The present study aims at providing a model for talent management in active knowledge-based companies in agricultural domain of Guilan Province. This paper is an applied and descriptive study with a mixed research method. In the qualitative part, an in-depth semi-structured interview with 30 experts was used and also the theoretical foundations and research background study were applied for qualitative data collection. For collecting data in the quantitative part, the survey study was used. The survey research data were collected through a researcher-made questionnaire. The target population consisted of 150 intermediate managers, supervisors, and deputies of knowledge-based organizations in Rasht, of which 108 participants were selected via purposeful sampling as the sample size of this study. The sampling size was determined via the table of Krejcie and Morgan. SPSS19 software and Smart PLS3 software were used to analysis the data. The results showed that the dimensions identified in the field of talent management in the knowledge-based companies were include: internal talent identification, external talent identification, socialization (making socialized), development and talents retention. Two components identified for internal talent identification include identification of talented employees and the selection of talented employees. Three factors consist of transformational leadership, organizational culture and employer brand have been identified as the underlying and effective factors on talent management in the knowledge-based companies of agriculture section in Rasht city. The transformational leadership style has the greatest impact on the talent management and the employer brand is in next ranking in terms of the effectiveness level on the talent management.
INTRODUCTION

Knowledge-based companies are private or cooperative institutions that are active in order to synergy the science and wealth, to develop knowledge-based economics, to realize the scientific and economic goals, and to commercialize the research and development results in high technology domain and high value added (Safaee et al., 2017). More precisely, these companies are the intermediary link between idea and technology that can lead ideas on the way to achieve technology and have unique features that have created a challenge for human resource management for their managers. In knowledge-based companies, the ratio of expert forces to total employees has a large difference with other companies. If we consider this feature, we can easily understand that this seemingly good advantage can serve as a double-edged sword. Preserving talented experts in an organization requires an appropriate management of the talented experts. Most importantly, the main issue is the coordination between tasks and responsibilities among talented employees (JafariPosteki et al., 2017).

Whereas agriculture has long been the main occupation of Guilan inhabitants and has played an important role in the economic and social progress of this region, the promotion and development of the agricultural domain is of particular importance for improving the economic conditions of the inhabitants of the Guilan province. Knowledge-based agricultural domain and the acquisition of modern and new knowledge in the field of agriculture can increase the productivity and profitability in this domain. Therefore, given that Knowledge-based agricultural companies can play an important role in economic and social development and achieve sustainable growth in society (Jahanshiri & Walker, 2015), conducting an interdisciplinary research on this domain, especially in terms of how to manage these types of companies in order to further growth and development and also achieve the knowledge-based economy is of great importance.

Achieve to the knowledge-based economies and paying particular attention to these companies have been discussed for several years (Khilji & Keilson, 2014). Due to their nature, the performance of knowledge societies leads essentially to a change and improvement of the economy (Filipović et al., 2013). Consistent with the experts’ opinion and despite the growing number of knowledge-based economies, the needs of these companies have not yet been fully taken into account, and experts consider a high-risk business situation. On the other hand, any organization wish to achieve the desired goals and to successfully carry out its duties (Galabova & Ahonen, 2011). To this end, the organization must apply all resources, materials, techniques, technologies, capital and practices effectively. The key to achieving these goals is human resources, especially talented people. Therefore, the organization needs to pay more attention to them (Horvathova & Durdova, 2010).

The knowledge-based organizations have found that if they can attract and employ talented people, they can take benefit from having this competitive advantage. Today in fact, organizations compete with each other through talented human capital. Their ability to attract talented forces is crucial as a result of the “war on talents”. Because, organizations always seek to trap the best and most intelligent personnel of other organizations (Dries et al., 2013). Management style in today’s organizations has been transformed from traditional mode. Consequently, solutions that were previously recommended to solve the organization’s problems may not be applicable today, because the nature of today’s organizations has shifted to the centrality of knowledge and intellectual and human property, and this subject requires a different attitude and solution compared to the past (Yasha, 2018). This is especially true for knowledge-based companies, because it can be said that the formation and survival of these types of companies are tied to the sub-
ject of knowledge and knowledge capital (RahmanSeresht & Zabihijamkhaneh, 2016).

This fundamental change in the nature of the organizations requires a change in the viewpoints and attitudes of the organizations’ managers towards the organization and its phenomena (Neumann & Tomé, 2011). This means that for each organization, there is a need for a unique management model to improve the productivity and maintain the capital of the organization, especially human resources, because the growing number of companies has made difficult the competition for attracting human resources, and in the absence of proper management of the talents of these companies we will face the increase in different closure activities of these companies, despite the specific ideas and innovations of these companies due to lack of appropriate condition for cooperation and participation (Jyoti & Rani, 2014). For example, the number of knowledge-based companies had been increased from 55 companies in year 2013 to 3,000 companies in year 2016. Also in 2013, 2145 persons were employed in these companies, and this had reached to 86,255 persons in 2016 a growing trend (Pahlavani, 2017). This large number of employees has created a managerial challenge for managers, who are struggling with the juvenile ideas and knowledge. In sum, keeping talented forces is of critical challenges in the management of human resources in the current century. Because maintaining the talented and skilled employees to maintain competitive advantage for the organization is an important factor (Cappelli, 2014).

