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The Role of Human Resource System on Crisis Resolve

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***Abstract*—**Within the new world order, the term "crisis" is nowadays familiar to companies. Organizations are experiencing conditions which are surprising, uncertain, often adverse and usually unstable. The companies, who grasp the importance of transformation within the information age, have felt the need to develop modern methods to achieve the ability to thrive despite severe shocks. Through strategically managing human resource and developing appropriate elements of human resource system, companies can be assured for resolving the crisis. In this paper the role of HR system on resolving crisis has been evaluated. To help accomplish this, an insight on previous strategic HRM literature and an introduction to the elements and relationship within HR systems has been presented. It also reviews different attitude around resilience in literature. It continues by reviewing three elements central to developing an organization's capacity for crisis resolving and it will demonstrate how designing proper elements of HR system can lead the organizations to possess the ability for passing through crisis. Finally it will evaluate an Iranian Insurance organization in case of one of the three central elements (specific cognitive ability) and observe how successful they were on developing an effective HR system to be ready for facing crisis.

***Keywords*—**Crisis, HR System, Resilience, Strategic Human Resource Management.

I. Introduction

TODAY an important subject in world economies is the changing and uncertain environment that has an enormous effect on it [1]. In fast changing, turbulent, surprising, continuously evolving environments only flexible, agile and relentlessly dynamic organizations will thrive [2]. These organizations are well-aware of importance of strategic management of factors such as Total Quality Management TQM, Research and Development R&D, innovation, and well-designed human resource systems. Among these factors, designing HR system perhaps is the most important for creating resilience in organizations. Firms must be familiar with the dimensions of HR system and should understand the importance of measures in different levels of HR system to achieve the ability to be resilient in case of a crisis. In the following section a review will be discussed on the literature of HR system in which researchers have generally focused on the firm's HR system, rather than individual HR practices [3]-[4]. Then the important role that human resource management plays in both developing and using a firm's capacity for resilience is exposed. The model and guidelines that are presented in this paper will be employed to end the research with a real world case study.

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II. HR System

Individual HR practices do not function in isolation but work conjointly and employees are exposed to multiple practices simultaneously. Therefore HRM researchers focus on the bundles of HR practices intended to achieve the objective of organization [5]. They also believe that an HR system is not merely a composition of HR practices but a dynamic bundle of HR practices that is deliberately designed to achieve the organization's goal. Given this, researchers have taken a system perspective to examine the impact of HRM on relevant outcomes [3]. Considering this perspective, researchers argued about the relationship between components of HR system besides defining the components.

A. HR System Components and Relationships

Although general agreements exist on the importance of HR systems, a precise meaning and consistent definition on this construct has remained elusive. Different definitions are proposed by researchers in which various components are introduced. The common agreement on the proposed structures is the multiple hierarchical arrangements of components (e.g. [6]-[11]). This paper exploits the definition proposed by Arthur & Boyles [12], who defined five components of the HR system structure: HR principles, policies, programs, practices and climate. Definitions and representative studies illustrating these components are listed in Table I.

The most abstract component in HR system is HR principles. This component is similar to what Becker &

TABLE I
INTRODUCTION OF HR SYSTEM COMPONENT AND REPRESENTATIVE STUDIES

HR System Component	Representative studies
HR principles: stated values, beliefs and norms regarding what drives employee performance and how organizational resources and rewards should be allocated	Dennison (1990) McGregor (1960) Miles (1975) O'Reilly and Pfeffer (2000)
HR policies: organizational goals or objectives for managing human resources	Lepak and Snell (1999) Osterman (1988) Ouchi (1980) Walton (1985) Arthur (1994)
HR programs: the set of formal HR activities used in the organization	Delery and Doty (1996) Guthrie (2001) Huselid (1995)
HR practices: the implementation and experience of an organization's HR programs by lower-level managers and employees	Marsden, Kalleberg, and Cook (1996) Wright, Dunford et al. (2001) Wright, Gardner et al. (2001) Wright, McMahan et al. (2001)
HR climate: shared employee perceptions and interpretations of the meaning of HR principles, policies and programs in their organization	Bowen and Ostroff (2004) Collins and Smith (2006) Gelade and Ivery (2003) Riordan, Vandenberg, and Richardson (2005)

Gerhart [13] labeled as the "HR system architecture". It refers to stated values, beliefs, and norms regarding what drives employee performance and how organizational resources and rewards should be allocated.

