THE IMPACT OF TALENT MANAGEMENT ON INNOVATION: THE EMPIRICAL STUDY OF PHARMACEUTICAL COMPANIES

Mohammad Abdalkarim Alzuod *

* Business Administration Department, College of Business, Amman Arab University, Amman, Jordan

Contact details: Business Administration Department, College of Business, Amman Arab University, P. O. Box 2234, Amman 11953, Jordan

Abstract

The main objective of this study is to investigate talent management (TM) on innovation in Jordanian pharmaceutical companies. TM can enable employees to develop the necessary skills, knowledge, and abilities to implement innovative ideas (Ibrahim & ALomari, 2020; Mohammed et al., 2018). The quantitative method was used to conduct this study to make the results of the study statistically significant and empirical. Data from the study has been collected by utilizing a questionnaire, which was handed out to 400 managers and employees in Jordanian pharmaceutical companies. Only, 295 retrieved questionnaires were usable for analysis. Sequentially, the Statistical Package for the Social Sciences (SPSS) software program was used to analyze of study data. The findings of the study showed that TM affected on innovation significantly and positively. Also, the results of the study statistics showed a positive significant impact of TM dimensions, identifying critical positions, competence training, development, and reward management on innovation. On the basis of the results, this study conducted some recommendations: Jordanian pharmaceutical companies should offer training and development programs to help employees build and deepen their knowledge and skills. As well as to providing incentives such as bonuses and stock options to retain high-performing employees. Hence, Jordanian pharmaceutical companies should focus on fostering a culture of innovation and collaboration that encourages employees to share their ideas and knowledge.

Keywords: Talent Management, Innovation, Pharmaceutical Companies, Jordan

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1. INTRODUCTION

Recently, most organizations have faced many challenges that related to performance and how to improve the skills of their employees. The most significant factor of business is to maximize the resources’ value, particularly human resources. However, with practices of distinctive management, it should be to integrate talent management (TM), skills, shared goals, know-how, sympathy, thinking of market-oriented, and resources effectively (Vatousios & Happonen, 2021). TM depends on the knowledge base of companies, along with the criteria of the operation process (Ibrahim & AlOmari, 2020). Therefore, TM as an essential part of strategic human resource management (HRM) can develop the performance of companies by realising the strategy implemented during its talented employees (Mohammed et al., 2018).

Innovation is impalpable of corporate assets and it is also one of the factors for the fulfillment of the sustainable competitive advantage of firms (Ibrahim & AlOmari, 2020). TM is a complex type of practice in human resources, that allows firms to have individuals who are willing to evolve and work and trying to integrate these individuals into specific tasks to make them supportive of talent development. One of their competencies is innovation that managers and employees for the competencies required (Marin-García et al., 2011). Hence, talented workers are a competitive tool to capturing a sustainable competitive advantage and a source of innovation for organizations (Mohammed et al., 2018).

TM and innovation are closely related because the success of innovation largely depends on having the right talent in place. TM focuses on attracting, selecting, developing, and retaining employees with the necessary skills, knowledge and abilities to achieve the organization’s goals. In order to foster innovation within an organization, it is crucially important to have employees with diverse backgrounds, experiences, and perspectives (Alsakarneh et al., 2023; Mahfouz et al., 2022; Mkhize & Brijball Parumas, 2022; Mahfouz et al., 2021; Vatousios & Happonen, 2021).

In the field of innovation of pharmaceutical companies is indispensable through research and development (R&D) was improved with a technic of collaboration and exchange of technology with strong institutes. The next step is the composition of domestic talent, and then R&D are carried out independently (Erlangga, 2022). These companies deal with highly sensitive products that produce through the use of precise technology. Therefore, the process of selecting employees needs to look for skills and unusual job specifications. Industry of pharmaceutical is an accumulated knowledge manufacturer that demands more awareness on human capital development to originate value (Odhong’ & Omolo, 2015).

