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Training, motivation and teamwork improvement: The case of construction firms

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A powerful human resource development system is a critical strategy for every construction companies, as in the coming years, human capital plays a significant role in order to have a successful organization. Based on a combination of literature research and questionnaire surveys, the study explores the effect of training and motivation in HRD practices on teamwork improvement in construction firms. The research was conducted by sending 50 sets of questionnaires to the nominated contractor firms in Mashhad, Iran. The analysis methods in this research were mainly descriptive and regression analysis and the type of investigation was co-relational study. The research found that the percentage of skilled and unskilled labour in the construction companies, some barriers and solutions of training and motivating workforces and the relationship between training and motivation practices in teamwork improvement. Future research should try to address on how companies can shape the environmental and organizational settings in order to motivate staff and workers for training and development.

Key words: Human resource development, training, motivation, teamwork improvement, construction.

INTRODUCTION

A powerful human resource development (HRD) system is a critical strategy for construction companies, as in the coming years, human capital plays a significant role in order to have a successful organization (Buyens et al., 2001; Iatagana et al., 2010). HRD is concerned with the provision of learning and development opportunities that support achievement of business strategies and improvement of organizational, team and individual performance (Lengnick-Hall et al., 2009; Tseng and Lee, 2009; Wang et al., 2010). The importance of involving human resources (HRs) in development, planning and implementation of competency-based strategies has been emphasized by a number of researchers (Buyens et al., 2001; Iatagana et al., 2010). In this regard, training and motivation of employees at all levels within organizations have been considered a vital component in maintaining competitiveness in the international arena. On the other hand, the construction industry plays a significant role in the Iranian economy. According to the report of the Ministry of Housing and Urban Development (MHUD), the construction industry employs more than 11% of the working population in the country. Over the past decade, nearly 40% of total annual investment was in this sector, where it has generated more than 8% of GDP (Chatterton et al., 2004). Therefore, the dynamic external environments within which many construction businesses currently operate require that they develop a capacity for training and learning faster than competitors.

The previous research, which was conducted by Tabassi and Bakar (2009), revealed that many of Iranian labour have low levels of education, low income, lack of motivation and family struggles. Their investigation has shown only 20% of Mashhad construction work forces were skilled labour and nearly 92% of the companies and their projects faced damages due to this shortfall. Furthermore, Iran is an earthquake prone country that has experienced more than 130 strong earthquakes with a magnitude of seven or more in past centuries. The past earthquakes in the country destroyed many towns and thousands of villages, and caused extensive economic damage; Mehrabian and Haldar, 2005; Tabassi and Bakar, 2009).

According to Tabassi and Bakar (2009), most of the
damage referred to unskilled workforces that appointed to the projects in different part of the country. Considering the significance of these issues and the question of why many buildings were destroyed during the past earthquakes in Iran, a lack of skilled labour in construction projects of Mashhad was revealed in the study of Tabassi and Bakar. Therefore, the current research attempts to study on training and motivation in HRD practices and evaluates their effects and relationships on teamwork improvement of the construction companies in Iran.

**LITERATURE REVIEW**

Ever since the advent of the term “human resource development”, it has come to be used in various contexts. This has led to considerable perplexity with various individuals, organizations and professional bodies applying the label to widely differing activities (Huemann, 2010; Slotte et al., 2004). Nadler and Nadler (1989) define HRD as managed and organized learning experiences provided by the contractor, for a certain period for the purpose of improving and enhancing job performance and providing growth for individuals and companies. Garavan et al. (1995) in their article indicate that American Society for Training and Development (1990) asserted that HRD includes “training and development, organization development, and career development”. In addition, Garavan (1991) defines it as the strategic management of training, development and management professional education interventions. According to Garavan, HRD aimed at facilitating the attainment of organizational aims, while at the same time ensuring the full employment of the knowledge and skills of employees.

HRD, as an academic discipline, is now defined the development of learning including knowledge and expertise and the improvement of performance. It considers a multi-level concept in that it focuses on individual, group, and organization issues. As a discipline, it relies on theories that describe the process of training and theories of organizational learning and changes. However, HRD is still considered with formless and penetrable boundaries (Garavan and Morley, 2006).

