Human Resource Development: A Model for Agricultural Faculty Members in Iran

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Abstract
Nowadays, there is an agreement among organizations that reinforcing of education leads to the improvement of organizational performance. The emphasis on the human capital in organizations reflects the view that market values depend less on tangible resources, but more on intangible ones, particularly human resources. The main purpose of this study was to design a model for faculty members in public Agricultural Higher Education in Iran. A survey method was used to collect data from nine Public Agricultural Faculties in Iran. Samples were collected from faculty members using a simple random sampling method (n=284) and a questionnaire was used as the main research instrument to collect data. Reliability and validity were calculated using Structural Equation Modeling through LISREL software, version 8.54 (above 0.7). Finally, a model was developed and tested for faculty members in Agricultural Higher Education System in Iran. The findings showed that contextual variables (i.e. personal, organizational, social, educational, and professional development) had direct impacts on the process of Human Resource Development (HRD). Furthermore, personal and organizational development had direct and indirect impacts on HRD ($R^2 = 0.70$).

Keywords:
Human resource development, Personal development, Professional development, Educational development, Organizational development

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INTRODUCTION

To meet the challenges of globalization, high technology, economic transformation, and international competitions, there have already been numerous educational reforms and initiatives in many countries located in the Asia-Pacific Region and other parts of the world (Cheng, 2005). Educational reform is an international entity building up its effort and impact over the years. Reforms have taken somewhat different patterns of development in different countries, but there are important visible similarities across nations and cultures (Beijaard et al., 2005). International reform emphasizes the standards for teaching and teacher education that has grown out of an interlocked set of circumstances, with educational research operating as a contributing factor. In a critique of the standard-based reform of teacher education in the U.S., some researchers illustrate some common trends. They refer to the development of generic teaching standards by states in Australia; the efforts toward development of a national curriculum related to standards for both students and teachers in New Zealand; and the attempts to standardize teacher preparation in Europe by developing a system of course credit that permits comparison of learning experiences for prospective teachers in different nations.

There is an agreement among organizations that reinforcing of education leads to the improvement of organizational performance. In addition, a large and growing body of evidences has demonstrated a positive relationship between the development of human capital and organizational performance. The emphasis on the human capital in organizations reflects the view that market values depend less on tangible resources, but more on intangible ones, particularly human resources. Recruiting and retaining of the best employees, however, is only a part of the equation. The organization also has to leverage the skills and capabilities of its employees by encouraging personal and organizational learning and creating a supportive environment, in which knowledge can be created, shared and applied (Stiles and Kulvisaechana, 2011). Recently, Shin and Harman (2009) indicated that “with rapid socio-economic changes, the twenty-first century’s higher education systems face major challenges in its governance systems, curriculum, mission focus, external relations, research, and financing”. On the other hand, quality assurance has become a critical issue influencing new regulatory agencies (Jeliazkova and Westerheijden, 2002).

In addition, there has been a growing concern about student issues, effective instructional methods, and student’s career development. These challenges can be viewed as both threats and opportunities. In discussing the ongoing direction of higher education, scholars have identified a variety of challenges, but Shin and Harman (2009) hold discussion on privatization, accountability and governance, internationalization, and rankings and world-class university.

Many researchers indicate that the majority of organizational change and development programs in the world either fail or are not wholly successful in achieving their objectives, such as quality management and business process reengineering programs and information-technology-related change projects, etc. (Holland and Aitken, 1999). Nowadays, basic and spread revolution in different areas has exposed higher education to new environment, so the vision of higher education should be changed to HRD, students with higher quality, and developing knowledge boundaries with cultural and technological development.

According to Donnelly et al., (2002), in spite of its long history, the notion of teacher development was not a concern of human resource management and development in education until 30 years ago. By the mid to late-1970s, movements of transformation and innovation in education had brought vast changes in education managers, teachers and other educators’ attitude. Since then, together with teachers’ seeking for their professional growth and improvement, the opportunities available for their professionalism have increased significantly.

Every year, teacher professional development and HRD programs are implemented in universities all over the world. These programs are held to serve the purpose of providing managers,
staffs, teachers and faculty members with the best environment to develop their profession. A number of additional studies show a deeper core or essence operating in teachers over many years. Pobre (1996) has studied how teachers viewed their own teaching, how the teachers worked in the classroom, and how they related to mathematics in regard to their life as a whole (Donnelly et al., 2002). Pobre’s case studies describe core motivations of teachers as being in harmony with their personalities (Beijaard et al., 2005).

