

# Presenting an evaluation model of human resource management's effect on corporate entrepreneurship

Babak Ziyae

*Faculty of Entrepreneurship, University of Tehran, Tehran, Iran*

## Abstract

**Purpose** – The purpose of this paper is to clarify the attention to the elements of human resource strategic management that can promote motivation of employees of knowledge-based institutions for developing corporate entrepreneurship.

**Design/methodology/approach** – This study is considered as an empirical one in terms of objective, and its research methodology is descriptive-correlative type. More specifically, structural equation modeling was used for data analysis.

**Findings** – The findings demonstrate that promotion of skill and knowledge levels of people, as an operational strategy in the development of human resource in knowledge-based institutions, increases the demand for job promotion and enhances employees' motivation in corporate entrepreneurship. On the other hand, organizational culture moderate the relationship between human resource management and corporate entrepreneurship.

**Originality/value** – This paper fulfills an identified need to study the relationship between human resource management and corporate entrepreneurship. The manuscript creates a paradigm for future studies of the evolution of corporate entrepreneurship and human resource management.

**Keywords** Organizational culture, Human resource management, Corporate entrepreneurship, Administrative factors, Empowering, Motivational factors

**Paper type** Research paper

## 1. Introduction

In recent years, increasing interest is given to human resource management. By the end of modernization, today's communities witness an evolved, information-oriented world. By formation of knowledge-based organizations and application of highly skilled workforces, human resource management, *per se*, has turned into a new challenge in the field of strategic management. Currently, with the expansion of literature in the area of strategic development, it is taken as the most important factor in the growth and development of every organization. Knowledge-based organizations, such as professional service firms, automatically tend to hire highly skilled and knowledgeable individuals. Those firms produce, distribute, and use knowledge and information as their competitive advantage. They look at their human resource as the main factor and driver of the corporate entrepreneurship. Knowledge-based institutions require high performance work systems that are able to produce plenty of competitive advantages, economically and statistically (Becker and Huselid, 1998; Combs *et al.*, 2006).

The previous studies acknowledge the fact that the company's performance in handling human resource is important in following regards (Becker and Huselid, 1998):

- (1) employment and workforce selection systems in compliance with the firm's approved competitive strategy;



- 
- (2) reward systems that are reflecting successful implementation of the strategy in evaluation of the performance and compensation for the damage caused by employees' negligence; and
  - (3) training and developing performance management systems strategy, in compliance with organization's objectives.

Human  
resource  
management's  
effect

**229**

---

Yet, despite considerable progress in human resource management concepts, some significant challenges have remained unanswered. In addition, application of efficient workforce not only results in creation of new issues in the field of human resource management but also human resource strategic management should provide solutions. Meanwhile, finding out to what extent giving attention to the elements of human resource strategic management can promote motivation of employees of knowledge-based institutions for developing corporate entrepreneurship can contribute to a conceptual model in this regard. A model upon which one can analyze the correlation between effectiveness of investment in human resource and its results with respect to corporate entrepreneurship. In addition, by means of this model one can evaluate the effect of employees' level of motivation and expertise on their productivity, creativity, and arbitrary efforts in the process of corporate entrepreneurship (Scott *et al.*, 2003).

## **2. Literature review**

Several studies have been done in the field of human resource management and corporate entrepreneurship, based on different perspectives. Truss and Gratton (1994) maintain that human resource. Several studies have been done in the field resource management with long and short-term goals to improve the performance of an organization and create organizational culture; thereby creativity and flexibility can be strengthened. In a study, Wrights and McMahan (1992) introduces human resource management as the application of human resource in an organized way to perform those purposive affairs that enable the organization to achieve its ultimate goals. With respect to strategic and stable administration, Scott *et al.* (2003) considers human resource management as the most valuable property of a company, i.e. the employees who individually work together and help the company in achieving its goals. Human resource management can be attributed to the activities that are affecting people's behavior and stimulating them to design and implement strategic needs (Schuler, 1992).

According to Anderson and Huesmann (2003), in parallel to classic definitions, conceptual classification can help us in proposing other definitions for knowledge management-based human capital in theoretical contexts. For example, a theory which takes into consideration the human capital as a predefined potential in an extensive range of conditions for producing tangible and intangible properties (Sveiby, 1997a). Based on this, human resource management can be taken as a method for mobilization of human capitals toward achieving the firm's perspective. According to this definition, human resource management allows the application of strategic capitals to achieve the firm's objectives (Schuler *et al.*, 1996; Flamholtz, 1985).

In contrast, corporate entrepreneurship is a process, in which product, service, or innovative methods are established by creating an entrepreneurial culture in an organization (Fry, 1993). Corporate entrepreneurship can be defined as running a new business in developing corporates in form of internal innovation, joint measures or ownership, modernization of products and processes, and management of innovations (Ergün and Bergeron, 2004).

Entrepreneurial organizations are seeking to answer following questions:

- (1) What are opportunity creating resources?
- (2) What are the processes of opportunity exploration, evaluation, and exploitation in an organization?
- (3) By who and how are the processes of opportunity exploration, evaluation, and exploitation implemented?