The numbers of critical research, studies, developments and analyses of HRD theories have been limited in the past two decades. Since the commencement of the term HRD arisen (attributed to Leonard Nadler in the early 1970s), two approaches developed to HRD (Simmonds and Pedersen, 2006). On one side, the British investigators and researchers have followed a learning and development paradigm, which concentrated on strengthened training and development issues (Garavan, et al., 1999; McGoldrick et al., 2002).

On the other side, the American researchers emphasized performance outcomes paradigms which concentrated on developing employees to enhance and improve organisational performance outcomes (Sambrook, 2004; Swanson and Holton, 2001). Accordingly, the US literature is strongly biased towards performance in HRD definitions (Lengrick-Hall and Lengrick-Hall, 1988). For instance, Sambrook (2004) synthesizing US definitions, posits that HRD is a process concerned with developing human expertise for the purpose of improving performance.

To sum up, because this research evaluates the effect of training and motivation in HRD practices on teamwork improvement of the construction firms, it founds the definitions of HRD, which were defined by American researchers such as Armstrong and Baron (2002) and Sambrook (2004), more comprehensive. They state that HRD is concerned with the provision of learning and development opportunities that support the achievement of business strategies and improvement of organizational, team and individual performance.

**Training and development**

The Oxford English Dictionary definition of training defines it as a practical education in any profession, art or craft. The HRD definitions are not differing significantly. It is generally stated as a systematic and planned effort to modify or develop knowledge, attitudes, abilities and skills through learning experiences, to attain effective performance in an activity or a range of activities (Garavan et al., 1995; Reid et al., 1992). Many definitions and interpretations of training and development can be found within the HRD literature. For instance, Van Wart et al. (1993), suggest that “training is application driven and aims to impart skills that are useful immediately in particular situations”. They argue that although general principles are introduced in training, discussion of them is limited because they are used to reinforce specific learning points. Swanson and Holton (2001), define training and development as a process of systematically developing work-related knowledge and expertise in people for improving performance. While providing specific training, a training and development effort can further be designed to increase an individual's level of self-awareness, skills and motivation to perform his or her job well. On the other hand, training and development are generally considered as planned effort by an organization to facilitate the learning of job-related behaviour on the part of its employees. Job-related behaviours can include any knowledge and skill acquired by an employee that can be related to organizational goals (Wexley and Latham, 1991). In addition, McLagan (1989) defines training and development as identifying, assuring and helping to develop the key competencies that enable individuals to perform current or future jobs (cited in Wan, 2007). According to the above definitions, training was considered as a process. Therefore, it needs the effective ways and methods in order to improve the performance. Thus, organizations are required to find proper training.
methods in HRD practices for training the staff and labour. Accordingly, the key themes of training and development are learning and individuals in organizations (Russ-Eft et al., 1997). Therefore, the field of training and development is directed toward individuals, and learning is its key method of inducing change (Rothwell et al., 1995).

Furthermore, the construction sector has been considered as one of the most dynamic, active and complex industrial environments by different practitioners (Druker et al., 1996; Loosemore et al., 2003; Wild, 2002). The requirements for construction work and their changes oblige the formation of bespoke teams each time a new project is undertaken. The external sources of labour are also very common in the industry (Debrah and Ofori, 1997; Langford et al., 1995; Winch, 1998). In fact, it is accepted that construction firms face with many difficulties in training and developing their labour and staff (Loosemore, et al., 2003; Raiden and Dainty, 2006).

Therefore, managers, executives and supervisors can have a significant constructive impact on transfer of training (Jong et al., 1999). The training of extension personnel contributes directly to the development of HRs within extension organizations. In addition, training plays a critical role in increasing workers’ adaptability and flexibility, which employers have found is becoming increasingly important. Thus, it is important for an organization to maintain a necessary competence in its employees through adequate training (Tai, 2006). Training has to start with the recognition of training needs through job analysis, performance assessment, and organizational analysis. Once the training needs of extension personnel have been identified, the next step is to organize training programs. Methods such as role-playing, simulation exercises, and case study can be used in extension construction industry to create learning situations based on experience.

