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# **The Influence of Organizational Climate, Incentives and Knowledge Sharing on Misconduct and Risk-Taking in Banking**

## **ABSTRACT**

This study aims to establish whether a focused type of organizational climate, misconduct and risk climate (M&R climate), contributes to preventing misconduct risk and excessive risk-taking in banking. It also explores the effects on the relationship between organizational M&R climate and perceived organizational performance of incentives associated with compensation, promotion and knowledge-sharing practices, transmitted via employee training and cross-functional collaboration. The study develops and validates measurement scales for these factors, using structural equation modelling to investigate the relationships among them on the basis of data collected from a sample of 110 bank employees in Spain. The results support the previous literature regarding the influence of organizational climate and reveal how, along with incentives and knowledge-sharing practices, it influences employees' perceptions of organizational performance in addressing misconduct and risk-taking.

**Keywords:** Misconduct, risk culture, risk climate

## Introduction

Although the economic crisis that started in 2008 had different causes, excessive risk-taking by large and complex banks and financial institutions was a determinant factor (Yellen, 2015). So-called misconduct risk also gained notoriety in the banking sector during the same period. This type of risk can be defined as the potential for behaviours or business practices that are illegal, unethical or contrary to an organization's stated beliefs, values, policies and procedures (Chaly *et al.*, 2017). Examples of misconduct include mis-selling of financial products in retail banking, interbank collusion, fraud, money-laundering and tax-evasion, among other practices.

Data from a study carried out on a sample of 20 large global banks show that they incurred misconduct costs between 2012 and 2016 that were to reach the amount of 264,030 million pounds (CCP Research Foundation, 2017). A more recent estimation increased the misconduct costs of banks over the past decade to 350,000 million dollars worldwide or 15% of total bank equity, also affecting bank stock returns and market valuations (Busetto *et al.*, 2019). Even more important than its high cost, however, is the fact that misconduct risk deteriorates the reputation of banks and damages the financial system as a whole (Chaly *et al.*, 2017), creating potential systemic risks (ESRB, 2015; Parajon-Skinner, 2016).

Excessive risk-taking or misconduct incidents may be the result of malpractice in risk management or the misconduct of a few individuals ("bad apples"). However, they may also be the product of deep and persistent organizational failure, rooted in a bad corporate culture. In 2009, the Institute of International Finance (IIF, 2009) stated in this respect that risk culture played an important role in determining the quality of banks' risk management. According to the IIF (2009), risk culture can be defined as "*the norms of behaviour for individuals and groups*

*within an organisation that determine the collective ability to identify and understand, openly discuss and act on the organisations current and future risk” (p. 36).*

More recent studies relate excessive risk-taking to risk culture (Aebi *et al.*, 2012; Ellul and Yerramilli, 2013; Fahlenbrach *et al.*, 2012; IMF, 2014; Keys *et al.*, 2009; Thakor, 2016). The report issued by the UK Parliamentary Commission on Banking Standards (2013) also revealed a banking culture characterized by very poor standards of conduct. The banking sector has become aware of the importance of being more trustworthy. Accordingly, the UK Banking Standards Board (BSB) began operating in 2015 with the aim of helping to raise standards of behaviour and competence across the UK banking sector.

In view of its relevance, reforming bank culture is a key issue on the banking regulatory agenda (Llewellyn, 2014). However, corporate culture is no easy matter to regulate or monitor. Cultural capital (Bourdieu, 1986) is an intangible whose effects may be highly visible, but which in itself is an asset that is difficult to assess, measure or value, processes which have to be carried out by indirect procedures and via qualitative assessments (Agarwal *et al.*, 2019). Neither is it easy to determine how cultural capital influences individual behaviour or what can be done to identify low cultural capital and find ways to influence its build-up (Chaly *et al.*, 2017). Different practices and tools have accordingly been developed to guide and improve interventions in behaviour and culture, such as those proposed by the central bank of the Netherlands (DNB, 2015; Nuijts and de Haan, 2013). The Financial Stability Board (FSB) has also been actively concerning itself with issuing guidance to bank regulators regarding risk culture assessment (FSB, 2014) and the use of compensation practices (FSB, 2018a) and corporate governance practices (FSB, 2018b) to discourage misconduct and reckless risk-taking behaviours.

Recent research to be found in the academic field aims at developing tools for measuring and analysing misconduct and the risk environment in financial firms via the study of organizational climate (Fernández-Muñiz *et al.*, 2020; Leaver and Reader, 2019; Sheedy *et al.*, 2017). This study contributes to this line of research by first seeking to establish whether misconduct and risk climate (M&R climate) make a positive contribution to perceptions of organizational performance in preventing misconduct and excessive risk-taking, and, second, by analysing factors that intervene in the influence of M&R climate to mitigate misconduct risk and discourage excessive risk-taking. As Smallman (1999) pointed out, “much more research around the qualitative aspects of risk management is long overdue, with particular respect to further defining the key organisational and cultural factors that affect the risk performance of organisations” (p.16). This paper contributes for a better understanding of these factors.

Following this introduction, the next sections review the main theoretical concepts underlying this study: M&R climate, incentives and knowledge sharing. This review lays the foundations for the causal model that articulates the cause-and-effect relationships expected. It will be tested via structural equation modelling (SEM) using a sample of banking employees in Spain. We describe our procedures for developing and validating the measurement model, which is subsequently tested using the path analysis technique. The results and conclusions drawn from the analyses, including the main limitations and several ideas regarding further research, are presented in the final sections.

### **M&R climate**

According to Roy (2008), risk-taking behaviour is an outcome of organizational structure. Jondle *et al.* (2013) argue that risk management is an expression of an organization’s values. Many constructs in the organizational literature (such as governance, structure, policies,

practices, values, culture) are difficult to measure, but the concept of organizational climate captures the multidimensional aspect of these organizational phenomena providing a useful bridge between them and individual behaviour (Litwin and Stringer, 1968). Schneider *et al.* (2013) define organizational climate as “*the shared perceptions of and the meaning attached to the policies, practices, and procedures employees experience and the behaviors they observe getting rewarded and that are supported and expected*” (p. 362). Organizational climate research is essentially quantitative, as it typically involves measuring and collecting employees’ perceptions, and then aggregates them to relate to outcomes that are conceptually seen to emerge from the climate (Ehrhart *et al.*, 2014).

This field of research has advanced via the development of studies on focused climates, i.e. by developing and validating specific measurement instruments for predicting focused organizational outcomes, such as customer service (Schneider, 1990) and safety (Zohar, 2010). M&R climate is also a type of focused organizational climate that measures the shared meaning organizational members attach to the statements, policies, practices and procedures aimed at preventing misconduct risk and excessive risk-taking in financial organizations. It measures the extent to which employees believe that their organization values prudence in risk management, the focus on satisfying the customer’s interests and compliance with norms, codes and laws. It is thus a type of organizational climate that can be considered characteristic and typical of financial organizations.