All professions require continuous updating of knowledge and skills (Somers and Sikorova, 2002). The teaching profession is no exception. However, although teachers and faculty members generally support high standards for teaching and learning, they are not mostly prepared for implementing teaching practices based on high standards (Garet et al., 2001). Many teachers learn to teach using a teaching and learning model that heavily focuses on memorizing facts, without any emphasis on deeper understanding of subject matter.

Nowadays, higher education is being driven towards commercial competition imposed by economic forces resulting from the development of global education markets and the reduction of governmental funds, forcing colleges and universities to seek other sources of financing. Higher education institutions have to be concerned with not only what society values in terms of the skills and abilities of their graduates (Ginsberg, 1991), but also skills and abilities of their faculty members. The World Bank’s observation is underscored by the reality that the most valuable and crucial organizational resources are people. Among different factors affecting the Higher Education System (HES), human resources (e.g., lecturers and faculty members) have a dynamic relation with other factors and play a core role in promoting the goals of HES (Mirzaee, 2004; Sadeghi and Emadzade, 2004). In spite of the wide and comprehensive role of HR in organizational, national, and international development, some prominent studies showed the lack of research on higher education, especially on HES in Iran. Regarding the situation of higher education and agricultural colleges in Iran, there is a crucial need for planning and implementation of comprehensive and systematic HRD programs and practices. The aforementioned need is based on several factors such as the low professional and pedagogical qualifications of agricultural faculties, the low morale among the faculty resulting from the lack of quality mobility, and the poor promotion prospects. Moreover, little is known about the attitudes of the faculty members related to HRD and its dimensions (Hejazi and Rostami, 2010; Hosseini, 1991; Sadeghi et al., 2009; Sadeghi and Emadzade, 2004). At present, there is not eligible research in HRD dimensions and also there is a crucial lack in an appropriate model for HRD in HES. Therefore, the main purpose of this study is to determine dimensions the HRD of faculty members and to develop a model for faculty members in the aspect of human resources in Iran.

**Conceptualizing HRD in Higher Education System**

Since the mid-1960s, HRD has been conceptualized and defined in many different ways. As Mc-Goldrick et al., (2001) observed the process of defining HRD by academics, researchers and practitioners to be frustrating due to the lack of clear boundaries and parameters, elusive due to a lack of depth of empirical evidence for some conceptual aspects, and confusing due to confusion over the philosophy, purpose, location and language of HRD. As an academic field, HRD remains segmented, incomplete, lacking comprehensiveness and coherence, with diverse theories and models offering competing explanations (Garavan et al., 2007). This suggests that a distinctive conceptual or theoretical definition of HRD has not yet been established, and this issue has hence become a subject of constant debate and discourse (McLean and McLean, 2001; Wang and McLean, 2007).

The process of defining HRD is made still more difficult by the evolving nature of HRD; for example, the term HRD started out as simply “training”, and then evolved into “training and development” (T&D), and then into HRD (Haslinda, 2009). There were different definitions
for HRD and many researchers have tried to differentiate HRD from T&D (Garavan et al., 1999; Harrison, 2000).

The ambiguous and problematic nature of the concept of HRD is reflected in the use of terms such as the ‘emergent nature’ of HRD and in the fact that ‘there are no universally accepted definitive statements of the meaning of HRM or HRD’ (Mankin, 2001). Are the two concepts one and the same, or are they different, with each demonstrating personal or unique characteristics? It has been argued that HRD and HRM are interrelated concepts, with HRM/HRD interventions being described as ‘an integrated process linking together different combinations of organizational variables’.

The views of these different authors clearly indicate that HRD contributes to the strengthening of a firm’s human capital base by raising the level of people’s know-how, skills and capabilities in an organization and thus, contributes to improved performance and competitive advantage. HRD supports both the process and the outcomes of performance management to be properly delivered at different levels of organizations (Raj Adhikari, 2010).