The effective methods can be used for training construction workers are on-the-job training, off-the-job training (Smith, 2002), and distance education (Sadler-Smith et al., 2000). Table 1 makes a comparison between on and off-the-job training. It indicates the essential parts as well as the differences between these two methods of training. For more details about on and off-the-job training see Van Wart et al. (1993), Garavan et al. (1995), and Reid et al. (1992).

Distance education techniques can be very useful though in the provision of learning materials, and the provision of a structure to the learning. In an earlier investigation by Smith (2002), it was suggested that the methods of distance education could be effective where there is a learning relationship established on-the-job between the learner and the trainer such that both use the distance learning materials to structure activities, to access content knowledge, and to determine sequence and progression of learning. Sadler-Smith et al. (2000) usefully review what they have called “modern learning methods”, with some emphasis on the application distance education techniques. They investigated the correlation between perceived effectiveness of a number of different training delivery options and their frequency of use. Using a set of training delivery options that include off-site courses, on-site courses, on-job training, distance learning, work shadowing and job rotation, they had shown distance learning to be used less widely and to be considered less effective in contrast to at-job methods, which were used widely and seen to be effective. It is suggested here, though, that it is quite artificial to separate distance learning from other methods of training. Indeed, distance learning methods and materials can be used on-the-job, as part of a suite of training methods, and can reduce the need for learners to be removed from their workplace to pursue learning needs. In line with training practices, motivation has also played a significant role in training effectiveness.

Motivation for training

Motivation is defined as “variability in behaviour not attributable to stable individual differences (for example, cognitive ability) or strong situational coercion” (Quiñones, 1995). That means motivation is a characteristic of an individual willing to expend efforts toward a particular set of behaviour. In a training context, motivation can influence the willingness of an employee to attend the training program (Maurer and Tarulli, 1994; Noe and Wilk, 1993), to exert energy toward the program and to transfer what they learn in the program onto the job. Thus, it is likely that trainees cannot obtain all the benefits of training practices without considering training motivation. Several researchers have shown an association between training motivation and training effectiveness in their studies (Facteau, et al., 1995; Noe and Wilk, 1993; Quiñones, 1995). In some studies, also, it is revealed that the motivation played a more determinant role than other individual factors concerning training performance (Tai, 2006). Since, training is one of the most important strategies for organizations to help employees gain proper knowledge and skills needed to meet the environmental challenges (Goldstein and Gilliam, 1990; Rosow and Zager, 1998); thus, researchers have focused on exploring ways to increase the effectiveness of training. In this, one of the critical determinants of training effectiveness is the trainees’ level of training motivation (Mathieu et al., 1993; Tannenbaum and Yukl, 1992). Furthermore, Noe (1993) suggests that characteristics such as “motivation” and “attitudes” are factors that play a critical role in achieving training effectiveness within employees. As stated before, in a training program, motivation influences the willingness of an employee to attend training in the first place (Maurer and Tarulli, 1994; Noe and Wilk, 1993). It can also affect a trainee’s decision to exert energy toward the training program. Even if trainees possess the ability
to learn the content of a course, they may fail to benefit from training because of low or lack of motivation. That is, training performance will only be strengthened when trainees have both the capability and the motivation to learn. In addition, Quiñones (1995) concluded that many researchers suggested the characteristics of trainees such as motivation and attitudes are more important to training success than are course-content variables. Therefore, the motivation of trainees plays an important role in the effectiveness of the training programs.

On the other hand, the key of motivating employees is finding proper ways to satisfy their needs and desires. Each individual has different needs, wants and desires. The needs can be broken down into a few basic categories for construction workers such as workers participation, recognition, and team belonging (Tabassi and Bakar, 2009). For workers participation, many employees are motivated when they are “empowered” and feel that their participation is significant in making the company successful. When employees find themselves empowered in such ways, they will work in ways that meet not only their own needs and desires but also the needs and wants of the company as a whole. In the words of Nesan and Holt (1999): “The participative approach addresses development of good supervisor-subordinate relationships and cohesive work groups in order to satisfy both social needs and the needs of business demand”. To encourage worker participation, leaders and managers are advised to use a system that identifies and rewards workers who do a good job. For example, construction workers can receive a financial bonus for attending to the training programs, developing the company’s performances and identifying ways to improve the quality of their company’s operations (Bart, 1996). Olomolaiye et al. (1998) declared the money is an influential motivator and claimed that a well-designed reward system will “lead to higher productivity for the employer and extra pay for the employees for their efforts”.