Sheedy *et al.* (2017) pioneered the study of this type of organizational climate, with a specific risk focus. They define risk climate as “*the shared perceptions among employees of the relative priority given to risk management, including perceptions of the risk-related practices and behaviours that are expected, valued and supported.*”

Fernández-Muñiz *et al.* (2020) have developed a multidimensional M&R climate measurement scale based on the structure of indicators proposed by the FSB to assess risk culture (FSB, 2014), although their scale broadens the focus the FSB (2014) and Sheedy *et al.* (2017) place on risk to also assess other aspects concerning the priority given by the organization to compliance, misconduct prevention and the focus on the customers' interests. Using 18 items grouped in 5 dimensions, it measures employees' perceptions regarding those organizational drivers of misconduct risk and risk-taking with respect to setting the tone at the top of the organization ("Tone"), aligning the behaviours of the organization's members with the norms, principles and values stated by senior leaders ("Coherence"), providing the organization's members with more risk ownership and accountability ("Accountability"), encouraging prompt detection and zero tolerance to misconduct and excessive risk-taking ("Tolerance"), and promoting effective communication and challenge ("Communication").

Fernández-Muñiz *et al.* (2020) conclude that M&R climate is mainly, though not exclusively, related to organizational coherence. It is a result that directly affects one of the three priority themes of study that the UK Banking Standards Board set itself after publishing its first annual review for 2016/2017 (BSB, 2017): *"understanding and helping to address an apparent mismatch in many firms between the values espoused by the firm and the way that some employees see business being done"* (p. 4). Sheedy and Griffin (2018) also provide evidence that a high ethical tone at the top might not permeate the whole organization, contrary to the hypothesis suggested by Schwartz *et al.* (2005).

Our core hypothesis to understand this mismatch or lack of coherence between the statements at the top and employees' perceptions regarding real everyday organizational performance is that this coherence is achieved (or lost) through organizational practices aimed



at establishing the right incentives and sharing knowledge. Investigating how M&R climate influences organizational performance through these practices will help verify this hypothesis.

## **Incentives**

An important lesson to be learned from the past financial crisis is that totally erroneous compensation practices fuelled excessive risk-taking and serious misconduct incidents in financial services firms. Academic research shows that the bonus culture and the way in which senior management incentives were structured to maximize shareholder value could encourage excessive risk-taking and undermine work ethics (Bénabou and Tirole, 2016; Bolton *et al.*, 2015; Brunnermeier, 2009; DeYoung *et al.*, 2013; Ellul and Yerramilli, 2013; Fahlenbrach and Stulz, 2011). The study by Sheedy *et al.* (2019) also shows that, compared to a profit-focused workplace culture, a risk-focused workplace culture increases the proportion of people complying with risk policy.

Bank regulators have accordingly promoted new compensation practices to balance risk and financial results in a way that does not encourage employees to expose their organizations to reckless risks. These initiatives recognize the key role played by compensation as a determinant of incentives to excessive risk-taking or misconduct (FSB, 2018a). However, a broader view of personnel policies is needed to understand how an improved risk culture and behaviour can be fostered, including not only pay incentives, but also other practices related to performance evaluation, promotion and training.

This study focuses on those compensation and promotion practices that establish financial and nonfinancial incentives supporting the bank's desired conduct and risk management behaviour. The proposed indicators aim to measure the extent to which those practices

incentivize behaviours aligned with bank objectives regarding risk and communicate the priority and importance of compliance and prudent risk-taking. They likewise seek to measure the extent to which these practices provide incentives that result in the long-term interests of the organization and of its customers prevailing over the generation of short-term results and the achievement of individual objectives.

### **Knowledge sharing**

The existing literature on risk culture has paid a great deal of attention to aspects such as the influence of corporate governance on risk-taking (Aebi *et al.*, 2012; Srivastav and Hagendorff, 2016) and the stature and independence of the risk governance framework (Ellul and Yerramilli, 2013; Murphy, 2011). Topics such as risk knowledge management and the role of organizational learning to build-up risk management capabilities have attracted less interest. However, as Smallman (1999) observes, *“if we cannot manage knowledge properly, how can we hope to manage risk?”* (p. 16).

Power *et al.* (2013) analyse risk culture as the outcome of a series of trade-offs across a number of dimensions. One of these refers to the organizational role of the risk function as a business partner or an independent advisor. These authors observe that the bank regulators view of risk culture implies increasing the centralization of the risk management function via the full implementation of the so-called Three Lines of Defence (TLD) model (FERMA/ECIIA, 2011), which also values and promotes the independence of the second line risk management function.

The TLD model explains how the responsibilities for risk management and control are distributed among the different levels of the organization. The first line of defence is the

organization's operating core. In banking, this comprises the bank's primary revenue-generating functions, the front office. The first line has ownership, responsibility and accountability for assessing, controlling and mitigating risks together with maintaining effective internal controls. To perform these tasks adequately, employees in the operating core need formal training to acquire the required knowledge and skills. The second line of defence includes those functions that oversee or specialize in compliance or risk management. The third line is internal auditing.

The areas of control that form the second line of defence can fulfil an important support role as business partners, collaborating with the firm's business areas. The areas of control interact frequently and intensively with front offices as well as with the different business areas, supporting and advising them with respect to risk-taking; they may participate in the decision-making bodies responsible for reviewing and approving risks, seeking to counterweigh commercial interest versus assumed risks; they take part in committees or meetings that favour integration with the commercial area in order to prevent or anticipate potential problems in customer relations; and they promote and participate in training activities in the commercial area to improve risk quality and the soundness of proposed operations.

From the perspective of the regulator, this proximity, communication or relationship with business areas may compromise the independence of control functions, i.e. their role as an independent advisor (Power *et al.*, 2013). Tension or a balance thus arises between the two roles that may limit the potential for organizational learning in regard to risk management. Organizational learning creates and incorporates valuable knowledge, the use of which can improve organizational results, but it requires an environment of collaboration and association between business areas and areas of control that facilitates the acquisition, distribution, interpretation and retention of knowledge (Tippins and Sohi, 2003).

Communication barriers between risk management and business areas are one of the main reasons for bank inefficiency in risk control (Roy, 2008). Power *et al.* (2013) highlight the value of the collaboration between functions for organizational learning. They note that some entities have increased cross-functional collaboration by moving risky personnel to business units, promoting internal rotation between business areas and areas of control, or by creating a more decentralized control structure. Stulz (2016) also refers to this balance in the control function between helping the entity to take risks efficiently and ensuring that employees do not take risks that destroy value as the critical challenge of risk management. Karanja and Rosso (2017) also highlight the role of the Chief Risk Officer (CRO) as an enabler, implying that CROs are value-creating business partners and should be treated as such.