In recent years, strategic human resource management has deeply bonded with corporate entrepreneurship. It may be said that proper application of strategic management elements results in producing required motivation in employees for creating new ideas and manufacturing novel products and services in order to achieve the vision of leading organizations. In contrast, lack of proper response to mental and economic needs of employees encourages them to defect the organization, leading to establishment of individual or corporate entrepreneurship (Barringer and Bluedorn, 1999).

It should be noted that some businesses are more valuable (strategic) than others, and their human workforces possess a high level of expertise and skill. Therefore, establishment of an integrated management system would be the only response to their need in the path of corporate entrepreneurship development. It means that more investment is required for setting strategic rules in the field of human resources. Knowledge-based organizations should make structured decisions with respect to appropriate use of skills and capabilities of their employees to be able to meet their enthusiasm for corporate entrepreneurship, properly (Line, 2012).

### **3. The role of intellectual capitals in the development of corporate entrepreneurship**

Today, employees are taken as the intellectual capitals of every organization and an important competitive factor in corporate entrepreneurship. In addition to physical capitals such as machineries and so like, today's organizations aim to develop their intellectual capitals (Alvesson, 1995; Starbuck, 1992).

Knowledge-based organizations possess several distinctive properties, with respect to human workforce. This difference is obvious in their functionality, since using specialized, intelligent methods, which are designed on the basis of individuals' inherent strengths, are superior to physical workforce and traditional way of business (Kärreman *et al.*, 2002). For example, there are employees in the knowledge-based companies who solve complicated issues by incorporating high level of creativity and innovations into the processes (Sveiby and Risling, 1986). Furthermore, knowledge-based companies provide incredible solutions to the problems of their customers by using the knowledge of their employees (Ditillo, 2004).

Today, the concept of intellectual capital has been investigated extensively and is taken as an important part of an organization's capital in the field of human resources. Some experts refer to intellectual capitals as a multidimensional concept that includes human capital, structural capital, and relational capital (Okoye *et al.*, 2015). Human capital can be considered as a predefined capacity in a wide range of conditions for generation of tangible and intangible properties. Structural capital can be referred to as patents, concepts, models, mechanization, and administrative systems developed in a firm. Relational capital can be evaluated based on the extent of relationship between the firm, customers, and suppliers (Sveiby, 1997b).

---

#### 4. The dimensions of human resource management

In this study, the key activities of strategic human resource management are used as independent variables and the elements of corporate entrepreneurship are regarded as dependent variables for preparation of questionnaires and analysis of the obtained data. Independence variables are (Armstrong, 2005).

##### 4.1 *Structure of the organization*

Managerial structure of knowledge-based organizations is organic. It is a planar structure comprised of multiple informal grids. Leading organizations are designed in a way to be compatible with key uncontrolled resources, be flexible, and provide an environment where employees are free to explore and create opportunity. An entrepreneur organization creates a working environment full of ideas, while a bureaucratic organization is just concerned with corporate resources related ideas. Sometimes, the latter may even not consider any idea. Entrepreneurial organizations focus on employees' opportunistic behaviors and consider their ideas with respect to the discovered or created opportunities, seeking the ways for development and growth for long-term economic survivor (Stephen *et al.*, 2005).

##### 4.2 *Development of human resources*

Every organization needs to recruit manpower to grow; therefore, the organization's management must do the necessary planning. The process of recruitment of fresh workforce should be in parallel with development of entrepreneurial activities. It seems that the best time for hiring those who have entrepreneurial characteristics is at the early recruitment because at that time the chance for making good choice is higher. Undertaking personality tests in addition to considering specialty, skills, and career history of applicants can lead to recruitment of those who are able to implement corporate entrepreneurship in line with strategic objectives of the organization.

##### 4.3 *Performance management*

Performance management is an integrated, strategic method begins with planning and setting goals for the organization and employees. After evaluating them by controlling performance indices, it comes up with recommendations for improvement of processes and employees' performance. Perpetuation of this cycle would bring lasting success for an organization to achieve its goals, including corporate entrepreneurship.

##### 4.4 *Controlling and supervising*

The number of rules and regulations and the amount of direct supervising that managers apply in employee's behavior.

##### 4.5 *Training and empowering*

Training is a process based on which a relatively permanent change is occurring at employees' potentiality level in order to improve organization's performance. Based on this, training includes promotion of skill, knowledge, attitude, or behavior of the organization's employees. It is a bridge between employees and their job, through which they not only optimally perform their tasks but also are willing to innovate and create new opportunities in order to improve the product or start a

new process. Training general entrepreneurial skills on the one hand and holding specialized and professional courses on the other hand contribute to organization's goals achievement. Training can occurs on individual or organizational learning basis.