The concept of HRD in organization is related to continuing development and growth, development and improvement of different aspects of people. In other words, HRD is personal development in all aspects. Personal development is in work life, social life, personal life and cultural issues. The nature of HRD is the people who are organizational assets and their value must be improved through a logical and systematic approach. HRD is an important developmental program to ensure that the organization has an institutionalized way of developing, utilizing and committing human resources in order to meet current and future organizational challenges.

There have been well over 20 definitions of HRD offered since the 1960s (Hamlin et al., 2008). Additionally, in recent years there have been various calls for movement towards some level of consensual definition in order to continue to build and develop the field (Wang and McLean, 2007). These calls are important and need to be responded to, not least because HRD is an applied field which most ‘professional’ practitioners operating within it perceive as an occupational domain similar to related professional fields, such as ‘education’, ‘human resource management’ and ‘management’ (Hamlin and Stewart, 2011).

In this regard, for conceptualizing HRD in Iran, several literature were used such as, instructional development, staff development, faculty development, academic development, educational development, organizational development, and professional development because many of them are synonyms for HRD practitioners and experts in Iran (Akbari et al., 2012).

It is easy to logically connect the origins of HRD to the history of humankind and the training required to survive or advance. While HRD is a relatively new term, training, the largest component of HRD, can be tracked back through evolution of the human race.

HRD is a discipline that is more developed in Western industrialized countries than in the rest of the world. Although there is no agreement on one definition in this field, understanding HRD has been traditionally explored in the context of terms such as the ‘personal’, the ‘work group’, the ‘organization’ or the ‘work process’ (Dirani, 2006). Some definitions of HRD are related to personal and organizational learning (Marsick and Watkins, 1994). Others are more interested in personal and organizational performance.

There are similarities between definitions of professional, personal and so on. “In Nepal, the term HRD is used synonymously with (employee) training and development” (Raj Adhikari, 2010). “The terms instructional development, faculty development, academic development and educational development are all used in higher education systems in different parts of the world. Although these designations have slightly conveyed different meanings, they have a common core in that they refer to the work conducted by developers to study and enhance the professional performance of university academics” (Ahmady, 2009).

According to Swanson and Holton, “the HRD profession is large and widely recognized. As with any applied field that exists in a large
number and variety of organizations, HRD can take on a variety of names and roles. This can be confusing to those outside the profession and even sometimes confusing to those in the profession. HRD, embracing the thinking underlying: training, training and development, employee development, technical training, management development, executive and leadership development, human performance technology, organization development, and organizational learning (Swanson and Holton, 2001). McLagan defined HRD through training and development, and organizational and career development (Marquardt and Engel, 1993). The terms instructional development, faculty development, academic development and educational development are all used in higher education systems in different parts of the world (Shahpasand, 2005).

Hendricson indicated that “faculty development has been described in various ways in the literature on cultivation of the professional skills of the academician, but consistent themes are evident” (Hendricson et al., 2007). In one of the earliest works on the topic, for example, Centra (1977) described faculty development as “the broad range of activities that institutions use to renew or assist faculty in their roles” and includes initiatives designed to improve the performance of faculty in teaching, research, and administration”.

According to Bergquist and Phillips (1975), effective faculty development must become an interactive process among three dimensions: 1) organizational, representing structural components; 2) instructional, representing the process of education; 3) personal, representing the attitudes, beliefs, and personal faculty members. Gaff’s model (1975) also included instructional and organizational development, but he substituted faculty development for personal development (Hosseini, 1991). In addition, Siegel (1980) suggested a model for faculty development that contains professional, instructional, curricular, and organizational development.

Thomson and Mabey (1994) as referenced by Mabey and Salaman (1995) refer to the following components of HRD: “organizational development (OD), career development, and training and development”, and also this is echoed by others (e.g. McLagan 1989; (Mankin, 2001) (Table 1).

**Research Framework and Hypotheses**

Figure 1 shows a structural model based on the theoretical perspectives described in the previous section (Table 1). The model has been implemented and validated in the field of the operation. This model introduces series of hypotheses as follows:

- **H1**: Personal/individual development (ID) has a positive effect on HRD.
- **H2**: Social development (SD) has a positive effect on HRD.
- **H3**: Professional development (PD) has a positive effect on HRD.
- **H4**: Organizational development (OD) has a positive effect on HRD.
- **H5**: Educational development (ED) has a positive effect on HRD.
- **H6**: Process of HRD has a positive effect on the product of HRD.

