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A Study of Factors Determining Training Needs Analysis in the Directorate of Health Services, Al Buraimi Governorate, Ministry of Health, Oman

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Abstract: The purpose of this study was to investigate the relationship between Training Needs Analysis (TNA) and ten determinants amongst administrative employees in the Directorate of Health Services, Ministry of Health, Al Buraimi Governorate, in the Sultanate of Oman. The survey method was used by means of a self-administered questionnaire. Quantitative data from 348 administrative employees from all levels was collected and analyzed. Ten research hypotheses were subjected to correlation analysis and multiple regression analysis. Six of the hypotheses were supported while four were not supported. This study showed that understanding the factors determining TNA will lead to training programs being more effective in design and implementation and reduce wasted time, money and resources in unnecessary or ineffective training programs.

Key words: human resource development; training needs analysis; employee relations; management support; top management commitment; job satisfaction

JEL codes: J24, O15

1. Introduction

In today's fast-paced and changing world, many of the performance bottlenecks found within organizations are caused by a lack of worker knowledge and skills. Since organizations lack the resources to address all their training needs, analyzing performance needs has become increasingly important. Employees are the most valuable assets in an organization, and it is often stated that an organization is only as good as its people. Only through them can organizations achieve their objectives. It is therefore important that employees possess the necessary knowledge, skills, and abilities (KSA's) to ensure that organizations achieve their goals and remain competitive and successful.

A formal approach for organizations to update employees' acquisition of job-related KSA's is by training. From a human capital theory perspective, training is investment rather than consumption. Research has claimed that training is an important factor that could facilitate a firm's expansion, develop its potential and enhance its profitability (Cosh, Duncan, & Hughes, 1998). Tung-Chun (2001) also agreed that educated and well-trained employees are a prerequisite for an organization's competitive advantage. For organizations to enjoy the returns on training investment, the training itself must first be approached systematically. Systematic training means that there are certain steps that organizations need to take in training and developing their employees. These steps

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begin with an identification of training needs, designing, and developing an appropriate method to serve those needs, implementing the training according to plan, and evaluating the training program to determine whether the original needs have been achieved. These steps are more popularly known as the "training cycle" and numerous training scholars agree that they are necessary to ensure training effectiveness.

Many organizations unfortunately fail to acknowledge the importance of the training needs analysis (TNA) in practice. Some of the previous research show that approaches to training are often conducted informally and unsystematically with most organizations relying heavily on top management judgments to make training decisions such as types of training to invest in and which employees to receive training (Mahler & Monroe, 1952, cited in Moore & Dutton, 1978; Erffmeyer et al., 1991; Amos-Wilson, 1996; Agnaia, 1996; and Elbadri, 2001). Evidence also show that training conducted in organizations is often not strategic, as training needs were not properly assessed to determine how such needs contributed to the overall strategic objectives of the organizations (O'Driscoll & Taylor, 1992; Amos-Wilson, 1996). In this regard, the Ministry of Health (MoH) is one of the most challenged organizations among all public-sector organizations in the Sultanate of Oman. In addition, the Ministry has some of the most diverse activities and there is a need to be very focused, active and effective. In order to reach and sustain the highest level of health, MoH collaborates and cooperates with other economic and social sectors, for protecting and promoting the health of the people to achieve a better quality of life. Hence, the MoH has established the following goals in order to achieve its mission: To ensure access to health services by all people in Oman; upgrade the health institutions and hospitals at a national level; To eradicate further the preventable communicable diseases still prevalent in Oman; ensure adequate supply of safe drugs of acceptable quality, and promote their rational use; educate the people so that they adopt healthy life-styles and food habits, in order to prevent health problems; enhance the quality of health care in Oman; improve and strengthen the health system management; To participate with the people and communities in the planning process; coordinate and co-operate with other ministries and sectors to monitor and evaluate the environment on a continuous basis; and reinforce health care employee's development so as to achieve Omanization and optimum utilization of health manpower.