The pharmaceutical industry in Jordan is considered one of the important and critical sectors. It has formed the fourth-largest exporting sector in Jordan to 70 countries, representing 9% of the country’s total exports during 2020–2021 ($598 million in 2020), which involved 84% human drugs, which strongly contributes in reducing the deficit in the trade balance of Jordan. While the size of the pharmaceutical companies’ contribution to the total national economy is about 10.2% of the gross domestic product (GDP) (Jordanian Association of Pharmaceutical Manufacturers [JAPM], 2023). The national pharmaceutical companies have provided 11,000 direct job opportunities and in addition to 50,000 indirect job opportunities in the supporting industrial sectors and other commercial and service sectors related to the pharmaceutical industry, including the carton industry, printing and packaging, insurance services, transportation, shipping, marketing and others (JAPM, 2023).

Based on the previous literature review, the importance of this research comes from exploring the relationship between TM and innovation. The studies of the relationship between TM and innovation empirically are still scarce, this is introduced as the motivating power for this study to demonstrate the process of TM that Jordan can apply. The present study is prospect to have implications to scholars and professional groups regarding to motivate the mechanism of innovation in Jordan, particularly in pharmaceutical companies.

The structure of this paper is as follows. Section 1 reviews the background and introduction of the study, while Section 2 reviews the relevant literature and concepts of study. Analyses and the methodology that has been used to conduct empirical research of talent management on innovation are explained in Section 3. Sections 4 and 5 discuss the importance of results and illustrate of discussion respectively. Section 6 concludes the paper.

2. LITERATURE REVIEW

In this section, all the main variables of the study will be presented and defined: talent management, innovation, as well as previous studies related to them.

2.1. Talent management

The prime purpose of TM is to promote the workers to illustrate high capabilities and performance, and match these with the strategic directions of organization, so it can stay alive and enlarge (Chen et al., 2021). Therefore, Abdullah and Abubakar (2017) defined TM as the process of attracting, retaining, deploying, and developing high-potential individuals as employees who have specified quality that are deemed as a particular value for the organization. On a similar line, Ibrahim and AlOmari (2020) indicated to TM as a concept of the combination of activities that related with attracting, selecting, developing and retaining of talent employees in organizational situation strategically. Moreover, Chen et al. (2021) defined TM as the activities of an organization for the aim of attracting, selecting, developing and retaining the optimum individuals as based on roles and scale strategically and globally.

On the other hand, there are those who proposed a definition of TM as a process mostly contains the planning of the workforce, to create a plan of the workforce by preparing such as plans, compensation budget and objectives. It also involves...
recruitment which is the integration of the recruitment process and evaluation (Jose & Asha, 2019). On the contrary, there are those who said that TM is a practice, not a process, for example, Marin-Garcia et al. (2011) considered TM as a complicated style of practice that belongs to the human resources field, which permits firms to have the best-skilled individuals and combine these individuals in their job and tasks to do them become an assistant for the improvements of the efficiencies of supervising staff to fulfill both the present and future demands of their firms.

In relation to the above, the corporate viewpoint plays a crucial role in the strategy of HRM globally and boosts differences in its practices, with TM, between different corporate environments (Thite et al., 2021). TM has not only concentrated on how to establish a work team but also on how to select and grow talented individuals to release their capabilities (Vatousios & Happonen, 2021). In the same study line, Mohammed et al. (2018) revealed that TM as a major combination of strategic HRM can enhance performance of the company in the forming any recognition the strategy created through its talented people. Furthermore, four dimensions were proposed by Mohammed et al. (2018): “talent attraction, talent training, talent development and talent retention” (p. 8). Talent attraction is one of the most important elements of success in organizations that are interested in R&D, such as pharmaceutical companies, for example, rely heavily on attracting experienced employees to fill important positions. Based on Mohammed et al. (2018) opinion that talent attraction is compartmentalized to two parts as social domain and institutional excellence.