Recognition, aside from financial inducements, is also regarded as a powerful means to inspire enthusiasm among employees. Nesan and Holt (1999), furthermore, note that “positive reinforcement” is especially effective when it is applied to teams, rather than individuals and they recommend, for example, giving an award of recognition to the “Crew of the Month”. According to these authors, although financial incentives are useful in motivating construction employees, studies have also “revealed that several people had achieved significant success with recognition as opposed to rewards”. When leaders or managers make a system of recognition in their companies, therefore, the employees will be more motivated for training and development.

Finally, team belonging is another powerful incentive for construction workers. According to Bart (1996), workers feel more inspired when they belong to a team where they are making their suggestions freely, because the feeling of participating in a group is one of the basic and essential needs of human soul. Nesan and Holt (1999) also noted that teams are especially motivated when they are given the opportunity to “self-manage”. This situation “allows participation among the group members, while the group as a whole is given increased responsibility for decision making.” A related concern is that of cultivating good relationships among all the members of the organization. Creating a team belongingness environment make employees more motivated for training and development. Also, they can encourage their colleagues and peers in learning and developing their skills and knowledge. When employees find themselves belong to a team in such ways, they will exert more energy towards the successes of the group and company as a whole.

### Teamwork

A high performance workplace focuses on increasing people’s influence on the business as well as the impact of processes, methods, the physical environment and technology and tools that enhance their work (Ahadzie et al., 2008). A high performance workplace invests in its human resources and supports their technical and innovation skills. In the case of the construction industry, the project teams form the focus of working life in the industry. According to Raiden and Dainty (2006), the changing requirements of construction activities necessitate the companies to form different teams each time a new project is undertaken. “Therefore, any policies and practices that are applied by the companies in order to improve teamwork activities can have effects on the performance of their projects (Tabassi et al., 2011).” For

<table>
<thead>
<tr>
<th>Variable</th>
<th>Off-the-job training</th>
<th>On-the-job training</th>
</tr>
</thead>
<tbody>
<tr>
<td>Emphasis On:</td>
<td>Learning basic facts and skills</td>
<td>Getting the job done</td>
</tr>
<tr>
<td>Ultimate Goal:</td>
<td>“Knowing”</td>
<td>Developing “best practices”</td>
</tr>
<tr>
<td>Knowledge:</td>
<td>Static, Decontextualized, General</td>
<td>Dynamic, Situated, Practice-oriented</td>
</tr>
<tr>
<td>Topics / Problems:</td>
<td>Given by curriculum</td>
<td>Arise from and embedded in work situation</td>
</tr>
<tr>
<td>Scope of Learning:</td>
<td>Primarily Individual</td>
<td>Individual, Group, Organization</td>
</tr>
</tbody>
</table>

Source: Tabassi and Bakar (2009).
some, the topic of teamwork in organizations is of only peripheral concern. However, it is worth noting Blanchard's (1988) comments: “most managers spend no less than 50% and possibly as much as 90% of their working time in some type of teamwork activity. Teams are the backbone of organizations. They can produce more and better solutions to problems than individuals can”.

Objectives of the study

Mashhad is the second largest city of Iran in terms of population, area and construction projects (Tabassi and Bakar, 2009). According to the Seismic Design Code for Buildings (standard 2800) of Iran, the city is located in the area with the highest risks of earthquakes. There are various construction projects like residential, official, recreational, entertainment, religious, and hotel buildings. Consequently, a lot of workers and construction practitioners are allocated to the projects. Furthermore, less attention has been given to HRD practices in construction firms in Iran by researchers and practitioners. Hence, due to the shortfalls and a lack of potential studies on this topic, this research proceeds with the following objectives:

1. To study labour training and motivation in HRD practices in contractor firms in Mashhad, Iran; and
2. To study the relationship between training and motivation practices with teamwork improvement in contractor companies in Mashhad, Iran.

