study provides empirical evidence in support of the relationship between employee training and bank risk, which seems novel in the literature. From a managerial point of view, this study highlights the need for banks to pay attention to the skills, particularly soft skills, that banks' employees must possess to effectively manage bank risk and, more specifically, the core bank risk.

Originality/value – Empirical evidence on the relationship between employee training, soft/hard skills and bank risk appears limited if not absent. Therefore, the findings provide insights for a more nuanced interpretation of variables that affect bank risk.

Keywords Total quality management, Training, Soft skills, Managerial skills, Bank risk, Credit risk

Paper type Research paper

1. Introduction

In recent decades, growing international competition, exacerbated by economic globalization, financial innovation and increasing advancements in information technology, together with the easing of monetary constraints, has led banks to adopt more aggressive strategies to

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respond to the contraction of their profits. Taking on greater risk to strengthen the profit of banks was most likely the main motivation that led to the 2007–2008 financial crisis. As a consequence, international banking authorities have strengthened banking regulations to ensure more prudent and sound management of credit institutions. In this vein, banking authorities have focused on different aspects, above all capital requirements (which must be adequate for risky assets), the monitoring by supervisory authorities (made much more stringent) and the corporate governance models of banks (considered a mechanism for addressing stability problems and controlling risk within the bank). Although regulatory interventions have a central role in banks' risk approach, the improvement of the risk management function also depends on the quality of banking management (Jin *et al.*, 2011). Therefore, improving banking processes through total quality management (TQM) is essential for a more effective administration of risk. TQM allows for making processes more transparent, identifies critical points in banking processes and develops an adequate measurement system in relation to those critical points (Williams *et al.*, 2006; Banna *et al.*, 2016; Al Khasabah *et al.*, 2022). In a historical moment in which credit and financial institutions do not enjoy a favorable reputation (Bushman and Wittenberg-Moerman, 2012; Ruiz *et al.*, 2016), the principles and tools of TQM, more than in the past, are decisive for defining competitive advantages and mitigations of different kinds of risk (Powell, 1995; Yunis *et al.*, 2013; Reyad *et al.*, 2022). The Basel Committee on Banking Supervision has highlighted that operational risk is one of the most dangerous types of risk. It is "the risk of loss resulting from inadequate or failed internal processes, people, and systems or from external events" (Basel Committee on Banking Supervision, 2019). Therefore, it regards customers, products and business practices, business disruption and system failures, as well as fraud. Notably, it is precisely this risk that the quality management (QM) approach is best equipped to handle. In this respect, employee training is a central aspect of risk management strategies. The supervisory authority has highlighted the importance of making the bank staff conscious of the responsibilities regarding risk-taking for effective risk management processes (European Banking Authority, 2018). Despite the centrality of employee training, the banking literature has not devoted significant attention to this topic. However, training is an indispensable factor for a sound approach to the quality of processes both in their hard dimension, i.e. the tools that allow effective process management, and in the soft dimension, i.e. with reference to people's motivation and attitudes (Juran and Gryna, 1993; Akther and Rahman, 2022).

Therefore, this study investigates the relationship between employee training and bank risk to verify whether and to what extent employee training affects bank risk. Although various studies have examined bank risk-taking and its determinants (Anderson and Fraser, 2000; Boyd and De Nicoló, 2005; Pathan, 2009; Jiménez *et al.*, 2014; Andreou *et al.*, 2016; Badarau and Lapteacru, 2020; Saif-Alyousfi and Saha, 2021), to the best of our knowledge, no studies have directly related this variable to employee training and, more specifically, to types of training. Therefore, the investigation of this topic has the potential to add new evidence to the ongoing debate, very active on an international scale, on how to improve the internal governance of banks with specific reference to the improvement of risk culture and management.

Based on a dataset of Italian banks over the period 2011–2018, the results show that bank risk is mitigated by the number of training hours. Moreover, by exploring training heterogeneity, it is found that, unlike technical training, soft skills training reduces bank credit risk. We have measured bank risk in terms of bank stability proxied by the Z-score and by the ratio of non-performing loans (NPLs) to gross loans as a traditional measure of the quality of the bank loan portfolio.

Overall, the results contribute to the literature on bank risk-taking and the role of staff training in several respects. First, this work contributes to a better understanding of the

benefits of staff training in the banking industry and how it affects bank risk. Second, it provides evidence on the effectiveness of training and the types of training in reducing bank risk. This latter point is relevant in light of the growing interest in the sound and prudent management of banks. To the best of our knowledge, both contributions are novel in the literature. Finally, we believe that our results have policy and managerial implications by making a clear and concrete contribution to the ongoing debate on the tools and practices to improve risk culture in banks and risk management approaches.

The paper is structured as follows. Section 2 reviews previous studies, points out the research questions and highlights the research hypotheses; Section 3 discusses the research design, the sample, the methodology and the variables used in the empirical analysis; Section 4 presents the results; in Section 5, we discuss our findings and Section 6 presents practical and theoretical implications. Finally, in Section 7, we highlight research limitations and future research directions.

2. Literature review

Employee training represents a key process in human resource management (HRM) practices that contribute to human capital accumulation, making human resources potentially rare, valuable and non-substitutable (Coff, 1997; Akther and Rahman, 2022). The resource-based view (RBV) has the merit of shifting the focus of firms' competitive advantage from external factors, such as industry structure, to internal factors, most of all human capital (Hoskisson, 1999). Therefore, human resources can be viewed as potentially scarce, specialized and tacit knowledge (Coff, 1997). Human capital is difficult to imitate because it is difficult to identify its precise advantage and how to replicate it. Consequently, strategic HRM scholars suggest that HRM investments are able to enhance the key elements of the competitive advantages suggested by the RBV (Lista *et al.*, 2022).

Employee training and/or other practices can be used to increase human capital value, inimitability, rareness and non-substitutability. Specific training in a given business promotes the creation of specific knowledge and skills (Shams and Belyaeva, 2019). This improvement of know-how becomes an intangible asset that boosts functional capabilities (Hall, 1993). Empirical evidence supports this view and highlights that human capital accumulation and HRM investments can remarkably and positively impact firm performance (Hitt *et al.*, 2017). From a QM perspective, consistent with the RBV, people are viewed as a fundamental component that leads to excellence in outcomes (Castresana Ruiz-Carrillo and Fernández-Ortiz, 2007). Employee training is a key process to improve the quality of business management and, therefore, its performance, influencing the fundamental drivers of quality, both hard and soft dimensions (Shams, 2017). The hard dimension of TQM deals with the tools adopted for QM purposes, i.e. to favor and improve the use of management tools aimed at controlling systems, processes and procedures (Salhieh and Abu-Doleh, 2015). Risk management tools are undoubtedly part of the hard dimension of the TQM. The soft dimension of TQM entails those factors related to the improvement of personnel management, development of relationships with suppliers, focus on customers, interpersonal communication, shared vision and leadership (Pool, 2000; Fotopoulos and Psomas, 2009; Mohammad Mosadeghrad, 2014; Agus and Selvaraj, 2020; Vihari *et al.*, 2022).

Scholars have shown that HRM practices such as training are associated with various measures of organizational performance (Delery and Doty, 1996; Becker and Huselid, 1998; Ershadi *et al.*, 2019). A number of studies have focused on the effect of training on productivity and found evidence of a positive relationship (Bartel, 1994;Bukhader and Onbasioglu, 2021). Furthermore, a positive association has been shown between training activities and employee productivity, firm profitability and shareholder value in both the short and long term (Bo *et al.*, 2021). Some scholars have also highlighted that the percentage

of trained employees affects firm performance (Russell *et al.*, 1985; Bukhader and Onbasioglu, 2021), while other studies did not find significant support for this positive association (Campos e Cunha *et al.*, 2003). Indeed, firms could implement training programs to comply with legal duties, to reward and/or retain employees, or because of a fad.