The Ministry of Health has focused on training the medical staff, paramedical staff and nursing staff through ongoing on the job training, workshops and training sessions. The training involves the provision of theoretical lectures. This is evidenced by the fifteen training institutes that are owned by the MoH throughout Oman. Of these 15 institutes, 3 focus on offering paramedical training and 12 focus on offering training in nursing (moh.gov 2012). However, the Ministry has not been concerned with identifying the training needs to improve the performance and efficiency of administrative employees by developing their KSA's in their tasks and duties. A thorough search of the existing databases and literature, as well as the articles published addressing Human Resource Development issues within the MoH reveal that no studies have been done addressing TNA in any aspect, neither are there any studies specifically addressing the human resource development (HRD) needs of administrative employees in the MoH. It is noted that a TNA manual for trainers in brochure form exists for staff within the MoH. However, in the section of identifying training needs, trainers are referred to search for information from health workers, health system managers, documents, epidemiological data or management information systems and the public (Pampanga, 2008). Administrative employees are not mentioned.

For several years now, it appears that training conducted by the Ministry of Health and the DHS in Al-Buraimi governorate has been haphazard, unplanned, and unsystematic. Administrative employees including financial clerks, computer operators, secretaries, drivers, administrative supervisors, clerks and others, have not

qualified for any form of training nor is there any systematic process of staff development in place to bridge the gap between current and desired performance. The existing training programs do not pay sufficient attention to the actual needs of the trainees. In brief, the current TNA in the DHS at Al-Buraimi Governorate is not effective because there is a mismatch between the overall MoH strategic needs and the type of training delivered to the staff.

The MoH therefore considers that their employees should have the ability and the confidence to cope with critical situations. Grau-Gumbau et al. (2002) state that human resources have to be equipped with the necessary level of professional qualifications to face these challenges, and training is the basic strategy to achieve this. Failure to identify the training needs is a serious problem for the organization. As a result, this study seeks to understand the nature of Training Needs Analysis, and the factors determining TNA of administrative employees in the Directorate of Health Services (DHS) at Al-Buraimi Governorate, Ministry of Health in the Sultanate of Oman. This study uses survey strategy to study individual and environment factors in a systematic way looking at ten determining factors which are personnel interest, top management commitment, management support, trainers' competency, technological changes, career development, job satisfaction of training programs, promotion, job rotation and retirement benefits.

2. Literature Review

There is evidence of many previous studies looking at TNA. However, few studies have been done on the factors determining TNA, and no studies are particularly looking at the training of administrative employees in the Directorate of Health Services at Al-Buraimi Governorate, Ministry of Health, Oman. This chapter looks at existing literature and concludes with a proposed conceptual framework and research hypotheses based on the reviewed literature.

According to Cole (2002), in his book Personnel and Human Resource Management, training is a learning activity directed towards acquisition of specific knowledge and skills for the purpose of an occupation or task. The focus of training on the job is to fulfil the need to have efficiency and safety in the operation of particular machines or the need for an effective sales force to mention but a few. Gordon (1992) explains training as the planned and systematic modification of behavior through learning activities, events and programs which result in the participants achieving the levels of knowledge, skills, abilities, and competencies to carry out their work effectively. Pheesey (1971) as cited in Saleem et al. (2011) defines training as the systematic process of altering the attitudes and or behavior of employees in a specified direction to increase the achievement of organizational goals. This means for any organization to succeed in achieving the objectives of its training, the design and implementation must be planned and systematic, tailored towards enhancing productivity and performance.