At the lower level of abstraction are the HR policies which refer to organizational goals and objectives for managing human resources and incorporate the relative emphasis, firms place on program choices in areas such as staffing, training, rewards, and job design [14]. Expanding in this component, Jiang & Lepak, [15] has aggregated this component with the next level component-HR Programs- and divided HR policies into three main categories named KSAs HR domain (knowledge, skill and ability), motivation & effort HR domain, and opportunities to contribute HR domains. They showed each domain consist of a group of polices. Table II shows the configuration of their model.

TABLE II
HR POLICY DOMAINS

Policy Domains	Group of Policies
KSAs HR domain	1) recruitment policies 2) selection policies 3) training policies
Motivation & effort HR domain	1) performance management policies 2) compensation policies 3) incentive and 4) rewards policies
Opportunities to contribute HR domains	1) job design policies 2) involvement policies

Jiang & Lepak, [15], defined the possible types of relationship between group of policies as additive, substitutive, and synergistic relationships. They declared three basic propositions about these relationships based on their empirical studies:

Proposition 1: Within an HR system, the three HR policy domains of KSAs, motivation and effort, and opportunities to contribute have synergistic effects on employee performance.

Proposition 2: HR policies within an HR policy domain have synergistic effects on the respective element of employee performance when the goals of HR policies are interdependent; otherwise, their effects are additive.

Proposition 3: HR practices within an HR policy have additive effects or substitutive effects on the goal of the HR policy when the goals of HR practices are non-overlapping; otherwise, their effects are substitutive.

In contrast with what Jiang & Lepak, [15], did as aggregation of policies and programs in HR systems, this paper referral model, has HR programs as the next level of framework of HR system. HR programs refer to the set of formal HR activities used in the organization.

The HR practices in addition to formal HR programs are defined as the implementation and experience of an organization's HR programs by lower-level managers and employees. The HR practice component in this paper framework captures the potential for variation in employees' perceptions and experiences of an HR program based on the quality of the HR program implementation.

The last component of HR system within this paper framework is the HR climate which is identified as shared employee perceptions and interpretations of the meaning of the HR principles, policies, programs, and practices in their firm and is consistent with the more general definitions of organizational climate [16]-[17]. Using a similar definition, Bowen and Ostroff [18] developed the concept of the "strength of HR system" which they define as the strength of shared employee perceptions and interpretations of behaviors that are expected and rewarded.

In the following section a discussion has been presented on how HR systems can empower firms in case of facing crisis and shocks and a comprehensive model for this mean has been proposed.

B. HR Elements Measurement

Another crucial issue in HR system theories is the methods of measurement for each component. In this section a review has been made on the guidelines for researchers to use in determining who in the organization should be enquired to provide the data on various HR system structure components. This guideline has been exploited in this paper to assess organizational resilience based on a specific model which is introduced in next section.

Clearly defining the proposed source level of the HR construct under assessment is the first step to determining whom to ask.

The HR component can be divided into two major levels, organizational level and individual level. Organizational level component consists of HR principles, HR policies, and HR programs. In theory, one could obtain data on these constructs through direct observation or archival records. Employment manuals or labor union contracts, for example, it might contain information on HR programs or policies used throughout the firm. Likewise, company records could be used to obtain information directly on the number of hours of training received by employees or average pay and benefit levels. In practice, such objective data is rarely directly accessible to organizational researchers. Instead researchers must rely on reports by key informants [19]. The most important factor affecting the appropriateness of a single-informant design is the component of the HR system structure that the researcher seeks to assess in the study. It clearly would not be appropriate for researchers to assess HR practices (as already defined in this paper) or HR climate using a single-respondent design [12].