In the literature, it is recognized that training content is very relevant. In this respect, in line with the two TQM dimensions, a well-established and fundamental distinction is between hard skills or technical training (working with equipment and software) and soft skill training (interpersonal or intrapersonal focus) (Williams, 2001; Imeri *et al.*, 2014). Within the literature, hard skills refer to domain-based knowledge and skills (for instance, knowing how to crunch numbers as an accountant or how to assess risk as a project consultant). In contrast, soft skills refer to general interpersonal and behavioral skills showcased within the workplace, such as presentation ability, teamwork, communication, workplace etiquette and individual work ethics (James and James, 2004; Perreault, 2004).

In the last decade, the shift from production to a service-driven economy has impacted the importance of employee skills. Soft skills in the service sector have been widely noted due to the high level of interaction with customers and the centrality of customer care and satisfaction for competitiveness (Weber *et al.*, 2012; Chan *et al.*, 2021). This is particularly the case for the banking industry, as an important segment of the service sector (Kirsch and Wailes, 2012; Dandis *et al.*, 2021). Despite these findings, to the best of our knowledge, no relevant studies have focused on HRM in the banking industry, with a focus on employee training and the most relevant skills in this industry (Wang *et al.*, 2014; Abu-Rumman *et al.*, 2019). In the same vein, studies on the relationship between bank employee training and bank risk-taking are limited, if not absent. This seems surprising given that international banking authorities have long underlined the relevance of risk culture and management for sound and prudent management of banks and the importance of training to make these concepts effective (European Banking Authority, 2018).

Therefore, is bank risk associated with bank employee training? Are soft and hard skill training associated with bank risk? In the rest of the paper, we investigate these research questions on a sample of Italian banks over the period 2011–2018.

2.1 Research hypotheses

In the banking literature, scholars have mainly focused on whether and how the level of education of top managers affects the performance of firms, but little or no attention has been given to employee training and its relationship with the most important measures for banking business dynamics, including bank risk. Naturally, risk represents a fundamental variable in the functioning of the banking business and it is the subject of great attention by supervisory authorities to ensure the stability of the financial system. Following this policy intervention, scholars have increasingly focused their attention on bank risk, especially after the financial crisis of 2007–2008, analyzing the variables both at the external and internal levels that influence bank performance. However, the literature has neglected to consider bank employees and their characteristics as a variable that influences risk. Notably, supervisors have emphasized developing a solid risk culture among bank employees as a means to improve banks' risk management approaches.

In general, the managerial literature stresses the use of high-performance work practices, of which training is part, for better firm performance (Bartel, 1994; Knoke and Kalleberg, 1994; Huselid, 2017). These results are consistent with multiple theoretical approaches, including the RBV, which highlights that training improves the skills of workers, making them a source of valuable competitive advantages (Capron and Chatain, 2008). Specific training in banking business helps employees better manage banking processes, use new knowledge or innovations and develop new ideas, which can help to more effectively monitor

and manage the internal and external variables of the banking industry and, consequently, its risk factors. Therefore, the first hypothesis is the following:

Hp1. The training of bank employees negatively affects bank risk and an increase in employee training hours increases the stability of banks and reduces bank risk.

Success in the banking business is impacted by two key challenges, namely, the management of people and the management of risk. "Soft skills" are today's call in the banking sector more than operational/hard skills; they are needed to meet the needs of the customers at the counter.

The importance of the distinction between technical/hard and soft skills is confirmed by theoretical and empirical studies that provided evidence that technical skills, even in technical positions, are not able to guarantee subsequent success for entry-level positions; rather, success usually requires proficiency in soft skill areas such as leadership, communication and conflict resolution (Goleman, 1995; Mitchell *et al.*, 2010). Moreover, the empirical literature highlights that soft skills are relevant for expanding market shares and improving performance because they influence the market's perception of firm image and increase loyalty-based relationships with the market (Becker and Gerhart, 1996; Cappelli and Crocker-Hefter, 1996; Huselid *et al.*, 1997).

While in the banking literature the issue of soft and hard skills and their relationship with banking business processes has not been adequately explored, a well-established field of research concerns relationship banking as the opposite of transaction-based banking. Scholars highlight that relationship banking/lending is a loan underwriting approach that primarily depends on "soft information" about the borrower (Udell, 2008). Soft information is qualitative information acquired by the bank over time "through multiple interactions with the borrower, often through the provision of multiple financial services" (Boot, 2000). Soft information includes assessments of borrowers' future prospects, compiled from past interactions with their suppliers, customers, competitors and other businesses and business associations in the local market. Consequently, bank employees must be educated in the principles of selling and relationship management to enhance their ability to recognize and understand emotions, as well as their capability to use this kind of awareness in managing their own behavior and their relations with other people. These abilities pertain to the soft skill category.

Moreover, previous studies suggest that the availability of soft information and the closeness of the bank to the customer allow more accurate credit assessment and monitoring and improve credit recovery capabilities (Alessandrini *et al.*, 2009). For example, local banks have an information advantage when screening loans to higher-risk borrowers based on unobservable soft information, which results in better loan outcomes (Petersen and Rajan, 2002; Ergungor and Moulton, 2014). More specifically, Agarwal *et al.* (2018) show substantial potential benefits from relationship lending through lower default risk. Dewenter and Hess (2004) suggest that relationship banks have better information; their NPLs and write-offs will be smaller than those of comparably sized transactional banks and their loan loss provisions should, thus, be lower. Therefore, we suggest that soft skill training decreases bank credit risk.

Hp2. Employee training on soft skills negatively impacts bank credit risk. More specifically, an increase in the amount of soft skill training leads to a decrease in bank credit risk.

3. Research design

3.1 Sample

To test our research questions pertaining to the relationship between bank risk and soft/hard skills, we studied the annual data of banks operating in Italy that were obliged to prepare a

non-financial statement to comply with Directive EU 2014/95/UE. This directive establishes that large undertakings with a number of employees greater than 500 and with total assets exceeding 20 million euros or with sales revenues exceeding 40 million euros should prepare a non-financial statement containing information relating to at least environmental matters, social and employee-related matters, respect for human rights and anti-corruption and bribery matters. Moreover, the guidelines on non-financial reporting (methodology for reporting non-financial information) set by the European Commission (2017/C 215/01) state that companies are expected to disclose material information on social and employee matters, including, among others, the hours of training per employee.

The choice to focus only on the banks obliged to draw up the non-financial statement is due to the need to have clear, detailed and comparable information on the HRM policies applied by the banks. In total, 39 Italian banks are required to prepare non-financial statements in compliance with EU directive. All 15 Italian listed banks and 24 large banks are part of the sample, which represents almost the entire population of Italian banks in terms of deposits (over 90%) and loans (85%). Given that non-financial statements are drawn up at a consolidated level, the collected data also include those banks that are part of banking groups. For example, the non-financial statements of the two large Italian cooperative banking groups represent nearly 200 single cooperative banks. Therefore, this sample is representative, at a consolidated level, of the population of Italian banks. Therefore, we tested our research questions on this sample over the period 2011–2018. In Italy, the large undertakings were obliged to prepare non-financial reports starting in 2017. We also considered the years prior to 2017 to include the observations of those banks that already produced detailed non-financial information in accordance with what was required by the directive. Overall, we kept only those banks with information available for at least two consecutive years (Pathan, 2009).