We consider two organizational practices to be relevant for the transfer of knowledge to create individual and organizational expertise on risk management: 1) formal training of employees, and 2) cross-functional collaboration between business units and risk control functions, such as risk, compliance and audit.

In this paper, we measure the importance attributed in training programmes to risk management, customer focus and compliance, as well as observance of the organization's principles and values. The participation of senior management and control functions in the training activities of employees is also measured.

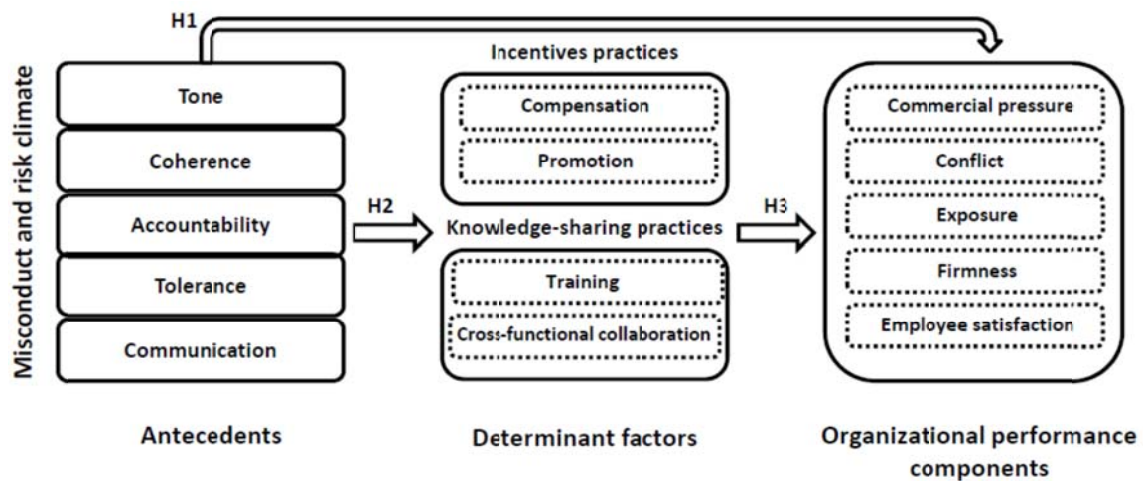
The concept of cross-functional collaboration refers to two or more departments working collectively toward achieving common goals and unity of effort (Lawrence and Lorsch, 1967). In this study, we measure the extent to which control functions act as partnership builders, participating in the training of the bank's business areas, advising them on risk or compliance

issues, and contributing to improving their knowledge and risk management capabilities. This collaboration makes the organization more permeable to risk control policies and criteria and makes it easier for the knowledge and information necessary for proper risk management and control to be shared and distributed throughout the organization.

### Model and hypotheses

Figure 1 integrates the theoretical concepts and constructs discussed above and summarizes the causal model that underlies the relationships between them. As a supportive M&R climate is expected to result in improved organizational performance regarding misconduct prevention and risk-taking, it is important to investigate the mechanisms via which this influence occurs. This model shows these mechanisms.

Figure 1. Proposed causal model



The references for the causal model are the papers by Neal *et al.* (2000) and Vinodkumar and Bahsi (2009) on safety climate and safety behaviour, which are in turn based on the theory of job performance proposed by Campbell *et al.* (1993). In line with this theory, Neal *et al.* (2000) and Vinodkumar and Bahsi (2009) differentiate between antecedent factors (safety climate or

safety management practices) and determinant factors (safety knowledge, safety motivation) that explain two basic components of safety performance: safety compliance and safety participation.

Similarly, in the model represented in Figure 1, we differentiate between the antecedents and determinant factors of organizational performance with respect to misconduct prevention and risk-taking. M&R climate is considered an antecedent that influences organizational performance both directly (Hypothesis 1) and indirectly (Hypothesis 2) through the factors that determine said performance, related to employee motivations and knowledge.

As determinant factors, we first have the incentives generated by compensation and promotion practices. These incentives influence the motivations of employees, affecting their behaviour. Second, practices aimed at sharing knowledge about misconduct prevention and risk management, which include formal training programmes or cross-functional collaboration practices between risk-taking units and risk control and compliance units, are also considered determinant factors. These practices allow acquiring, distributing, interpreting and retaining knowledge, fostering organizational learning and the development of the functional capabilities of misconduct prevention and risk management. Thus, incentives and knowledge sharing practices are the direct determinants of organizational performance regarding misconduct prevention and risk management (Hypothesis 3).

The following components of organizational performance are considered in the paper: commercial pressure to achieve objectives; internal conflict within the organization; the exposure of employees to certain misconduct risks or excessive risk-taking; employee perception of the firmness of corporate culture to prevent misconduct risk or excessive risk-

taking; and, finally, employee satisfaction with the company's practices regarding compliance, the marketing of new products, risk management and control.

These components of organizational performance are relevant for predicting the behaviour of employees due to the fact that they influence their perceived control. According to the theory of planned behaviour (TPB) (Ajzen, 1991), in order to develop a certain behaviour, in addition to having a positive attitude towards it and perceiving that it is socially acceptable and accepted, the individual must have a feeling of control over such behaviour, over the results of this behaviour, and over the factors that affect it. This sense of control is lost when individuals perceive that it is impossible to comply with certain rules or procedures because forces beyond their control, such as commercial pressure or the overabundance of norms and codes that makes it impossible to know of all of them, prevent them from doing so.

The following three hypotheses, outlined previously, are tested using the proposed model:

**H1.** M&R climate predicts organizational performance with regard to misconduct prevention and risk-taking.

**H2.** Incentives and knowledge-sharing practices condition the relationship between M&R climate and organizational performance with regard to misconduct prevention and risk-taking.

**H3.** Incentives and knowledge-sharing practices predict organizational performance with regard to misconduct prevention and risk-taking.

These hypotheses are formulated in broad terms, according to the sequence or causal order of the effects (antecedents-determinant factors-organizational performance) shown in Figure 1. Different interactions or causal relationships existing between the constructs under consideration are investigated in the empirical estimation of the model. By knowing how all

these factors operate and relate to one another, it is possible to act on them to build-up the right cultural capital.

## Data and methods

### *Sample*

As a source of information, a survey was conducted aimed at 426 Spanish banking professionals, receiving a total of 110 validly answered questionnaires (25.82% response rate). It was verified that there are no significant differences in the responses between the first and last questionnaires received, which suggests a low non-response bias. The respondents belong to eleven different banks. The descriptive data sample is shown in Table 1.