The second level is individual level which consists of HR practices and HR climate. To be aware of HR practices and HR climate it is appropriate to use multiple-responder method. A successful implementation of strong HR policy and programs is reflected in individual's perception. Therefore the strength of HR system in case of policy and practices can be measured by a survey in the individual level.

In this paper an insurance company's HR policies and principles has been assessed. To achieve this, the key informants of the organization were questioned on the specific items. In addition to measure strength of these policies and

principles, individuals were asked to provide their perception which can be categorized as HR practice and HR climate of organization.

III. Organizational Resilience

In the previous section the concept of HR system was elaborated and defined. In the following section an outline has been identified on the literature of resilience and fundamentals in designing HR system components in order to possess organizational resilience in confronting crisis.

A. Definitions of Organizational Resilience

The definition of organizational resilience is categorized into two different perspectives. Similar to definitions of resilience in the physical sciences in which a material is resilient if it is able to regain its original shape and characteristics after being stretched or pounded, some see organizational resilience as simply an ability to rebound from unexpected, stressful, adverse situations and to pick up where they left off [20]-[28].

Seizing new opportunities is the key point of second perspective of organizational resilience. The researchers who support second perspective look beyond restoration to include the development of new capabilities and an expanded ability to keep pace with and even create new opportunities [29]-[36].

The efforts in this paper are based on a second definition of resilience. It shows how designing a HR system can affect an organizational capacity for resilience.

B. Central Factors for Resilience

Until recently much of the work related to the concept of resilience and readiness of organizations in facing uncertain and shocking situation has been in the field of psychology. Those literatures look at organizational resilience as the result of individual's resilience within the organization.

Considering the typical interaction between systems and subsystems, Organization-level capabilities are not just additive composites of individual capabilities [37]. Both the actions of individuals and the interaction effects matter [38].

In this paper, the work of Lengnick-Hall and Beck, [35] and [39], who suggest that an organization's capacity for developing resilience is derived from 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 and Beck, [34] and [35], argue that a capacity for resilience is developed from a unique blend of organization-level cognitive, behavioral, and contextual capabilities and routines. These organizational capabilities and routines, in turn, are derived from a combination of individual level knowledge, skills, abilities and other attributes (KSAOs) that are systematically developed and integrated through a firm's human resource management system.

The definition of each three elements of cognitive, behavioral, and contextual is not aim of this paper as Lengnick-Hall and Beck [2] have elaborated the concept and presented each element's categories. What this paper aims to propose is a model that enables organizations to improve these elements through HR system and as a result the overall capacity for resilience would be developed. Therefore it reviews the ways of improvement of three central elements. In the case study section, an evaluation has been made in an insurance organization in case of cognitive elements which is the first central factors for resilience.

The model presented by Lengnick-Hall [40] suggests that to achieve organizational capacity for resilience, firms need to set HR policies which led to HR programs and practices. HR policies themselves are originated from to sets of component. The first is HR Principles, which was discussed in previous sections that, is known as the origin of HR policies in HR system. The second component is Desired Employee Contribution. It refers to what firms expect their employee to do in the case of crisis. The organization must be aware of a set of desired employee contributions to improve each of three elements of cognitive, behavioral, and contextual. The model is depicted in Fig. 1.

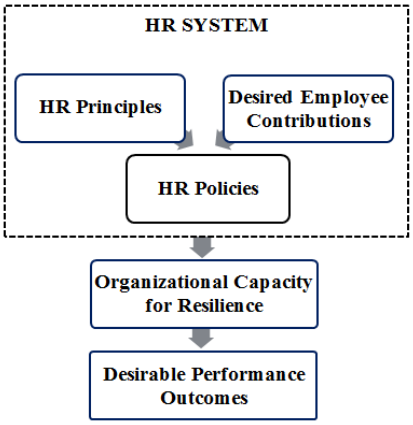


Fig. 1 Strategic human resource management system in developing a capacity for organizational resilience

Subsequently, desired employee contributions associated with resilience is identified, followed by HR principles, and then representative HR policies (see Table III). Desired employee contributions are not focused on the implementation of a set of specific strategic objectives, but instead are more broadly focused on developing component capabilities (e.g., cognitive, behavioral, and contextual elements that support resilience) and interaction patterns, so that an organization can exploit shocks and jolts rather than merely survive and rebound to a prior equilibrium state [2].