In this study, TM concludes four dimensions based on Jayaraman et al. (2018) study: “identifying critical positions, competence training, development, and reward management” (p. 1), that are adopted as it is considered more appropriate for the context of the study. According to the identifying critical positions dimension, that identifying talented persons is the primary step in any TM process. After that, they matching to filling vacancies as critical positions will guarantee suitable personalities that are significant for the high performance of the firms (Jayaraman et al., 2018). While competence training and development dimensions are determined by their level of competencies and then develop their capabilities through this process, training needs for talent development can be identified (Mohammed et al., 2018). Finally, the reward management dimension consists of intrinsic and extrinsic rewards. Intrinsic rewards at work, it involves learning, career growth and feeling of self-esteem, interesting and challenging work, and a supportive work environment. But extrinsic rewards include competitive salaries, pay increases, incentive bonuses, variable pay and social climate (Mahaney & Lederer, 2006).

2.2. Innovation

Innovation is crucial for any firm because it motivates the firms by determining the impact on the firms as each approach of driving to enclose high productivity in an effective way (Jose & Asha, 2019). Companies have to perform applicable TM systems by addressing the issues successfully and also to be eligible to innovate as the demand of firms required continuously (Ibrahim & AlOmari, 2020).

Particularly, innovation may involve multiple dimensions as the introduction of a new product/service, new production of processes, release of changes, new markets and suppliers in innovative business models of firms (Alzuod & Dalain, 2023). Firstly, incremental innovation is a gradual process which has been well-decided and systematic and it proposes some changes in the processes of production and also in practices of work, which in transform reason in enhancements on the improvement of development indicator’s. While radical innovation concludes in getting something completely new products, processes and technology, which represents a penetration and causes a serious effect in the business and entrepreneurship (Marin-Garcia et al., 2011).

According to Alzuod (2020), companies have been driven by environmental challenges to adopt dire changes to their products and processes via innovation. As well the above previous studies, Ibrahim and AlOmari (2020) reviewed and officially categorized into new products, new processes and new organizational arms, practices or forms. Therefore, it consists of three dimensions: 1) product innovation, 2) process innovation and 3) marketing innovation. On a similar line, Škerlavaj et al. (2010) classified innovation into two dimensions: 1) product innovation and 2) process innovation.

Two dimensions of the variable of innovation (product innovation and process innovation) are adopted in this study, the basis of previous studies such as Škerlavaj et al. (2010) and Alzuod and Dalain (2023), it is deemed more appropriate to the context and objective of the study. Measurement items of innovation that were developed and used by Škerlavaj et al. (2010) were conducted in this study.

2.3. Talent management and innovation

The highly eligible workers are capable of conducting a performance by adopting initiative, innovation and excellence. These employees are the essential resources of innovation and development of society. It is obvious that there are many competitors through organizations in this epoch of new technology, leading a growing in well-known members together with changes of the broad market (Mohammed et al., 2018). However, not enough research has been discovered to allow indicating whether the innovation efficiencies of managers/employees are in the same or different contexts. Some of the relevant studies reviewed show that innovation considers a critical role in obtaining talent and adopting diversified technologies such as big data analysis, artificial intelligence, chatbots, social media, video interviews, and teleconferencing that highly impact the growth and development of the firms by acquiring the skillful employees in markets (Jose & Asha, 2019).

Effective TM strategies can help organizations identify and develop employees who have inventive potential to be innovative, creative and forward-thinking. Innovation is not just about coming up with new ideas, but also about having the ability to implement them successfully. Therefore, TM practices such as training,
development and career planning can enable employees to develop the necessary skills, knowledge, and abilities to implement innovative ideas (Odugbesan et al., 2023; Ibrahim & AlOmari, 2020). In addition, effective TM strategies can help identify potential obstacles to innovation such as rigid hierarchies, bureaucratic policies, lack of communication and poor leadership that inhibit innovation. Addressing these obstacles can provide opportunities for innovation to flourish (Jose & Asha, 2019). Therefore, TM and innovation are intertwined, and organizations need to prioritize both in order to have a sustained competitive advantage in the marketplace.

