

Strategic human resource management practices and organizational resilience

Fatma Bouaziz and Zouhour Smaoui Hachicha
*Faculté des Sciences Economiques et de Gestion de Sfax,
Université de Sfax, Sfax, Tunisia*

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Abstract

Purpose – The purpose of this paper is to investigate the relationship between strategic human resource management (SHRM) practices and organizational resilience in a Tunisian democratic transition context. It is hypothesized that five SHRM practices influence three organizational resilience dimensions.

Design/methodology/approach – The research design is based on a deductive approach. The relations were checked over two periods by using quantitative methods. Questionnaires were addressed to top managers of resilient Tunisian companies. The hypotheses were verified after.

Findings – Results showed that SHRM practices affect the resilience dimensions. Analysis showed that SHRM practices enhance the robustness of firms, especially in the second period, and significantly influence agility and integrity.

Practical implications – Managers can use these findings to develop targeted actions in HRM to enhance a specific resilience dimension. They can make better decisions based on knowledge surrounding the precise effects of SHRM practices on resilience dimensions.

Originality/value – The authors highlighted the role of SHRM in developing organizational resilience. Gaps were noticed in the organizational resilience literature. This research is among the rare studies that have investigated the linkage between SHRM practices and organizational resilience. By using quantitative methods and adopting a longitudinal perspective for analyzing data, it leads to better identify the evolution of the influence of SHRM practices on each resilience dimension over time.

Keywords Robustness, Integrity, Agility, Organizational resilience, SHRM practices

Paper type Research paper

Introduction

Organizations are increasingly challenged by today's business context. Terrorist attacks, economic downturns, global financial crises, uncertainties in the competitive market and political and social conditions threaten an organization's competitiveness and survival. To successfully overcome these conditions, organizations must develop a capacity for resilience.

Organizational resilience encompasses a resistance capacity to cope with stressful conditions, an ability to preserve position and a capability to benefit from unfavorable conditions (Kantur and Iseri-Say, 2015). Resilience can be developed and managed through "a set of specific organizational capabilities, routines, practices and processes by which a firm conceptually orients itself, acts to move forward, and creates a setting of diversity and adjustable integration" (Lengnick-Hall *et al.*, 2011, p. 245). Cognitive, behavioral and contextual capabilities and routines contribute to organizational resilience. Furthermore, resilience capacity is enhanced through strong leadership, awareness, understanding of the operating environment, the ability to manage vulnerabilities and adapt to rapid change, human capital and financial prudence (Ho *et al.*, 2014; Lee *et al.*, 2013; Chaabouni *et al.*, 2015).

Lengnick-Hall *et al.* (2011) and Ho *et al.* (2014) suggested that human resource management (HRM) plays a greater part in the development and analysis of organizational resilience. They supported efforts to focus on HRM as part of an organizational resilience analysis. To achieve organizational resilience, they noted that a firm's HRM system should



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develop individual knowledge, skills and abilities to provide organizational capabilities and routines. The HRM system that keeps individuals in the core of an organization is aligned to corporate strategy and considers environmental challenges. Therefore, it should contribute to organizational resilience development.

This study will check on the existence of a causal relationship between strategic human resource management (SHRM) practices and organizational resilience. Specifically, it will study this relationship in the case of Tunisian companies in the challenging context of democratic transition. Pursuing this is justified by two main arguments.

First, the existing literature has several gaps as it is descriptive, and focuses on individual resilience (Cooper *et al.*, 2014; Lengnick-Hall *et al.*, 2011). Studies based on quantitative methods are in the early stages of development (Kantur and Iseri-Say, 2015). Studies conducted on relationships between SHRM practices and organizational resilience are scarce and conceptual (Lengnick-Hall *et al.*, 2011; Cantoni and Giustiniano, 2015). Some recent studies focused on relationships between organizational resilience and a single HRM practice (Aliji Okuwa *et al.*, 2016; Mienipre *et al.*, 2016).

Second, investigating Tunisian companies' resilience in relation to SHRM practices is of importance in the context of the democratic transition. Tunisia's period of transition, which began in January 2011, coincided with the revolution. Seven years later, its expected economic and social stability has not yet been achieved. Changes in the social, economic and political context influence the business climate. In 2015, Gheriani (2015) approximated that 500 foreign companies left Tunisia due to protest movements by employees. If the actions continued, other international companies also intended to leave the Tunisian territory (Gheriani, 2015). Companies are vulnerable because of difficult regional and international economic situations, including the emergence of social and security tensions.

The democratic transition resulted in a quasi-generalized social protest movement in companies, public organizations and society. Changes were also seen in the business ecosystem, including customer behavior, suppliers, banks, administration, citizens and new stakeholders (i.e. unemployed and poor social class; Very and Chaabouni, 2015). However, the incomplete democratic transition is a long-term crisis (Very and Chaabouni, 2015). Combined with internal and external stakeholder demands, terrorist acts and the Libyan revolution, the democratic transition has increased pressure on Tunisian companies to be competitive in both national and international arenas. To successfully operate in such a challenging environment, Tunisian firms should be resilient as they adapt to a new context and exogenous risks (Yaich, 2016). When adequately managed, human resources (HR) can contribute to the building of this capacity of resilience (Lengnick-Hall *et al.*, 2011; Ho *et al.*, 2014).