METHODOLOGY

The aims of the study are evaluating training and motivation methods in HRD practices and their effects on teamwork improvement of construction projects especially in Mashhad. A quantitative research approach was adopted for this research requiring the development and dissemination of a questionnaire survey. The respondents include all personnel who have direct managerial experiences in construction companies. Accordingly, they were approached through contractor firms, which were registered in Management and Planning Organization of Iran (MPO), Khorasan-e-razavi branch. According to the statistics of MPO, 67 companies were registered as contractor companies in Grades One, Two and Three in Mashhad. Contractor companies in Iran are ranked in five grades from one to five by the MPO of the country. Grade one is the largest and Grade Five is the smallest company's grad. Companies are ranked by the certain rules and regulations of MPO. Table 2 indicates the ranking of the contractor companies according to the MPO regulation, criteria and formula. For instance, companies who are becoming a candidate for Grade One must acquire minimum 3,000 scores of personal resources, 5,000 scores for tract record, performance, and experiences, and at least 10,000 scores for financial ability and assets. Also, they can be involved in tenders with the maximum price of 40,000 million Rials (equal to approximately 40 million USD).

Survey was conducted where 50 sets of questionnaires were sent out to the group of respondents at random by postal mail and e-mail in Mashhad for a period of two months and 32 sets (64%) of surveys were returned and usable. After all the primary data collected and processed, the data was analyzed according to the appropriate analysis methods. Analysis methods in the research were mainly descriptive and regression analysis and the type of investigation was co-relational study. SPSS and AMOS software were also used in analyzing the data. In another investigation, which was conducted by Tabassi and Bakar (2009), HRM practices in training labour in different types of companies such as contractors, developers, consultants, and project management companies were evaluated in Mashhad. All the companies in that research were registered in the Khorasan Civil Engineering System Organization. The current research aims to concentrate on contractor companies because of their direct relation to the labour training and motivation practices in the development process; and make a comparison with the result of the past research.

Data analyses

As mentioned earlier, the companies, which were surveyed through the research, were registered in the MPO of the country as contractor firms. They were in three categories: governmental, semi-governmental and private. Most of the respondents (81.25%) were private companies, 12.5% governmental and 6.25% were semi-governmental companies. In addition, the respondents' responsibilities were project managers, executive managers and company managers as shown in Figure 1. The result shows that all the respondents were directly related to HRD strategies for their companies. Therefore, their responses and ideas have strong effects on the results of the study and confirm its credibility as well.

RESULTS

Research objective one: To study labour training and motivation in HRD practices in construction firms in Mashhad, Iran

Regarding the percentage of different types of labour in construction projects per day, skilled labour formed 28% of workers, who were hired by the contractor firms (Figure 2). In contrast, 42% of the workforce was unskilled and 30% were semi-skilled. These results are quite similar to the previous research outcome that was conducted by Tabassi and Bakar (2009). There also revealed that many of workers who were involved in construction projects in Mashhad were unskilled. In addition, the findings show that nearly 56% of the companies had specific training courses and programs for their labour. In contrast, almost 44% of the respondents declared that there were no well-defined training courses or programs in their companies. They were also asking for the type of training programs that applied in regard to developing employees. The result indicates that their most common methods of training were on-the-job training (34.4%), training the staff by supervisors during the construction (25%), sending the trainees to general construction industries training centres (12.5%), sending the trainees to private construction industries training centres (12.5%) and training courses by the company training centre (6.3%). Also, the respondents did not utilize distance education as a method of training in their companies' development policies. On the other hand, nearly 40% of the firms with
Table 2. Ranking of the contractor companies according to the MPO regulation, criteria, and formula.

<table>
<thead>
<tr>
<th>Grade</th>
<th>Maximum contract price (million Rials)</th>
<th>Minimum essential qualifications scores</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td></td>
<td>Personal resources</td>
</tr>
<tr>
<td>1</td>
<td>40,000</td>
<td>3,000</td>
</tr>
<tr>
<td>2</td>
<td>25,000</td>
<td>1,800</td>
</tr>
<tr>
<td>3</td>
<td>10,000</td>
<td>1,200</td>
</tr>
<tr>
<td>4</td>
<td>5,000</td>
<td>750</td>
</tr>
<tr>
<td>5</td>
<td>1,500</td>
<td>375</td>
</tr>
</tbody>
</table>

Figure 1. Percentage of the respondents’ responsibilities.