Data collection was performed from different databases. We used the statistical information system database of the Bank of Italy to collect demographic information (bank name, location, age and so on) for the sampled banks. Non-financial information, namely, the total amount of training hours and the amount of managerial and technical training hours, was collected by consulting the non-financial statement available from the banks' websites. We used the database BankFocus (Bureau VanDijk) to collect bank balance sheet data and further checked and supplemented these data by consulting the annual consolidated financial statements of each bank surveyed. Finally, macroeconomic variables were collected from the Italian Bureau of Statistics (ISTAT). Our data collection provided 313 observations.

3.2 Dependent and independent variables

In this study, we proxy bank risk with a number of measures that are widely used in the banking literature. First, the risk is calculated via the Z-score (De Nicoló *et al.*, 2006; Laeven and Levine, 2009; Pathan, 2009). More specifically, it is calculated as the sum of the equity-asset ratio (or capital asset ratio (CAR)) and net return on assets (ROA) divided by an estimation of the standard deviation of ROA, as follows.

$$Z_{i,t} = \frac{CAR_{i,t} + ROA_{i,t}}{\sigma(ROA)_{i,t}}$$

A higher Z-score indicates that a bank is less risky and, thus, more solvent. This measure provides the number of standard deviations that the ROA must decrease before equity capital is depleted and the bank is insolvent. Because the Z-score is highly skewed, following Laeven and Levine (2009) and Schaeck and Cihák (2012), we smoothed the extreme values by taking the log transformation of the variable. Alternatively, we measure bank risk as the ex-post credit risk-taking – the NPL score – which is defined as the ratio between NPLs and gross

loans measured at the end of the fiscal year. This score provides information on the quality of a bank's loan portfolio.

Regarding the independent variable of our research, we consider that training is a key activity that plays a central role in developing employees' skills and firm-specific human capital (Hatch and Dyer, 2004; Neirotti and Paolucci, 2013). Therefore, to test our research question on the relationship between employees' skills and bank risk, we proxied the former with the level of training for banks' employees (Yusuf and Azhar, 2018). Therefore, our key independent variable is the total number of training hours provided to employees. Moreover, we explored the effect of training heterogeneity by dividing the total amount of training hours in technical training and managerial training as proxies for hard and soft skills, respectively (Laker and Powell, 2011).

To avoid spurious relationships between dependent and independent variables, we included various control variables that could impact bank risk. Therefore, given that bank risk could be negatively impacted by bank size, because large banks might take excessive risk and not be able to manage loan portfolios properly, we control for bank size, measured as the natural log of total assets of bank i in year t. Moreover, we add bank age, as the natural log of bank age, as a proxy for the amount of experience in banking management (Wheelock and Wilson, 2000; Cole *et al.*, 2004; Berger *et al.*, 2005). It can be expected that older banks will have lower risk than younger banks because they can better leverage their experience and their internal knowledge of established procedures to conduct their businesses, i.e. to better evaluate their borrowers. We also control for the bank business model proxied by the net loans on total asset ratio. Moreover, we include bank profitability measured as the natural log of ROA of bank i in year t. Finally, as the bank institutional setting could impact firm risk due to different business model approaches, we add a dummy variable to account for differences between joint-stock and cooperative banks (Hansmann, 2000; Hesse and Čihák, 2007; D'Amato and Gallo, 2019). Joint-stock banks are the baseline category.

Because bank risk is also affected by relevant macroeconomic conditions, we control for annual gross domestic product (GDP) growth and for the inflation rate given that we expect that these variables could impact loan quality and, hence, credit risk exposure.

All models are estimated with year fixed effects to control for any changes in macroeconomic and contextual conditions.

3.3 Summary statistics

Table 1 presents descriptive statistics for our main variables. Table 2 shows the correlation matrix.

As shown in Table 1, the sampled banks are mainly large banks with an average total asset of 72,9 billion euros and an average age of 76 years. They present a ratio of NPLs/gross loans of approximately 14.09%, with an average profitability of 0.19%. We highlight that, on average, the annual training hours provided to employees are approximately 39.70 per capita. However, Italian banks typically provide technical training to their employees. More specifically, while annual managerial training is approximately 4.10 h per capita, annual technical training amounts to 35.35 h per employee. Moreover, it is to highlight that over the years, a substantial amount of technical training was conducted on regulations.

Table 2 shows that the correlation coefficients between our main variables are quite low, and we can thus assume that multicollinearity problems in our models are modest. In particular, we note that the Z-score is positively associated with the total training hours ($\rho = 0.1962, p < 5\%$) and with the technical training hours ($\rho = 0.1961, p < 5\%$). Therefore, an increase in training hours for employees, particularly technical training, is associated with an increase in bank stability. However, when we measure bank risk as credit risk, we show that it

Variable	Obs.	Mean	Std Dev	Min	Max
Bank size (€/billion)	313	72.9	183	0.00082	927
Bank age	359	76.14	90.21	1	547
Z-score (*ln*)	268	4.56	1.727	−0.06	9.464
NPLs/Gross loans	313	0.1409	0.0832289	0.0022	0.6156
Business model	313	0.61	0.16	0.0484	0.8969
Bank profitability	313	0.0019	0.012	−0.106	0.089
Total training (hours per capita)	260	39.70	14.30	3.34	87.3
Managerial training (hours per capita)	198	4.10	3.49	0	22.23
Technical training (hours per capita)	198	35.35	13.35	1.67	76.56
GDP growth	313	−0.00044	0.019	−0.066	0.02
Inflation rate	313	0.012	0.01	−0.001	0.03

Note(s): Bank size is the bank total assets at the end of the fiscal year (€/billion). Bank age is the age of a bank. Z-score measures the bank stability and is calculated as the natural logarithm of the Z-score. NPLs to Gross Loans ratio is a proxy of credit risk. Business model is proxied by the net loans on total assets ratio. Bank profitability is measured in terms of ROA. Training hours is the average amount of the training hours per capita provided to employees of the bank *i* in the year *t*. Managerial training hours is the average amount of the managerial training hours per capita provided to employees of the bank *i* in the year *t*. Technical training hours is the average amount of the managerial training hours per capita provided to employees of the bank *i* in the year *t*. GDP is the growth rate of gross domestic product in the year *t*. Inflation rate is the annual variation in the Consumer Price Index

Table 1.
Descriptive statistics

is significantly and positively associated with total training hours ($\rho = 0.1735$ $p < 5\%$). Therefore, it seems that an increase in training hours is associated with an increase in bank credit risk. However, more interestingly, when we analyze the types of training, it emerges that while bank risk is positively associated with technical training ($\rho = 0.2222, p < 5\%$), it is negatively and significantly associated with managerial training. Therefore, it seems that an increase in managerial training is associated with a decrease in bank risk ($\rho = -0.1752, p < 5\%$).

3.4 Methodology

To investigate whether employee training affects bank risk, we estimate the following panel model:

$$Bank\,risk_{i,t} = \lambda_t + \beta Training_{i,t} + \gamma X_{i,t} + \delta Y_{i,t} + \varepsilon_{i,t} \quad (1)$$

where bank risk is measured in terms of the Z-score and NPL ratio alternatively. On the right-hand side, λ_t represents the year fixed effects; $X_{i,t}$ is a set of time-varying bank-specific control variables and $Y_{i,t}$ is a set of time-varying macroeconomic control variables (GDP growth rate and inflation rate). $Training_{i,t}$ is the independent variable of interest that we measured in terms of the average training hours per capita. β and γ are vectors of variable coefficients and $\varepsilon_{i,t}$ is the error term.