This study is divided into four sections. The first section defines organizational resilience and its dimensions. The second section proposes a literature review on SHRM. It discusses the relationship between SHRM practices and organizational resilience. The third section describes methodological choices. The fourth section presents results and findings.

Organizational resilience and its dimensions

The concept of resilience was introduced by Holling (1973) in the domain of ecology and environment. Holling (1973) defined resilience of an ecosystem as the measure of its ability to absorb change and still exist. Holling (1973) compared the concept to stability, which referred to the ability to return to equilibrium after temporary disturbance. More recently, the concept of resilience attracted the attention of management scholars (Annarelli and Nonino, 2016). The concept is studied in crisis management, disaster management and high-reliability organizations (Mallak, 1998; Kendra and Wachtendorf, 2003; Tierney, 2003; Weick, 1993).

In their study on the World Trade Organization disaster, Kendra and Wachtendorf (2003) asserted that resilience is an ability to sustain a shock, adapt or "bounce back" without complete deterioration. However, Woods (2006, p. 21) suggested that "resilience

cannot simply be the adaptive capacity of a system.” Instead, it refers “to the broader capability – how well can a system handle disruptions and variations that fall outside of the base mechanisms/model for being adaptive as defined in that system” (Woods, 2006, p. 21).

Adaptability reflects on the ability to re-establish fit with environment. It presumes a new, externally determined equilibrium in the desired state. Resilience incorporates inside-to-outside renewal, transformation and dynamic creativity.

Organizational resilience encompasses more than adaptation because it implies that an organization gains strength in dealing with stressful conditions and change (Cooper *et al.*, 2014; Lengnick-Hall *et al.*, 2011). It also focuses on the capacity to remain effective when faced with disturbances (Kantur and Iseri-Say, 2015; Lengnick-Hall *et al.*, 2011). Processes of both adaptation and transformation are integrated in this capacity (Clément and Rivera, 2017). In fact, “resilience refers to the organizational ability to dynamically reinvent business models and strategies as circumstances change and to change before the need becomes desperately obvious” (Cooper *et al.*, 2014, p. 2467). Therefore, resilience cannot be limited to an organization’s ability to absorb shock or develop resistance when disturbed (Accra Jaja and Amah, 2014; Kantur and Iseri-Say, 2015; Lee *et al.*, 2013). Resilience turns an unfavorable condition into an advantage as it deals with the situation (Kantur and Iseri-Say, 2015). This includes the ability to anticipate disturbances, engage changes proactively, maintain effectiveness despite disturbances and gain strength (Annarelli and Nonino, 2016; Cooper *et al.*, 2014; Kantur and Iseri-Say, 2015; Lengnick-Hall *et al.*, 2011).

To be resilient, an organization should prepare steps and solutions to bounce back to its original state or evolve to a new more desirable one (Annarelli and Nonino, 2016; Cooper *et al.*, 2014; Kantur and Iseri-Say, 2015; Lengnick-Hall *et al.*, 2011). It is key for an organization to be solution oriented, creative and proactive.

Organizational resilience is a multidimensional concept as shown in Table I.

According to literature review, various dimensions of organizational resilience exist. However, it does not agree on its dimensions and measurements. Pursuing the paradigm of Churchill (1979), Kantur and Iseri-Say (2015) adopted both qualitative and quantitative methods to develop a scale of an organizational resilience construct. Three dimensions were identified: robustness; agility; and integrity. Overall, the analysis confirmed the three-dimensional structure of an organizational resilience construct. Tests for reliability and validity showed that the developed scale has acceptable reliability, and acceptable convergent and discriminant validity.

Compared to other measures (i.e. Mallak, 1998; Lee *et al.*, 2013; Orchiston *et al.*, 2016), the one developed by Kantur and Iseri-Say (2015) is based on a sample of firms in various sectors, including home textile, textile, carpet, decoration, music and machine and

Sources	Dimensions
Weick (1993), in Mallak (1998) Mallak (1998)	Bricolage, attitude of wisdom and virtual role system Goal-directed solution seeking, avoidance or skepticism, critical understanding, role dependence, source reliance and resource access
McManus (2008), in Lee <i>et al.</i> (2013)	Situation awareness, management of keystone vulnerabilities and adaptive capacity
Lengnick-Hall <i>et al.</i> (2011)	Cognitive dimension, behavioral dimension and contextual dimension
Lee <i>et al.</i> (2013)	Adaptive capacity and planning
Accra Jaja and Amah (2014)	Organizational learning, adaptive capacity and dynamic capability
Cantoni and Giustiniano (2015)	Recoverability and adaptability
Kantur and Iseri-Say (2015)	Robustness, agility and integrity
Aliji Okuwa <i>et al.</i> (2016)	Organizational agility and organizational adaptive capacity
Mienipre <i>et al.</i> (2016)	Ability to respond to crisis and ability to monitor risks
Orchiston <i>et al.</i> (2016)	Planning and culture and collaboration and innovation

Table I.
Dimensions of
organizational
resilience

replacement parts. Selected respondents from those firms had different profiles, including firm owner, manager, sales representative and accountant. After statistical tests, the authors considered the proposed measure reliable and valid. They recommended its use in future studies with a diverse set of samples.