#### *4.6 Reward management*

Designing a reward system for corporate entrepreneurs requires senior manager to be fully aware of employees' mental and financial needs. Corporate entrepreneurs are not willing to fully exchange their monthly pay with a risky reward system. In addition, a clearing reward system is not adequate for entrepreneurs, because they think it as making profit from risky projects. The reward system should be both financial and no-financial. Indeed, non-financial aspect of reward system may be more important to the corporate entrepreneurs.

### **5. Organizational culture**

Organizational culture refers to a system of mutual understanding which the members have about an organization. This feature can leads us to separate the organizations from together. Organizational culture can be defined as a collection of values, believes, assumptions and mutual norms which are governing an organization.

Innocent and Rosli (2015) propose that organizations should consider entrepreneurial culture and tendency to growth as one of the important dimensions of entrepreneurship management. Knowledge-based organizations tend to achieve rapid growth and have institutionalized their entrepreneurship management. They support innovative and creative ideas of their employees, thereby a culture, in which provision of new ideas and following them up are regarded valuable, is established. Opportunity seeking and exploitation are just the beginning. Therefore, a broad range of ideas provided by the employees is worth exploring and taking into consideration (Connolly, 1997).

Team-building is of the important points in the development of organizational culture. To identify individual innovators, managers should organize people to develop entrepreneurial concepts in teams. All of those people are not usually creators of creative and innovative ideas; rather, they may join the support staff. Anyhow, it is essential to identify those who have entrepreneurial tendencies and can work with the system. Team members can be from any part or sector in the organization.

If we consider the culture as a system of mutual understanding of the members toward an organization, one system is made of main features which are valuable and honored by that organization. These features are:

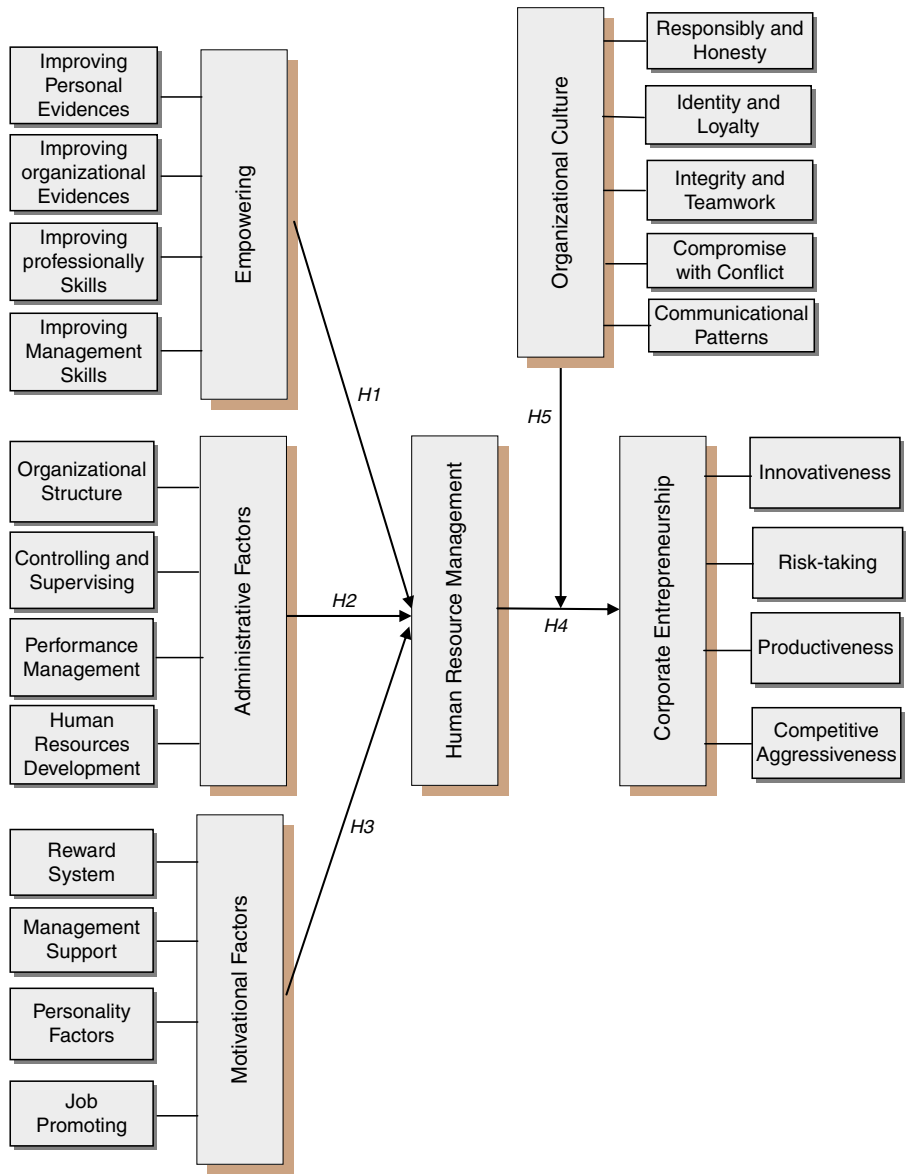
- (1) responsibly and honesty: this is a criterion which evaluates the amount of attention and employees interest toward their tasks;
- (2) identity and loyalty: the degree to which people, representing the entire organization and individuals use the organization to define themselves;
- (3) integrity and the spirit of teamwork: the degree to which units or within the organization co-ordinated approach in order to achieve common goals;
- (4) compromise with conflict: the degree to which people are encouraged to build conflict and received overt criticism; and

- (5) communicational patterns: a factor which evaluate formal and informal communications inside an organization.