**Table 1. Sample descriptives**

|  | %      |
|--|--------|
| Gender   |        |
| Male   | 77.27% |
| Female   | 22.73% |
| Education  |        |
| Economics/Business   | 77.28% |
| Rest   | 22.72% |
| Tenure in the organization (years)   |        |
| ≤5 years   | 23.63% |
| 6-10 years   | 23.63% |
| 11-25 years  | 40.90% |
| >25 years  | 11.84% |
| Professional experience in control functions<br>(risk management, compliance, internal auditing) |        |
| Yes  | 40.90% |
| No   | 59.10% |
| Attitude towards risk  |        |
| Neutral or risk averse   | 67.27% |
| Risk loving  | 32.73% |



### *Measurement Scales*

The measurement scales of the various concepts that make up the theoretical model shown in Figure 1 were constructed following the multiple indicator approach. Thus, each dimension was measured by means of various items, which were generated in successive stages. First, a review of the academic and professional literature was carried out, including the publications already mentioned in the first sections of the paper, as well as numerous studies and reports prepared by institutions and regulatory bodies. As a result, an initial relationship of items was obtained adapted to the theoretical framework of the study, which was subsequently refined by eliminating redundant items. Pre-tests were carried out with two lecturers holding PhDs who are experts in banking and financial economics, two banking professionals with more than 20 years of commercial experience in retail banking, and two risk analysts with more than 20 years of experience in the banking sector. The final version of the questionnaire sent to the respondents uses 1-5 Likert scales to assess a total of 87 items.

M&R climate is measured using the scale developed by Fernández-Muñiz *et al.* (2020). Specific measurement scales were developed and validated for the rest of the model constructs, related to the determinant factors and the components of the organizational result. These scales were based on the information obtained in the survey following the methodology proposed by Churchill (1979) and Anderson and Gerbing (1988). This methodology allows the dimensionality, reliability and validity of the measurement scales to be established by confirmatory factor analysis (CFA). For this purpose, we used IBM SPSS version 22 and EQS version 6.2 for Windows statistical packages.

The resulting scales shown in Table A in the Appendix were obtained at the end of the process of developing and validating the measurement instruments of these constructs. The

composition of the scales was optimized, eliminating those items that reduced the reliability of the scale or penalized the goodness of fit due to not converging sufficiently in its latent variable (Anderson and Gerbing, 1988; Steenkamp and Van Trijp, 1991). Table B in the Appendix provides the means, standard deviations and intercorrelations of all the latent variables. The following section shows the results obtained when establishing the psychometric properties of the measurement scales, though we shall briefly describe their dimensions and component items beforehand.

The determinant factors are measured through 4 dimensions or factors:

- “Compensation”, with 4 items. This measures the links between employee compensation and regulatory compliance, customer satisfaction, risk control and the organization’s long-term results.

- “Promotion”, with 3 items. This measures the extent to which promotional practices in the organization take into account compliance with regulations, prudent risk management and customer interest.

- “Training”, with 5 items. This measures the relevance of formal training in the organization aimed at promoting compliance with norms, customer focus, long-term vision, management commitment to communicating the entity’s principles and values, ethical conduct and risk management training.

- “Cross-functional collaboration”, with 3 items. This measures the collaboration of the areas of control (risk, compliance, internal auditing) in misconduct prevention and risk management,

complementing their supervisory function with a support and advisory function in risk-taking and frequently interacting with the business areas, in both day-to-day and training activities.

The first two dimensions, “Compensation” and “Promotion”, measure the incentives that motivate employee behaviour. The last two, “Training” and “Cross-functional collaboration”, measure the knowledge-sharing and acquisition processes that contribute to organizational learning and the development of functional capacities related to risk management, compliance, misconduct prevention and customer focus.

The study considers 5 dimensions or integrating factors of organizational performance related to misconduct prevention and risk-taking. They are as follows:

- “Commercial pressure”, with 3 items. This measures the aggressiveness of the entity’s commercial culture, i.e. the pressure to achieve commercial objectives and sell new products and services.

- “Conflict”, with 3 items. This factor summarizes the perception of the work environment, the conflict between the interests of the organization and the interests of employees, and dysfunctional competition between employees themselves.

- “Exposure”, with 3 items. This measures employee exposure to certain risk factors, such as uncertainty about the correct interpretation or application of norms, ignoring customer interests or risk-taking that is heavily influenced by business requirements and objectives.

- “Firmness”, with 3 items. This measures the perception of the firmness of the entity’s culture to discourage unwanted behaviours likely to cause harm to customers, excessive risk-taking or non-compliance with legal norms or internal codes and regulations.

- “Employee satisfaction”, with 3 items. This measures employee satisfaction with organizational practices aimed at ensuring compliance with regulations, the proper design and marketing of new products and services, and the requirement of individual accountability when misconduct incidents or excessive risk-taking occurs.

As already stated, these items were obtained following an exhaustive review of academic research and reports and documents issued by regulatory bodies such as the Basel Committee on Banking Supervision (BCBS), CCP Research Foundation, De Nederlandsche Bank (DNB), Federation of European Risk Management and Associations/European Confederation of Institutes of Internal Auditing (FERMA/ECIIA), European Systemic Risk Board (ESRB), Financial Stability Board (FSB), Financial Conduct Authority (FCA), and the Institute of International Finance (IIF), all of which are related to banking culture and conduct and are included in the bibliography. Reports on these topics, such as Group of Thirty (2015) and Spicer (2014), and forensic research of relevant study cases, such as Barclays (Salz, 2013) and JPMorgan Chase & Co (JPMorgan Chase & Co, 2014) were likewise reviewed.

## Results

### *Estimation of the measurement scales*

#### *Dimensionality analysis*

CFA of the measurement scales was carried out using structural equation models that fit the data from the survey. The parameters were estimated using the maximum likelihood method. Tables 2 and 3 show the results obtained in the estimation of the first-order confirmatory factor models that respectively allow us to establish the constitutive dimensions of the determinant factors and the components of the organizational result considered in the study. The procedure proposed by Bentler (1995) and Hair *et al.* (1998) was followed to obtain the measurement models that offer the best fit to the data.

In the case of the determinant factors (Table 2), the chi-square value is 95.3735, with 84 degrees of freedom. The result of this test ( $p > 0.05$ ) indicates that the model is consistent with the observed data (Bentler, 1995; Hair *et al.*, 1998). The normed chi-square (NCS) provides a value of 1.135, confirming the goodness of fit. Other absolute measures of fit confirm that the model offers a good fit to the data (Table 2). The Root Mean Square Error of Approximation (RMSEA) is below the value of 0.06 recommended by Hu and Bentler (1999). The Goodness-of-Fit Index (GFI) is above 0.8, a threshold recommended by Jöreskog and Sörbom (1993) and Mueller (1996). On the other hand, the Comparative Fit Index (CFI) and Incremental Fit Index (IFI), which are indicative of a good fit of the model for values close to unity, take values higher than 0.95.