Pursuing the recommendations of Kantur and Iseri-Say (2015), the authors adopted the proposed dimensions to operationalize organizational resilience:

- **Robustness:** according to Tierney (2003, p. 2), robustness is the “ability of elements, systems, and other units of analysis to withstand stresses and demands without suffering damage, degradation, or loss of function.” It includes items to measure a firm’s resistance capacity (Kantur and Iseri-Say, 2015).
- **Agility:** agility “is the capacity of an organization to quickly recognize, utilize opportunities and tackle threats in an unstable environment” (Aliji Okuwa *et al.*, 2016, p. 46). Agility includes assessments on how easily or rapidly a firm can adapt to changing circumstances (Kantur and Iseri-Say, 2015).
- **Integrity:** this dimension measures the cohesion of an organization’s employees when faced with unfavorable circumstances (Kantur and Iseri-Say, 2015).

SHRM and organizational resilience

According to Wright and McMahan (1992), the HRM field has evolved with the development of strategic management of organizations. This led to the birth of the SHRM discipline, which is integrated into the strategic management process. Earlier research proposed HR practices associated with various strategies (Miles and Snow, 1984; Schuler and Jackson, 1987). These authors also examined the determinants of HR practices from a strategic perspective (Dean and Snell, 1991).

Wright and McMahan (1992, p. 298) defined SHRM as “the pattern of planned HR deployments and activities intended to enable an organization to achieve its goals.” Through this definition, authors highlighted vertical and horizontal dimensions of SHRM. Vertically, SHRM is the linking of HRM practices with the strategic management process of an organization (Dyer, 1985). Horizontally, SHRM emphasizes the coordination or congruence among various HRM practices through a pattern of planned actions. Guest (1989) suggested that SHRM is concerned with ensuring that “HR management is fully integrated into strategic planning; that HRM policies cohere both across policy areas and across hierarchies and that HRM practices are accepted and used by line managers as part of their everyday work.”

SHRM aims to generate organizational capability by ensuring that the organization has the skilled, engaged, committed and motivated employees it needs to achieve a sustained competitive advantage. It seeks to align HR strategies with business strategies (Armstrong and Taylor, 2014; Bahrami *et al.*, 2013). Moreover, SHRM formulates a business strategy to capitalize on advantages provided by HR strengths.

Delery and Doty (1996) contended that corporate strategies require the adoption of different HR practices. Greater congruence between HR strategies and business strategies leads to superior performance. The authors studied various SHRM practices affecting organizational performance, the employee relations climate, innovation performance, intellectual capital and organizational commitment (Amami *et al.*, 2016; Bahrami *et al.*, 2013; Chen and Huang, 2009; Delery and Doty, 1996; Jery and Souai, 2014).

Among SHRM practices, staffing, training, participation, performance appraisal and compensation were studied as a set of variables influencing innovation performance and intellectual capital (Bahrami *et al.*, 2013; Chen and Huang, 2009). They were studied in the Tunisian context as determinants of organizational performance and innovation (Amami *et al.*, 2016; Jery and Souai, 2014).

From the HRM perspective, Lengnick-Hall *et al.* (2011) advocated that a set of SHRM practices contribute to the development of organizational resilience. Yet, research on organizational resilience and the aforementioned SHRM practices are scarce. Some studies focus on a single practice, including mentoring, human capital development and talent management (Accra Jaja and Amah, 2014; Aliji Okuwa *et al.*, 2016; Mienipre *et al.*, 2016). Other studies are theoretical or propose abstract models which are difficult to operationalize (Cantoni and Giustiniano, 2015; Ho *et al.*, 2014; Lengnick-Hall *et al.*, 2011). Despite limitations, these studies give theoretical and empirical support linking SHRM practices and organizational resilience.

At a theoretical level, Cantoni and Giustiniano (2015) and Lengnick-Hall *et al.* (2011) declared that SHRM influences individual attitudes and behaviors. When aggregated at the organizational level, it creates a capacity for resilience. SHRM affects the acquirement and development of desired employee outcomes through management development, training, recruitment and selection of desired human capital. Such SHRM practices play a significant role in the required ability of organizations to be resilient (Ho *et al.*, 2014).