To estimate Model (1), we use a panel regression approach, and we choose between pooled, random and fixed effects approaches by looking at the Breush–Pagan Lagrange Multiplier (LM) test and at the Hausman test. Breush–Pagan tests the random effect vs. pooled approach with the null hypothesis that the variance of the random effect is zero ($Var[u_i] = 0$). Therefore, if we fail to reject the null, the pooled model is more appropriate than the random model. The Hausman test is used to compare the appropriateness of random vs. fixed effects, testing whether the unique errors (u_i) (unobserved effects) are correlated with the regressors under the null hypothesis that there is no correlation. Thus, if we fail to reject the null, the random effect is preferred to the fixed effects approach.

Table 2. Correlation matrix – Pearson coefficients

	1	2	3	4	5	6	7	8	9	10	11
1. Bank size (*ln*)	1										
2. Bank age (*ln*)	−0.1489*	1									
3. Z-score (*ln*)	0.2603**	−0.0903	1								
4. NPLs/Gross loans (*ln*)	−0.0404	0.2208**	−0.1133†	1							
5. Business model	0.0229	0.2561***	0.2875***	−0.4822**	1						
6. Bank profitability (*ln*)	−0.0470	−0.2787**	0.2785***	−0.3433**	0.001	1					
7. Total training	−0.1425†	0.1590*	0.1962*	0.1735*	0.2815**	−0.26**	1				
8. Managerial training	0.0565	−0.2432**	0.0391	−0.1752*	−0.2951**	−0.019	0.458***	1			
9. Technical training	−0.3367**	0.1251	0.1961*	0.2222*	0.2048*	−0.124	0.944***	0.292**	1		
10. GDP growth	0.0009	0.0188	0.015	0.0735	−0.0296	0.025	0.045	−0.06	−0.01	1	
11. Inflation rate	−0.0428	−0.0430	−0.0009	−0.1911**	0.161*	−0.017	−0.019	0.125†	0.022	−0.34**	1

Note(s): Bank size is the natural log of bank total assets at the end of the fiscal year. Bank age is the natural log of bank age. Z-score measures the bank stability and is calculated as the natural logarithm of the Z-score. The NPLs/Gross loans value has been calculated as the natural log of the NPLs on Gross Loans ratio. Business model is proxied by the net loans on total assets ratio. Bank profitability is the natural log of (1 + ROA). Training hours is the average amount of the training hours per capita provided to employees of the bank *i* in the year *t*. Managerial training hours is the average amount of the managerial training hours per capita provided to employees of the bank *i* in the year *t*. Technical training hours is the average amount of the managerial training hours per capita provided to employees of the bank *i* in the year *t*. GDP is the growth rate of gross domestic product in the year *t*. Inflation rate is the annual variation in the Consumer Price Index. †, *, **and *** denote significance at the 10%, 5%, 1% and 0.1% levels, respectively

As reported in the following Table 3, the tests lead to the results using a random effects model. However, the fixed effects approach leads to the same conclusions (results not presented). We use robust standard errors clustered at the bank level to control for heteroscedasticity and serial correlation.

Finally, in order to mitigate the impact of outliers, all variables with extreme values are winsorized at the 1 per cent and 99 per cent levels.

	Z-score			Credit risk		
Dependent	1	2	3	4	5	6
Control variables						
Bank size (*ln*)	−0.256*	−0.278*	−0.378†	−0.075	−0.078	0.007
	(−2.06)	(−2.12)	(−1.84)	(−1.18)	(−1.31)	(0.12)
Bank age (*ln*)	−0.012	−0.037	−0.126	−0.056	0.015	−0.004
	(−0.00)	(−0.21)	(−0.47)	(−1.13)	(0.12)	(−0.69)
Business model	0.004	0.011	−0.033†	0.011*	0.011*	0.016*
	(0.34)	0.73)	(−1.69)	(2.04)	(1.99)	(2.23)
NPLs/Gross loans (ln)	−0.688***	−0.739***	−0.734**			
	(−3.25)	(−3.31)	(−2.75)			
Bank profitability (*ln*) $_{(t-1)}$				−0.415*	−0.638*	−0.502**
				(−2.00)	(−2.51)	(−2.61)
Cooperative banks	0.924*	0.754*	0.526	0.202**	0.180*	0.192*
	(2.15)	(2.17)	(1.22)	(2.67)	(1.98)	(2.00)
GDP growth rate $_{(t-1)}$	0.537	0.485	0.461	−0.398***	−0.361**	−0.376**
	(1.49)	(1.43)	(1.14)	(−3.80)	(−3.14)	(−3.33)
Inflation rate $_{(t-1)}$	0.984	0.894	0.947	−0.214***	−0.204***	−0.182***
	(1.23)	(1.14)	(1.03)	(−6.54)	(−5.50)	(−4.81)
Independent variables						
Training hours per capita $_{(t-1)}$		0.0239*			−0.002	
		(2.03)			(−0.68)	
Managerial training hours $_{(t-1)}$			−0.025			−0.017**
			(−0.72)			(−2.74)
Technical training hours $_{(t-1)}$			0.019			0.001
			(1.07)			(0.27)
Constant	5.225	4.880	−7.394	0.711	1.519	−0.223
	(1.41)	(1.54)	(1.44)	(0.55)	(1.15)	(−0.18)
Year FE	Yes	Yes	Yes	Yes	Yes	Yes
N	187	143	101	187	143	101
Wald χ^2	50.56***	44.83***	50.93***	273.45***	312.80***	200.52***
R^2	0.2484	0.293	0.31	0.086	0.07	0.244
LM test Random vs. pooled	49.17***	42.12***	27.32***	69.39***	13.31***	13.86***
Hausman test FE vs. RE	12.81	14.58	13.86	9.82	12.95	6.31

Note(s): This table reports the regression results of the model with bank risk as dependent variable. In columns 1–3 the dependent is the Z-score. In columns 4–6 the dependent is the NPLs/Gross loans ratio. Z-score measures the bank stability and is calculated as the natural logarithm of the Z-score. The NPLs/Gross loans value has been calculated as the natural log of the NPLs on Gross Loans ratio. Bank size is the natural log of bank total assets at the end of the fiscal year. Bank age is the natural log of bank age. Business model is the net loans on total asset ratio. Bank profitability is the natural log of (1 + ROA). The cooperative banks variable is a dummy equal to 1 if the bank is a cooperative, and 0 otherwise. Training hours is the average amount of the training hours per capita provided to employees of the bank *i* in the year *t*. Managerial training hours is the average amount of the managerial training hours per capita provided to employees of the bank *i* in the year *t*. Technical training hours is the average amount of the managerial training hours per capita provided to employees of the bank *i* in the year *t*. GDP is the growth rate of the gross domestic product in the year *t*. Inflation rate is the annual variation in the Consumer Price Index. FE stands for Fixed Effects and RE stands for Random Effects. †, *, ** and *** denote significance at the 10%, 5%, 1% and 0.1% levels, respectively

Table 3.
Regression results

4. Results

In Table 3, we present the estimation of Model (1). We measured bank risk in terms of the more general bank stability proxied by the Z-score and, more specifically, as bank credit risk measured by the NPL/gross loan ratio.