Table 2. First-order confirmatory factor analysis for determinant factors

| Dimension variables                       | $\alpha$<br>CRI<br>AVE                                 | Standardized<br>lambda<br>parameters | *t-<br>Values | Dimension<br>-<br>Dimension | Correlation<br>(standard<br>error) | Confidence<br>interval       |
|---|--|--------------------------------------|---------------|-----------------------------|------------------------------------|------------------------------|
| <i>F1:</i>                                | 0.755  |                                      |               | F1-F2                       | 0.858 (0.055)                      | [0.748]-[0.968]              |
| <i>Compensation</i>                       | 0.761  |                                      |               | F1-F3                       | 0.800 (0.063)                      | [0.674]-[0.926]              |
| Compen1                                   | 0.446  | 0.681                                | 8.239         | F1-F4                       | 0.642 (0.093)                      | [0.456]-[0.828]              |
| Compen2                                   |  | 0.580                                | 5.806         | F2-F3                       | 0.727 (0.060)                      | [0.607]-[0.847]              |
| Compen3                                   |  | 0.764                                | 9.585         | F2-F4                       | 0.546 (0.083)                      | [0.380]-[0.712]              |
| Compen4                                   |  | 0.632                                | 8.993         | F3-F4                       | 0.782 (0.057)                      | [0.668]-[0.896]              |
| <i>F2:</i>                                | 0.846  |                                      |               |                             |                                    |                              |
| <i>Promotion</i>                          | 0.849  |                                      |               |                             |                                    |                              |
| Promotion1                                | 0.653  | 0.797                                | 9.661         |                             |                                    |                              |
| Promotion2                                |  | 0.858                                | 11.063        |                             |                                    |                              |
| Promotion3                                |  | 0.767                                | 9.856         |                             |                                    |                              |
| <i>F3:</i>                                | 0.875  |                                      |               |                             |                                    |                              |
| <i>Training</i>                           | 0.876  |                                      |               |                             |                                    |                              |
| Training1                                 | 0.587  | 0.751                                | 8.341         |                             |                                    |                              |
| Training2                                 |  | 0.823                                | 11.147        |                             |                                    |                              |
| Training3                                 |  | 0.711                                | 8.906         |                             |                                    |                              |
| Training4                                 |  | 0.781                                | 11.334        |                             |                                    |                              |
| Training5                                 |  | 0.761                                | 9.603         |                             |                                    |                              |
| <i>F4:</i>                                | 0.839  |                                      |               |                             |                                    |                              |
| <i>Cross-functional<br/>collaboration</i> | 0.842  |                                      |               |                             |                                    |                              |
| Collab1                                   | 0.641  | 0.722                                | 8.356         |                             |                                    |                              |
| Collab2                                   |  | 0.825                                | 10.545        |                             |                                    |                              |
| Collab3                                   |  | 0.850                                | 11.887        |                             |                                    |                              |
| <b>Results of the model fit:</b>          | S-B $\chi^2$ (84) = 95.3735<br>p = 0.18629 NCS = 1.135 |                                      |               | GFI = 0.880<br>CFI= 0.985   |                                    | IFI = 0.985<br>RMSEA = 0.035 |

\*t-values above 1.96 indicate significance at the 95% confidence level.

In the case of the organizational performance components (Table 3), the estimated model shows acceptable model fit indices, except for a significant chi-square test of goodness of fit ( $p < 0.05$ ), and a RMSEA which is slightly over 0.06. However, the NCS shows an acceptable value of 1.518 (Carmines and McIver, 1981; Kline, 1998).

Table 3. First-order confirmatory factor analysis for organizational performance components

| Dimension variables              | $\alpha$<br>CRI<br>AVE | Standardized<br>lambda<br>parameters                    | *t-<br>Values | Dimension<br>-<br>Dimension | Correlation<br>(standard<br>error) | Confidence<br>interval       |
|----------------------------------|------------------------|---|---------------|-----------------------------|------------------------------------|------------------------------|
| <i>F5: Commercial pressure</i>   | 0.873                  |   |               | F5-F6                       | 0.733 (0.072)                      | [0.589]-[0.877]              |
| Compress1                        | 0.876                  |   |               | F5-F7                       | 0.498 (0.113)                      | [0.272]-[0.724]              |
| Compress2                        | 0.703                  | 0.864   | 11.398        | F5-F8                       | -0.181 (0.127)                     | [-0.435]-[0.073]             |
| Compress3                        |                        | 0.902   | 13.618        | F5-F9                       | -0.285 (0.146)                     | [-0.577]-[0.007]             |
| <i>F6: Conflict</i>              | 0.844                  | 0.740   | 9.788         | F6-F7                       | 0.485 (0.112)                      | [0.261]-[0.709]              |
| Conflict1                        | 0.834                  |   |               | F6-F8                       | -0.280 (0.149)                     | [-0.578]-[0.018]             |
| Conflict2                        | 0.629                  | 0.738   | 8.956         | F6-F9                       | -0.482 (0.142)                     | [-0.766]-[-0.198]            |
| Conflict3                        |                        | 0.913   | 12.604        | F7-F8                       | -0.136 (0.142)                     | [-0.420]-[0.148]             |
| <i>F7: Exposure</i>              | 0.721                  |   |               | F7-F9                       | -0.196 (0.141)                     | [-0.478]-[0.086]             |
| Exposure1                        | 0.725                  |   |               | F8-F9                       | 0.635 (0.145)                      | [0.345]-[0.925]              |
| Exposure2                        | 0.473                  | 0.533   | 5.200         |                             |                                    |                              |
| Exposure3                        |                        | 0.745   | 7.671         |                             |                                    |                              |
| <i>F8: Firmness</i>              | 0.835                  |   |               |                             |                                    |                              |
| Firmness1                        | 0.836                  |   |               |                             |                                    |                              |
| Firmness2                        | 0.630                  | 0.825   | 7.324         |                             |                                    |                              |
| Firmness3                        |                        | 0.771   | 7.710         |                             |                                    |                              |
| <i>F9: Employee satisfaction</i> | 0.767                  |   |               |                             |                                    |                              |
| Satisfac1                        | 0.775                  |   |               |                             |                                    |                              |
| Satisfac2                        | 0.535                  | 0.730   | 6.938         |                             |                                    |                              |
| Satisfac3                        |                        | 0.781   | 8.397         |                             |                                    |                              |
|                                  |                        | 0.680   | 6.873         |                             |                                    |                              |
| <b>Results of the model fit:</b> |                        | S-B $\chi^2$ (80) = 121.4689<br>p = 0.00193 NCS = 1.518 |               | GFI = 0.882<br>CFI = 0.928  |                                    | IFI = 0.931<br>RMSEA = 0.069 |

\*t-values above 1.96 indicate significance at the 95% confidence level.