The critical importance of training in business has repeatedly been underlined in academic research. While the processes of recruitment focus on attracting and acquiring human resources, training aims to develop available human resources to increase their productivity and improve their ability to contribute to the organization's objectives. Training in industry has been defined as the formal procedure which a company uses to facilitate employees learning so that their resultant behavior contributes to the attainment of the organization's objectives. Goldstein and Ford (2002) view workplace training as a systematic approach to learning and development to improve worker, team, or organizational effectiveness. According to Carnevale (1990) the characteristics of High Leverage Training are its links to strategic business goals, the use of an instructional design processes to ensure

that training is efficient, and the comparison of the company's training programmes with practices in other companies. Recent development in the business world reflects the need for training. McManus and Hayes Williamson (1994) suggest that there are four major issues to be considered which are accelerating global competition, continuing reorganization of work place structures, advancing technology and increasing work-force diversity. Many industries, including the hospitality sector are affected by these issues. Changes in these issues influence the way training is delivered. Martocchio and Baldwin (1997) argue that the role of training is moving from a focus of teaching employees specific skills to a broader focus on creating and sharing knowledge. Tracey (2003) asserts that training has become a more strategic activity, thus it is critical to understand how the training and related change initiatives are integrated to enhance individual and firm performance.

The first step in managing training is to determine training needs and set objectives for these needs. According to Cole (2002) if an organization has to justify its training expenditure, it must surely do so on the basis of organizational need. Organizations adopting a systematic approach to training and development will usually set about defining their need for training in accordance with a well organized procedure. Such a procedure will entail looking at training needs from a number of different perspectives.

These perspectives are organizational, departmental, or functional, as well as the job and employee. When referring to organizational need, organizational analysis happens in a situation where the effectiveness of the organization and its success in meeting its goals are analyzed to determine where deviation or differences exist. This makes it easy to know what training programs are required to be implemented. According to Kaufman (1994), organization analysis looks at the variances between their success and failure to ascertain which variances training could help remedy. With functional need, training managers analyze the specific ability needs determined by job descriptions and job specifications of the jobs in the work area or work unit thus bringing about the concept of training needs analysis.

2.1 Concept of Training Needs Analysis

Need is the gap between current and desired (or required) results, or (stated another way) the gap in results between "what is" and "what should be" (Kaufman, 1994). Definitions of TNA offered by many authors indicate clearly that TNA is done so that training developed by organizations will enable them to achieve their strategic objectives. The definition by Ferdinand (1988) states that TNA is a "rational process by which an organization determines how to develop or acquire the human skills it needs in order to achieve its business objectives" (as cited in Chiu, et al., 1999). Another author, Brown (2002) defined TNA as "an ongoing process of gathering data to determine what training needs exist so that training can be developed to help the organization accomplish its objectives". Both definitions obviously show that the purpose of TNA is to ensure that objectives of each training are aligned with the ultimate objectives of the sponsoring organizations.

Despite the overwhelming agreement in the literature that TNA is an essential step in the training process there is also general agreement that this step is frequently ignored and skipped. Wills (1998), states that "defining training needs is the starting point for managing the training processes. Yet this is often one of the last steps to be considered seriously — probably because a proper needs analysis is both difficult and time consuming".

While there is no research reported as to why organizations do not always conduct full TNA many authors cite the significant investment of time and resources required to conduct a traditional analysis (Schneier et al., 1988; Anderson, 1994; Garavan et al., 1995; Boydell & Leary, 1996; Reid & Barrington, 1999; Holton et al., 2000). Schneier et al. (1988) suggest that TNA are not conducted because trainers lack the specific knowledge required to conduct one. They also suggest that there may be an issue of lack of belief in the effectiveness of the process.

Many difficulties are cited in the literature with traditional approaches. Wills (1998), notes that trainers can become so focused on the system or training cycle that they lose sight of organizational objectives. There is also a tendency to focus on the skills level only and on deficits, resulting in a generally negative approach and one that may be threatening to staff members. Furthermore, many of the approaches use techniques such as job and task analysis. These methods involve detailed analysis of the skills required to complete particular jobs or tasks. They are hugely time consuming and focus on the present situation only. They yield static data, or a snapshot of a given point in time and are not really preparing staff, or the organization, for future challenges or changes. These approaches are only of benefit in stable situations where no changes are expected. It is likely that by the time these processes are completed changes could already have occurred in the demands of the jobs analyzed. Reid and Barrington (1999) suggest that in view of this ever-changing picture, perhaps the question should be "how can we develop people to develop themselves?"