How to keep employees is an everlasting question and the loss of such employees means the loss of the money was spent on employing and training new employees. On the other hand, employees receive the latest technical information, and thus, companies are at risk of losing their confidential information and transferring them to competitors, which requires appropriate talent management (Govaerts et al., 2011). Despite the important role of knowledge-based organizations in developing agricultural domain and the importance of having a talent management model appropriate to the conditions of these companies, the background of research in this field is weak. Therefore, the present study aimed at introducing a model in an effective talent management field in active knowledge-based companies in agricultural domain of Guilan province, and the researcher intends to answer the main question that how is the talent management model in active knowledge-based companies in agricultural domain of Guilan province?

Review of literature

Talent management

Talent management is a human resource management issue that focuses on recruitment, development, and maintenance issues, and is defined as a consequence to ensure that the right person is in the right occupation (Van et al., 2017). Talent Management is a tool for improving the process of employing and educating employees in order to attain the skills and abilities needed to meet the needs of the organization (Alziari, 2017). Talent management is a simple way to predict the organization’s needs for human capitals, and then, it creates a program to achieve them. Therefore, companies and organizations must attract, educate and develop, and also protect and maintain their own talents. They have to ensure that there is precise capacity to increase efficiency in the present and future (Cappelli, 2014).

Talent Management is a collection of human resource activities, including employment, selection, development and succession (Hartmann et al., 2010). These activities are strategic, futuristic, and focus on the overall goals of the organization (Mwila & Turay, 2018). The goal of talent management is to ensure the supply and satisfaction of the desired level of talents in order to fit the right people with the right occupations at the right time based on strategic organizational goals (Atan & Stapf, 2017). Strategic talent manage-
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ment refers to processes and activities that include the systematic identification of key positions that differently helps the retaining of the organization’s sustainability competitive advantage and the development of potential talents and high-performance for the development of distinct human resources and filling these positions with competent members and ensuring their continued commitment to the organization (Collings & Mellahi, 2009). The introduction of talent management means that organizations and companies should take several important steps to improve decision making processes in production and management. Given that today’s businesses face a lot of uncertainty, a completely new approach to talent management needs to be adopted. Talent management is essential for the development of people’s talents in order to increase the productivity of businesses and organizations (Butter et al., 2015).

Knowledge-based agriculture

According to Druker (1988), the term Knowledge-based Organization is a collection of experts and critics that guides and organizes their performance through feedback from colleagues, managers and clients. The structure of such an organization is based on knowledge rather than on the basis of hierarchy (Adriaenssen et al., 2017). The knowledge-based companies uses new knowledge and creativity in the process of agricultural production in the agricultural field (Hess & Bacigalupo, 2010). Today, the role of science and technology in promoting agricultural development has been widely considered. Most agricultural development policies are based on the organizing the knowledge and technology flows arising from research and innovation in this area (Hosseini & Sharifzadeh, 2014).

The status of knowledge and technology in the agricultural domain can be divided into four categories: 1- the period of using modified seeds, animal fertilizer and performance lower than unit area; 2- the period of presenting and acceptance of new inputs including fertilizer, modified seed and high-performance irrigation methods; 3- the period of creating motivation for balanced and optimal consumption of fertilizers and other inputs to balance production levels in the long run and to reduce pressures on resources; 4- the period of better use of the knowledge, skills and information needed to optimize inputs consumption to achieve both productivity and sustainability, simultaneously (Maghabl et al., 2015). The development of information, knowledge and different technologies in the agricultural domain can lead to significant changes in improving production efficiency and bioefficiency. Knowledge of agriculture plays an important role in the production of qualified and healthy agricultural products, the profitability and productivity of production, the empowerment of activists in the agricultural domain and Promotion of the human capital index (Agwu et al., 2008).

Talent management models

It is necessary that any organization should try to accurately identify the current status of the talent management process in its organization and to recognize its strengths and weaknesses so as to strengthening its strengths and solving the weaknesses and by optimizing the talent management system, the organization should try to maximize its potential and talent capacity. Thus, studying the types of talents and identifying them will not be possible without regard to the processes and models available in this area. So, talent management models operate as a strategic tool as well as a road map for effective implementation of talent management system in the organization (Rahmatinia, 2016). Therefore, the purpose of this study is to help managers of the organization to be assure that through the creation of a talent pool, they can access qualitative and efficient forces whenever they want in order not to face the crisis, which all are possible through effective implementation of talent manage-
ment in their organization by reviewing and presenting numerous talent management models.