### Reliability analysis

Three indicators are used to assess the reliability of the scales: the Cronbach Alpha coefficient ( $\alpha$ ), the Composite Reliability Index (CRI) and the Average Variance Extracted (AVE), which were calculated for all of the dimensions of the two measurement scales (Tables 2 and 3). All the dimensions of the two scales have Cronbach alpha coefficients higher than 0.7, which is considered an adequate level of reliability for testing causal relationships (Nunnally and

Bernstein, 1994). The CRI is always higher than the minimum level of 0.6 recommended by Bagozzi and Yi (1998). The AVE requires values of over 0.5 in each factor to assure its reliability. The AVE measures for all factors on both scales are adequate (Tables 2 and 3), except for "Compensation" (0.446) and "Exposure" (0.473), but values over 0.4 are acceptable if composite reliability (CRI) exceeds 0.6 (Fornell and Larcker, 1981). Both factors meet this criterion, so their reliability is adequate.

#### *Validity analysis*

The aim now is to verify the convergent and discriminant validity of the content of the scales. The content validity of the scales may be considered acceptable, given that the items that form them were obtained from an exhaustive review of the existing literature and the fact that they were pre-tested with experts and academics.

A strong condition of convergent validity is that the standardized lambda parameters exceed 0.5 and are significant at a confidence level of 95%, which requires Student-t values greater than 1.96. All parameters meet both conditions (Tables 2 and 3). An AVE above 0.5 also indicates that the factor's convergent validity is adequate (Fornell and Larcker, 1981).

Following Anderson and Gerbing (1988), it can be stated that discriminant validity exists if the 95% confidence interval for the correlations between constructs plus/minus twice the standard error does not include 1. This would prove that the correlations between the dimensions are significantly different from 1, and that consequently the dimensions do represent different concepts. The results obtained (Tables 2 and 3) support the discriminant validity of the scales.



### *Estimation of proposed structural model*

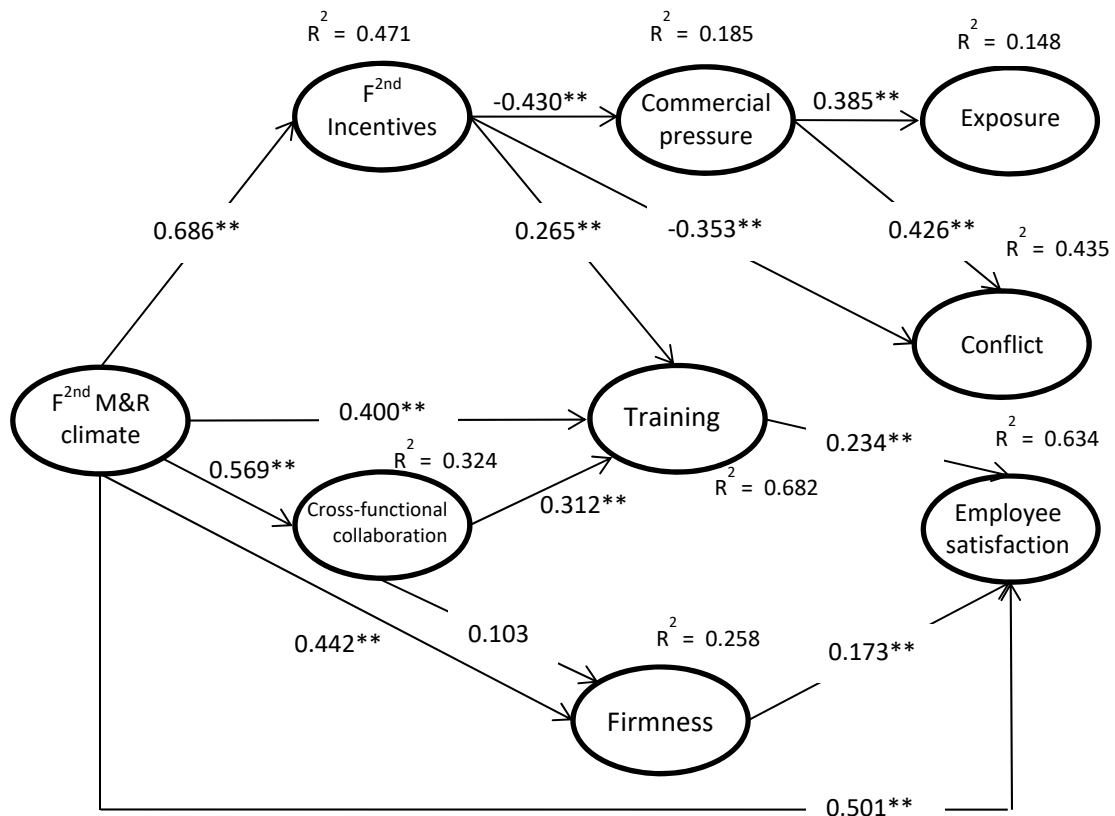
Having evaluated the measurement models of the different concepts, we continue in this section with the analysis of the causal relationships between the constructs or latent variables that make up the theoretical model. Figure 2 shows the causal model finally obtained through path analysis. This is the model that presents the greatest number of significant relationships. M&R climate enters this model as a second-order factor that is reflected in its different constituent dimensions according to the scale validated by Fernández-Muñiz *et al.* (2020).

Compensation and promotion practices were also found to form a second-order factor, called incentives, which also showed adequate model fit indices. The use of these second-order factors contributes to reducing the complexity of the measurement model. The mean of the scores of the observable variables of each of its latent variables or lower-order indicators is used as data to measure each higher-order factor or latent variable. This procedure, which is especially recommended when working with small samples, reduces the parameters to estimate and produces more stable estimates of the structural relationships of the model (Bagozzi and Edwards, 1998; Bagozzi and Heatherton, 1994; Bagozzi and Yi, 2012; Landis *et al.*, 2000; Little *et al.*, 2013).

To arrive at this model, alternative specifications with different causal structures were compared, finally selecting the structure that offered the best fit to the data. The figure shows the different measures of goodness of fit ( $S-B\chi^2$ , GFI, CFI, IFI and RMSEA) of the obtained model. It only includes one non-significant link, which directly relates cross-functional collaboration to the perception of firmness of corporate culture, a result that indicates that this collaboration does not mean that employees perceive less firmness on the part of the organization. The rest of the path coefficients (standardized parameters) are significant, taking

absolute values between 0.173 and 0.686. Two coefficients have a negative sign, reflecting the effect that a suitable design of incentives has in terms of reducing internal conflict and commercial pressure. Figure 2 also shows the explained variance ( $R^2$ ) of each factor by its antecedents.