Holton et al. (2000) and Anderson (1994) make a stronger mention of the change implications involved in a TNA process. Furthermore, only Holton et al. (2000) address the issue of attempting a TNA in a large scale, complex, public service organization. Almost all of the other literatures focus on TNA for discrete purposes or in smaller more bounded contexts (Ferdinand, 1988; Zemke, 1994; Boydell & Leary, 1996; Gray et al., 1997; Bartram & Gibson, 1999). To give an example of the narrower focus that appears to be the received wisdom, McClelland (1993) suggests that "convincing senior management that a TNA should be conducted so that training needs can be identified would probably not be specific enough to garner the necessary support". McClelland (1993) suggests that support from senior management may be obtained by outlining the reason for TNA and the example given is to maintain the ISO 9000 standard.

Another study carried out by Agnaia (1996) involved 45 oil and non-oil companies in Libya and looked at their management training needs assessments and selections for training practices. Data were collected through several methods including questionnaires, interviews, observations, and the researcher's personal experiences in the Libyan industry. It was revealed that in oil companies, the most common ways for employees to attend training were through results of performance reviews, nominations by colleagues to represent their departments, applications by employees, direction from superiors, and finally discussion with their managers. On the other hand, for non-oil companies, the two most preferred methods were direction from superiors and results of performance appraisals. The research found an unsystematic approach in the way employees were selected for training (that is, views of bosses and performance appraisal results as the predominant approaches used by the majority of both types of companies). Job performance reports were found to be the most common technique used in assessing training needs (64%).

Poon and Rozhan (2000) conducted a survey involving 94 organizations in the manufacturing and services industries in Malaysia. The study reported a positive finding regarding the organizations' TNA practices in which it was found that 92% of them conducted some form of formal TNA to precede their training. Data collected for the analysis included information regarding the job, the organization, individual employees and the environment. Data collection methods used were company records, observations, questionnaires, group discussions, interviews, and tests. Though this finding seemed favourable, Poon and Rozhan concluded that TNA conducted by the organizations were largely based on past data, and thus lacked orientation of proactive/strategic TNA. Furthermore, the findings regarding the organization's claim that their training efforts were strategic could be questioned since information on the business environment was rarely referred to as one of the sources for TNA data.

Gray et al. (1997) carried out a survey on 140 state government agencies in 30 states in the United States to investigate their training practices. Results showed that only a limited number of these agencies conducted systematic TNA. Only 13 per cent of the agencies conducted TNA on at least 80 per cent of their training programmes. The researchers suggested that this figure is less than the practice of organizations in private sectors Zemke (1985) as cited in Gray et al. (1997). Among data gathering methods preferred by the respondents in the TNA process were: employee surveys/questionnaires/skill inventories (first choice: 39%, second choice: 12%), executive or upper management decisions/mandates about training (first choice: 31%, second choice: 15%), advisory committees comprised of all levels of the organization (first choice: 12%, second choice: 15%), and supervisor interviews (first choice: 13%, second choice: 8%). The research found mixed evidence regarding whether the agencies differentiated between training "needs" and training "wants"; and whether the data gathering methods they adopted produced clear, relevant and specific data on performance discrepancies. The respondents stated that criteria considered when choosing data gathering methods were: relevant, quantifiable data (first choice: 24%, second choice: 6%); acceptance likeliness by senior management, supervisors, line managers, and target employees (first choice: 23%, second choice: 9%); management and employee participation (first choice: 15%, second choice: 17%); cost (first choice: 14%, second choice: 14%); availability and expertise of HR staff to administer (first choice: 9%, second choice: 9%); time required (first choice: 8%, second choice: 22%); and ease of use (first choice: 6%, second choice: 14%).