No’pasand-e-Asil et al. (2014) studied the relationship between talent management and organizational performance. In this study, the main dimensions of talent management are attraction of talent, retention of talent, and management of career pathway development. The results indicated that there is a meaningful relationship between talent management and service quality and innovation in providing services, and also the necessary steps to retention the talents in the organization have the most positive effect on the quality of the services provided, and attracting top talent in organization has the most positive effect on increasing the ability of innovation in the organization.

Sobhani et al (2016) in an investigation of talent management in the domain of agriculture science, mentioned some aspects such as recruitment, employment, training, and preserving talents as the processes of talent management in knowledge-based companies of agriculture. They also identified organizational factors such as leadership style and management and human factors like human capitals as the most important initial steps of talent management.

Chigini and Salavati (2016) believe that the dimensions of management such as employment, development, talent preservation, exploiting talents, identifying and separating the staff influence the performance of organization of Jihad Agriculture.

Fallah Haghighi and Mirtorabi (2017) have presented a model that identifies the problems of agriculture knowledge-based companies. Their research findings were presented in 4 conceptual frameworks and 22 codes. The main themes included the lack of confidence in the products of agriculture knowledge-based companies, the shortage of facilities and support for agriculture knowledge-based companies, the weakness of administrative and legal structure in establishing agriculture knowledge-based companies, political immaturity, and lack of supportive rules in the domain of agriculture research.

Vnoučková et al. (2016) consider planning for talented labor force, employment, training, performance management, substitution program, and reward as the dimensions of talent management in agriculture section. They believe that management back-up, strategic development, and leadership style are the factors for key and talented staff development.

Okoro (2016) in a study examined various talents in England. He identified leadership, culture, and process as the initials of talent management. The results indicated that viewpoint, communication, and creating change are considered as a dimensions of leadership, being comprehensive, flexibility, solving the limits as indices of processes, cultural intelligence, emotional intelligence, investors’ culture, and culture’s indices. Also, to make clear the pathways of progress, challenging opportunities and talent development are of indices of growth and development opportunity. Jyoti and Rani (2014) studied the talent management techniques, its effective factors and consequences” in India. The results indicated that talent management methods include talent identification, succession planning, talent development and talent retention. Prerequisites of talent management include business strategy, senior management commitment, employer brand, and employees’ engagement in the work.

**METHODOLOGY**

This is an applied research in terms of objective and it is a descriptive research in terms of the research design. Also, the present study is cross sectional in terms of time and considering the nature of the data, it is of mixed methods research.

In the qualitative part, the components and parameters of the talent management were identified through a phenomenological ap-
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approach and an in-depth interview with experts, and in the quantitative parts, the prototype of research was tested using data from the questionnaire. In the qualitative part of the research, the population consists of experts including directors, top managers and senior managers of the knowledge-based companies in agricultural domain of Guilan Province. Experts were selected based on the enjoying university degree such as Master degree or higher and having at least 15 years of relevant work experience. In this section, 30 experts were selected through snowball sampling in order to identify the dimensions and factors of talent management and its influential factors.

The quantitative part of the population includes middle managers, supervisors and deputies of the aforementioned companies whose selection criteria are bachelor degree or higher and having at least 15 years of relevant work experience and their number is about 150 persons, and accordingly, the sample size was determined 108 individuals using the Krejcie and Morgan table, and in this regard, 115 questionnaires were distributed and finally, 110 questionnaires were extracted. Experts’ opinions were used in research design model.

The research model was tested based on the viewpoints of middle managers, supervisors and deputies. In order to select the sample size, at first 30 experts were selected using the snowball sampling method to design the conceptual model of research and to extract the components and indices of talent management model in Rasht’s in agricultural domain knowledge-based companies. They answered the questions of the researcher through an open and unstructured interview. In the next step, the methodology was done based on the views of the 110 individuals of the sample size, among middle managers, supervisors and deputies of Rasht’s knowledge-based organizations. These individuals were selected through purposeful sampling to answer the questionnaire and collect quantitative data.

Research tools

In order to collect information in the formulation of theoretical foundations, and also, in order to identify the main dimensions and components of talent management in knowledge-based companies and the factors affecting them to build the research model in the field study, the library method and also Co-laizzi method were applied, respectively. Co-laizzi method consists of seven steps, including:

- First, the participants’ description was read to get an overview of the whole.
- Then, manifests, sentences and phrases were extracted.
- Meanings and concepts were formulated from manifests and important phrases.
- Formulated meanings were conceptualized and codified.
- Meanings and concepts were formulated and placed within the subject categories and clusters.
- Key clusters and themes were obtained and the basic structure of the model was designed.
- Finally, for validation, the participants evaluate the results of the analysis. “Are the findings similar to the experiences they have had?”