**Table 1: Seven competency areas identified in the literature**

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<tbody>
<tr>
<td>Personal development</td>
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<td>Socio-Cultural development</td>
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<tr>
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<tr>
<td>Organizational development</td>
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<tr>
<td>Educational development</td>
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<td></td>
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<tr>
<td>Process</td>
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<tr>
<td>Product</td>
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</table>
MATERIALS AND METHODS

In order to develop a model for HR (faculty members of agricultural colleges in HES), the data were purposefully extracted from previous salient studies. These studies had synthesized the HRD, relevant definitions (e.g., personal development, individual development, instructional development, organizational development, faculty development, academic development, educational development, and professional development), coaching literature on definitions, components, and models. A wide range of HRD definitions and components have been directly and indirectly offered by a variety of authors from the mid-1980s through the mid-2011s. Due to the nature of the subject and the broad definitions and components of HRD at the macro level, it was attempted to conceptualize the topic at the organizational and HES levels. The literature review and scholars’ interviews have depicted that the scope of Iran's HRD is based on the following equation:

HRD = Personal Development + Organizational Development + Social Development+ Educational Development+ Professional Development.

In this study, the research method was content analysis and thematic analysis. Then, HRD components were compared to find similarities and differences using the aforementioned methods. As the final step, 15 HRD experts were interviewed about the framework to confirm the validity and suitability of model components.

Additionally, a survey research method was conducted for testing the model of HRD in HES. A survey method was used to collect data from faculty members in nine public agricultural colleges in Iran. Using proportional simple random sampling method, 284 faculty members were selected by the formula introduced by Kkrejie and Morgan (1970) with 5% margin of error (N=1873). After determining an appropriate measurement model, the structural equation modelling, using Linear Structural Relations (LISREL) software, was used to test the hypothesized model.

A structural equation model measures the contribution of various factors in predicting a particular outcome while providing unique information about the direct and indirect paths of reliable influence (Ransdell et al., 2001). LISREL software allows for the simultaneous utilization of a measurement model and a structural equation model. LISREL methods also allow the use of one or more directly measured or manifest variables to provide estimates and simultaneously test the effects of the latent variables on one another.

The internal validity of the questionnaire was assessed by faculty members in universities of Tehran, Tarbiat Modares, Razi, and Gorgan in Iran. To measure reliability of the items, Cronbach’s Alpha coefficients were calculated according to which all items had Cronbach's Alpha coefficient of above 0.8 indicating high internal consistency.

Based on the final model, Composite Reliability (CR) and Average Variance Extracted (AVE) were calculated manually by computing formulas introduced by Fornell and Larckers (1981) using
the Lisrel. The CR and AVE values of more than 0.6 and 0.5 respectively indicate good construct reliability and adequate convergent validity (Table 2).

The items in the questionnaire were arranged and analyzed based on the literature review. The questionnaire includes 62 statements. These statements were assessed based on the constructs of the model, as well as 10-item come from the faculty members’ profile such as age, gender, background, and the like. Respondents answered the questions based on a five point Likert type scale (1=very low to 5=very high). Personal development was measured by eight statements. Ten statements were constructed by researcher for social development. Professional development was also gauged through nine statements. Fourteen statements elicited the measurement of organizational development, and nine questions were used to create an index for educational development measurement. In addition, the process of HRD was also measured through eight questions estimating three dimensions (creating new ideas, sharing experiences, and a scientific communication network). Finally, eight questions were designed to create the index for the product of HRD (learning organization, innovation, more participation of faculty members in university, linking university and industry sector, and developing students).

### RESULTS

**Respondents’ Demographics**

The mean age of faculty members was 45, ranging from 32 to 63 years old. The majority of members held PhD degree. The majority of respondents (90.6%) were male, while 93% were married and the others were single. More than half of the respondents (68%) had obtained an assistant degree, followed by 15.6, 10.8 and 5.2 percent who had an associate professor, professor, and MSc degrees, respectively. Sixty-six percent were graduated from Iranian universities and 34 percent of them were graduated from foreign universities. It is noteworthy to mention that 43 percent of faculty members have used sabbatical.