Figure 2. Type of labour in Mashhad contractor companies.

training programs asserted that more than 5 years the training programs applied in their companies. In contrast, 27.8% less than one year, 27.8% between 1 to 3 years and 5.6% of the companies conducted the training practices between 3 to 5 years.

Regarding the level of employees’ obligation for attending to the training programs, nearly 70% of the companies with training programs mandated the staff from limited to moderate extent and just 30% obliged them to a considerable extent. An estimation of the
amount of spending USD on training programs for each individual by the companies, which had managed training practices, shows in Figure 3. According to the Figure 3, most of the respondents, nearly 70%, assigned less than 1000 USD for training and development of the staff and workforces per year. This can also emphasize on low consideration of the companies in the survey in developing human capital.

According to the respondents who did not have any integrated training programs, their companies faced with many problems and barriers for employing effective training policies. Some of their barriers were: variations in the number, size and type of projects undertaken by the companies, high expenses of construction training courses, dynamic and complex environment of the industry, financial problems faced by the companies, short term contract of most of the workers, large number and various types of construction learning points, low knowledge and lack of incentive among the workers for training, little attention of client to the importance of skilled labour in projects and time-consuming.

In order to motivate the staff and workforces, the following incentives were applied by the firms: awards (34.4%), promotions (28.1%), financial incentives (18.8%) and paid time off (6.3%). No other motivator and incentives were applied by the companies. Accordingly, awards and promotions were utilized as the most effective training motivators for inspiring the staff and workforces by the respondents of the survey.

Research objective two: To study the relationship between training and motivation practices with teamwork improvement of the firms.

According to the respondents’ declarations, 75% of the companies in this survey were faced with damages by entrusting the works to inexperienced workforces. Sort of those damages were low quality of construction (65.6%), delay (59.4%) and extra costs (37.5%). As a result, most of the firms faced with more than one of these harms in their undertaken projects. In contrast, in 25% of the companies, which were not faced with the asserted damages, a relationship between training and motivation practices with teamwork improvements was observed.

As mentioned earlier, a powerful HRD system is the most valuable asset of any organization in this century, and an enterprise’s productivity is closely correlated with its HR managerial and developmental policies. On the other hand, the literatures show that in the coming years, HRs are becoming the most important asset of an organization if they are adequately nurtured, educated and developed. In addition, the dynamic external environments within which many businesses currently operate requires that they develop a capacity for training and learning faster than competitors, to find solutions to novel and complex problems, and to enhance the quantity of what they do through effective training and motivation methods.

Figure 4 illustrates the research model, which was generated and evaluated by the study. According to Figure 4, variables of the study were: teamwork improvement as a dependent variable (DV), training factors as independent variables (IV) and motivation parameters were moderating (MD) the relationship between training and teamwork improvement. Training factors included of perceived training as an important part of employee development by the companies, a system for developing HR asset and developing learning environment. The motivation factors embodied of training assignment, perceived importance of training, hygiene factors and motivating environment. Hygiene factors were the existence or absence of job satisfiers, such as working conditions, pay or salary, company policies and interpersonal relationships.

To test the moderator effect on the relationship between ID and DV a Hierarchical Regression Analysis was used to determine what proportion of the variance of a particular variable was explained by other variables when these variables were entered into the regression analysis in a certain order. Regression analysis of the model was done through the AMOS software. The outputs generated from the analyses show that the $R^2$ for our model was equal to 0.54 and Significant value was 0.002 (Significant Value <0.05). Therefore, the model as a whole explains nearly 54% of the variance in teamwork improvement (Figure 5). According to Pallant (2005); Tabachanick and Fidell (2001), $R^2$ equals to 0.54 is a respectable result. Thus, teamwork improvement had shown a strong relationship with IVs and moderating variables in the model. In other words, motivation parameters such as training assignment, perceived importance of training, hygiene factors and motivating environment had strong effects on employees’ training practices that applied by the companies and caused an improvement on teamwork activities in the respondents’ firms. Therefore, the companies that applied these motivators made an inspiration for their employees for effective training and high improvement in their teamwork activities were observed. As a result, construction companies by applying these training policies as well as the motivators for their staff and workforces can improve their teamwork activities and obtain better performances.