At an empirical level, some authors found significant and positive relationships between organizational resilience and HRM practices:

- Through a case study, Shafer *et al.* (2000) found that HRM practices foster organizational agility when they are consistent with the organization's core values. These practices include staffing policies and practices, training and development programs, performance criteria, selection criteria and approaches to rewarding and recognition. These help to forge a set of core values and a sense of common purpose.
- Accra Jaja and Amah (2014) found a positive correlation between mentoring and organizational resilience. This was measured by organizational learning, adaptive capacity and dynamic capabilities.
- Aliji Okuwa *et al.* (2016) found a positive correlation between training, human capital development and organizational resilience operationalized by agility and adaptive capacity.
- Mienipre *et al.* (2016) found a significant correlation between talent management and organization ability to monitor risk and respond to crisis.

Drawing upon the arguments above, three hypotheses were developed:

- H1.* SHRM practices (i.e. staffing, training, compensation, performance appraisal and participation) will have a positive impact on organizational robustness.
- H2.* SHRM practices (i.e. staffing, training, compensation, performance appraisal and participation) will have a positive impact on organizational agility.
- H3.* SHRM practices (i.e. staffing, training, compensation, performance appraisal and participation) will have a positive impact on organizational integrity.

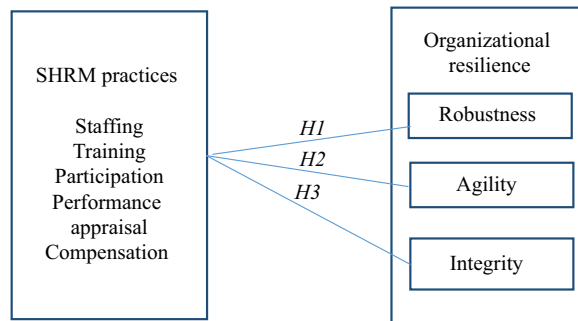
Figure 1 shows these relationships. Each line in the diagram refers to a hypothesis presuming a causal relationship between the constructs.

Research methodology

This section explains how this research is designed to achieve the authors' purpose. The method is then specified by providing information about the sample, techniques to collect data and procedures to analyze data (Saunders and Rojon, 2014).

This research refers to the identification of the potential role of SHRM in enhancing organizational resilience. By explaining the latter through SHRM, managers may find help in controlling the resilience capacity. The literature review showed that theory related to this

Figure 1.
Research model



question does not provide large-scale validated knowledge. Instead, it highlighted pieces of the explanation by studying single SHRM practice effects on resilience.

This study adopted a deductive approach to explain resilience. Partial least squares (PLS) modeling was mobilized. The choice of this method was guided by two arguments. The first argument is related to logical thinking associated with the research purpose and its design. The PLS approach, which is a predictive method, is dedicated to theory building (Fernandes, 2012, p. 110). This is consistent with the authors' purpose and level of theory development surrounding the subject. The second argument, which is more technical, refers to the presence of several dependent and independent variables in the model, the changing nature of the phenomenon being studied, and the limited sample size (Fernandes, 2012, p. 111).

A questionnaire was developed based on established measures for all variables (see Table A1). The study used the organizational resilience scale developed by Kantur and Iseri-Say (2015). This scale uses a three-dimensional structure: robustness (four items); agility (three items); and integrity (two items). A five-point Likert-type scale ranging from 1 (strongly disagree) to 5 (strongly agree) assessed these dimensions.

Based on previous research (Bahrami *et al.*, 2013; Chen and Huang, 2009), the authors adopted five SHRM practices: staffing (three items); training (four items); participation (three items); performance appraisal (three items); and compensation (three items). A five-point Likert-type scale ranging from 1 (very poorly applied practice) to 5 (highly applied practice) ranked the application of these practices in firms.

Data were collected for two periods. The first period, January 2011 to November 2014, addressed the beginning of the revolution. The second period was December 2014 to December 2016. The December 2014 presidential election separated the periods. The election was viewed as an opportunity for Tunisia to meet political, economic and social stability.

The questionnaire was pretested on five chief executive officers who offered recommendations. Top executives (i.e. presidents, vice presidents, directors and general managers) of companies that survived the crisis completed either directly or electronically the final version of the questionnaire (Chaabouni *et al.*, 2015). The same persons responded to the same questions for two different periods. In total, 97 usable questionnaires from diverse sectors were collected. Access to data was difficult given respondents' important positions and the difficult context facing these individuals. According to Zahra (2011, p. 14), "Political instability makes access difficult and increases the challenges associated with conducting longitudinal studies." Characteristics of the studied sample are summarized in Table II.

The studied sample is allocated over several sectors to reflect the way the phenomenon occurs in the whole economic structure. Likewise, the 97 firms are balanced according to size.