Based on the aforementioned discussed literature, the research conceptual model is shown in the Figure 1.

Based on the conceptual framework of this study, the research hypotheses in Table I have been expressed.

Human  
resource  
management's  
effect



**Figure 1.**  
Conceptual model

**Table I.**  
The research  
hypotheses

Index	Hypothesis
<i>H1</i>	There is a significant and positive relationship between empowering and human resource management
<i>H2</i>	There is a significant and positive relationship between administrative factors and human resource management
<i>H3</i>	There is a significant and positive relationship between motivational factors and human resource management
<i>H4</i>	There is a significant and positive relationship between human resource management and corporate entrepreneurship
<i>H5</i>	Organizational culture moderate the relationship between human resource management and corporate entrepreneurship

**6. Research methodology**

This study investigates the effect of human resource management on corporate entrepreneurship with emphasis on moderation of organizational culture, objectives of the present study are an applied investigation and from the way are descriptive-survey. The statistical population includes 185 senior, middle, and operational managers (and staff senior experts) of the General Directorate of Technical and vocational Education of the North Khorasan, Iran and its affiliated educational centers in the public and private sectors; among which 125 persons were selected from managers and experts as research samples, based on Cochran formula:

$$n = \frac{N \times Z\alpha^2/2 \times P(1-P)}{\epsilon^2(N-1) + Z\alpha^2/2 \times P(1-P)} = \frac{185 \times 1.96^2 \times 0.5 \times 0.5}{0.05^2 \times (185-1) + 1.96^2 \times 0.5 \times 0.5} = 125 \quad (1)$$

The human resource management questionnaire is drawn from the research by Barringer and Bluedorn (1999), the organizational culture questionnaire is drawn from the research by Gumpert (1998) and corporate entrepreneurship was assessed by Fox (2005) were used to collect data for this research through five Likert type scale. The content validity of the questionnaire was investigated in connection with the research subject according to the thinking of a number of entrepreneurship professors and studying different sources.

**7. The results and findings**

Descriptive statistics for the samples are shown in Table II.

The structural equation modeling (SEM) approach is particularly suitable for measuring and estimating a theoretical model with linear relations between variables,

**Table II.**  
Descriptive statistics  
for the samples

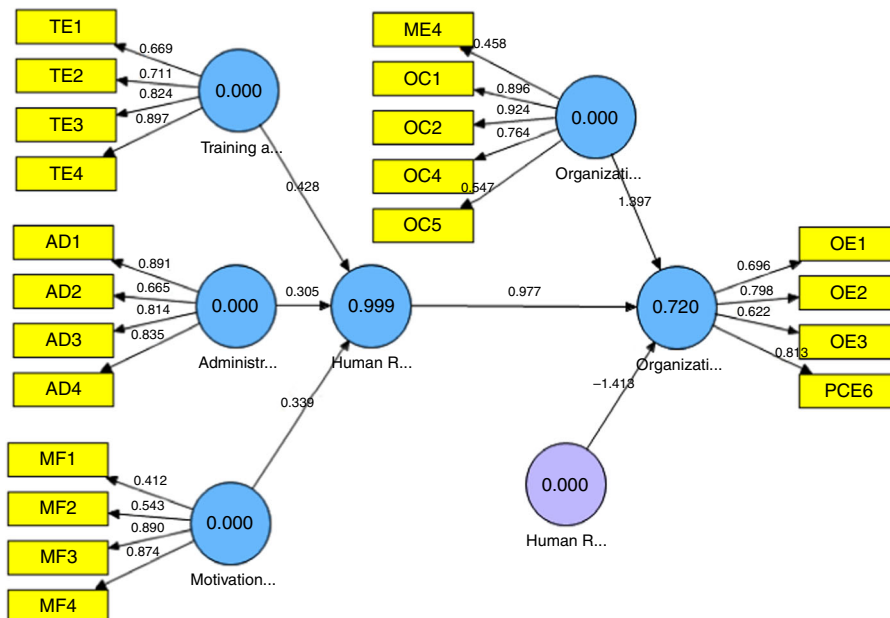
Variable	Levels	Abundance	Variable	Levels	Abundance
Sex	Male	100	Experience	3-5 years	11
	Female	25		5-10 yeas	34
Age				Over 10 years	80
	20-30 years	15	Education	Diploma	2
	31-40 yeas	68		Technician	10
	Over 41	42		Bachelor	78
Master and PhD				35	

which may be either observable or directly unobservable and may only be measured imperfectly. SEM enables an explicit modeling of the measurement error for the observable variables and avoids potential bias, thus allowing constructing unobservable variables, which can be measured by indicators. We utilized partial least square (PLS) variance-based SEM due to analyze and the epistemic view of data. First, none of the independent and dependent variables was absolutely measureable. Further, rather than aiming for producing the covariance matrix as close as possible to the theoretical model, the aim has been set as analyzing the degree of cooperative entrepreneurship. In such a situation, the variance-based PLS approach seems suitable (Hair *et al.*, 1998). The conceptual model presented in this study was developed based on theoretical grounds. The analysis and interpretation of data process covariance structure analysis and SEM software with SMART PLS2 software which is followed.