**Correlation and inter-correlations of Independent Variables with Constructs of Study**

According to Table 3, faculty members perceived their personal development (ID) at medium level (Mean= 23.27), suggesting that personnel’ perception about their personal development in higher education. Furthermore, the results showed that faculty members perceived their social development (SD) and professional development (PD) at low level. On the other hand, organizational development (OD), educational development, process of HRD, and product of HRD was at medium level.

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**Table 2: Cronbach’s Alpha Coefficient, CR, and AVE**

<table>
<thead>
<tr>
<th></th>
<th>ID</th>
<th>SD</th>
<th>PD</th>
<th>OD</th>
<th>ED</th>
<th>Process</th>
<th>Product</th>
</tr>
</thead>
<tbody>
<tr>
<td>α</td>
<td>0.82</td>
<td>0.8</td>
<td>0.79</td>
<td>0.84</td>
<td>0.89</td>
<td>0.922</td>
<td>0.909</td>
</tr>
<tr>
<td>CR</td>
<td>0.96</td>
<td>0.96</td>
<td>0.97</td>
<td>0.98</td>
<td>0.97</td>
<td>0.96</td>
<td>0.97</td>
</tr>
<tr>
<td>AVE</td>
<td>0.92</td>
<td>0.91</td>
<td>0.91</td>
<td>0.94</td>
<td>0.93</td>
<td>0.93</td>
<td>0.92</td>
</tr>
</tbody>
</table>

**Table 3: Means, standard deviations and inter-correlations among constructs of study**

<table>
<thead>
<tr>
<th></th>
<th>Mean*</th>
<th>S.D</th>
<th>ID</th>
<th>SD</th>
<th>PD</th>
<th>OD</th>
<th>ED</th>
<th>Process</th>
<th>Product</th>
</tr>
</thead>
<tbody>
<tr>
<td>ID</td>
<td>23.27</td>
<td>5.26</td>
<td>1</td>
<td>1</td>
<td>1</td>
<td>1</td>
<td>1</td>
<td>1</td>
<td>1</td>
</tr>
<tr>
<td>SD</td>
<td>27.75</td>
<td>6.80</td>
<td>0.58**</td>
<td>0.73**</td>
<td>0.67**</td>
<td>0.75**</td>
<td>1</td>
<td>1</td>
<td>1</td>
</tr>
<tr>
<td>PD</td>
<td>25.06</td>
<td>6.44</td>
<td>0.40**</td>
<td>0.65**</td>
<td>0.70**</td>
<td>0.81**</td>
<td>1</td>
<td>1</td>
<td>1</td>
</tr>
<tr>
<td>OD</td>
<td>38.33</td>
<td>9.26</td>
<td>0.43**</td>
<td>0.67**</td>
<td>0.75**</td>
<td>1</td>
<td>1</td>
<td>1</td>
<td>1</td>
</tr>
<tr>
<td>ED</td>
<td>24.39</td>
<td>6.64</td>
<td>0.45**</td>
<td>0.65**</td>
<td>0.70**</td>
<td>0.81**</td>
<td>1</td>
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<td>1</td>
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<tr>
<td>Process</td>
<td>19.33</td>
<td>6.457</td>
<td>0.39**</td>
<td>0.67**</td>
<td>0.66**</td>
<td>0.75**</td>
<td>0.75**</td>
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<td>1</td>
</tr>
<tr>
<td>Product</td>
<td>20.29</td>
<td>6.292</td>
<td>0.42**</td>
<td>0.70**</td>
<td>0.66**</td>
<td>0.74**</td>
<td>0.68**</td>
<td>0.75**</td>
<td>1</td>
</tr>
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</table>

*Mean range=ID (7-35), SD (10-50), PD (9-45), OD (14-70), ED (9-45), process (8-40), product (8-40)
The perceived personal development was correlated positively and significantly with social, professional, organizational, educational development, the process of HRD, and the product of HRD (p<0.01). However, faculty member’s perceptions of social, professional, organizational, and educational development were correlated significantly with the process of HRD.

**Structural Equation Modeling Analysis**

Structural equation modeling (SEM) was used to test the hypotheses. The research model is presented in Figure 2. As mentioned earlier, the research model was developed on the basis of the literature review. Table 4 presents the outputs of LISREL analysis. The outputs suggest that the structure in the model is suitable.