Figure 2. Proposed structural model estimation results, standardized parameters and  $R^2$



| Results of the model fit:   |             |               |
|-----------------------------|-------------|---------------|
| S-B $\chi^2$ (22) = 25.0501 | GFI = 0.946 | IFI = 0.991   |
| p = 0.29468                 | CFI = 0.990 | RMSEA = 0.036 |

Note: \*\* Indicates significance at the 95% confidence level

Analysis of the significant causal connections from standardized parameters (Figure 2) shows that M&R climate directly influences two components of organizational performance: the firmness of corporate culture and employee satisfaction, thus partially confirming Hypothesis 1 as regards these components. Furthermore, no factor conditions the influence of M&R climate

on the perceived firmness of the organization's corporate culture to prevent misconduct and excessive risk-taking, evidencing the close association between the two constructs, i.e. corporate culture firmness and M&R climate. In contrast, the influence of M&R climate on employee satisfaction is partially conditioned by all the determinant factors, which converge in training in misconduct prevention and risk management, and also, though to a lesser extent, by the perceived firmness of the organization's corporate culture.

The influence of M&R climate on internal conflict within the organization and on exposure to factors that may motivate misconduct or excessive risk-taking is indirect, being fully conditioned by the incentives generated by compensation and promotion practices. Furthermore, commercial pressure conditions the influence of incentives: employees perceive that they are less exposed to risk-taking and that there is less conflict within the organization when incentives reduce the pressure to achieve commercial and business objectives. In contrast, inadequate incentives increase pressure to achieve short-term results, exacerbating internal competition and preventing collaboration. This is consistent with the argument put forward by Simons (1999), who considers that performance pressures constitute a key pressure point that increase internal competition and exposure of the organization, making it more risky.

The estimated model shows a strong association between M&R climate and the determinant factors, related to incentives and knowledge-sharing. These factors condition the influence of M&R climate, thus confirming Hypothesis 2. Furthermore, incentives and cross-functional collaboration condition the influence of M&R climate on training in misconduct prevention and risk management practices, and are good predictors of this formal training. In effect, if compensation and promotion practices consider aspects such as compliance, customer focus and risk management, employees need formal training in all these matters. Furthermore,

cross-functional collaboration between business areas and areas of control (risk, compliance, internal auditing) positively influences employee training.

The results of the estimated model confirm Hypothesis 3 with regard to the influence of the determinant factors (incentives, cross-functional collaboration and training) on the components of organizational performance. However, they also show that these factors neither influence all the components, nor do so in the same way. Incentives have both a direct and indirect influence on the perception of conflict via commercial pressure. They also indirectly influence exposure to misconduct or excessive risk-taking via said commercial pressure. The influence of incentives on employee satisfaction is likewise indirect, via the knowledge provided by training.

Regarding the factors associated with knowledge sharing, their influence is focused on employee satisfaction with organizational practices aimed at ensuring regulatory compliance, the correct design and marketing of new products, and the requirement of individual accountability when misconduct occurs. They do not influence the perception of conflict or the exposure of employees, who are directly affected only by incentives and commercial pressure. The perception of the firmness of the organization's corporate culture is likewise not significantly affected by collaborative practices or the training that employees receive, depending entirely on M&R climate.

## **Discussion and conclusions**

Understanding and preventing misconduct risks and excessive risk-taking by financial firms can contribute to promoting their safety and soundness. Our results indicate that the factors considered in this study are good predictors of the perception employees have regarding the

pressure to achieve objectives, conflict within the organization and their exposure to certain misconduct risks or excessive risk-taking. They are also good predictors of employee satisfaction with compliance practices, sales practices and individual accountability, as well as their perception of the firmness of their corporate culture to prevent misconduct or excessive risk-taking.

The close association between M&R climate, incentives and knowledge-sharing practices shows the importance of suitable alignment of these factors. If an organization has a supportive M&R climate, applies compensation and promotion practices that generate the right incentives and promotes knowledge-sharing on misconduct prevention and risk management through cross-functional collaboration and employee training, the organizational performance components considered in this study will improve via different paths. This study shows what these influence paths are.

M&R climate is a good predictor of the firmness of corporate culture. A supportive M&R climate means that corporate culture is perceived as firmer and capable of preventing misconduct incidents or reckless risk-taking. This will result in greater employee satisfaction with the policies adopted by the organization in this regard. The influence of M&R climate on the rest of the components of organizational performance operates indirectly, via the determinant factors related to incentives and knowledge sharing.

The organization's incentive system plays a key role in the model, intervening in a large number of indirect causal relationships that influence all the performance indicators considered here, with the exception of the perception of the firmness of corporate culture. This result indicates that the organization may be perceived firm (or not) with respect to

reckless behaviour or misconduct incidents, regardless of what the incentives to generate compensation and promotion practices may be.

Incentives that are misaligned with risk policies and pressure to achieve short-term results generate conflict as well as internal competition that may hinder cooperation and communication in the organization. Furthermore, they also influence training practices. Just like poor cross-functional collaboration, inadequate incentives lessen the positive impact of training on employee satisfaction with compliance practices, misconduct prevention, risk control and individual accountability.

It can therefore be concluded that a supportive M&R climate, indicative of a firm corporate culture, creates a suitable organizational environment that, together with precise training duly supported by the organization's incentives structure and cross-functional collaboration, contributes to reducing commercial pressure and internal conflict, as well as exposure to certain risk factors, by providing employees with knowledge, motivation and greater perceived control.

### **Limitations and future research**

This study presents a number of limitations which provide meaningful lines for future research. First, the study offers a snapshot of practices and perceptions at a particular moment in time. As such, cause-effect relations cannot be definitively inferred from the results. Longitudinal studies are needed to understand these influence pathways more precisely in the long term. Besides, given that our dataset is relatively small, the number of explanatory variables in our model was restricted.

Second, the study does not consider individual-level factors such as ability, experience and personality, nor does it consider individual behaviour regarding risk-taking or misconduct. Measuring individual behaviours requires respondents to provide reliable information. Given the sensitive nature of the matter in hand, it is not easy to achieve a high response rate. There is also a high probability of receiving responses biased towards what is considered socially correct when asked about personal behaviours and values (Zerbe and Paulhus, 1987; Randall and Fernandes, 1991).

Third, organizational performance can be measured through objective financial measures of risk (Miller, 1998; Ruefli *et al.*, 1991), which would require having data and quantitative information on risk and conduct costs that is not fully available (Brown, 2012). Our findings lead us to suggest, at least as a conjecture, that a supportive and suitable M&R climate should help to control and limit excessive risk-taking and to balance both short and long term objectives. This should be reflected in improved key risk indicators and in a higher quality of bank assets, thus contributing to reduce losses on loans and investments. Additionally, banks can be more effective in mitigating misconduct risk, thereby optimizing their conduct and compliance costs. Ultimately, all of this should increase returns and banks' value by also reducing capital requirements. These propositions on the relationships between our findings and the performance and risk of banks open a new line of research aimed at verifying them, which is especially relevant in the case of those banks considered as *systemically important financial institutions (SIFIs)*, whose failure may cause a systemic risk event that could affect other financial institutions or the entire financial system. The recent study of Bianchi *et al.* (2021) on a sample of European banks offers new and valuable evidence of the link between the risk culture espoused by banks and bank stability, showing that a sound risk culture leads to better performance.