## 8. Measurement model

### 8.1 Assess the measurement model

- (1) To check the reliability of the measurement model and reliability Item evaluation have been used from three ways:
  - Loads of factor: amount of criteria for the suitability of factor loadings coefficients is 0.4 (Holland, 1999). In Figure 2, loading factors are represented for each of the indicators in research model. To get a higher reliability from 0.4 for the indexes, some of the questions, such as the desire for power index have been removed from the primary measurement model.
  - Cronbach  $\alpha$  is considered as classic criteria for evaluation and appropriate measures for evaluating the internal in the measurement model. This measure shows the correlation between the structure and its related indicators.



**Figure 2.**  
A graph of the factor  
loadings and  
structural factors  
influence



Higher values of 0.7 markers would be acceptable reliability (Cronbach, 1951). As can be seen in Table III Cronbach  $\alpha$  values are greater than 0.7 for model structures and models of measurement have required reliability.

- Combine reliability (CR): PLS software uses more modern standard called CR. The reliability of structures calculated not only as an absolute but also according to their structural correlation with each other.

If the value for CR is greater than 0.7 for each structure, it has shown of suitable reliability for measurement model (Nunnally, 1967). As it is seen in Table III, CR structures values is above 0.7 and reliability of measure models is approved.

- (2) The narrative validity of convergence: the second measure, which is used to measure model in PLS is a measure of the average variance extracted (AVE). Which shows the level of correlation of a structure with itself indexes. AVE value is accepted above 0.5 (Fornell and Larcker, 1981). As it shows in Table III, AVE is greater than 0.5 for all model structures and reliability of model is verified for measurements.
- (3) Divergent validity measure:
  - Cross-loading method: all questions in endogenous and exogenous latent constructs, factor load shares more with its own structure compared to other structures which this suggests divergent narrative of suitable for the research model (Henseler *et al.*, 2009).
  - Method of Fornell and Larcker: as in Table IV can be seen, AVE root variable for entrepreneurial intention is greater than amount of correlation between the indexes and other structures. As a result of the level of AVE for this structure is greater in model than shared variance between these structures and other structures (the square of correlation coefficient between structures). This subject is evidence of divergent narrative suitable for this variable model. With little indulgence, this thread is true about variable entrepreneurship education also hence divergent narrative of the model is confirmed.

8.2 Structural model validation

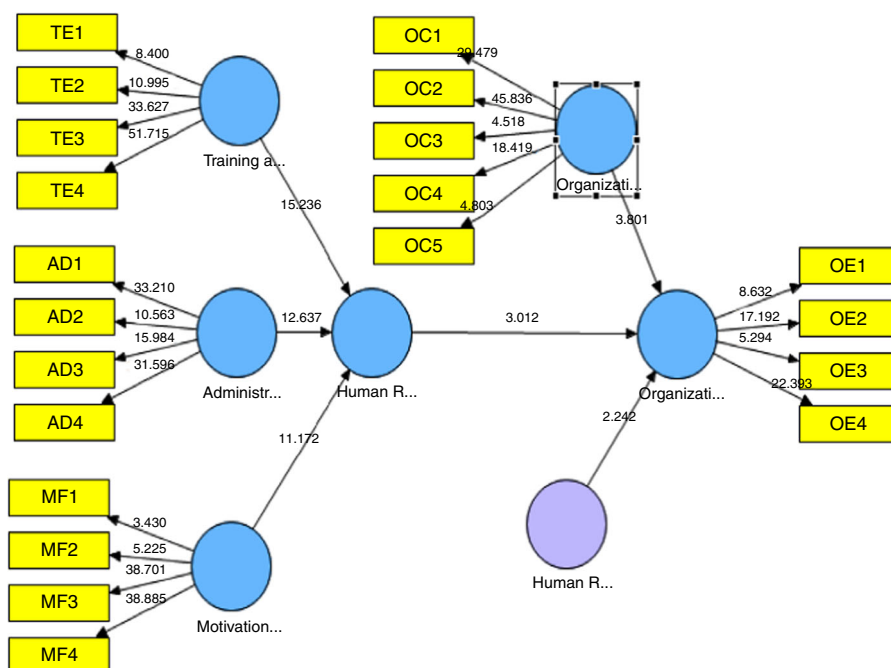
- (1) Meaningful coefficients of *t*-value: as in Figure 3 can be seen meaningful coefficients of *t*-value in all directions is greater than 1.96 and as a result can be confirmed in all questions being meaningful and relationships between