Given the suitability of criteria in the model, the variables fulfil the standard values. As expected, H1 was supported with a negative impact implying that high personal development is associated with lower HRD of faculty members, but the results showed that personal development directly affects HRD product. For social development, H2 is also supported. The social development has a significant positive effect on the process of HRD. H3 is also supported but the direct impact is negative. This implies that higher professional development is associated with lower HRD. For organizational development, H4 is supported as well. The organizational development has a significantly positive effect on the process of HRD. For educational development, H5 is also supported. The educational development had a significantly positive effect on the process of HRD. It was found that organizational development is a crucial determinant of HRD (β = 0.50).

Personal, social, professional, organizational, and educational development accounted for 82% of the variance contained in the process of HRD. Moreover, the process of HRD (which was affected with contextual variables), personal, and organizational explained 70% of the variance contained in product of HRD.

**The model’s goodness-of-fit**

The decision to accept or reject a hypothesized structural model depends on the fitness statistics. Chi-square (χ²) is most frequently cited as a

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**Table 4: Parameter estimates and significance levels calculated for indicators of the path analysis model of study**

<table>
<thead>
<tr>
<th>From</th>
<th>To</th>
<th>β</th>
<th>t</th>
<th>SE</th>
</tr>
</thead>
<tbody>
<tr>
<td>ID</td>
<td>Process of HRD</td>
<td>-0.27</td>
<td>-4.85**</td>
<td>0.055</td>
</tr>
<tr>
<td>SD</td>
<td>Process of HRD</td>
<td>0.42</td>
<td>5.3**</td>
<td>0.079</td>
</tr>
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<td>PD</td>
<td>Process of HRD</td>
<td>-0.25</td>
<td>-2.06**</td>
<td>0.121</td>
</tr>
<tr>
<td>OD</td>
<td>Process of HRD</td>
<td>0.5</td>
<td>3.43**</td>
<td>0.144</td>
</tr>
<tr>
<td>ED</td>
<td>Process of HRD</td>
<td>0.43</td>
<td>4.83**</td>
<td>0.089</td>
</tr>
<tr>
<td>ID</td>
<td>Product of HRD</td>
<td>0.14</td>
<td>3.12**</td>
<td>0.044</td>
</tr>
<tr>
<td>OD</td>
<td>Product of HRD</td>
<td>0.29</td>
<td>3.49**</td>
<td>0.083</td>
</tr>
<tr>
<td>Process of HRD</td>
<td>Process of HRD</td>
<td>0.58</td>
<td>7.19**</td>
<td>0.080</td>
</tr>
</tbody>
</table>

** p<0.01

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**Table 5: Results of evaluation indicators**

<table>
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<th>Parameter/criteria</th>
<th>Reference coefficient</th>
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<tr>
<td>RMR</td>
<td>0.052</td>
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<tr>
<td>SRMR</td>
<td>0.052</td>
</tr>
<tr>
<td>GFI</td>
<td>0.8</td>
</tr>
<tr>
<td>NFI</td>
<td>0.97</td>
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<tr>
<td>NNFI</td>
<td>0.98</td>
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<tr>
<td>IFI</td>
<td>0.98</td>
</tr>
<tr>
<td>CFI</td>
<td>0.98</td>
</tr>
<tr>
<td>RMSEA</td>
<td>0.049</td>
</tr>
</tbody>
</table>
measure of the overall goodness of model fitness. The Root Mean Square Residual (RMSR) represents the average deviation of the predicted from the actual correlation matrix. The Goodness-of-fit Index (GFI) indicates the proportion of the joint amount of data variance and covariance that can be explained by the tested model.

The measurement models showed acceptable model-data fit: $\chi^2=1813.56$, (df = 1074, $p<0.001$), $\chi^2$/df ratio = 1.68, comparative fit index (CFI) = 0.98, and the root mean square errors of approximation (RMSEA) = 0.049. The construct validities of the latent constructs were evaluated by both convergent and discriminant validity. For HRD, all path weights were significant ($p<0.001$). Considering the significance of 0.05, the research model is accepted. The composite reliabilities of all constructs were greater than the minimum criteria of 0.70 (Nunnally and Bernstein, 1994), indicating adequate convergent validity (Table 5). The common rule for an acceptable fit of a model is an RMR below 0.05 points, with AGFI (Adjusted Goodness-of-fit Index) and GFI exceeding 0.90. Overall, the hypothesized model of study had a good fit with the sample data. (NFI = 0.97, CFI = 0.98, and AGFI = 0.93).