Many previous studies that conducted, it interested in the relationship between TM and innovation, have generally conducted a relationship between the two variables in different contexts positively and significantly. For example, Odugbesan et al. (2023), Ibrahim and AlOmari (2020), Jose and Asha (2019), Marin-Garcia et al. (2011) and Mohammed et al. (2018) indicated a positive significant relationship. It is very important to mention Abdullah and Abubakar’s (2017) study which recommended that future research could investigate TM empirically in various industries, and others may select to carry out the study and validate it in diversified countries. It should be noted that empirical studies of this level are not enough, therefore, this study makes an effort to minimize the shortage of studies and expansion of literature.

The studies were conducted to examine two variables, TM and innovation relationship, e.g., the study of Ibrahim and AlOmari (2020) involving 120 employees in top and middle management positions in Jordanian banks, found that TM had a significant and positive impact on innovations (product innovation and process innovation). This finding was supported by Marin-Garcia et al. (2011) in the case of different staff members (support, technicians, managers). The study proposes a positive effect directly of TM on innovation types. In the context of higher education institutions, Mohammed et al. (2018) reported innovation sources that are effect on TM dimensions (talent attraction, talent development, and talent retention) in their department and faculties.

According to the argumentation of results in previous studies, this study suggests to test the hypotheses below:

**H1:** Talent management will have a positive and significant impact at the significance level (α ≤ 0.05) on innovation in Jordanian pharmaceutical companies.

**H1a:** Identifying critical positions will have a positive and significant impact at the significance level (α ≤ 0.05) on innovation (product innovation and process innovation) in Jordanian pharmaceutical companies.

**H1b:** Competence training will have a positive and significant impact at the significance level (α ≤ 0.05) on innovation (product innovation and process innovation) in Jordanian pharmaceutical companies.

**H1c:** Development will have a positive and significant impact at the significance level (α ≤ 0.05) on innovation (product innovation and process innovation) in Jordanian pharmaceutical companies.

**H1d:** Reward management will have a positive and significant impact at the significance level (α ≤ 0.05) on innovation (product innovation and process innovation) in Jordanian pharmaceutical companies.

### 2.4. Study model

In the progress of innovation, TM plays a significant part, especially among Jordanian pharmaceutical companies. Based on the previous illustration and argumentation, it proposed this study model in Figure 1.

![Figure 1. Study model](image)

### 3. RESEARCH METHODOLOGY

The quantitative method was used to conduct the research to come out with the results of the study statistically significant and empirically. Also, the study is developing a questionnaire and collecting appropriate data.

#### 3.1. Population and sample of study

The present population of study include the pharmaceutical companies in Jordan which are affiliated with the JAPM. The list included 14 companies as the study population (JAPM, 2023). In the JAPM, a total of 26,000 employees are listed (JAPM, 2023), and this was considered as the population of the study. The sample was determined by Krejcie and Morgan’s (1970) table, 377 managers and employees were chosen as the study sample through stratified sample. Accordingly, 400 questionnaire copies were distributed. These respondents represent those who manage talented employees in human resources departments (managers and employees). Also, they themselves deal with employees and managers who are related to innovation through an annual evaluation (reports) that contains paragraphs to measure the degree of innovation. The close-ended questionnaire was developed for the collection process of data (refer to Table 1).
400 questionnaire copies were distributed, and only 295 were retrieved and valid for data analysis, which achieved a 73.75% as a rate of response. The pharmaceutical manufacturer's managers and employees were respondents of the study.

3.2. Measurements

A five-point Likert scale was used to measure the items of the questionnaire. Twenty-six items were adopted from Jayaraman et al. (2018) that used to measure TM involving four dimensions (identifying critical positions, competence training, development, and reward management). Meanwhile, the innovation construct had thirteen measuring items adopted from Škerlavaj et al. (2010). The items of measurement are displayed in Appendix which is suitable for the context of sampling.

4. RESULTS

To present the results of the study, the data analysis method will be clarified, as well as the respondents’ information will be presented, in addition to presenting the method for testing hypotheses.

4.1. Data analysis

After data collected, the Statistical Package for the Social Sciences (SPSS) 26 software program was used to conduct the descriptive statistic of data by used frequency distributions, probability, and probability distributions. Also, to evaluate the developed hypothesis, the multiple regression analysis was performed.

