Analyzing the Relation between In-Service Training and the Organization Performance

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Abstract

The aim Nowadays, because of sever and long-time sanctions, Iranian firms hesitate to invest in employee training programs, since that its effectiveness is not assured, justifying its cost in a short time. This study aims to define its effectiveness on employee performance, which leads to the firm customer satisfaction. According to the importance of customer satisfaction as a measure of performance in service firms, it is deployed to determine the key role of on the job training in firm survival. Therefore, it is an applied research, which employs regression and ANN to define the exact relation within in service training and the firm performance in an Iranian banking firm. Results indicate that there is a strong positive, but a nonlinear relationship between employee training and the bank performance by comparing ANN and regression results. This nonlinearity can be due to the mediating role of empowerment and the upbringing time.

Key Words: Performance, in-service training, ANN, effectiveness, non-linear.

JEL Classification : M 0, M 1, Z 0
1. Introduction

Among all production factors, human capital undoubtedly plays a key role in production of goods and services. Effective human resources are regarded as the most important capital of all organizations. Therefore, any process that concentrates on developing knowledge, skill and ability of human resources would directly lead to more performance. In-service training is such a process which plays a critical role in Human development. Therefore, it can be a main key of organization development programs. This is why Training in any organization, in order of promote the knowledge, skills, and development of employees, is crucial (KhodaiiFard, 2009). Since that human resource training such as in-service training and induction training in different ways as well as short or long-term programs are necessary for organizations. Organizations spend a lot of time and limited resources on staff development and training, while they challenge, the question that "whether Training programs really taken the lead to staff developments and results in effectiveness of the firm. This question is significantly highlighted within Iranian firms which is derived from hard economic situation in result of Iran’s economic sanctions. Many of the firms decided to minimize their training cost because of their misunderstanding about its usefulness. Some practitioners believe that training cost is harmful to the firm profitability. The reason is that most of the researches in this area are incapable of approving the positive relation between training and performance in a tangible and factual way based on real facts, although the relation is argued a lot in literature. Therefore, this paper targeted the relationship between training and the firms’ effectiveness in case of the Iranian banking firm. In order to evaluation of organizational performance, due to the nature of the service industry, customer satisfaction (CS) is employed as the most important determinants of service firm’s performance (Hung and Yuen, 2010). This concept was started in the early 1980s in America and was used as one of the most important measures of performance and operational efficiency in-service and manufacturing firms because of its key role in survival. Along with a discussion of global trade and the arrival of international competitors, CS became more highlighted and critical in a competitive environment (Hung and Yuen, 2010; Fazaeli, and Ghyasvnd, 2006). It is one of the most important topics for a variety of commercial and non-commercial organizations, based on customer-oriented philosophy and basic principles of continuous improvement (Grigoroudis, and Siskos, 2009). In fact, the idea of customer satisfaction is mentioned as the cornerstone of Total Quality Management (TQM) (Fecikova, 2004; Seyedin, 2009). Many researchers call CS as a measure of success or failure of the organizations, they believe that the main indicator of organization’s survival depends on keeping the customers, which is directly affected by customer satisfaction (Fecikova, 2004; Ziviar et al., 2012). In the new philosophy of management, CS is an organizational excellence and performance standard criterion (Gerson,
1994). In this regard, CS is employed as the main indicator of performance and the quality and quantity of training programs are considered to define the role of in-service training in reaching high performance of the studied firm.

2. Literature Review

Committee on the welfare of Colombia (2001) studied about empowering employees and provided that, training can be regarded as strategic models of empowerment which will result in increased knowledge, skills and relationships. Saghaei (1998) provided a study that was entitled "The knowledge level difference technically and professionally of trained and untrained staff". He employed a causal-comparative research method with pre and post-test analysis. Results cleared technical and expertise training is very effective on staff efficiency and efficacy. Another similar study was done by Tavakoli (2009) entitled "Evaluation of the relationship between staff well-being and efficiency of in-service training" which defined trained staff are more effective in problem solving and decision making and accomplishing their duties comparing to untrained staff. He also debated that, there is less need to monitor trained staff enthusiasm and motivation after reviewing 166 in-service programs carried out with 2,700 participants. Lorestani (1994) also debated in his research entitled "Evaluating the effectiveness of short-term training courses on performance" that:

- Participating employees in training courses makes more knowledge.
- Participating in training courses increase staff abilities,
- Training leads to more discipline, punctuality, cooperation among staff.