**Table III.**  
AVE, composite  
reliability and  
Cronbach's  $\alpha$

	AVE	Composite reliability	Cronbachs $\alpha$
Administrative factors	0.841	0.880	0.815
Human resource management	0.709	0.922	0.905
Human resource management $\times$ organizational culture	0.867	0.992	0.991
Motivational factors	0.605	0.789	0.624
Organizational culture	0.6497	0.851	0.777
Corporate entrepreneurship	0.642	0.824	0.715
Training and empowering	0.710	0.860	0.785

**Table IV.**  
Fornell and Larcker  
test result

	Administrative factors	Human resource management	Motivational factors	Organizational culture	Corporate entrepreneurship	Training and empowering
Administrative factors	0.917	–	–	–	–	–
Human resource management	0.968	0.842	–	–	–	–
Motivational factors	0.863	0.802	0.778	–	–	–
Organizational culture	0.654	0.760	0.680	0.806	–	–
Corporate entrepreneurship	0.584	0.733	0.714	0.714	0.801	–
Training and empowering	0.865	0.829	0.701	0.736	0.707	0.843

**Figure 3.**  
Factor loadings of  
model (*t*-value)

variables with a confidence level of 0.95. Obviously, the *t*-value of organization culture as a moderator variables considered on the path has produced by multiple with human resource management variable.

- (2) Check the standardized coefficients for the direction related to hypothesis: positive values contained in the routes between the structure Figure 2 show that causal relationships are among latent variables. As can be seen in the Figure 2,

values between the structural variables indicate positive impact of human resource management on the promotion of corporate entrepreneurship. Human resource management as much as 97 percent can have a positive impact in development of corporate entrepreneurship.

- (3)  $R^2$  criteria: higher values for  $R^2$  from 0.33 shows that the impact of average and higher levels from 0.67 confirms the strong impact of exogenous variables on the endogenous variables. With respect to the values in the Table IV average of  $R^2$  is 0.859 for latent variables human resource management and corporate entrepreneurship, therefore it can be concluded which latent exogenous variables have a strong impact on the latent endogenous variables.
- (4) Stone-Geisser criterion ( $Q^2$ ): this criterion defines the predictive power of the model. With respect to the values in column 1-sse/sso in Table V which represents the amount of  $Q^2$  and its higher values of the basis value of 0.35 it can be concluded which the model has very strong predictive power (Stone, 1974).

8.3 General model validation

The generally model includes both parts of measurement model and structural and evaluate the fit in one model to be fitted with the confirmation its fit. For this purpose it is used from GoF criteria. Upper value from the base (0.36) shows that model was generally very good and approved:

$$\text{GoF} = \sqrt{\text{Communalities}} \times R^2 = 0.703554 \tag{2}$$

9. Results

As a nonparametric estimation procedure (Wold, 1982), PLS provides an iterative combination of principal components analysis that relates measures to constructs and a path analysis that captures the structural model of constructs. The structural model represents the direct and indirect un-observational relationships among constructs. As already noted, reliability and validity of model was approved in measurement section of structure and the whole. Therefore, results of research are valid and they can be extended. According the PLS analyzing we can approve the hypothesis has listed in Table VI.

**Table V.**  
Parameter estimates  
for structural model

	$R^2$	Communality	Redundancy	1-SSE/SSO
Administrative factors	–	0.649396	–	0.649416
Human resource management	0.999042	0.509473	0.256621	0.504302
Human resource management × organizational culture	–	0.666288	–	0.66632
Motivational factors	–	0.505121	–	0.505336
Organizational culture	–	0.549728	–	0.549251
Corporate entrepreneurship	0.719874	0.542339	0.251267	0.534409
Training and empowering	–	0.60917	–	0.608929

Index	Relationship	t-statistics	Status
H1	Empowering → human resource management	15.236	Accept
H2	Administrative factors → human resource management	12.636	Accept
H3	Motivational factors → human resource management	11.172	Accept
H4	Human resource management → corporate entrepreneurship	3.045	Accept
H5	Human resource management × organizational culture → corporate entrepreneurship	2.241	Accept
H6	Training and empowering → corporate entrepreneurship	2.958	Accept
H7	Administrative factors → corporate entrepreneurship	2.970	Accept
H8	Motivational factors → corporate entrepreneurship	3.045	Accept

## 10. Discussion

The results show that resource management measures positively and significantly effect on corporate entrepreneurship. The greatest influence is related to establishment of training and empowering system (0.428). Research hypotheses are confirmed at confidence level of 95 percent. Therefore, it can be established that with improvement of human resource management measures, corporate entrepreneurship can be empowered in the organization. Managers have to come to the conclusion that human resource management goes beyond employee handling and human resource planning. They should plan human resource-related activities in a way that they contribute to the achievement in organization's strategic goals.