4.2. Respondent profiles

The respondent profiles data of this study were categorized such as gender, education level, age of employee, and career position. The details are summarized as follows, from 295 collected study questionnaires. The most respondents were male (62.8%), and 37.2% were female. Subsequently, the Bachelor’s degree (54.6%) was among the most respondents, and the lowest percentage had the Ph.D. degree (1.4%). On the other hand, the age of respondents revealed that 30–40 years old category was 42.3%, while 50 and more years old category was 12.7%. Finally, the profile of respondents by position title showed that manager level composed 20.9%, and the largest part of respondents were employee (63.1%).

4.3. Reliability analysis (Cronbach’s alpha)

Cronbach’s alpha coefficient was used for determining the reliability of the variables. All constructs alpha values were higher than 0.70, which confirmed to accepted reliabilities. Therefore, Hair et al. (2014) considered alpha values must be higher than 0.70 to be a good level of reliability. The Cronbach’s alpha values were illustrated below in Table 2.

4.4. Testing of hypotheses

Multiple linear regression analysis was applied to prove the main hypothesis and to prove the proportion of interpretation of TM and its dimensions on innovation, and the value of F and its significance were adopted to verify the evidence of the hypothesis. The given Table 3 is analyzed below.

Table 1. Jordanian Association of Pharmaceutical Manufacturers (JAPM)

<table>
<thead>
<tr>
<th>No.</th>
<th>Company</th>
<th>No. of distributed questionnaires (S)</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>Amman Pharma Industries (API)</td>
<td>90</td>
</tr>
<tr>
<td>2</td>
<td>Arab Pharmaceutical Manufacturing (APM)</td>
<td>25</td>
</tr>
<tr>
<td>3</td>
<td>Dar Al Dawa Development &amp; Investment (DAD)</td>
<td>70</td>
</tr>
<tr>
<td>4</td>
<td>Hayat Pharmaceutical Industries (HPD)</td>
<td>20</td>
</tr>
<tr>
<td>5</td>
<td>Hikma Pharmaceuticals</td>
<td>80</td>
</tr>
<tr>
<td>6</td>
<td>Jordan River Pharmaceutical Industries (JOPH)</td>
<td>20</td>
</tr>
<tr>
<td>7</td>
<td>MEIPHARMA (Middle East Pharmaceutical &amp; Chemical Industries)</td>
<td>20</td>
</tr>
<tr>
<td>8</td>
<td>Pharma International (PIC)</td>
<td>25</td>
</tr>
<tr>
<td>9</td>
<td>Pella Pharmaceutical</td>
<td>20</td>
</tr>
<tr>
<td>10</td>
<td>Ram Pharmaceutical Industries (RAM)</td>
<td>20</td>
</tr>
<tr>
<td>11</td>
<td>Sukhtian Pharma</td>
<td>20</td>
</tr>
<tr>
<td>12</td>
<td>Sana Pharma</td>
<td>15</td>
</tr>
<tr>
<td>13</td>
<td>Total Quality Pharma (TQPharma)</td>
<td>15</td>
</tr>
<tr>
<td>14</td>
<td>United Pharmaceutical Manufacturing (UPM)</td>
<td>20</td>
</tr>
<tr>
<td>Total</td>
<td></td>
<td>400</td>
</tr>
</tbody>
</table>

Table 2. Reliability of the variables of study (Cronbach’s alpha)

<table>
<thead>
<tr>
<th>No.</th>
<th>Variables</th>
<th>No. of items</th>
<th>Cronbach’s alpha</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>Identifying critical positions</td>
<td>4</td>
<td>0.821</td>
</tr>
<tr>
<td>2</td>
<td>Competence training</td>
<td>6</td>
<td>0.880</td>
</tr>
<tr>
<td>3</td>
<td>Development</td>
<td>5</td>
<td>0.793</td>
</tr>
<tr>
<td>4</td>
<td>Reward management</td>
<td>11</td>
<td>0.897</td>
</tr>
<tr>
<td>5</td>
<td>Innovation</td>
<td>13</td>
<td>0.912</td>
</tr>
</tbody>
</table>