XLstat software was used to perform the analyses. First, validity and reliability of the research variables were checked using an exploratory and a confirmatory factor analyses (EFA and CFA). Despite the measures were already validated, the factor analyses were

Table II.
Sample descriptive
statistics

Criteria	Specification	Sample size	Percentage
Field	Wood, printing and packaging	7	7.2
	Textile and clothing	6	6.2
	Finance	8	8.2
	Services	13	13.4
	Building materials	21	21.6
	Food industry	18	18.6
	Chemical	8	8.2
	Diverse	16	16.5
	Size	≤ 50	38
	51-299	37	38.1
	300 and more	22	22.7

necessary since the studied model was developed based on a theoretical insight and the survey is conducted in specific context (Tunisia). Convergent validity was verified through the average variance extracted (AVE) value. Discriminant validity was checked by comparing the AVE for each variable to the squared correlations with the other variables of the model (Fornell and Larcker, 1981). Cronbach's α and Dillon-Goldstein's ρ values were analyzed to check reliability. Harman's one-factor test was also applied to assess the presence of common method biases. This was done because data were collected from a single source.

Second, the explanatory analysis was held. The global assessment of the model was checked based on the goodness of fit (GoF) index. The hypotheses test was performed by analyzing the critical ratio value ($CR > 1.96$) and the regressions values. R^2 values and their evolution across the two periods were also discussed. Finally, regression values were compared and discussed across the two periods.

Results and discussion

Results of descriptive analysis

For both periods and for all variables, KMO index was superior to 0.5; the Bartlett test was significant ($p \leq 0.05$).

EFA showed that all factor loadings for both periods and for all items were more than 0.5. Thus, the unidimensionality of the factors structure was verified. The validity and reliability of the model's variables were tested as shown in Table III.

According to Table III, for both periods and all variables, the AVE value was greater than 0.5. This supported convergent validity. Discriminant validity was also established because the AVE for each variable was greater than the squared correlations with the other variables of the model. Cronbach's α exceeded 0.80 for all variables except for "performance appraisal." Cronbach's α for this variable equaled 0.675 for the first period and

Variables	Variables codification	Cronbach's α		D-G ρ		AVE	
		Period 1	Period 2	Period 1	Period 2	Period 1	Period 2
Robustness	ROB	0.846	0.875	0.897	0.914	0.684	0.726
Agility	AGI	0.794	0.842	0.879	0.905	0.708	0.758
Integrity	INT	0.854	0.863	0.932	0.936	0.873	0.879
Training	TRA	0.870	0.873	0.912	0.914	0.720	0.726
Compensation	COM	0.822	0.818	0.895	0.893	0.738	0.735
Performance appraisal	PAP	0.675	0.792	0.822	0.878	0.606	0.705
Staffing	STA	0.830	0.841	0.899	0.905	0.744	0.757
Participation	PAR	0.912	0.895	0.945	0.935	0.849	0.827

Table III.
Validity and
reliability tests

0.792 for the second period. These values remained greater than the acceptability limit allowed (Hair *et al.*, 2009). Dillon-Goldstein's ρ values were greater than 0.8 for all variables in both periods. Cronbach's α and Dillon-Goldstein's ρ values confirmed reliability.

This research, which was conducted using same-source data, may lead to common method bias concerns. Given that common method biases are detected if a factor analysis shows a single factor or if one factor accounts for most of the covariance among measures, a factor analysis of all the study measurement items for each period was held (Podsakoff *et al.*, 2003). EFA factor analysis for the first period showed six factors with eigenvalues greater than 1 representing 71.425 percent of the variance. The first factor explained 37.64 percent of the total variance. Factor analysis for the second period revealed five factors with eigenvalues more than 1 representing 71.076 percent of the variance. The first factor explained 41.845 percent of the total variance. Therefore, factor analysis showed that for both periods no single background factor was present. This supported data validity.

Results of explanatory analysis

Validity and reliability tests being satisfactory, PLS method was applied for both periods. This resulted in a structural model for each period as shown in Figures 2 and 3.

The GoF index for Period 1 is 0.785 and 0.776 for Period 2. These values allow for model global validation. Tables IV–VI present critical ratios and regression values for each regression link presented in Figures 1 and 2. These tables show that all the links are significant at the level of 5 percent. They also show that all regression values are positive. The following section discusses how SHRM practices impact each resilience dimension.

Effects of SHRM practices on robustness. Table IV shows that all SHRM practices significantly influence robustness at the level of 5 percent. For both periods, critical ratio was greater than 1.96. The regression values were positive. This supports *H1*.

Despite these significant relations, R^2 of robustness was weak for both periods (0.124 for Period 1 and 0.199 for Period 2). This shows that robustness was weakly influenced by SHRM practices. Indeed, SHRM practices enhanced the firms' resistance capacity. Yet it appears to be insufficient. Other factors influenced this capacity.