Then, the research questionnaire was designed and validated based on the initial model. In the qualitative part, a semi-structured in-depth interview with experts and also the theoretical foundations and research background study were used for qualitative data collection and also required data collection, correspondingly. For collecting data in the quantitative part, the field study was used. The questionnaire of this study consists of two parts. In the first part, demographic information including age, gender, work experience and the level of education of respondents have been investigated. The second part also contains specific questions about the research variables. In the research questionnaire, 30, 15, 6, and 12 items have been considered for talent management, employer brand, organizational culture, and
transformational leadership style, respectively. The 5-point Likert scale was used to measure the items. Table 1 shows Cronbach’s alpha coefficient for the whole questionnaire and each of the variables in 20 questionnaires. Given that the calculated alpha for the whole questionnaire and each of the variables is greater than 0.87, it can be concluded that the research questionnaire has a sufficient and necessary reliability.

In the qualitative part, in order to analyze the data from in-depth interviews of the descriptive phenomenology, the method of analyzing the data has been used which provided by Colaizzi (1978). This approach has 7 stages. The quantitative part was used for analyzing the data using descriptive and inferential statistics.

RESULT

The analysis of the research findings has been done in two quantitative and qualitative sections. In the qualitative section that was interviewed with experts in order to design a research model, some questions were asked from the experts, which a sample of interview questions as follows:

What strategies are being used to attract, identify and select talented employees in your organization?

What strategies are being used to develop talented employees in your organization?

What strategies are being used to retain talented employees in your organization?

What factors affect your talent management strategies in your organization?

The results of qualitative analysis of the data, which were extracted by Colaizzi method, and based on open codifying, axial and selective coding, were presented in Table (2). In the quantitative part, the identified factors of the qualitative part were formulated in the form of a Structural Equation Model and tested. At first, to analyze the qualitative data and distribution of data, Kolmogorov-Smirnov test was used. Based on table (3), the significance level for a talent management variable is less than 5%. Therefore, it can be said that the distribution of this variable’s data is not normal. Seeing the fact that the level of significance for employer brand, organizational culture and transformational leadership variables are more than 5%, it can be concluded that the data related to these variables have normal distribution. Therefore, in order to construct a quantitative model, Structural Equation Modeling with PLS software was used.

In the next step, a Structural Equation Model was used to test the research model in the population. Figure (1) shows the confirmatory factor analysis model in the case of estimating standard coefficients mode. In this figure, the coefficients are divided into two categories. The first category is called measurement equations, which shows the relationship between obvious variables and hidden variables, which are called factor loadings. The second group is the structural
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### Table 2

**Concepts, Main and Sub Themes for Talent Management Model**

<table>
<thead>
<tr>
<th>Axis of Study</th>
<th>Main Themes</th>
<th>Sub Themes</th>
<th>Concepts (Basic Themes)</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Talent Management Process</strong></td>
<td>Internal Talent Identification</td>
<td>Identification of Talented Employees</td>
<td>- Identifying the Needs of the Organization and Identify the Employees that Can Respond to the Needs of the Organization; Familiarity with Key Employees Features;</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Selection of Talented Employees</td>
<td>- Selection of Talented Employees Through Assessment of Their Performance and Work Experience; - Selection of Talented Employees Based on Their Knowledge, Abilities and Skills;</td>
</tr>
<tr>
<td></td>
<td>External Talent Identification</td>
<td>Attracting External Talents</td>
<td>- Searching for Volunteers Outside of the Organization; - Introducing Qualified Individuals Outside of the Organization by Experts;</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Selection of External Talents</td>
<td>- Employing volunteers based on academic abilities and work experience; - Selecting talented volunteers based on personality and ethics;</td>
</tr>
<tr>
<td></td>
<td>Socialization (Making Socialized)</td>
<td>Appropriateness of a Person to Job</td>
<td>- being Sure about Enjoying job Requirements by Knowledge, Abilities, Talents, and Skills; - Paying Attention to the Spiritual and Personality Needs of Talents by Job Requirements;</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Referrals</td>
<td>- The Necessity to Understand the Culture of the Organization by Talents; - The Necessity for being Aware of the Talents about Working Conditions;</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Education</td>
<td>- Creating Learning Opportunities for Talents Before Starting Work; - Planning to Improve the Level of Knowledge, Skills and Abilities of Talents in service;</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Career Pathway</td>
<td>- Identifying Individuals’ Desires to Choose Career Pathways; - Planning for Job Promotion Opportunities;</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Services Compensation</td>
<td>- Designing a Direct Service Compensation System; - Designing an Indirect Service Compensation System;</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Immaterial Motivation</td>
<td>- Providing Psychological Needs of Talents; - Provide Positive Feedback;</td>
</tr>
<tr>
<td><strong>Underlying and Effective Factors</strong></td>
<td>Employer Brand</td>
<td>Interest Value</td>
<td>- Creating a Creative and Innovative Work Environment; - Creating Challenging and Challenging Businesses;</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Economic Value</td>
<td>- Planning for the Job Promotion of Talents; - Paying Salary and Benefits Higher than Average Level;</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Social Value</td>
<td>- Creating a Pleasant Working Environment; - Encouraging Friendly Relationships at Working Environment;</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Development Value</td>
<td>- Creating Self-Esteem in Talents;</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Applied Value</td>
<td>- Creating an opportunity to apply knowledge and expertise; - Creating an opportunity for the exchange of knowledge and expertise among talents;</td>
</tr>
<tr>
<td></td>
<td>Organizational Culture</td>
<td>Adhocracy Culture</td>
<td>- Designing a Flexible Organizational Structure; - Not Having Concentration and Delegation of Authority; - Encouraging Risk Taking in the Implementation of New Ideas’ Domain;</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Participatory Culture</td>
<td>- Promoting Team and Group Working and Cooperative Spirit;</td>
</tr>
<tr>
<td></td>
<td>Transformational Leadership</td>
<td>Idealistic Prestige</td>
<td>- The Charismatic Power of the Employer;</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Inspirational Motivation</td>
<td>- Planning to Increase the Working Motivation of Talent; - Planning to Increase the Working Commitment of Talent;</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Mental Persuasion</td>
<td>- Encouraging Talents to Dynamic Thinking and Brainstorming; - Encouraging Talents to Identify Problems and Solve them;</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Individual Consideration</td>
<td>- Employer’s Attention to Individual Talent Needs;</td>
</tr>
</tbody>
</table>
equation that shows the relationship between hidden variables, which are called as path coefficients. Based on the figure below, it can be concluded that in the studied population of the present study, 5 elements including internal talent identification, external talent identification, socialization, development and retention were confirmed as aspects of talent management.