All models are statistically significant, and we note that the control variables have the expected signs in all the estimated models. In particular, in the models with the Z-score as the dependent variable (Columns 1–3), bank stability is negatively affected by bank size, suggesting that large banks are riskier (Bhagat *et al.*, 2015). Moreover, as expected, the stability of banks is negatively associated with credit risk. Finally, in line with previous empirical literature, cooperative banks are more stable than joint-stock banks (Hesse and Čihák, 2007; Beck *et al.*, 2009). Concerning the model with the credit risk as the dependent variable (Columns 4–6), while bank size and age are no longer significant, in line with the literature, credit risk is positively related to the loans on total assets ratio. Therefore, credit risk is the main risk in the traditional banking business model and is negatively associated with bank profitability (Caiazza *et al.*, 2018).

The findings about the cooperative banks are consistent with their pivotal role, which is to provide loans to their members, such that profit maximization objectives are tempered by the broader goal of maximizing the general interests of members and the community over the long run (Fonteyne, 2007). However, these banks have a higher level of credit risk than joint-stock banks. Cooperative banks have a traditional business model focused mainly on providing loans to their customers; thus, they are also more exposed to credit risk. Finally, an increase in the GDP growth rate and in the inflation rate leads to a decrease in credit risk. This result shows that repayment of the loans is strongly impacted by macroeconomic conditions (Quagliariello, 2007). Therefore, in an expansionary economy, as both consumers and banks have an adequate flow of income to deal with their debts, loan quality increases.

Regarding the impact of training on bank risk, from Column 2, the total number of training hours positively affects the Z-score ($\beta = 0.0239$, $p < 5\%$). However, this impact disappears when we add the variables relative to managerial and technical training (Column 3). Therefore, an increase in training provided to employees leads to greater bank stability. Regarding credit risk, although the relation between the average amount of training hours per capita and credit risk presents a negative sign as expected (Column 5), it is statistically insignificant ($\beta = -0.002$, $p > 10\%$). Thus, it seems that employee training does not affect bank credit risk. However, when the relationship between training and credit risk is explored in more detail when investigating training heterogeneity, the results in Column (6) show that credit risk is mitigated by managerial training hours ($\beta = -0.017$, $p < 1\%$), but it is not affected by technical training hours ($\beta = 0.00635$, $p < 5\%$). This result is very interesting because it suggests how the enhancement of soft skills in bank employees proxied by the average hours of managerial training per employee is able to improve the credit management process and therefore reduce credit losses. This evidence highlights that strengthening soft skills improves the ability to manage the relationship with customers and to acquire soft information that is particularly critical in the management of credit relationships.

5. Discussion and conclusions

Following the recent 2007–2008 financial crisis, international banking authorities have paid great attention to reinforcing the internal governance of banks to enhance the risk culture of credit institutions and the sound and prudent management of banks. In line with this aim, regulatory authorities have stressed the importance of employee training to improve the risk culture and management of banks. Surprisingly, while the management literature has widely recognized employee training as a source for gaining competitive advantage and improving

organizational performance, the topic remains largely unexamined in the scientific literature. In this research, we investigated the effect of employee training on banking risk taking, a crucial aspect both in banking management and from the perspective of the supervisory authorities.

We hypothesize and empirically demonstrate that employee training contributes to reducing bank risk. Furthermore, we explore training heterogeneity by investigating the impact of different typologies of training, namely, soft skills training and hard skills training, on bank risk. The distinction between soft and hard skills is relevant to adequately assess the effect of employee training on risk-taking, given the different characteristics and effectiveness in relation to the risk management approach that these two types of training entail. The empirical analysis focused on a sample of operative Italian banks over the period 2011–2018, with a final sample of 39 cross-sectional units, which represents, in a consolidated perspective, almost the entire population of Italian banks.

Our results show that the total amount of training hours positively affects bank stability. More specifically, the increase in the amount of employee training is positively associated with overall bank stability. These results are consistent with the expectation in the management and organizational literature about the positive effect of training on firm performance (Ballot *et al.*, 2001; Molina and Ortega, 2010; Shaw *et al.*, 2013). Therefore, training may enhance bank stability because it engenders continuous learning that provides new knowledge to bank employees that is fundamental to identifying problems and generating useful/innovative ideas (Al Khasabah *et al.*, 2022). Consequently, this allows for a better understanding of the sources of bank risk and more effective risk management strategies (Dandis *et al.*, 2021).

The second outcome of our study is more specific because it is aimed at analyzing the core bank risk, namely, credit risk. Our results show that while the amount of training per employee does not impact credit risk, when we explore the effects of training heterogeneity, we find that credit risk is mitigated by soft skills training. Therefore, an increase in soft skills training hours is associated with a decrease in bank credit risk. Notably, the result is not confirmed for bank stability but only for measures of credit risk-taking.

A comprehensive interpretation of these results leads to the conclusion that soft skills improve the ability to manage customer relationships and acquire particularly critical strategic information in the management of credit relationships. This suggests that the actual exposure to credit risk depends on the ability to handle the relationships with customers/borrowers and/or to assess their creditworthiness. Overall, our evidence supports the previous literature on relationship banking/lending and risk-taking and extends the research examining the role of specific types of training on bank risk (Udell, 2008; Agarwal *et al.*, 2018).

Therefore, strengthening some competencies, such as personnel management, the development of relations with suppliers, a focus on customers, team building, vision and leadership, could contribute to reducing credit losses. In contrast, the increase in hard/technical skills training is not able to reduce credit risk. This result could be because technical training could be perceived as a "mechanical" duty but does not reveal an intention of the bank to improve employees' skills. In addition, due to the 2008 financial crisis and the increase in regulation, training on new regulatory approaches has taken on significant importance in the context of technical training. This may have contributed to making technical training content more compliance oriented and, hence, more focused on formal aspects of banking management than on core aspects of the banking business.

6. Implications

This study has both practical and theoretical implications. From the practical point of view, our empirical evidence offers useful insights for banks and banking authorities. Specifically,

our findings highlight the relevance of employee training and, in particular, the role of soft skill training. In the past, training in the banking industry has privileged hard/technical rather than soft/managerial content. Thus, banks need to pay great attention to employee skills, particularly the soft skills that their human resources must possess to effectively manage bank risk and, in particular, the core bank risk of credit risk, theoretically and practically adopting risk-based thinking that is one of the pillars of the International Standard Organization (ISO) 9001:2015 and then exploiting a TQM approach.

From a theoretical point of view, this work contributes to the debate on HRM in the banking industry and how it could contribute to managing bank risk. The banking literature on the issue is limited, if not absent, even though this topic is of great importance given that banks are a pillar of the service industry, where human resources are the key driver for the success of the business. In the banking literature, bank risk has received great attention, especially since the 2007–2008 financial crisis. Scholars have widely investigated the determinants of bank risk by analyzing the role of external factors, such as monetary policies or macroeconomic factors and internal factors, such as bank governance and ownership structure. However, the link between HRM and banking risk and, more specifically, the link between employee training and banking risk remained unexplored. Therefore, our study contributes to providing new insights into the variables that influence bank risk, focusing on human resources, which is a novel approach in the scientific literature. Furthermore, this study suggests the need for greater cross-fertilization among the managerial, organizational and financial literature, indicating new perspectives about HR, TQM and risk management.

7. Limitations and future paths for research

Although our results suggest relevance for theory and practice, this study has several limitations. First, the investigation is based mainly on secondary data. This has implied the use of classification criteria regarding the employee training typologies that could have caused some simplifications. Therefore, future research should be conducted even using primary data to distinguish more precisely between hard and soft skills training.