Finally, corporate risk governance practices, including the TLD model, as well as the recommended compensation practices used to reduce misconduct risk and encourage prudent risk-taking are widespread in banking, as they have already been incorporated into regulation or the guidelines of banking supervisors (Wright *et al.*, 2018). The key difference in order to be competitive could lie precisely in the practices of risk knowledge sharing adopted by banks. The analysis of the factors that foster or hinder the sharing of risk knowledge within groups and organizations thus constitutes an important future area of research.



## Appendix

Table A. Measurement scales of the study variables

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|   |
|---|
| <b>F1: Compensation</b>   |
| <i>My compensation...</i>   |
| Compen1. Depends to some extent on correct compliance with internal rules and procedures, ethical codes, legal norms and industry regulations.  |
| Compen2. Depends more on customer satisfaction than on my commercial or business results.   |
| Compen3. Depends more on prudent action in risk-taking than on my commercial or business results.   |
| Compen4. In its variable part, it is linked in some way to the long-term results of the organization.   |
| <b>F2: Promotion</b>  |
| <i>My organization recognizes and promotes those people who...</i>  |
| Promotion1. Are more compliant with internal norms, regulations, ethical codes, policies and procedures.  |
| Promotion2. Manage risks prudentially.  |
| Promotion3. Propose commercial operations in such a way that they are beneficial for the customer as well as for the entity.  |
| <b>F3: Training</b>   |
| <i>In my organization...</i>  |
| Training1. We receive training and skills aimed at complying with laws, norms, regulations, ethical codes and procedures.   |
| Training2. We receive training and skills aimed at maintaining long-term relationships with customers, avoiding a short-term vision of the business aimed at achieving rapid results.     |
| Training3. Senior management participates in training or outreach events regarding the organization's principles and values.  |
| Training4. Ethical dilemmas related to professional practice are studied and debated in training activities.  |
| Training5. Training in risks and risk management is provided to the entire workforce, making all employees aware of the different types of risks, regardless of the position they occupy. |
| <b>F4: Cross-functional collaboration</b>   |
| <i>In my organization, the areas of control (risk, compliance, internal audit) ...</i>  |
| Collab1. Participate in formal bodies or meetings that favour integration with the commercial area in order to prevent or anticipate potential problems in customer relations.            |
| Collab2. Interact frequently and intensively with front offices and with the different business areas, supporting and advising them with respect to risk-taking.                          |
| Collab3. Participate in or promote training activities in the commercial area to improve risk quality and the soundness of the proposed operations or regulatory compliance.              |

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Table A (cont.). Measurement scales of the study variables

|   |
|---|
| <p><b>F5: Commercial pressure</b><br/> <i>In my organization...</i></p> <p>Compress1. There is excessive pressure to achieve commercial and business objectives.<br/>           Compress2. There is an aggressive commercial culture with respect to product placement and selling.<br/>           Compress3. It is difficult to reconcile work and personal life.</p>  |
| <p><b>F6: Conflict</b><br/> <i>In my organization...</i></p> <p>Conflict1. The work climate is very negative.<br/>           Conflict2. There is excessive tension or conflict between the interests of the organization and the interests of employees.<br/>           Conflict3. There is unhealthy competition within the organization, which prevents collaboration.</p>  |
| <p><b>F7: Exposure</b><br/> <i>Degree of exposure to the following risk factors:</i></p> <p>Exposure1. Uncertainty/lack of knowledge regarding the correct interpretation or application of legal norms, industry regulations, internal policies and procedures or ethical codes and standards of conduct.<br/>           Exposure2. Ignore the customer's interests.<br/>           Exposure3. Decision-making regarding risks is highly influenced by business requirements and objectives.</p> |
| <p><b>F8: Firmness</b><br/> <i>The firmness and effectiveness of my organization's corporate culture to discourage any behaviour that involves...</i></p> <p>Firmness1. Breach of laws, industry regulations, ethical codes, rules, limits or internal procedures.<br/>           Firmness2. Damage or harm to the interests of customers.<br/>           Firmness3. Reckless risk-taking.</p>  |
| <p><b>F9: Employee satisfaction</b><br/> <i>Degree of satisfaction with your company's practices in the following areas:</i></p> <p>Satisfac1. Compliance with legal norms, industry regulations, internal policies and procedures.<br/>           Satisfac2. Design and commercialization of new products and services.<br/>           Satisfac3. Individual accountability for irregular conduct, for ignoring the interests of customers or for reckless risk-taking.</p>                      |

Table B. Means, standard deviations (SD), and correlations among latent variables

|  | Mean  | SD    | F1      | F2      | F3      | F4      | F5      | F6      | F7     | F8     | F9     | F <sup>2nd</sup><br>Incentives |
|--|-------|-------|---------|---------|---------|---------|---------|---------|--------|--------|--------|--------------------------------|
| <b>F1: Compensation</b>                | 2.906 | 0.943 |         |         |         |         |         |         |        |        |        |                                |
| <b>F2: Promotion</b>                   | 3.257 | 0.934 | .692**  |         |         |         |         |         |        |        |        |                                |
| <b>F3: Training</b>                    | 3.561 | 0.930 | .663**  | .624**  |         |         |         |         |        |        |        |                                |
| <b>F4: Cross-func. collab.</b>         | 3.557 | 0.900 | .521**  | .468**  | .675**  |         |         |         |        |        |        |                                |
| <b>F5: Comm. pressure</b>              | 3.521 | 1.090 | -.357** | -.435** | -.257** | -.248** |         |         |        |        |        |                                |
| <b>F6: Conflict</b>                    | 2.790 | 0.994 | -.434** | -.552** | -.493** | -.433** | .578**  |         |        |        |        |                                |
| <b>F7: Exposure</b>                    | 2.687 | 0.933 | -.161   | -.110   | -.258** | -.178   | .385**  | .306**  |        |        |        |                                |
| <b>F8: Firmness</b>                    | 3.875 | 0.863 | .342**  | .381**  | .410**  | .354**  | -.175   | -.261** | -.089  |        |        |                                |
| <b>F9: Emp. satisfaction</b>           | 3.854 | 0.764 | .523**  | .572**  | .684**  | .527**  | -.225*  | -.395** | -.133  | .521** |        |                                |
| <b>F<sup>2nd</sup> Incentives</b>      | 3.082 | 0.863 |         |         | .700**  | .538**  | -.430** | -.536** | -.148  | .393** | .595** |                                |
| <b>F<sup>2nd</sup> M&amp;R climate</b> | 3.948 | 0.654 | .609**  | .654**  | .751**  | .569**  | -.265** | -.493** | -.207* | .500** | .765** | .686**                         |

Mean scores based on a five-point scale.

\* Significance level  $p < 0.05$ .

\*\*Significance level  $p < 0.01$ .

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