According to the results of Structural Equation Modeling, among these factors, talent retention with the path coefficient 0.84 and talent development with the path coefficient 0.79 were ranked as the most level of importance, and also, lower level of importance, correspondingly respectively. Subsequently, internal talent identification, external talent identification, and socialization with path coefficients 0.75, 0.75 and 0.74 are ranked, respectively. Identifying talented employees and selecting talented employees were considered as indices of internal talent identification. The attraction and selection of external talents were identified as indices of external talent identification. Appropriateness of a person to job and referrals and also, education and career were confirmed as socialization indices and also talent development, separately. Services compensation and immaterial motivation were considered as indices of talent retention. Services compensation and immaterial motivation with factor loading 0.87 were considered of the most important indices. Similarly, three factors such as employer brand, organizational culture and transformational leadership were also identified as factors affecting talent management. Transformational leadership with the path coefficient 0.765 and also, employer brand and organizational culture with the path coefficient 0.75 and 0.72 were ranked as the most level of importance and also, lower level of importance, correspondingly. The dimensions of the employer brand are interest value, economic value, social value, development value and applied value. Also, the adhocracy culture and participatory culture were identified as dimensions of organizational culture and idealistic prestige, inspirational motivation, mental persuasion and participatory culture were also considered as dimensions of transformational leadership. Among these factors, the transformational leadership style had the greatest impact on talent management and the employer brand is ranked next in terms of the impact on talent management.

Based on confirmatory factor analysis model in significance mode, pathways which their absolute value coefficients are greater than 1.96 are significant. Since the model of this research has been tested at 95% confidence level and given that the coefficients of all the pathways in the confirmatory factor analysis model are more than 1.96 in the significance mode, it can be concluded that all the relationships in the research model are significant.

<table>
<thead>
<tr>
<th>Variable</th>
<th>Significance Level</th>
<th>Kolmogorov Z statistic</th>
<th>Result</th>
</tr>
</thead>
<tbody>
<tr>
<td>Employer Brand</td>
<td>0.45</td>
<td>0.86</td>
<td>Normal</td>
</tr>
<tr>
<td>Organizational Culture</td>
<td>0.86</td>
<td>0.89</td>
<td>Normal</td>
</tr>
<tr>
<td>Transformational Leadership</td>
<td>0.89</td>
<td>1.71</td>
<td>Normal</td>
</tr>
<tr>
<td>Talent Management</td>
<td>0.037</td>
<td>2.23</td>
<td>Abnormal</td>
</tr>
</tbody>
</table>
Factor loadings are calculated by calculating the correlation between the indices of a structure with that structure that shows value 0.5 and indicates that the variance between the structure and its indices is greater than the variance of the measurement error of that structure and its reliability of that model acceptable. If the factor loading is less than 0.5 for an index, then it should be deleted from the model.

Factor loadings more than 0.7 are more acceptable (Hair et al., 2010). In this study, according to Table (4-14), the factor loading for all indices is more than 0.7. Also, considering that at the 95% confidence level, the t-value of the factor loadings of each index is greater than 1.96, it indicates the significance of factor loadings. Therefore, it can be concluded that the research measurement model is appropriate in terms of factor loadings.