Second, our analysis is based on a sample of Italian banks. Although we have specified that we used consolidated data and referred to nearly the entire population of Italian banks, our results may not be generalizable to other contexts, especially if culturally different. In fact, the cultural context affects HRM, personality traits, social graces and personal habits to which soft skills refer. Therefore, future research in the field will have to carefully consider cross-cultural issues.

References

Abu-Rumman, A., Alkhazali, Z. and Aldabbagh, I. (2019), "TQM potential moderating role to the relationship between HRM practices and KM strategies and organizational performance: the case of Jordanian banks", *Academy of Strategic Management Journal*, Vol. 18 No. 3, pp. 1-16.

Agarwal, S., Chomsisengphet, S., Liu, C., Song, C. and Souleles, N.S. (2018), "Benefits of relationship banking: evidence from consumer credit markets", *Journal of Monetary Economics*, Vol. 96, pp. 16-32, doi: 10.1016/j.jmoneco.2018.02.005.

Agus, A. and Selvaraj, R. (2020), "The effects of people-and technical-oriented TQM on productivity: the mediating role of production performance", *International Journal of Business and Society*, Vol. 21 No. 1, pp. 234-252, doi: 10.33736/ijbs.3249.2020.

Akther, S. and Rahman, M.S. (2022), "Investigating training effectiveness of public and private banks employees in this digital age: an empirical study", *International Journal of Manpower*, Vol. 43 No. 2, pp. 542-568, doi: 10.1108/IJM-04-2021-0240.

Al Khasabah, M.A.I., Salleh, H.S., Mat, N.H.N. and Zulkiffli, S.N.A. (2022), "Nexus between total quality management and competitive advantage in Jordanian banking sector: the mediating effect of quality performance", *Corporate Governance and Organizational Behavior Review*, Vol. 6 No. 2 Special Issue, pp. 193-205, doi: 10.22495/cgobrv6i2sip3.

Alessandrini, P., Presbitero, A.F. and Zazzaro, A. (2009), "Banks, distances and firms financing constraints", *Review of Finance*, Vol. 13 No. 2, pp. 261-307, doi: 10.1093/rof/rfn010.

Anderson, R.C. and Fraser, D.R. (2000), "Corporate control, bank risk taking, and the health of the banking industry", *Journal of Banking and Finance*, Vol. 24 No. 8, pp. 1383-1398, doi: 10.1016/S0378-4266(99)00088-6.

Andreou, P., Philip, D. and Robejsek, P. (2016), "Bank liquidity creation and risk-taking: does managerial ability matter?", *Journal of Business Finance and Accounting*, Vol. 43 Nos 1/2, pp. 226-259, doi: 10.1111/jbfa.12169.

Badarau, C. and Lapteacru, I. (2020), "Bank Risk, competition and bank connectedness with firms: a literature review", *Research in International Business and Finance*, Vol. 51, p. 3, doi: 10.1016/j.ribaf.2019.03.004.

Ballot, G., Fakhfakh, F. and Taymaz, E. (2001), "Firms' human capital, R&D and performance: a study on French and Swedish firms", *Labour Economics*, Vol. 8 No. 4, pp. 443-462, doi: 10.1016/S0927-5371(01)00038-0.

Banna, H., Ahmad, R. and Koh, E.H.Y. (2016), "How does total quality management influence the loan quality of the bank?", *Total Quality Management and Business Excellence*, Vol. 29 Nos 3/4, pp. 287-300, doi: 10.1080/14783363.2016.1180954.

Bartel, A.P. (1994), "Productivity gains from the implementation of employee training programs", *Industrial Relations: A Journal of Economy and Society*, Vol. 33 No. 4, pp. 411-425, doi: 10.1111/j.1468-232X.1994.tb00349.x.

Basel Committee on Banking Supervision (2019), "Calculation of RWA for operational risk", available at: https://www.bis.org/basel_framework/chapter/OPE/10.htm?tldate=20210201 (accessed May 2022).

Beck, T., Hesse, H., Kick, T. and von Westernhagen, N. (2009), *Bank Ownership and Stability: Evidence from Germany*, working paper, Federal Deposit Insurance Corporation, Washington, DC, pp. 1-61, available at: https://cepr.org/voxeu/columns/bank-ownership-and-stability-evidence-germany.

Becker, B. and Gerhart, B. (1996), "The impact of human resource management on organizational performance: progress and prospects", *Academy of Management Journal*, Vol. 39 No. 4, pp. 779-801, doi: 10.2307/256712.

Becker, B.E. and Huselid, M.A. (1998), "High performance work systems and firm performance: a synthesis of research and managerial implications", in Ferris, G.R. (Ed.), *Research in Personnel and Human Resources Management*, JAI Press, Greenwich, pp. 53-101, ISBN 0-7623-0368-9.

Berger, A.N., Miller, N.H., Petersen, M.A., Rajan, R.G. and Stein, J.C. (2005), "Does function follow organizational form? Evidence from the lending practices of large and small banks", *Journal of Financial Economics*, Vol. 76 No. 2, pp. 237-269, doi: 10.1016/j.jfineco.2004.06.003.

Bhagat, S., Bolton, B. and Lu, J. (2015), "Size, leverage, and risk-taking of financial institutions", *Journal of Banking and Finance*, Vol. 59, pp. 520-537, doi: 10.1016/j.jbankfin.2015.06.018.

Bo, G., Zhenglong, P. and Hongdan, Z. (2021), "Research on the influence mechanisms of coaching leadership on subordinates' career success", *Journal of Industrial Engineering and Engineering Management*, Vol. 35 No. 6, pp. 87-96, doi: 10.13587/j.cnki.jieem.2021.06.008.

Boot, A.W.A. (2000), "Relationship banking: what do we know?", *Journal of Financial Intermediation*, Vol. 9 No. 1, pp. 7-25, doi: 10.1006/jfin.2000.0282.

Boyd, J.H. and De Nicoló, G. (2005), "The theory of bank risk taking and competition revisited", *Journal of Finance*, Vol. 60 No. 3, pp. 1329-1343, doi: 10.1111/j.1540-6261.2005.00763.x.

Bukhader, K.M.S. and Onbaşioğlu, C.Ç. (2021), "The effects of total quality management practices on employee performance and the effect of training as a moderating variable", *Uncertain Supply Chain Management*, Vol. 9 No. 3, pp. 521-528, doi: 10.5267/j.uscm.2021.6.010.

Bushman, R.M. and Wittenberg-Moerman, R. (2012), "The role of bank reputation in certifying future performance implications of borrowers' accounting numbers", *Journal of Accounting Research*, Vol. 50 No. 4, pp. 883-930, doi: 10.1111/j.1475-679X.2012.00455.x.

Caiazza, S., Cotugno, M., Fiordelisi, F. and Stefanelli, V. (2018), "The spillover effect of enforcement actions on bank risk-taking", *Journal of Banking and Finance*, Vol. 91, pp. 146-159, doi: 10.1016/j.jbankfin.2018.04.008.

Campos e Cunha, R., Pina e Cunha, M., Morgado, A. and Brewster, C. (2003), "Market forces, strategic management, human resource management practices and organizational performance: a model based on a european sample", *Management Research*, Vol. 1 No. 1, pp. 79-91, doi: 10.1108/15365430380000519.

Cappelli, P. and Crocker-Hefter, A. (1996), "Distinctive human resources are firms' core competencies", *Organizational Dynamics*, Vol. 24 No. 3, pp. 7-22, doi: 10.1016/s0090-2616(96)90002-9.

Capron, L. and Chatain, O. (2008), "Competitors' resource-oriented strategies: acting on competitors' resources through interventions in factor markets and political markets", *Academy of Management Review*, Vol. 33 No. 1, pp. 97-121, doi: 10.5465/AMR.2008.27745499.