Contrary to the above mentioned studies some researchers claimed that in-service training is not as effective, for instance, Sanci et al. (2000) in their study entitled "Evaluation the effectiveness of in-service training" analyzed the effectiveness of staff training on knowledge, attitudes and skills of trained staff through different approaches:

1. Religious, social and administrative Knowledge
2. Job satisfaction
3. Behavioral aspects
4. Attitude toward education.

Based on the results, they debated that, except some behavioral aspects, including the obligation and responsibility, there is no valid difference between trained and untrained staff. This is while the other studies such as "Evaluation the effectiveness of mental health" concluded that continuous and appropriate training to the staff will result in more satisfaction and performance. So it comes to mind that there is an endless debate on the effectiveness of in-service training which motivates the present paper to tackle.
2.1 Theoretical Foundation

Achieving the organizational goals depends on the staff's ability to adapt to the changing environment. Human resource training and development enable the staff to fit to the organizational and environmental changes, in order to continue their duties in an effective and efficient manner. Therefore, training and development, should be an ongoing and planned efforts of the HR department to improve the employee competency for reaching the high organizational performance. In fact, nowadays, human resource is the most important capital of all firms to some extent that, economists believe that HR ultimately determines the quality of the economy and its development level. HR aggregates capital and exploits natural resources and also, creates socio-economic and political structures which determines the national development extent of the society. A country with shortcomings in its HR skills and knowledge will not be developed in the modern economy. Human resource training as an HR development program can be planned in a variety of methods such as pre-service and in-service which are described in the following.

2.2 In-Service Training

In-service training is a systematic effort to coordinate the wishes, interests and future needs of the organization, in terms of what people expect. However, in every word we define, in-service training, the main essence of all organizations and institutions, is to increase staff efficiency and provide environmental compatibility and consequently providing better services. Although training is not the same for various backgrounds of people. Studies show that training courses for those with a high school education, who are newly employed or younger people are significantly more effective than older people with more experience (Naderi et al., 2008).

I. In summary in-service training is nothing more than efforts to improve the knowledge and technical skills, professional and career as well as the establishment of the good behaviour of the staff to empower them in overcoming their duties and responsibilities (Andishmand, 1997; Nekoei-moghadam and Mirrezaii, 2005; Poursadegh and Movahedi, 2008).

2.2.1 Effectiveness of In-Service Training

Training must be established according to the principles and scientific methods to meet the needs. Otherwise training leads to waste of funds. The question is how to realize the results of training courses in order to achieve the desired goals? A complete and comprehensive evaluation can alert us about the effectiveness of training programs. Evaluation can make clear that the training programs are effective in achieving the desired goals or not (Jahangiri et al. 2015). It is used to explain some evidences for the costs and benefits of training to judge the quality and value of the program and its benefits for the organization (Foxon, 1994; Ghasemi et asl., 2004). Assessment is an integral part of the
training system. Educational evaluation is a process of interpretation of the results to judge about goals or success rate of training program. It is necessary for improving the quality of training programs. Kirkpatrick (1996) defined evaluation as an instrument to determine the effectiveness of a training program and divided this process into four levels or step:

1. Reaction: the reaction amount that the learners are showing to all factors in training process.
2. Learning: the determination of learning, skills, techniques truths in during the training course.
3. Behavior: the how and changes amount that will be achieved participants’ behavior.
4. Results: the goals realization amount that is directly linked to the organization and this question can be asked that agency or organization has the benefit of training or not?

Langenecker and Fink (2005) clearly and explicitly expressed that effective organizational learning need knowledge, time, and discipline and can be successful when all management levels as well as human resource managers coordinate a common goal. Evaluating the effectiveness of training is another important task in training process to be fruitful (Ghasem Zadeh et al. 2008; Ismaili, 2010).