Table III is a general model for organizations. It illustrates how a firm can develop its capacity against crises by working on HR system component. Each dimension needs specific employee contributions and by setting appropriate principles following by policies. To design a proper HR system, each firm needs to exploit this model and identify the policies that must be set in order to achieve desired employee contribution.

The evaluation of organization in case of their readiness for crisis also follows this guideline. As discussed in section 2.B recommendations about of HR systems measurement, a firm's

resilience capacity can be measured through three mentioned dimensions, considering the most appropriate type of data gathering.

IV. Research and Methodology

In the following section based on the previously discussed model (Table III), a case study is conducted to evaluate the first dimension of the model, cognitive dimension.

The chosen company for the case study is an insurance company in Iran with more than 500 employees.

The statistical population is consisting of a random selection of employees (named as "Experts") and managers (in various levels) as key informants. Totally 52 questionnaire were filled by respondents, that focused on answering some key questions raised in this research.

The first section of the survey aimed to identify the nature of the jobs in the organization. The level of crisis faced in the jobs in this firm. The answer to these questions would support the validity of the survey conducted in this paper. If the employees were not actually facing uncertainty within their job, it was not valid to look for organizational resilience.

Second issue was the evaluation of policy and adjusting them to the model presented in Table III in the case of cognitive dimension. The best way to attain this was asking key informants about organizational policies and programs. This part of the survey intended to understand the readiness of organization to face crisis to the extent of cognitive dimension.

The third issue to uncover was the strength of the HR system. As discussed in previous sections, to investigate the strength of an organization HR system, one could compare key informants answers with what are the employees perception on organizational programs and policies, any notable difference in answers could suggest that the HR system has not been successfully communicated and implemented.

In addition, some other issues such as the employees attitude toward crisis were examined in the survey that the

TABLE III
Related Contribution, Principles and Policies to Each Resilience Dimension [40]

Dimension of organizational resilience	Desired employee Contributions	HR principles	HR policies
Cognitive Dimension	• Expertise • Opportunism • Creativity • Decisiveness despite uncertainty • Questioning fundamental assumptions • Conceptualizing solutions that are • novel and appropriate	• Develop a partnership orientation with employees. • Localize decision making power. • Create fluid team-based work and job design. • Build relational rather than transactional relationships with employees. • Minimize rules and procedures. • Hire to ensure a range of different experiences, perspectives, paradigms, and competencies are available in the workforce. • Place a high value on pluralism and individual differences • Invest in human capital. • Use both formal and informal social integration mechanisms.	• Selective staffing • Job security • Cross-functional work • assignments • Broad recruiting sources • Continuous developmental opportunities • Teamwork • Group-based incentives • Continuous socialization
Behavioral Dimension	• Devising unconventional, yet robust responses to unprecedented challenges. • Combining originality and initiative to capitalize on an immediate situation. • Sometimes following a dramatically different course of action from that which is the norm for the organization • Practicing repetitive, over-learned routines that provide the first response to any unexpected threat. • Taking actions and making investments before they are needed to ensure that an organization is able to benefit from situations that emerge.	• Develop a culture of organizational ambidexterity. • Create a climate of open communication and collaboration. • Encourage problem solving processes tied to organizational learning. • Encourage knowledge sharing. • Enable rapid deployment of human resources. • Emphasize worker flexibility. • Encourage individual hardiness. • Encourage reflective practices • Eliminate organizational borders.	• Experimentation (freedom to fail) • After action reviews/Lessons learned • Open architecture • Human resource and coordination flexibility • Fitness/wellness • Broad job descriptions • Employee suggestions • Cross-departmental task forces
Contextual Dimension	• Developing interpersonal connections and resource supply lines that lead to the ability to act quickly • Sharing information and knowledge Widely • Sharing power and accountability	• Encourage social interactions both inside and outside the organization • Nurture a climate of reciprocal trust and interdependence. • Develop facilitative communication structures. • Develop self-management and self-leadership capabilities. • Emphasize contributions and outcomes rather than tasks. • Encourage an organizational orientation. • Reinforce organizational citizenship, personal accountability, and power based on expertise rather than hierarchical position.	• Joint employee–customer teams and networks • Empowerment • Open communication • Results-based appraisals • User-friendly, accessible, integrated information systems