Castresana Ruiz-Carrillo, I.J. and Fernández-Ortiz, R. (2007), "Theoretical foundation of the EFQM model: the resource-based view", *Total Quality Management and Business Excellence*, Vol. 16 No. 1, pp. 31-55, doi: 10.1080/14783360420003098 57.

Chan, S., Aktan, B., Burton, B. and Koh, E.H.Y. (2021), "The impact of soft information and institutional quality on foreign bank efficiency. Evidence from ASEAN-5 countries", *International Review of Economics and Finance*, Vol. 74, pp. 23-32, doi: 10.1016/j.iref.2021.01.017.

Coff, R.W. (1997), "Human assets and management dilemmas: coping with hazards on the road to Resource-Based Theory", *Academy of Management Review*, Vol. 22 No. 2, pp. 374-402, doi: 10.5465/AMR.1997.9707154063.

Cole, R.A., Goldberg, L.G. and White, L.J. (2004), "Cookie Cutter vs. Character: the micro structure of small business lending by large and small banks", *Journal of Financial and Quantitative Analysis*, Vol. 39 No. 2, pp. 227-251, doi: 10.1017/S0022109000003057.

Dandis, A.O., Wright, L.T., Wallace-Williams, D.M., Mukattash, I., Al Haj Eid, M. and Cai, H. (2021), "Enhancing consumers' self-reported loyalty intentions in Islamic Banks: the relationship between service quality and the mediating role of customer satisfaction", *Cogent Business and Management*, Vol. 8 No. 1, doi: 10.1080/23311975.2021.1892256.

De Nicoló, G., Jalal, A.M. and Boyd, J.H. (2006), "Bank risk-taking and competition revisited: new theory and new evidence", *IMF Working Paper*, Vol. 2006, p. 297, doi: 10.5089/9781451865578.001.

Delery, J.E. and Doty, D.H. (1996), "Modes of theorizing in strategic human resource management: tests of universalistic, contingency, and configurational performance predictions", *Academy of Management Journal*, Vol. 39 No. 4, pp. 802-835, doi: 10.2307/256713.

D'Amato, A. and Gallo, A. (2019), "Bank institutional setting and risk-taking: the missing role of directors' education and turnover", *Corporate Governance*, Vol. 19 No. 4, pp. 774-805, doi: 10.1108/CG-01-2019-0013.

Dewenter, K.L. and Hess, A.C. (2004), "Are relationship and transactional banks different? Evidence from loan loss provisions and write-offs", pp. 1-46, doi: 10.2139/ssrn.478101, available at SSRN: https://papers.ssrn.com/sol3/papers.cfm?abstract_id=478101 (accessed 30 August 2022).

Ergungor, O.E. and Moulton, S. (2014), "Beyond the transaction: banks and mortgage default of low-income homebuyers", *Journal of Money, Credit and Banking*, Vol. 46 No. 8, pp. 1721-1752, doi: 10.1111/jmcb.12164.

Ershadi, M.J., Najafi, N. and Soleimani, P. (2019), "Measuring the impact of soft and hard total quality management factors on customer behavior 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.

European Banking Authority (2018), "Guidelines on internal governance", available at: https://eba.europa.eu/sites/default/documents/files/documents/10180/2164689/531e7d72-d8ff-4a24-a69a-c7884fa3e476/GuidelinesonInternalGovernance%28EBA-GL-2017-11%29_EN.pdf?retry=1 (accessed May 2022).

Fonteyne, W. (2007), "Cooperative banks in europe-policy issues", *IMF Working Paper*, Vol. 2007 No. 159, available at: https://www.imf.org/external/pubs/ft/wp/2007/wp07159.pdf.

Fotopoulos, C. and Psomas, E. (2009), "The impact of soft and hard TQM elements on quality management results", *International Journal of Quality and Reliability Management*, Vol. 26 No. 2, pp. 150-163, doi: 10.1108/02656710910928798.

Goleman, D. (1995), *Emotional Intelligence*, Bantam Books, New York, NY.

Hall, R. (1993), "A framework linking intangible resources and capabiliites to sustainable competitive advantage", *Strategic Management Journal*, Vol. 14 No. 8, pp. 607-618, doi: 10.1002/SMJ.4250140804.

Hansmann, H. (2000), *The Ownership of Enterprise*, Harvard University Press, Cambridge, MA.

Hatch, N.W. and Dyer, J.H. (2004), "Human capital and learning as a source of sustainable competitive advantage", *Strategic Management Journal*, Vol. 25 No. 12, pp. 1155-1178, doi: 10.1002/SMJ.421.

Hesse, H. and Čihák, M. (2007), "Cooperative banks and financial stability", *IMF Working Paper*, Vol. 2007 No. 2.

Hitt, M.A., Bierman, L., Shimizu, K. and Kochhar, R. (2017), "Direct and moderating effects of human capital on strategy and performance in professional service firms: a resource-based perspective", *Academy of Management Journal*, Vol. 44 No. 1, pp. 13-28, doi: 10.5465/3069334.

Hoskisson, R. (1999), "Theory and research in strategic management: swings of a pendulum", *Journal of Management*, Vol. 25 No. 3, pp. 417-456, doi: 10.1016/S0149-2063(99)00008-2.

Huselid, M.A. (2017), "The impact of human resource management practices on turnover, productivity, and corporate financial performance", *Academy of Management Journal*, Vol. 38 No. 3, pp. 635-672, doi: 10.5465/256741.

Huselid, M.A., Jackson, S.E. and Schuler, R.S. (1997), "Technical and strategic human resource management effectiveness as determinants of firm performance", *Academy of Management Journal*, Vol. 40 No. 1, pp. 171-188, doi: 10.2307/257025.

Imeri, S., Kėkale, T., Takala, J. and Liu, Y. (2014), "Understanding the impact of 'hard' and 'soft' elements of TQM in South-east European firms", *Management and Production Engineering Review*, Vol. 5 No. 3, pp. 9-13, doi: 10.1515/mper-2015-0022.

James, R.F. and James, M.L. (2004), "Teaching career and technical skills in a "mini" business world", *Business Education Forum*, Vol. 59 No. 2, pp. 39-41.

Jiménez, G., Ongena, S., Peydró, J.L. and Saurina, J. (2014), "Hazardous times for monetary policy: what do twenty-three million bank loans say about the effects of monetary policy on credit risk-taking?", *Econometrica*, Vol. 82 No. 2, pp. 463-505, doi: 10.3982/ECTA10104.

Jin, J.Y., Kanagaretnam, K. and Lobo, G.J. (2011), "Ability of accounting and audit quality variables to predict bank failure during the financial crisis", *Journal of Banking and Finance*, Vol. 35 No. 11, pp. 2811-2819, doi: 10.1016/J.JBANKFIN.2011.03.005.

Juran, J. and Gryna, F. (1993), *Quality Planning and Analysis: From Product Development through Use*, Mcgraw Hill, New York, NY.

Kirsch, A. and Wailes, N. (2012), "Varieties of employment relations: continuity and change in the global auto and banking industries", *International Journal of Human Resource Management*, Vol. 23 No. 10, pp. 1967-1982, doi: 10.1080/09585192.2012.668339.

Knoke, D. and Kalleberg, A.L. (1994), "Job training in U.S. Organizations", *American Sociological Review*, Vol. 59 No. 4, p. 537, doi: 10.2307/2095930.