2.2.2 The Role of Staff Training to Improve their Performance

The growing complexity of organizations, decreased number of personnel, change of job or job displacement, organizations deformations, human relations problems, promotion of human resources, growing momentum in all areas of human knowledge and professionalism are the important determinants that make necessitate training (Langenecker and Fink, 2005). Moreover, whatever the knowledge and skills are more relevant to community needs, scientific and technological changes, so the degree of successful performance of the individual and the organization. Sometimes, personal growth, motivation, expertise and avoid stagnation are basic factors which make organizations seek and acquire knowledge (Bittner et al., 2010). As mentioned before, this study aims to discuss the relationship between in service training and the organization’s performance. To this aim organizational performance with respect to the nature of the services firms as a case of this study, measured by customer satisfaction, which is most important determinants of organizational performance in the service industry (Hung and Yuen, 2010). In the early 1980s, CS was introduced in America and till now it is known because of its key role in performance and operational efficiency measurement. Along with a discussion of global trade and the arrival of international competitors, this concept is highlighted. While nowadays satisfaction is a very important concept (Rubin, 1990), it can be affected by continuous and justifiable HR training programs. CS is an emotional reaction of customers in their interaction with the staff or product consumption. Satisfaction is explained as the difference between the customer expectations
and the actual performance they achieved. Previous customers’ experience of consumer products plays an important role in shaping expectations (Hosseini, 2009). A training program that is well-designed and implemented can contribute to these achievements. Many of these achievements for effective management function play the role of a facilitator.

2.3 Affecting Factors on Customer Satisfaction Knowledge, Abilities and Skills

Infrastructure to increase productivity in organizations requires an emphasis on human resources in terms of quality and untimely. By definition, untimely is decrease in efficiency over time and the lack of knowledge or a new skill. This causes the staff to be worn for various reasons from professional and organizational duties. Although the factors those make untimely cannot be overcome, through training, without a doubt, knowledge and ability empower people to compete. Knowledge and skills increase the efficiency and quality of work and lead to customer satisfaction.

2.3.1 Job Satisfaction and Motivation

Encouraging employees for getting better performance is manager’s vital role in all organizations. Reviewing the literature, there are many solutions for increasing staff motivation and satisfaction. Hierarchy of needs theory by Maslow can be named in this regard. According to this theory, tackling the high-level needs of staff like training and self-estimation plays an important role in their motivation after fulfilling their lower needs. No need to declare that, happy and motivated employees feel greater commitment and will make more success for the organization. They spend more seriously and try to improve the quality of customer service to achieve success.

2.3.2 Collaboration and Cooperation

In fact, the success of the organization in achieving its objectives is related to the climate of trust and mutual understanding in the workplace, increasing employee co-operation with each other, increase co-workers, supervisors and managers and, above all coordination in the implementation of the organization's affairs in different units.

It seems that one of the ways of coordination and collaboration, use of in-service training, which on the one hand, provides employees in connection with each other. And on the other hand, provides employees’ perceptions and professional interests the same, by increasing knowledge and professional information.

Empathy also means dealing with each customer to suit the mood and overall personality characteristics, so that customers feel they are understood by organization. The employees’ behaviors have to align with customer personality. Organization has to understand the customers. More collaboration among employees, supervisors and managers will result in more efficiency and ultimately will provide more customer satisfaction.
2.3.3 Responsibility

It means desire to help customer service and providing timely and also the ability to react to a specific location or special event. A spirit of accountability is strengthened through in-service training (Naderi et al., 2008). Willingness to help customers and provide timely service is a responsibility. The value of time is important for all, thus accelerating the delivery of services, especially in financial matters is important. Standing in intolerable queues for customers, may result in loss of opportunity. Traffic solution in bank branches and agencies in order to avoid time wasting need accountability and responsibility.

2.3.4 Communication

The process of transmitting messages from the sender to the recipient is communication if the content is transferred to the recipient and vice versa (Naderi et al., 2008). Managers need good communication skills which can be achieved through in-service training.

Good deal with clients leaves good memories and will lead people to remain as loyal customers. Therefore, it can be concluded that better communication skills can make successfulness in organizations.

2.3.5 Service Quality

Trainings will increase the effectiveness and efficiency of staff, raise the performance levels, moreover increase the ability of employees and ultimately will result in better quality of products and services.

2.3.6 Innovation and Creativity

Creativity is the process of creating original ideas and creates clear position. Creative people spent their time and energy with close attention to their surroundings, they can find ways to increase the quality of service and decrease cost.