The general criterion of GOF was used to measure the goodness of fit of the whole model. Wetzels, et al. (2009) introduced the GOF 0.01, 0.25 and 0.36 for weak, moderate and strong fit, respectively. The GOF in this study is 0.83, so it can be said that the general fit of the research model is strong. The following formula was used to calculate this criterion:

\[ \text{GOF} = \sqrt{\frac{\text{AVE}}{\text{R}^2}} = \sqrt{0.74 \times 0.934} = 0.83 \]

In methodology, the result of the thematic analysis of the data was obtained in order to answer this question “What are the dimensions, components and indices of talent management in knowledge-based companies in agricultural domain of Guilan province?” Five elements were identified as dimensions of talent management in the knowledge-based companies in agricultural domain of Guilan province. The identified dimensions of talent management in the knowledge-based companies include: internal talent identification, external talent identification, socialization (making socialized), development, and talents retention. The two components identified for internal talent identification include identification of talented employees and the selection of talented employees. Also, the at-

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*Figure 1. The Research Model in Estimating Standard Coefficients Mode*
traction of external talents and the selection of external talents were also identified as components of external talent identification. Two components including referrals, appropriateness of a person to job were identified as components of socialization (making socialized). The components of talent development include education and career development (career pathway development). The identified components for talents retention are services compensation and immaterial motivation.

So, it can be concluded that in knowledge-based companies in agricultural domain of Guilan province, implementing effective talent management strategies generally consists of five sections. In these types of companies, talent identification is done internally and externally, and these two methods are used complementary. If there are talented employees within the organization that their promotion to more sensitive and important posts and utilizing their talents to further development of the organization may be possible, senior company officials have identified them and after evaluating this category of staff, they decide on their selection and promotion to higher posts. Also, knowledge-based companies are trying to find out more talented forces from outside of the organization, to take advantage of new ideas and new thoughts. The organization can successfully act in attracting talented individuals outside of the organization by searching for talented individuals at top universities and declarations, as well as introducing these them by trusted talented and expert persons. After attracting talented volunteers, they are evaluated and based on their scientific abilities and work experience, and also based on personality and ethical characteristics, the most talented individuals will be chosen. Based on the results of this study in quantitative modeling part, internal and external talent identification are important for the effective talent management process almost equally.
Therefore, it can be concluded that if talented employees and volunteers are properly identified and attracted, their selection will be made with greater ease and confidence.

After using the talents, it turns into socialization and making socialized. At this stage, the referrals are carried out and the talents become familiar with the organization’s culture, the conditions, the working hours and the colleagues. Also, authorities in using talents should be fully confident in the suitability of the skills and abilities of the talents to the needs of the job. In this level, talents are employed in a situation where the needs of the job are met through their abilities and skills and the mental and personality needs of the talents are also provided by job requirements. According to the results of this study, among the indicators of socialization in knowledge-based companies, the appropriacy of occupation with the employees is more important than the referrals.

Talent development is another talent management strategy that plays an important role in the growth and development of talented personnel. According to the results of this study in knowledge-based companies, the development of talents is of great importance, because the development of talents improves their knowledge, skills and abilities and thus, improves their performance and increases the productivity of talents.

Companies in this part, help them to educate making them familiar with better ways to do things through creating learning opportunities for talents before they begin to work. Another way to develop talent is career pathway (progress in career pathway). In this regard, authorities in talent development in knowledge-based companies in agricultural domain of Guilan province are working to identify individuals’ desires in choosing career pathways and planning to create job opportunities. The results indicate that in knowledge-based companies, among the indices of talent development, career pathway is more important than education. Hence, it can be concluded that for talented individuals, planning for job progress has great importance and makes more motivation to do the job. In knowledge-based companies, talent retention is the most important level in talent management. Because, the loss of talent imposes a heavy cost on companies, it will be very difficult to replace talent for companies and it will be very difficult for companies to replace talents. In knowledge-based companies, given that knowledge and creativity of talented individuals are basis of activities, retention of talented personnel is much more valuable than attracting new talents, because the organization has expended on educating employees, while, they are also familiar with some of the company’s important and confidential information.

With exiting the talents and their attraction
in rival companies, in addition to being faced with the lack of creativity and new ideas by knowledge-based companies, they may also be at risk of disclosing confidential information to competitors, and thus, their ability to compete and survive face serious problems. At this level, knowledge-based companies are designing a system for effective services compensation and considering immaterial motivation in order to retain talent in the organization and prevent them from leaving their jobs. Immaterial motivations and services compensation system are considered as the most important indices of talent management models in knowledge-based companies, although motivational and immaterial encouragers seem somewhat more important than the system of material services compensation. Thus, for talented employees, internal rewards are more important than external rewards, but external rewards are also important and should not be overlooked. To this end, companies use a variety of methods such as paying salaries in accordance with talents abilities, unemployment, medical and supplementary insurances, welfare benefits, the use of encouragements and material and immaterial rewards, formal appreciation of talents, positive feedback to talents, and creating job security. According to the results of this study, so as to answer this question that “what are the underlying and effective factors in talent management in knowledge-based companies of agricultural domain in Guilan province?”, three factors of transformational leadership, organizational culture and employer brand were identified as the underlying and effective factors in talent management in agricultural domain of Guilan province.