DISCUSSION

Regarding the previous sections, training and motivation have been seen as the two main cores of HRD practices by practitioners. The companies’ productivity is strongly correlated with policies and practices in training and motivating their staff and workforce. As a result of the study, lack of expert workforce is an essential problem that most of the construction projects in this survey have
been faced with it. As mentioned earlier, most of the construction companies confronted with some barriers to training and motivating their employees. On the other hand, the respondents point to the government as the main responsible to solve these shortfalls. Of course, the government plays an important role in solving the barriers but some of the mentioned deficiencies can be solved or reduced by the companies and managers as well. For instance, the companies can apply a proper HRD system in order to motivate and develop their employees. Incentives such as workers’ participation, recognition, awards, promotions, financial incentives and paid time off should be utilized in order to motivate employees for training. Besides, some methods of training such as on and off the job training, and distance education can be used for increasing the level of knowledge and expertise in workforces.

It is also revealed that effective training and motivation practices are the important factors in implementing HRD in the construction industry. In line with HRD practices, managers also need to develop ways to measure teamwork performance for their companies. As indicated by Nesan and Holt (1999), a system of “performance measures” is needed in order to monitor improvements or lack of improvements among construction teams. Therefore, a system for teamwork measurement is essential for every construction firms. According to the result of the study, teamwork improvement expresses a strong relationship with training and motivation practices, which were applied by the respondent companies, in HRD organization.

To sum up, the research reveals that most of the contractor firms in Mashhad faced with low quality construction, extra cost and delay in their projects. In contrast, the companies that applied the training and motivation practices of the study improved their teamwork activities, obtained better performances and faced with less asserted problems and damages in their projects. In addition, the study shows that teamwork improvement has a strong relation with training methods as well as
motivating employees for training and development in HRD practices. Consequently, companies by integrating these training and motivation practices can improve their performances and decrease the shortfalls in regard of construction quality, cost and delay in their projects. Finally, it seems that the government can play an important role in increasing the quality of construction projects by improving the training methods and prepare facilities for labour to encourage them to attend the training courses. Government by increasing the social security, pay towards of labour costs for living, forcing the companies to use the workers with certification of fitness of occupation, and develop social insurance can facilitate training and motivate construction workers.

Conclusion

Mashhad, the scope of the study, is the second largest city of Iran in terms of population, area and construction projects. It has many construction projects and consequently, a large number of engineers, managers and construction workforces are actively entailed in its projects. The survey involved sending of questionnaires to assorted number of contractor companies with Grade One, Grade Two and Grade Three in Mashhad. The research found that 42% of workforces in the respondents’ firms were unskilled. In addition, most of the companies encountered with damages by entrusting the works to inexperienced workers. The study revealed that workers’ participation, recognition, awards, promotions, financial incentives and paid time off are profitable methods of motivating the employees for training. Perceived training as an important part of employee development by the companies, a system for developing HR asset and developing learning environment, besides of, on and off the job training and distance education are recommended as methods of training and development in HRD organizations. Also, the result showed that teamwork improvement had a strong relation with training and motivation in HRD practices. Lastly, the study makes the government, companies and managers aware of the low construction quality, delay, extra cost and lack of experienced workforces in construction projects and lead them to apply proper policies to prevent probable damages.

RESEARCH LIMITATIONS AND FUTURE STUDY

The current study has some limitations that offer an agenda for future research. As the research has been confined to quantitative techniques, a large-scale follow-up survey would be useful to find out which of the identified training and motivation methods have the proposed connection with construction workers. We found a range of training and motivation methods in HRD practices that play a role, but which methods are most relevant is not yet clear. Future research should try to address how companies and governments adapt to and shape the environmental and organizational settings in such a way that the context optimally stimulates workers motivation and participation in training courses and effects on quality performance of construction. Also, future research should be conducted in other regions and a comparison can be made by the results of the current research.

REFERENCES