Find new ways to increase quality by combining various services is related to organizational structure and leads to customer satisfaction. According to the innovation, has the ability to increase profits.

Regarding the factors affecting on customer satisfaction and improve through in-service training, the following linear equation can be concluded.
3. Methodology

This study aimed to investigate the relationship between employee in-service training and organization performance, which is measured through customer satisfaction as one of the most important performance measure in service firms. According to above this is an applied research with descriptive research method based on correlation and regression analysis. The training hours and average scores of staff in each bank branch is considered comparing to that branch customers' satisfaction, the relation investigated through regression and ANN approaches as well. This method is employed to define whether the in-service training is effective in reaching higher customer satisfaction which means higher performance.

CS questionnaire based on Chou et al. (2006) is deployed in order to measure customer satisfaction (Chou et al., 2006), moreover for evaluating the quantity and quality of training programs, average training time and trainees scores respectively are employed. The relation between training and the performance analyzed through linear regression analysis, while the propagation neural network model is also deployed to investigate more deeply, reaching the nonlinear relationship. Conceptual research model of the present study is depicted in figure 2. As it is depicted, there are several in-service training programs for the studied case, including Credit, International, Financial, advertising and organizational behavior. The case of this study is an Iranian commercial bank which is a private bank. With more than 3500 employees and 350 branches all around the country.
4. Results and Discussion

After administering the questionnaire through the bank customers and gathering the real data of training hours (quantity) and the trainees final scores (quality) of each bank branch, table 1 depicts descriptive statistics.

<table>
<thead>
<tr>
<th>Subject</th>
<th>In-service training</th>
<th>Customer satisfaction</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Training Hours average</td>
<td>Trainees scores*</td>
</tr>
<tr>
<td></td>
<td>Sd.</td>
<td>Mean</td>
</tr>
<tr>
<td>Financial affairs</td>
<td>1.53</td>
<td>20.4**</td>
</tr>
<tr>
<td>Organizational Behavior</td>
<td>1.87</td>
<td>8.8</td>
</tr>
<tr>
<td>Credit affairs</td>
<td>12.08</td>
<td>33.4</td>
</tr>
<tr>
<td>International affairs</td>
<td>8.21</td>
<td>11.89</td>
</tr>
<tr>
<td>Advertising affairs</td>
<td>6.95</td>
<td>17.25</td>
</tr>
<tr>
<td>Customer satisfaction(over all)</td>
<td>3.6</td>
<td>92.69</td>
</tr>
</tbody>
</table>

*Scores scale 0-20          **  Man hours                 ***Scale 0-100

Based on the gathered data analysis, there is a significant positive correlation between the hours of training and the trainees scores which indicates that the training hours affects staff scores in a positive way. It means that the more training is done leads to higher scores by staff. Since that after each in-service training, there is an exam to find whether the course changes the knowledge and skills of the staff, above mentioned positive relation ensures that training courses are effective in developing the staff knowledge which demonstrates the effectiveness of the training to the employees. According to table 2. It is clear that correlation analysis demonstrates that there is no linear relation between in-service training and CS in all
subjects. It can be concluded that training hours and trainees scores on every subject, except organization behavior, have no significant correlation with customer satisfaction which means in-service trainings have no effect on the branch performance. findings indicate that, contrary to prior literature, there is no linear relationship between customer satisfaction(Performance) and in-service training.

**Table 2: In-service Training and Customer Satisfaction Correlations**

<table>
<thead>
<tr>
<th>Customer satisfaction</th>
<th>Trainees scores</th>
<th>Training Hours average</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>significant level</td>
<td>Pearson coefficient</td>
</tr>
<tr>
<td>Financial affaire</td>
<td>0.349</td>
<td>0.134-</td>
</tr>
<tr>
<td>Or. Behavior</td>
<td>0.283</td>
<td>0.153</td>
</tr>
<tr>
<td>Credit affaires</td>
<td>0.746</td>
<td>0.046</td>
</tr>
<tr>
<td>International affairs</td>
<td>0.3</td>
<td>0.148-</td>
</tr>
<tr>
<td>Advertising</td>
<td>0.086</td>
<td>0.243</td>
</tr>
</tbody>
</table>

*Signified at 5% confidence interval

Although correlation analysis indicates, there is no relation between CS and in-service training, but in order to further investigate the relationship, linear regression model is employed. Based on the results, the coefficient of determination is equal to 0.093 by t-statistics about 0.92 which means the model is not well suited. Detailed results are provided in the table 3.