For this, following recommendations are given:

- (1) Supporting developmental strategies of corporate entrepreneurship and incorporating human resource qualitative and quantitative development plans into the mainstream of the organization's strategic management policy in order to develop corporate entrepreneurship activities.
- (2) Supporting cultural change plans to develop corporate entrepreneurship, in that the employees come to believe that without their cooperation, it is not possible to exploit opportunities in order to achieve the organization's goals.
- (3) Operating management policies in a way that performing corporate entrepreneurial activities is considered as competitive advantage, thereby the building blocks of employees' growth are provided. In other words, that employees' entrepreneurial activities contribute to value-added in the organization is ensured.
- (4) Implementing organizational development and employees training strategies to drive learning process in order to develop corporate entrepreneurship, as well as designing, executing, and managing of systems to ensure accessibility to the experiences required by corporate entrepreneurs through holding training courses.
- (5) Providing career promotion opportunity for talented employees to encourage them in entrepreneurial activities in the organization.
- (6) Designing, executing, and managing performance reward systems, which encourage the employees to cooperate individually and in group to implement entrepreneurial plans.
- (7) Paying attention to occupational models and motivations, and employees' loyalty in a way that lays the ground for their positive cooperation in implementation of entrepreneurial plans.

- (8) Recruiting and training employees with a proper combination of specific technical knowledge and extensive skills with entrepreneurial characteristics to meet changing needs of the organization.
- (9) Ensuring compliance with regulations with respect to those employees whose dismissal letter, for any reason, has been issued. Especially, regarding the employees who defect the organization for entrepreneurial activities. It is worth noting to consider them as future partners.
- (10) Paying attention to strengths and weaknesses of the organization, and future threats and opportunities in order to drive entrepreneurial activities to achieve the organization's strategic goals.

It is worth mentioning that in the developing and competitive condition, human resource management is required to have a pervasive and strategic perspective to be able to produce competitive advantage and value-added. Managers have to be aware that for paving the way of entrepreneurial activities, the organization's strategic human resource development should be always taken into consideration as a fundamental and dynamic factor.

### References

- Alvesson, M. (1995), *Management of Knowledge-Intensive Companies*, de Gruyter, Berlin and New York, NY.
- Anderson, C.A. and Huesmann, L.R. (2003), *Human Aggression: A Social-Cognitive View*, Sage Publications, London.
- Armstrong, P. (2005), *Critique of Entrepreneurship: People and Policy*, Macmillan, Basingstoke.
- Barringer, B.R. and Bluedorn, A. (1999), "The relationship between corporate entrepreneurship and strategic management", *Strategic Management Journal*, Vol. 20 No. 11, pp. 421-444.
- Becker, B.E. and Huselid, M.A. (1998), "High performance work systems and firm performance: a synthesis of research and managerial implications", *Research in Personnel and Human Resource Management*, Vol. 16 No. 9, pp. 53-101.
- Combs, J.G., Ketchen, D.J. Jr, Hall, A.T. and Liu, Y. (2006), "Do high performance work practices matter? A meta-analysis of their effects on organizational performance", *Journal of Personnel Psychology*, Vol. 59 No. 17, pp. 501-528.
- Connolly, T.R. (1997), "Transforming human resources", *Management Review*, Vol. 86 No. 6, pp. 18-50.
- Cronbach, L.J. (1951), "Coefficient alpha and the internal structure of tests", *Psychometrika*, Vol. 22 No. 3, pp. 297-334.
- Ditillo, A. (2004), "Dealing with uncertainty in knowledge-intensive firms: the role of management control systems as knowledge integration mechanisms", *Accounting, Organizations and Society*, Vol. 29 No. 11, pp. 401-421.
- Ergün, L. and Bergeron, F. (2004), "Connecting the link between corporate entrepreneurship and innovative performance", *Global Business and Technology Association Annual Conference Proceedings Book, Cape Town*, pp. 259-265.
- Flamholtz, E. (1985), "Human resource accounting and effective organizational control", *Theory and Practice*, Jossey Bass, New York, NY.
- Fornell, C. and Larcker, D.F. (1981), "Evaluating structural equation models with unobservable variables and measurement error", *Journal of Marketing Research*, Vol. 6 No. 2, pp. 39-50.
- Fox, J.M. (2005), "Organizational entrepreneurship and the organizational performance linkage in university extension", dissertation degree doctor of philosophy, The Ohio State University.