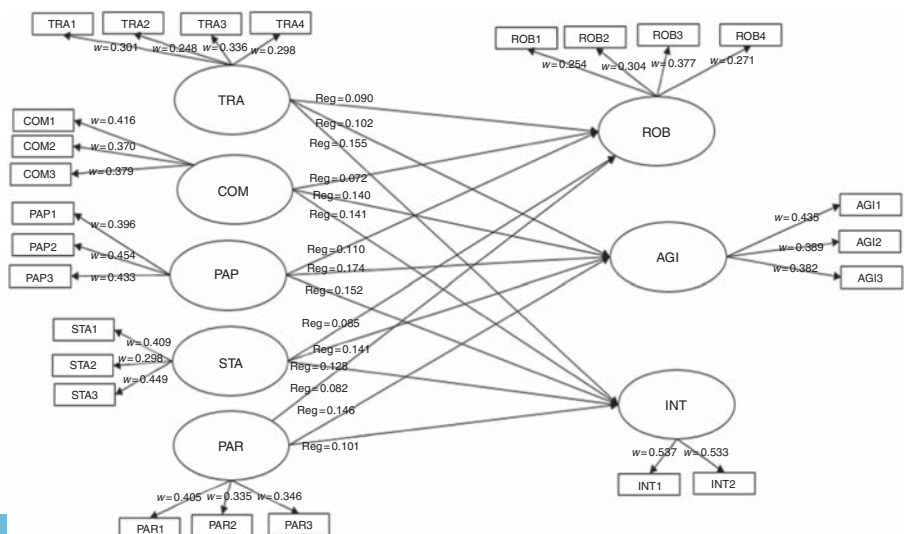


Figure 2.
Period 1 model

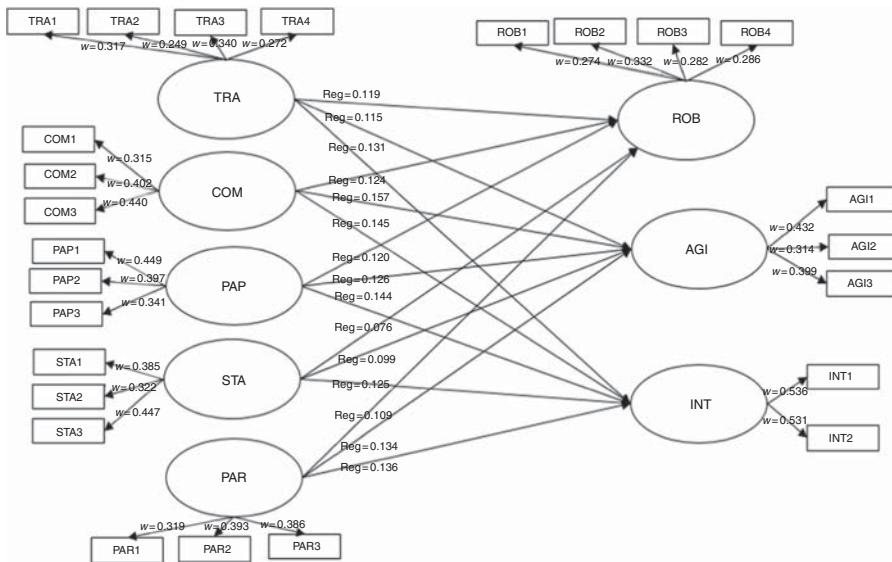


Figure 3. Period 2 model

Latent variables	Values		Critical ratio (CR)		Lower bound (95%)		Upper bound (95%)	
	Period 1	Period 2	Period 1	Period 2	Period 1	Period 2	Period 1	Period 2
Training	0.090	0.119	2.895	4.265	0.048	0.059	0.188	0.180
Compensation	0.072	0.124	2.860	4.903	0.023	0.088	0.129	0.187
Performance appraisal	0.110	0.120	4.270	5.300	0.071	0.073	0.184	0.176
Staffing	0.085	0.076	3.097	2.974	0.030	0.026	0.149	0.124
Participation	0.082	0.109	3.013	4.608	0.025	0.065	0.137	0.160

Table IV. Effects of SHRM practices on robustness

Latent variables	Values		Critical ratio (CR)		Lower bound (95%)		Upper bound (95%)	
	Period 1	Period 2	Period 1	Period 2	Period 1	Period 2	Period 1	Period 2
Training	0.102	0.115	3.768	4.460	0.048	0.062	0.163	0.166
Compensation	0.140	0.157	6.218	6.374	0.094	0.110	0.188	0.221
Performance appraisal	0.174	0.126	6.714	5.945	0.122	0.098	0.228	0.181
Staffing	0.141	0.099	5.461	3.986	0.082	0.056	0.196	0.153
Participation	0.146	0.134	6.159	6.090	0.100	0.087	0.214	0.178

Table V. Effects of SHRM practices on agility

Latent variables	Values		Critical ratio (CR)		Lower bound (95%)		Upper bound (95%)	
	Period 1	Period 2	Period 1	Period 2	Period 1	Period 2	Period 1	Period 2
Training	0.155	0.131	6.775	5.290	0.112	0.073	0.215	0.184
Compensation	0.141	0.145	5.647	6.910	0.080	0.107	0.190	0.190
Performance appraisal	0.152	0.144	5.538	6.458	0.104	0.102	0.234	0.193
Staffing	0.128	0.125	5.275	4.804	0.084	0.068	0.189	0.174
Participation	0.101	0.136	3.802	5.321	0.052	0.074	0.161	0.187

Table VI. Effects of SHRM practices on integrity

While studying the resistance capacity of Tunisian firms in the revolution context, Chaabouni *et al.* (2015) explained that firms managed to keep working thanks to HR practices. Chaabouni *et al.* (2015) also noticed that firms, especially in Libya, needed financial solutions when faced with hard issues such as late payment by customers, difficulties obtaining credit from banks and activity disruption. Mzid (2015) supported this idea by arguing that several forms of resilience can be developed through different types of mobilized capital. According to Mzid (2015), financial capital can allow for losses absorption or investments due to strategic changes. Therefore, SHRM practices in the context of robustness may not be central. However, these practices can enhance resistance capacity.