**Table 3: Regression Model Results**

<table>
<thead>
<tr>
<th>Independent variable</th>
<th>Standard coefficient</th>
<th>Standard coefficient</th>
<th>t</th>
<th>significant level</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Error</td>
<td>B</td>
<td>β</td>
<td></td>
</tr>
<tr>
<td>Financial affaire</td>
<td>0.922</td>
<td>3.99</td>
<td>-</td>
<td>4.332</td>
</tr>
<tr>
<td>Financial affaire</td>
<td>0.026</td>
<td>0.27-</td>
<td>0.151-</td>
<td>1.028-</td>
</tr>
<tr>
<td>Org. Behavior</td>
<td>0.01</td>
<td>0.002-</td>
<td>0.033-</td>
<td>0.231-</td>
</tr>
<tr>
<td>Credit affaires</td>
<td>0.048</td>
<td>0.059</td>
<td>0.18</td>
<td>1.236</td>
</tr>
<tr>
<td>International affairs</td>
<td>0.007</td>
<td>0.008</td>
<td>0.157</td>
<td>1.1</td>
</tr>
<tr>
<td>Advertising</td>
<td>0.004</td>
<td>0.004-</td>
<td>0.132-</td>
<td>0.910-</td>
</tr>
</tbody>
</table>

According to table 3. In addition to the invalid model, the coefficients of the independent variables were not significant at 95% of confidence interval which ensures that there is no linear relationship between the independent variables (various training courses) and customer satisfaction although the existing literature does not support the findings. Since the impact of training on customer satisfaction is widely accepted in literature, further investigation is necessary. To this aim ANN is employed in order to either determine non-linear or linear
relations. For running the ANN, 70% of the gathered data used for training phase of the network while the other 30% of the data used to test the model. Developed network includes one hidden layer with 3 neurons while its activation function was Hyperbolic tangent and output layer also has a dependent variable with the same activation function and the error function defined as mean square error. Findings of the ANN model provide a mean squared error (MSE) equal to 0.03 and the correct prediction rate was about 86%. Findings emphasized that there is a non-linear relationship between training and the CS. Moreover, the existing non-linear relationship, the importance of various in-service trainings of the studied case can be derived according to neuronal synaptic weights as it is shown in table 4. Therefore, ANN indicates that, widely accepted literature about the relation between training and the performance is provable, although it is not in a linear form. The nonlinearity can be rooted from the needed time which is necessary to put the trained knowledge into action. In other word this non-linear relationship may be influenced by several factors such as the empowerment and lead time to be placed in action.

Table 4: Training Subjects’ Importance According to Synoptic Weights

<table>
<thead>
<tr>
<th>Independent variable</th>
<th>Weight</th>
<th>Normalized weight</th>
</tr>
</thead>
<tbody>
<tr>
<td>Financial affaire</td>
<td>0.1171</td>
<td>18.70%</td>
</tr>
<tr>
<td>Behavior</td>
<td>0.182</td>
<td>29.07%</td>
</tr>
<tr>
<td>Credit affaires</td>
<td>0.11</td>
<td>17.57%</td>
</tr>
<tr>
<td>International affairs</td>
<td>0.156</td>
<td>24.92%</td>
</tr>
<tr>
<td>Advertising</td>
<td>0.061</td>
<td>9.74%</td>
</tr>
</tbody>
</table>

5. Conclusions and Recommendations

Training is a supportive process of any organisation which plays a vital role in its surveillance. In other word training is a key of development in any kind of firm. Therefore, training is vital to all organizations, in promoting the knowledge, skills, abilities and ultimately employees’ development. Contrary to its key role, training is time consuming and late return which makes employers hesitate to invest in it. They think of wasting their resources since the results are not tangible in a short term. But the findings of the present study emphasized on the training tangible effects on performance in the long term which make the relation in a nonlinear form. This study indicates that there is a nonlinear relationship between employee training and customer satisfaction which is due to a mediating variables such as empowering staff to put the learned values in action. According to this result, it should be recommended that all firms need to invest in their in-service trainings to pace the success in new business era.
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