Table 6 shows the standardized direct, indirect, and total effects among antecedents and mediator variables in the final model. The results indicate that organizational, educational, social, personal, and professional development has the highest impacts on the process of HRD, respectively. These antecedents together accounted for 82% of the variance in the process of HRD. Additionally, organizational, process of HRD (through five variables), educational, social, professional, and personal development has the highest impacts on product of HRD, respectively. These antecedents together accounted for 70% of the variance in process of HRD (Figure 2).
CONCLUSIONS

Increasingly higher educational institutions are being required to operate more entrepreneurially, commercializing the findings of their research and spinning out new, knowledge-based enterprises. According to Etzkowitz “universities are currently undergoing a ‘second revolution’ these days, incorporating economic and social development as part of their mission” (Etzkowitz, 2004). To meet the challenges of globalization, high technology, economic transformation, and international competitions in the new century, there have been numerous educational reforms and initiatives in many countries in the Asia-Pacific Region (especially in Iran) and other parts of the world.

The current study showed a large and growing body of evidence demonstrating a positive linkage between the development of HRD and performance. There is a strong correlation between economic development and the spread of higher education and the societal returns on higher education, including the spread of knowledge and culture. Nowadays, it has been revealed that higher education in Iran suffers from lack of education quality. Much of this can be attributed to the ineffective management system, increased enrollments, shortage of technology, antiquated instructional methods greatly based on the memorization, and the misaligned incentives for lecturers and students.

Among different factors affecting Higher Education System, human resources (lecturers and faculty members) are the most important factors which have a vibrant relationship with other factors and have a crucial role to promote goals of HES. The purpose of this study was developing a model of HRD in HES for which a model was designed based on the theory of system. The results of the study showed a positive significant relationship among all variables.

The results also revealed that personal, social, professional, organizational, and educational development has a significant relationship with the process of HRD and they explained nearly 80% of variance. The results of the study are in agreement with some previous research (Iles and Yolles, 2003; Steinert and Mann Karen, 2006; Tjepkema et al., 2002). Furthermore, our findings reveal that personal, organizational factors and the process of HRD explain 70% of the product of HRD. The product of HRD leads to the development of human resource development between university and industry, creating a learning organization, development of learning environment, behavioral change, and developing a learning climate. These are consistent with (Marquardt and Engel, 1993; Megginson et al., 2000 and Parker and Coleman, 1999).

The results of the present study also showed that organizational factor is one of the most important factors which directly and indirectly affect HRD process and product. This finding is in agreement with the result of most salient authors (Grieves and Redman, 1999; Hamlin, 2007; McLean et al., 2008; Zidan, 2001) which have indicated that HRD focuses on organizational development. However, our results revealed that professional and personal factors have negative effects on HRD, Which were unexpected because many studies indicated the impact of professional and personal development on personnel’s knowledge (Browell, 2000; Rhodes and Houghton-Hill, 2000) and professional development of educators is seen as an essential ingredient for creating effective schools, promoting the delivery of education and development, and improving learners’ performance (Rhodes and Houghton-Hill, 2000; Wood and Millichamp, 2000).

In investigating the professional programs in Iran, it is obvious that most educations are not useful and beneficial. It is perhaps the main reason why many professional development programs used for the promotion of faculty members and they do not really result in development of faculty members. It merely leads to the publication of a number of articles and books with no significant practical implications for the universities. Therefore, according to our findings the organizational component is one of the most important factors affecting the improvement of products and quality of the faculty members. In order to improve the quality of faculty members, HES in Iran should focus on organizational component. In this regard, HES
should certainly determine policies. To achieve, HES should dedicate budget to support faculty development programs, and to provide the conditions for the improvement of knowledge, experiences, quality, and job satisfaction of faculty members. Moreover, HES persuades faculty members to learn skills, new knowledge, ideas and creative methods. Furthermore, continuous evaluation, infrastructure development, and participatory management are other factors that can help universities to access their goal. When the HES provide these conditions, it leads to the generation of new ideas, the sharing of experiences and scientific communications network.

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