- 
- Fry, F. (1993), *Entrepreneurship: A Planning Approach*, Prentice- Hall, Englewood Cliffs, NJ.
- Gumpert, D. (1998), "The heart of entrepreneurship", *Harvard Business Review*, Vol. 11 No. 15, pp. 85-94.
- Hair, J.F. Jr, Anderson, R., Tatham, R. and Black, W.C. (1998), *Multivariate Data Analysis*, 5th ed., Upper Saddle River, Prentice Hall, London.
- Henseler, J. Ringle, C.M. and Sinkovics, R.R. (2009), "The use of partial least squares path modeling in international marketing", *Advances in International Marketing*, Vol. 20 No. 16, pp. 277-320.
- Holland, J. (1999), "Use of partial least squares (PLS) in strategic management research: a review of four recent studies", *Strategic Management Journal*, Vol. 20 No. 2, pp. 195-204.
- Innocent, O. and Rosli, M. (2015), "Corporate entrepreneurship and business performance: the role of external environment and organizational culture: a proposed framework", *Mediterranean Journal of Social Sciences*, Vol. 6 No. 4 S3, pp. 524-551.
- Kärreman, D., Svenningsson, S. and Alvesson, M. (2002), "The return of the machine bureaucracy? Management control in the work settings of professionals", *International Studies of Management and Organization*, Vol. 32 No. 3, pp. 70-92.
- Line, D. (2012), "Entrepreneur business opportunity", July 11, available at: [www.articlesbase.com](http://www.articlesbase.com)
- Nunnally, J.C. (1967), *Psychometric Theory*, 1st ed., McGraw-Hill, New York, NY.
- Okoye, I.E., Aroh, N.N. and Egbunike, P.A. (2015), "Empirical examination of integrated component of intellectual capital on financial performance: study of select service and non-service firms in Nigeria", *Social and Basic Research Review*, Vol. 3 No. 9, pp. 299-315.
- Schuler, G.S., Boguski, M.S., Stewart, E.A., Stein, L.D., Gyapay, G., Rice, K., White, R.E., Rodriguez-Tomé, P., Aggarwal, A., Bajorek, E., *et al.* (1996), "A gene map of the human genome", *Science*, Vol. 8 No. 9, pp. 540-546.
- Schuler, R.S. (1992), "Strategic human resource management: linking people with the needs of the businesses", *Organizational Dynamics*, Vol. 21 No. 1, pp. 18-32.
- Scott, S., Edwin, A.L. and Christopher, J. (2003), *Collins Entrepreneurial Motivation*, Elsevier Science Inc, Amsterdam, pp. 15-18.
- Starbuck, W.H. (1992), "Learning by knowledge intensive firms", *Journal of Management Studies*, Vol. 29 No. 6, pp. 713-740.
- Stephen, F.H., Urbano, D. and van Hemmen, S. (2005), "The impact of institutions on entrepreneurial activity", *Managerial and Decision Economics*, Vol. 26, pp. 413-419.
- Stone, M. (1974), "Cross-validatory choice and assessment of statistical predictions", *Journal of the Royal Statistical Society Series B*, Vol. 36 No. 6, pp. 111-147.
- Sveiby, K.E. (1997a), "The intangible assets monitor", *Journal of Human Resource Costing & Accounting*, Vol. 2 No. 1, pp. 22-43.
- Sveiby, K.E. (1997b), *The New Organizational Wealth: Managing and Measuring Knowledge-Based Assets*, Berrett-Koehler Publishers, San Francisco, CA.
- Sveiby, K.E. and Riesling, A. (1986), *Kunskapföretaget – Seklets Viktigaste Ledarutmaning?*, Liber AB, Malmö.
- Truss, C. and Gratton, L. (1994), "Strategic human resource management: a conceptual approach", *The International Journal of Human Resource Management*, Vol. 5 No. 3, pp. 663-686.
- Wold, H. (1982), "Soft modeling: the basic design and some extensions", in Jöreskog, K.G. and Wold, H. (Eds), *Systems Under Indirect Observation*, Amsterdam.
- Wright, P.M. and McMahan, G.C. (1992), "Theoretical perspectives for strategic human resource management", *Journal of Management*, Vol. 18 No. 2, pp. 295-311.

### Further reading

- Becker, B.E. and Huselid, M.A. (2006), "Strategic human resources management: where do we go from here?", *Journal of Management*, Vol. 32 No. 7, pp. 898-925.
- Collis, D. and Montgomery, C. (1994), "Competing on resources: strategy in the 1990s", *Harvard Business Review*, July-August, pp. 123-156.
- Huselid, M.A. and Becker, B.E. (2011), "Bridging micro and macro domains workforce differentiation and strategic human resource management", *Journal of Management*, Vol. 37 No. 2, pp. 421-428.
- Teo, S.T.T., Lakhani, B., Brown, D. and Malmi, T. (2008), "Strategic human resource management and knowledge workers: a case study of professional service firms", *Management Research News*, Vol. 31, pp. 683-696.
- Wetzels, M., Odekerken-Schroder, G. and van Oppen, C. (2009), "Using PLS path modeling for assessing hierarchical construct models: guidelines and empirical illustration", *MIS Quarterly*, Vol. 33 No. 1, pp. 177-196.
- William, H.S. and Farjoun, M. (2005), *Organization at the Limit*, Blackwell Publishing, New York, NY, pp. 24-28.

### Corresponding author

Babak Ziyae can be contacted at: [babak.ziyae@gmail.com](mailto:babak.ziyae@gmail.com)