results are not directly related in the scope of this research and will be used in future research papers.

Before starting the analysis on the results, the role of respondents has been illustrated in Fig. 2. As shown in the pie chart. More than 70% of respondent were employees labeled "Experts" and about 20% were key informants consisting of managers and supervisors.

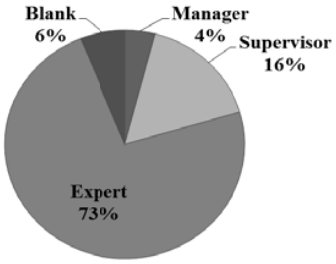


Fig. 2 Roles of respondents

Considering the answers on job natures, there is a significant difference between what managers and employees perceive from their organizational environment in case of facing crisis. 56% of employees believed that they are working in an environment with low level of crisis. Around 35% had mentioned medium level and around 9% mentioned high level of crisis. Overall it can be said that the work environment is not facing frequent crisis from employees' perspective (See Table IV).

In contrast, more than 70% of managers believed that they are facing high level of crisis in their work and the organizational environment is bursting by crisis.

The results suggest that although there are crisis in this organizations but few employees are involved with crisis in terms of resolving. The organization has planned to resolve crisis in the level of managers and don't have specific programs to resolve crisis through HR system.

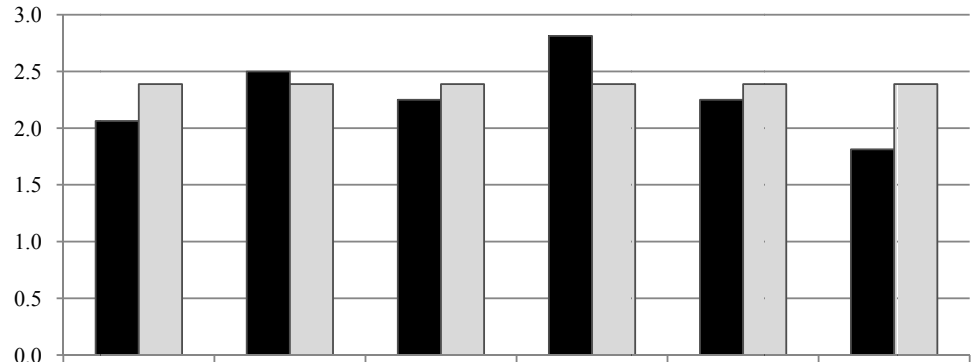
TABLE IV
CRISIS LEVEL IN CURRENT JOB

Level	Managers	Employees
Very High	0%	0%
High	33%	9%
Medium	67%	35%
Low	0%	50%
Very Low	0%	6%

The second investigated issue is cognitive dimension of resilience, as illustrated on the guideline in Table III. Managers and employees were questioned on HR policies that supports cognitive dimension of resilience. It queried regarding selective staffing, job security, broad recruiting sources, continuous developmental opportunities, teamwork, and group-based incentives. The referral result for effectiveness of HR system through cognitive dimension of resilience could be achieved by enquiring the managers as key informants. However, other employees were also questioned to consider the strength of HR system by criterion of shared vision on HR policies.