Table 3. The talent management dimensions — Innovation model coefficients

<table>
<thead>
<tr>
<th>Dependent variable</th>
<th>Analysis of variance (ANOVA)</th>
<th>F</th>
<th>Sig. F*</th>
<th>Talent management</th>
<th>Coefficients</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>R</td>
<td>R²</td>
<td>Adj. R²</td>
<td></td>
<td>B</td>
</tr>
<tr>
<td>Innovation</td>
<td>0.891</td>
<td>0.860</td>
<td>0.821</td>
<td>377.832</td>
<td>0.000*</td>
</tr>
</tbody>
</table>

Note: * Statistically significant at the level of statistical significance (α ≤ 0.05).
The results of the study revealed that the adjusted $R^2$ equals to 0.821 with $R^2$ equals 0.860, which means that the regression model interprets 82.1% of the variance in the data. F-value is 377.832 with sig. = 0.000, this means that the model can interpret 82.1% of the changes in the dependent variable (innovation) and the rest attributed to other factors. The next part of Table 3 shows the model parameters, which include intercept, $t$-value, and significance. Table 3 shows there are significant statistical impacts of the independent variables (identifying critical positions, competence training, development and reward management) based in the significant values of $t$ which are 4.179, 4.712, 4.635 and 4.894 when $\alpha \leq 0.05$ variables.

Therefore, the results shown in Table 3 support the main hypothesis (H1) and sub-hypotheses (H1a, H1b, H1c, and H1d) which proposed that talent management (identifying critical positions, competence training, development and reward management) will have a positive and significant impact at the significance level ($\alpha = 0.05$) on innovation in Jordanian pharmaceutical companies.

5. DISCUSSION

This study mainly purposed to explore the impact of TM on innovation in Jordanian pharmaceutical companies. The acquired analysis findings indicated that TM affected on innovation positively and significantly. According to the statistical results, the dimensions of TM namely: 1) identifying critical positions, 2) competence training, 3) development, and 4) reward management are supported positive significant affected on innovation namely; product innovation and process innovation. Therefore, the results of the present study are consistent with the results of previous studies (Ibrahim & AlMari, 2020; Marin-Garcia et al., 2011; Mohammed et al., 2018).

The relationship of TM-innovation was found to be positive and significant due to these items are positively related with the innovation pace of pharmaceutical companies, which deals with technology that develops in those precision industries. Therefore, TM is an incorporated system of management that launches with the attracting, developing and retaining talent practices (Mohammed et al., 2018).

Over and above, the findings also showed that TM can promote innovation, which empowers the response of firms to opportunities and changes of the environment quickly. Thus, TM should adopt best practices through changing for process of digital transformation constantly (Vatousios & Happonen, 2021). Also, its close association with innovation management, which has become a modern administrative practice.

The statistical results proved variations between categories of experience level and preference for the category of experience above ten years. This explains that the higher experience of the managers, the more eligible to acquiring innovation that get pharmaceutical companies. Also, statistical results were high indicated between each couple of education levels, the Bachelor’s degree was the majority favoured education category of employees. This reveals that there exists more innovation in the companies that they manage. As a consequence, the experience and education level of the manager are considered an important role in TM on innovation respectively.

6. CONCLUSION

The main objective of this study is to investigate TM on innovation in Jordanian pharmaceutical companies. Data from the study has been collected by utilizing a questionnaire, which was handed out to 400 managers and employees in Jordanian pharmaceutical companies. Only, 295 retrieved questionnaires were usable for analysis. Sequentially, the SPSS software program was used to analyze of study data. The findings of the study showed that TM affected on innovation significantly and positively. Also, through the results of the study statistics that showed a positive significant impact of TM dimensions: identifying critical positions, competence training, development, and reward management on innovation.