Table IV shows that regression values increase from Period 1 to Period 2 for all variables except staffing. Instead, the staffing value decreases. These values mean that SHRM practices have more influence on robustness in Period 2. During Period 2, companies may be suffering from the duration of the crisis. As companies pull from cash reserves in Period 1, financial capital may become exhausted in Period 2. However, the opposite may occur for human capital. A company's problems and resolutions may strengthen human capital, which makes the company more powerful as it faces future problems (Chaabouni *et al.*, 2015). For these reasons, SHRM practices have more effects on robustness in Period 2.

Another explanation is related to learning effects in Period 2. Learning from a first crisis may affect HRM practices (i.e. rewards, new evaluation grids, employee motivation, new payment system). It can help companies face an upcoming crisis and generate financial profits (Marouane and Chtourou, 2015).

Effects of SHRM practices on agility. Table V shows that critical ratio was greater than 1.96 for both periods. This means that all SHRM practices significantly influenced agility at the level of 5 percent. In addition, all the regression values were positive. Therefore, *H2* was supported.

R^2 of agility was approximately 0.323 for Period 1 and 0.266 for Period 2. SHRM enhancement makes companies able to react quickly. This result corroborates with the findings of Shafer *et al.* (2000), who argued that appropriate HRM programs, policies and practices achieve contextual clarity. This embeds core values, enriches work, promotes personal growth and provides commensurate returns. In the end, this may enhance an organization's agility. Employees benefiting from appropriate HRM practices "are potentially well positioned to exercise initiative, rapidly redeploy, spontaneously collaborate, innovate, and learn" (Dyer and Shafer 1998, p. 19).

Regression values decreased for performance appraisal (27.58 percent), staffing (29.78 percent) and participation (10.27 percent), from Period 1 to Period 2. They increased for training (12.74 percent), and compensation (12.14 percent). Through training and compensation, employees can react quickly to problems especially in the second period. With adequate training, employees are equipped with skills to make choices without management instruction. Therefore, these employees can react rapidly to resolve problems and formulate responses to a changing environment (Azadeh and Zarrin, 2016). In difficult times, HR and learning capabilities are strengthened, which makes HRM actions more influential (Chaabouni *et al.*, 2015; Marouane and Chtourou, 2015). Organizations, in turn, are resilient due to performance management and training through agility and adaptive capacity (Aliji Okuwa *et al.*, 2016).

Performance appraisal effect is weakened in Period 2. In this period, the crisis was sluggish, which made it more difficult for employees to perform. Evaluation was less stimulating; employees thought twice before acting. These weakened its effect on agility. The same tendency was noticed for staffing. In Period 1, careful hiring provided adequate capabilities to enhance agility. In Period 2, this helped in the reactivity to problems. However, the pace differed due to the accumulation of problems.

Effects of SHRM practices on integrity. R^2 of integrity was approximately 0.293 for Period 1 and 0.308 for Period 2. This showed that SHRM practices influenced integrity. As shown in Table VI for both periods, critical ratio exceeded 1.96, which revealed that all

SHRM practices significantly influenced integrity. In addition, the regression values were positive. Therefore, *H3* was supported.

This result may be explained mainly by perceptions. The involvement of top management in SHRM caused employees to perceive interest and commitment. Whitener (2001) explained that employees “reciprocate their perceptions accordingly in their own commitment to the organization.”

Three types of evolution were identified after comparing the influence of SHRM practices on integrity during the two periods. A first group of practices included compensation, performance appraisal and staffing. Its influence remained stable. Compensation and performance appraisal practices focused on motivation as they enhanced employee involvement and union in all situations. Attributing premiums and bonuses led employees to become more creative and involved in the work. The firm efforts to establish a fair and objective assessment system helped employees act positively and adhere to organizational goals (Jery and Souai, 2014). Staffing, which is a skill-oriented activity, saw a stable impact on integrity. In a crisis period, staffing was nearly blocked in most Tunisian companies (Mzid, 2015). Despite its positive effect on integrity, employees were more likely to focus on the job than on the selection procedures (Whitener, 2001).

The second group of practices included training. This influence decreased in Period 2. Like staffing, training is a skill-oriented activity. The improvement of skills does not have a substantial effect on an employee’s union and commitment. Integrity appeared less related to skill-oriented SHRM practices during a persistent crisis. Motivational HRM practices enhanced more integrity. According to Whitener (2001), organizations that offer less comprehensive training opportunities have an increase in perceived organizational support and trust. In turn, employee commitment gets stronger.