In Fig.3 the six policies has been illustrated respectively. Each respondent chose a mark of 1 to 5 for each of the six policies by considering what they perceived as well implemented HR policy in the organization (very low=1, low=2, medium=3, high=4, very high=5). To evaluate the overall system from perspective of cognitive dimension, it has to be investigated what managers mentioned about HR system. It can be inferred from the diagram, that the managers chose an average of 2.3 for all six policies. Therefore it can be concluded that the capacity of this organization in facing crisis in the case of cognitive dimension is approximately low level.

Another important fact about Fig.3 is what employees stated displays a very low differences between the six policies. This observation supports the discussions made in previous sections



	Selective Staffing	Job Security	Broad Recruiting Scores	Continuous Developmental Opportunities	Teamwork	Group-based Incentives
■Manager	2.1	2.5	2.3	2.8	2.3	1.8
□Expert	2.4	2.4	2.4	2.4	2.4	2.4

Fig. 3 The evaluation of six HR policies of cognitive dimension of resilience

in evaluating HR policies, which is the best method is using multiple-responder methods in organizational level not individual level.

However the average of evaluation of key informants and employees about HR policies are approximately the same. It suggests that HR strength from shared perception point of view is nearly acceptable in this organization.

To test the strength of shared visions among managers and employee, further investigation is drawn. It questioned their perception of strategic planning in terms of crisis resilience. Both managers and employees had nearly the same vision about their organization strategic planning in the field of readiness for crisis. (Table V)

TABLE V
CONSIDERING CRISIS READINESS IN STRATEGIC PLANNING

Level	Managers	Employees
Very High	0%	3%
High	10%	3%
Medium	30%	38%
Low	40%	41%
Very Low	20%	15%

The result supports previous statement about the shared vision of managers and employees.

The last point investigates on comparing managers and employees in the personal ability of employees in handling crisis. It questioned managers about their employees' ability to resolve crisis. Simultaneously the employees were asked about their own readiness. The answers are depicted in Table VI.

TABLE VI
PERCEPTION OF EMPLOYEE ABILITY IN HANDLING CRISIS

Level	Managers perception on Employees ability	Employees perception on their own ability
Very High	0%	6%
High	9%	32%
Medium	55%	59%
Low	27%	3%
Very Low	9%	0%

There is a significant difference between what employees perceive on their ability and what managers believe about employees' ability in handling the crisis. The reason could be drawn from Table VI. In the analysis it discussed that the crisis facing is not evenly distributed in the organization and the organizational strategy is to resolve crisis in the managerial level. As the manager's perception of employee ability in not high while employee believes that they are capable to resolve crisis.

V. CONCLUSION AND RECOMMENDATIONS

This paper intended to highlight the importance of organizational resilience in facing crisis. It presented that there are different tools for organizations that can empower them in case of resolving a crisis. HR system was introduced as a key component of strategic planning to develop capacity for resilience. Being aware of the components, relationships and methods of evaluation in HR system is needed for organization to move forward in making resilient organizations. The model reviewed in this paper is one of the most recent ones in this literature. The model can both develop and evaluate HR system. A genuine evaluation most covers three dimensions discussed in the model. Since currently there are many crises faced by organizations around the world, such as political, social, financial crisis and globalization challenges, that threaten the economic environment, organizations must fully investigate and evaluate the internal and external environment and develop their strategy based on a model such as the chose model discussed in this paper in order to enhance their ability in facing crises.

The aim of the case study as part of this paper was to evaluate an organization in terms of resilience capacity, which was conducted based on the cognitive dimension of selected model. Assessment based on other dimensions is left for future researches.

The case study results demonstrate lack of consideration to HR system capability for crisis resolve. While the organization strategy is to block the crisis at the managerial level and attempt to resolve crisis, it is equally necessary to involve the employees, therefore the company needs to devise a plan in order to enhance the contribution of employees in resolving crisis. It is recommended for this company to implement such models with their details in order to empower the organization through HR system enabling them to confront crisis.

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