The study focused deep light to the TM process of Jordanian pharmaceutical companies that develop innovation policy. The results study are expected to have implications to schoolers and corporate practitioners about the types of innovation can be dealing with it effectively by Jordanian pharmaceutical companies, especially because empirical studies investigating the relationship between TM and innovation among Jordanian pharmaceutical companies are still sadly lacking. On the basis of the results, this study conducted some recommendations. Jordanian pharmaceutical companies are often at the cutting edge of scientific and medical research, which means they need a skilled and knowledgeable workforce to stay competitive (Alzuud et al., 2023). To attract, develop, and retain top talent, pharmaceutical companies use various TM strategies such as recruiting from top universities and research institutions to find the best candidates with relevant degrees and experiences. Also, companies should offer training and development programs to help employees build and deepen their knowledge and skills. As well as to providing incentives such as bonuses and stock options to retain high-performing employees. Hence, Jordanian pharmaceutical companies should focus on fostering a culture of innovation and collaboration that encourages employees to share their ideas and knowledge.

One of the limitations in the scope of this study is limited to Jordan, therefore it is difficult to generalize it to all countries. Also, the difficulty to finding a specific local measure of innovation related to the pharmaceutical industries in Jordan, because most of the products are outcomes of licenses from international companies. Therefore, in future research, the study proposed to focus on developing a local measure for innovation based on scientific indicators, as well as that should be expanding the study model by adding new variables related to human resources such as the behaviour of workers and their role in raising the level of innovation, in addition to trying to study the government’s role deeply in promoting the innovative role in companies and providing the appropriate environment for innovation.
REFERENCES


APPENDIX: ITEMS OF MEASUREMENTS

Innovation items (refer to Škerlavaj et al., 2010):

Product innovation:
1. In new product introduction, our company is often first-to-market.
2. Our new products are often perceived as very novel by customers.
3. New products in our company often take us up against new competitors.
4. In comparison with competitors, our company has introduced more innovative products during past five years.
5. We constantly emphasize development of particular and patent products.
6. We manage to cope with market demands and develop new products quickly.
7. We continuously modify design of our products and rapidly enter new emerging markets.
8. Our firm manages to deliver special products flexibly according to customers' orders.
9. We continuously improve old products and raise quality of new products.

Process innovation:
10. Development of new channels for products of our corporation is an on-going process.
11. We deal with customers' suggestions or complaints urgently and with utmost care.
12. In marketing innovations (entering new markets, new pricing methods, new distribution methods, etc.) our company is better than competitors.
13. We constantly emphasize and introduce managerial innovations (e.g., computer-based administrative innovations, new employee reward/training schemes, new departments or project teams, etc.).

Talent management items (refer to Jayaraman et al., 2018):

Identifying critical positions:
1. My company identifies the critical positions aligned with business strategies.
2. My company builds up a talent pool in the organization.
3. My company differentiates the identified talent on the basis of their contribution levels.
4. My company identifies the talent that makes the maximum impact on an organization's success.

Competence training:
5. The training activities for the identified talent are focused on required competencies.
6. The training activities for identified talent are implemented continuously.
7. The content of the training activities for the identified talent is based on job performance.
8. The training activities for the identified talent require time and extensive financial resources.
9. The training activities for the identified talent are designed to develop firm-specific skills/knowledge.
10. Training activities for the identified talent are in line with assigned critical tasks.

Development:
11. Development needs are identified for talent.
12. Identified talent has many opportunities for upward mobility.
13. Talents have clear career paths in this organization.
14. Talents have more than one avenue for promotion.
15. Developmental activities include feedback on the developmental growth agenda for the identified talents.

Reward management
16. My company provides recognition, e.g., financial recognition such as cash, paid travel, incentive bonus/variable pay, etc.
17. My supervisor discusses and provides meaningful and helpful feedback on job performance.
18. My company values my work and contribution.
19. I believe that my company has a fair and just system of rewarding employees.
20. My company sets challenging targets in my job.
21. I have supportive and like-minded colleagues.
22. My company supports a balanced lifestyle (between my work and personal life).
23. My company encourages and organizes team building or other social networking activities among employees.
24. My company provides a competitive pay package (i.e., basic salary plus benefits, allowances or variable pay).
25. My company provides medical aid, retirement, and pension benefits.
26. My company provides recognition via nonfinancial means, e.g., certificates of recognition.