Moreover, interest value, economic value, social value, development value and applied value were identified as the dimensions of the employer brand. Idealistic prestige, inspirational motivation, mental persuasion and individual consideration and also, advocacy culture and participatory culture were considered as dimensions of transformational leadership and dimensions of organizational culture, in that order. Based on the structural equation model of the research, it can be concluded that the transformational leadership style has the greatest impact on talent management in knowledge-based companies. Among the dimensions of the transformational leadership style, the mental persuasion, and also, idealistic prestige, inspirational motivation, mental persuasion and individual consideration are of the highest importance and priority and also, of the next priorities, respectively.

Therefore, it can be believed that in knowledge-based companies, transformational leaders who influence their followers and inspire them to try for the achievement of the organization’s goals, play a very important role in enhancing the performance of talented employees and increasing their efficiency and effectiveness. Also, transformational leaders help in increasing productivity and promoting their performance by creating a sense of respect, honesty, commitment, loyalty and accountability in talented employees. In this situation, the most important factor is the stimulation and mental persuasion of the talented employees to create creative ideas in them and find innovative solutions by them. Also, identifying the talented employees by employer and influencing them through the values and leadership beliefs are also important dimensions of transformational leadership that affects the process of effective talent management in knowledge-based companies. Motivating talented employees by employer through creating situation for contributing talents in the future viewpoints of the organization increases their commitment, and so, it is important to run an effective talent management process. Also, individual consideration is another factor in the implementation of effective talent management in knowledge-based companies. That is, the employer should pay attention to the needs of the employees and address the concerns, needs and welfare of the subordinates.

The results of this study show that employ-
ers brand can play an important role in effective talent management process in knowledge-based companies. Since the employer brand makes the employer different from competitors and causes gaining competitive advantage for the company, knowledge-based companies can attract talented employees through branding for themselves, and by increasing their commitment, satisfaction, and loyalty, retain these talents in the organization. Among the dimensions of the employer brand, interest value is considered as the most important element. Development value, social value, economic value, and applied value are in next rankings, respectively. Given the important role of interest value, it can be concluded that in knowledge-based companies, companies’ authorities need to encourage the creativity of talented employees and use their creativity to create new products and services and apply them into challenging and exciting jobs, to create an effective talent management system. The development value is another factor that is in second level of importance.

Hereafter, it is imperative that the authorities of the knowledge-based companies can cause the better implementation of the talent management process through transferring the promoted work experiences to the talented employees and creation of self-esteem and developmental skills in them. Since the social value is ranked in the third level in terms of importance, this value should also be considered in order to design an effective talent management system. In this regard, the authorities should provide a friendly and pleasant work environment for talented employees and create a job promotion situation in them. To create an effective talent management system, economic value should not be ignored. Talented employees should be sure that they have the appropriate salary and benefits higher than average level.

Ultimately, the knowledge-based companies should create an opportunity for talented employees to be able to apply their knowledge and skills to work and transfer their expertise and knowledge to their colleagues, to have an effective talent management system to have an effective talent management system that empowers employees to apply their knowledge and skills and transfer their expertise and knowledge to staff colleagues. Based on the results of this research, another factor that contributes to creating an effective talent management system in knowledge-based companies is organizational culture. Hence, it can be concluded that organizational values also affect the proper management of talents, such as attracting, socialization, and retaining employees. The results of structural equation modeling show that there are two types of cultures in knowledge-based companies. Between the dimensions of organizational culture, adhocracy culture has the greatest role in creating an effective talent management and participatory culture is in next rankings, respectively.

In the adhocracy culture, power and authorization are distributed at different levels and emphasize on risk taking, creativity, and innovation. This type of culture can be attractive to talented employees and provide the necessary motivation to work in the company. Also, the participatory culture is another factor that creates an effective talent management system for knowledge-based companies. Creating a flexible working environment, spirit of teamwork and necessary and sufficient devolution to talented employees can attract them to the organization and encourage them to continue to work with the organization and not to leave the job.

Regarding the identification of the dimensions of talent management such as recruitment, employment, training, job development trend, and talent preservation, the results of the present study are in harmony with the results of a study done by Nopasand aseel et al (2014), Sobhani et al, (2016), Chegini and Salavati (2016), Vnoučková et al (2016). Similarly, with regards to employer brand, the results are in line with the findings of studies done by Jyoti A Talent Management Model in Active Knowledge-Based ... / Salami et al.