Laeven, L. and Levine, R. (2009), "Bank governance, regulation and risk taking", *Journal of Financial Economics*, Vol. 93 No. 2, pp. 259-275, doi: 10.1016/j.jfineco.2008.09.003.

Laker, D.R. and Powell, J.L. (2011), "The differences between hard and soft skills and their relative impact on training transfer", *Human Resource Development Quarterly*, Vol. 22 No. 1, pp. 111-122, doi: 10.1002/hrdq.20063.

Lista, A.P., Tortorella, G.L., Bouzon, M., Thürer, M. and Jurburg, D. (2022), "Soft and hard skills development in lean management trainings", *International Journal of Lean Six Sigma*, Vol. 13 No. 5, pp. 1137-1158, doi: 10.1108/IJLSS-06-2021-0116.

Mitchell, G.W., Skinner, L.B.J. and White, B.J. (2010), "Twenty-first century workforce as perceived by business educators", *The Delta Pi Epsilon Journal*, Vol. 52 No. 1, pp. 43-53.

Mohammad Mosadeghrad, A. (2014), "Why TQM programmes fail? A pathology approach", *The TQM Journal*, Vol. 26 No. 2, pp. 160-187.

Molina, J.A. and Ortega, R. (2010), "Effects of employee training on the performance of North-American firms", *Applied Economics Letters*, Vol. 10 No. 9, pp. 549-552, doi: 10.1080/1350485032000100297.

Neirotti, P. and Paolucci, E. (2013), "Why do firms train? Empirical evidence on the relationship between training and technological and organizational change", *International Journal of Training and Development*, Vol. 17 No. 2, pp. 93-115, doi: 10.1111/IJTD.12003.

Pathan, S. (2009), "Strong boards, CEO power and bank risk-taking", *Journal of Banking and Finance*, Vol. 33 No. 7, pp. 1340-1350, doi: 10.1016/j.jbankfin.2009.02.001.

Perreault, H. (2004), "Business educators can take a leadership role in character education", *Business Education Forum*, Vol. 59 No. 1, pp. 23-24.

Petersen, M.A. and Rajan, R.G. (2002), "Does distance still matter? The information revolution in small business lending", *Journal of Finance*, Vol. 57 No. 6, pp. 2533-2570, doi: 10.1111/1540-6261.00505.

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.

Powell, T.C. (1995), "Total quality management as competitive advantage: a review and empirical study", *Strategic Management Journal*, Vol. 16 No. 1, pp. 15-37, doi: 10.1002/smj.4250160105.

Quagliariello, M. (2007), "Banks' riskiness over the business cycle: a panel analysis on Italian intermediaries", *Applied Financial Economics*, Vol. 17 No. 2, pp. 119-138, doi: 10.1080/09603100500486501.

Reyad, S., Chinnasamy, G. and Madbouly, A. (2022), "Risk management and corporate governance of Islamic banks: evidence from GCC countries", *Corporate Governance (Bingley)*, Vol. 22 No. 7, pp. 1425-1443, doi: 10.1108/cg-08-2020-0360.

Ruiz, B., García, J.A. and Revilla, A.J. (2016), "Antecedents and consequences of bank reputation: a comparison of the United Kingdom and Spain", *International Marketing Review*, Vol. 33 No. 6, pp. 781-805.

Russell, J.S., Terborg, J.R. and Powers, M.L. (1985), "Organizational performances and organizational level training and support", *Personnel Psychology*, Vol. 38 No. 4, pp. 849-863, doi: 10.1111/j.1744-6570.1985.tb00570.x.

Saif-Alyousfi, A.Y.H. and Saha, A. (2021), "Determinants of banks' risk-taking behavior, stability and profitability: evidence from GCC countries", *International Journal of Islamic and Middle Eastern Finance and Management*, Vol. 14 No. 5, pp. 874-907, doi: 10.1108/IMEFM-03-2019-0129.

Salhieh, L. and Abu-Doleh, J. (2015), "The relationship between total quality management practices and their effects on bank's technical efficiency", *International Journal of Commerce and Management*, Vol. 25 No. 2, pp. 173-182, doi: 10.1108/IJCoMA-03-2013-0027.

Schaeck, K. and Cihák, M. (2012), "Banking competition and capital ratios", *European Financial Management*, Vol. 18 No. 5, pp. 836-866, doi: 10.1111/j.1468-036X.2010.00551.x.

Shams, S.M.R. (2017), "Transnational education and total quality management: a stakeholder-centred model", *Journal of Management Development*, Vol. 36 No. 3, pp. 376-389.

Shams, S.M.R. and Belyaeva, Z. (2019), "Quality assurance driving factors as antecedents of knowledge management: a stakeholder-focussed perspective in higher education", *Journal of the Knowledge Economy*, Vol. 10, pp. 423-436, doi: 10.1007/s13132-017-0472-2.

Shaw, J.D., Park, T.Y. and Kim, E. (2013), "A resource-based perspective on human capital losses, HRM investments, and organizational performance", *Strategic Management Journal*, Vol. 34 No. 5, pp. 572-589, doi: 10.1002/SMJ.2025.

Udell, G.F. (2008), "What's in a relationship? The case of commercial lending", *Business Horizons*, Vol. 51 No. 2, pp. 93-103, doi: 10.1016/j.bushor.2007.10.005.

Vihari, N.S., Yadav, M. and Panda, T.K. (2022), "Impact of soft TQM practices on employee work role performance: role of innovative work behaviour and initiative climate", *The TQM Journal*, Vol. 34 No. 1, pp. 160-177, doi: 10.1108/TQM-03-2021-0092.

Wang, J., Cooke, F.L. and Huang, W. (2014), "How resilient is the (future) workforce in China? A study of the banking sector and implications for human resource development", *Asia Pacific Journal of Human Resources*, Vol. 52 No. 2, pp. 132-154, doi: 10.1111/1744-7941.12026.

Weber, M.R., Crawford, A. and Dennison, D. (2012), "North Carolina human resource professionals' perceptions of soft skill competencies", *Journal of Human Resources in Hospitality and Tourism*, Vol. 11 No. 3, pp. 225-238, doi: 10.1080/15332845.2012.668655.

Wheelock, D. and Wilson, P. (2000), "Why do banks disappear? The determinants of U.S. Bank failures and acquisitions", *The Review of Economics and Statistics*, Vol. 82 No. 1, pp. 127-138, doi: 10.1162/003465300558560.

Williams, S.W. (2001), "The effectiveness of subject matter experts as technical trainers", *Human Resource Development Quarterly*, Vol. 12 No. 1, pp. 91-97, doi: 10.1002/1532-1096(200101/02)12:13.0.CO;2-0.

Williams, R., Bertsch, B., Dale, B., Van Der Wiele, T., Van Iwaarden, J., Smith, M. and Visser, R. (2006), "Quality and risk management: what are the key issues?", *TQM Magazine*, Vol. 18 No. 1, pp. 67-86, doi: 10.1108/09544780610637703.

Yunis, M., Jung, J. and Chen, S. (2013), "TQM, strategy, and performance: a firm-level analysis", *International Journal of Quality and Reliability Management*, Vol. 30 No. 6, pp. 690-714, doi: 10.1108/02656711311325638.

Yusuf, I. and Azhar, T.M. (2018), "Policy design for sustainable supply chain through training: the case of XYZ packaging company", in Qudrat-Ullah, H. (Ed.), *Innovative Solutions for Sustainable Supply Chains. Understanding Complex Systems*, Springer-Verlag, Cham, pp. 135-177, doi: 10.1007/978-3-319-94322-0_6.

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