Finally, participation effect increases substantially in Period 2 (34.65 percent). As the crisis passes, employees feel more unified and engaged with the company due to participation (Jery and Souai, 2014). Involving employees in the decision-making process is a practice to strengthen the sense of belonging to an organization (Jery and Souai, 2014).

Results show that the five SHRM practices affect resilience dimensions. The three hypotheses are supported. Although results varied according to the resilience dimension, they corroborated with literature. As noticed by Lengnick-Hall *et al.* (2011) and Ho *et al.* (2014), organizational resilience was dependent on human capital and managerial practices applied to HRM. Staffing, training, compensation, participation and performance appraisal were important in the development of an organization’s required abilities to prepare, cope and adapt to change. These empirical findings illustrate the need to carefully manage HR in response to dynamic and disruptive environmental change.

Conclusion, implications and limitations

This study investigated the relationship between SHRM practices and organizational resilience in the Tunisian democratic transition context. A literature review identified five SHRM practices influencing three dimensions of organizational resilience. A quantitative method was adopted to verify these relations. This choice was led by the need to move to theory building given the weaknesses of theory development on the subject (Lengnick-Hall *et al.*, 2011; Ho *et al.*, 2014).

Results showed that SHRM practices impacted the resilience dimension. Nevertheless, these results are balanced according to resilience dimensions, SHRM practices and periods. SHRM practices enhanced firms’ robustness. However, they appeared to be insufficient. Other solutions, such as financial, must be included. SHRM practices heavily impacted robustness in Period 2. However, agility was more influenced by SHRM practices than robustness. The effect of training and compensation on agility was strengthened in the second period unlike performance appraisal, staffing and participation effects. SHRM

practices significantly influenced integrity because these actions made employees recognize and reciprocate top management's commitment to the company and staff (Whitener, 2001). The evolution of this effect in Period 2 was balanced according to the SHRM practice.

This research has both theoretical and managerial contributions. At the theoretical level, it is a rare study that quantitatively investigates the link between SHRM practices and organizational resilience. By using quantitative methods and longitudinal data analysis, results show that SHRM practices positively influence organizational resilience dimensions. In addition, the effects evolve differently over time. The findings of this study fill gaps in the literature that lack empirical examination of the relationships between SHRM practices and organizational resilience. The study provides validation to the measurement scale of organizational resilience as developed by Kantur and Iseri-Say (2015). It builds theory surrounding such relationships.

At a managerial level, this study exposes how each SHRM practice behaves in relation to each resilience dimension over time. It makes it possible for managers who evolve in uncertain environments to develop targeted actions and make HRM decisions to enhance a specific resilience dimension. The findings highlight the role of SHRM practices in the improvement of organizational resilience.

The results prove that SHRM practices (i.e. staffing, employee participation, performance appraisal, training, and compensation) positively influence firms' resilience. Those practices appear to form an integrated set. They can be used to establish HR strategies oriented to enhance resilience.

A better understanding of SHRM's role in creating a capacity for resilience offers a new way to explain why some firms outperform others. SHRM facilitates integrity, robustness and agility, which contribute to performance. This is an important implication in the current study's findings. If managers want to improve their firm's resilience and survive in the turbulent context, the authors recommend that they create a culture of strategic thinking in their HRM departments to facilitate implementation of SHRM systems.

However, some limitations were noted. First, literature is silent concerning specific effects of SHRM practices on each resilience dimension. This makes a hypothesis development aggregated. Second, data were collected from a convenience sample of 97 firms. The convenience nature of the sample, as well as its reduced size, limited results generalization. The studied relationships may be tested with a larger sample and in other contexts in future research. Third, this study focused on the direct linkage between SHRM practices and organizational resilience. As some authors highlighted the linkage between SHRM practices and variables such as innovation or organizational performance, future research can enrich the analysis by involving these variables.

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Appendix

	Items	
<i>SHRM practices</i>		
Training	Availability of formal training activities Availability of comprehensive training policies and programs Availability of training for new hires Availability of training for problem-solving ability	
Compensation	Profit sharing Incentive pay Links between performance and reward	
Performance appraisal	Developmental focus Results-based appraisal Behavior-based appraisal	
Staffing	Selective hiring Selection for expertise and skills Selection for future potential	
Participation	Employees make decisions Employees suggest improvements Employees' voices valued by the organization	
<i>Organizational resilience dimensions</i>		
Robustness	Stands straight and preserves position Generates diverse solutions Resists loss Continues path	
Agility	Takes rapid action Develops alternatives to benefit from negative circumstances Takes required action in an agile manner	
Integrity	Engages all employees in required work Acts as a whole	

Table AI.
SHRM practices and
organizational
resilience dimension
measures

Corresponding author

Zouhour Smaoui Hachicha can be contacted at: zouhour.hachicha@laposte.net

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