Suggestions

Based on the results of this study, in talent identification domain from inside the company, it is suggested to the authorities and senior managers in the knowledge-based companies of agricultural domain in Guilan province to select the talented employees based on the evaluation of managers about quality of their performance and effort, review of working history and their measure of accountability. As well as evaluating their ability to learn new skills. Also, in order to successful implementation of the talent identification strategy outside of the company, firstly, it is recommended to use public recalls in mass media to attract talents. Also, internal experts and elites are asked to introduce their talented and endorsed individuals to the company.

The attraction through the Elite Foundation and the search among students and elite graduates of prestigious universities is another way of attracting talented individuals from outside of the company. After attracting the talents, it is suggested that the talents are being tested by Job knowledge, psychological testing, personality testing, and professional and behavioral interviews. Considering that socialization is also one of the other talent management strategies in the knowledge-based companies, it is suggested that socialization be used before applying the talents. In this setting, it is advisable that employees to be occupied in posts which is consistent with their education, knowledge, skill, ability and also in posts which are appropriate to their personality characteristics and spirit by conducting the necessary examinations and referring to the job description and taking into account the characteristics of talented personnel.

In the meantime, it is better a program to be provided in which, talented employees become fully familiar with the organization’s values and norms, organizational environment, working conditions as well as working hours, before they start working. In order to successful retention of talented employees in the company, it is important paying lots of attention for encouragers and immaterial motivation. In this regard, the formal appreciation of talents in intermittent periods, providing positive feedback to talented employees in the field of job performance with the aim of increasing job motivation and creating job security for talents can be considered as useful strategies. Material rewards are also very important at this level. Consequently, it is suggested by designing an effective services compensation system, such as paying salary and benefits appropriate to talents abilities, taking into account the unemployment, medical and supplementary insurance, and suitable welfare facilities for talented personnel, providing encouragements and cash rewards to talented personnel, increase the probability of staying employees in the organization.

The attention of authorities to creating opportunities for job promotion of talents, and planning for the professional enrichment of talented employees are considered to be a useful tool for developing the career pathways of talents. It is suggested to employers and authorities of knowledge-based companies to pay attention to educating and development of the career pathways of talents in order to further promotion of their capabilities.

In the meantime, it is better a program to be provided in which, talented employees become fully familiar with the organization’s values and norms, organizational environment, working conditions as well as working hours, before they start working. In order to successful retention of talented employees in the company, it is important paying lots of attention for encouragers and immaterial motivation. In this regard, the formal appreciation of talents in intermittent periods, providing positive feedback to talented employees in the field of job performance with the aim of increasing job motivation and creating job security for talents can be considered as useful strategies. Material rewards are also very important at this level. Consequently, it is suggested by designing an effective services compensation system, such as paying salary and benefits appropriate to talents abilities, taking into account the unemployment, medical and supplementary insurance, and suitable welfare facilities for talented personnel, providing encouragements and cash rewards to talented personnel, increase the probability of staying employees in the organization.
the transformational leadership style by employers can lead to successful talent management. In order to strengthen the transformational leadership style in the company, it is suggested employers encourage the employees to have new thinking and use new work methods, and teach them to look at problems from different viewpoints to provide a creative solution. It is desirable for employers to be strong and confident in decision making and actions and act in such a way to be ethical and behavioral patterns for talented employees and to prove to their subordinates in their performance that they prefer the interests of the organization to their own interests.

In addition to the above, employers are advised to develop a sense of optimism about the company’s future successes among employees and use polling from talented employees in order to outline the future viewpoints, because they will have a greater motivation to achieve the successes through participating in codification of the company’s viewpoints. It is recommended that employers pay attention to the needs, problems and concerns of the talented employees and help develop their strengths and remove their weaknesses. Another factor that creates effective talent management is the employer brand. It is suggested that employers and authorities of knowledge-based companies make successful talent management strategies with their branding for themselves. To become nominated and brand among competitors, it is suggested to employers and authorities of knowledge-based companies to be creative and innovative and use creativity of employees to create added value, an exciting and creative work environment, self-confidence in employees and transfer their experiences to them. Meanwhile, creating a pleasant and happy working environment, friendly relationship between employer and employees and encouraging them to have good and friendly relationships with each other can help the employer to become a brand. It is worthwhile for employers to provide salary higher than average level, progress opportunities, job promotion and motivational services compensation packages for talented employees.

Creating opportunities for talented employees in using their learning at work place and educating and transferring their knowledge to others can lead to making an employer as a brand. Employers and authorities of knowledge-based companies are advised to create effective talent management system by focusing on the creation of organizational, adhocracy and participatory culture. Designing a flexible organizational structure that is capable of adapting to changeable situations, not being concentrated power at the highest levels of the organization, sufficient devolution to talented employees, encouraging them to creativity, innovation, and risk taking are among the ways of creating an adhocracy culture in knowledge-based organizations that can lead to create an effective talent management system. The strategies for creating participatory culture are creating teamwork opportunities, promoting spirit of teamwork, and encouraging employees to work together as family members.

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