O'Driscoll and Taylor (1992) conducted a study whereby questionnaires were distributed and interviews were carried out involving 99 organizations employing more than 300 employees in New Zealand to explore how training decisions were made in these organizations, so as to examine any discrepancies between theory and practice in management TNA, and also to determine any implications of this gap on both theory and practice. Overall, the researchers concluded that training decisions in the organizations were not made based on systematic TNA. Although the majority of the respondents claimed that they conducted some form of TNA, most of them actually relied on informal procedures. It was also found that involvement of training professionals in the organizations, who were supposed to be actively involved in making training-related decisions, was quite minimal. Critical decisions regarding what training to conduct, contents of training and selection of training participants were mainly made by top management such as CEOs, general managers, personnel managers or human resource directors. The findings also reported a weak relationship between TNA practiced in the organizations and their strategic objectives. The researchers claimed that there was an incongruence between the TNA practiced and TNA theories, and suggested that practicing systematic TNA theories in training approaches could benefit organizations in order to achieve their strategic missions. The discussion above represents research findings involving organizations of dissimilar natures of businesses, sizes, sectors, and countries. With the exception of Poon and Rozhan (2000), all other cases reported an informal and unsystematic approach to determining training needs as opposed to TNA theories. Erffmeyer et al. (1991) claimed that systematic and formal needs assessments were absent in the organizations' sales training programmes and found that only one-third of them "often" conducted TNA in their sales training.

Gray et al. (1997) reported only a very small percentage of the agencies (13%) they studied conducted TNA on at least 80 per cent of their training programmes. O'Driscoll and Taylor (1992) also found that overall training decisions made by organizations in New Zealand were not based on systematic TNA. Amos-Wilson (1996) and Agnaia (1996) also discovered similar findings in their respective studies. Most organizations relied heavily on top management judgment in making training decisions. O'Driscoll and Taylor (1992) stated that all important

decisions regarding training from types and contents of training to selection of training participants were made by CEOs, general managers, and personnel managers or human resource directors. Agnaia (1996) agreed saying that the approaches and techniques of both oil and non-oil companies in Libya used in TNA did not involve any communication with the employees and was most predominantly based on the views of their superiors.

Elbadri (2001) and Erffmeyer et al. (1991) found mixed evidence regarding type of sector as one of the TNA determinants. Elbadri (2001) stated that manufacturing companies tended to conduct more TNA compared to companies in other industries. On the other hand, Erffmeyer et al. (1991) suggested that companies in the service sector considered performance measures, interviews with customers, and organizational and training goals or objectives as more important sources of information at organizational level compared to the companies in the manufacturing sector. A look in the literature also produced inconclusive results. For example, Rozhan (1998) as cited in Poon and Rozhan (2000) reported that companies in the service sector outweighed companies in the manufacturing sector in terms of the number of training hours spent on employees at managerial positions.

However, in the case of non-managerial employees, manufacturing firms provided more hours of training compared to companies in the service sector. Relating commitment towards training with the origin of organizations, a study by Wan Aziz (1994) found that transnational companies tended to invest more on training compared to local firms. Two of the researches also studied the criteria of TNA method selection. Combining findings from Elbadri (2001) and Gray et al. (1997), various criteria that organizations considered when selecting TNA methods were relevancy and quantifiable data obtained, incumbent involvement, cost, ease of use, management and employee participation, availability and expertise of HR staff, time required, and acceptance likeliness by all levels of employees including senior management, supervisors, line managers, and target employees. These criteria are also in line with Steadham's (1980) as cited in Ulschak (1983) and Brown's (2002) suggestions explained earlier.

Two cases (Agnaia, 1996; Elbadri, 2001) highlighted lack of top management commitment to TNA, and on the training function in general. Agnaia (1996) listed gaining cooperation from top management and other departments as one of the main difficulties in carrying out training activities. There are probably several reasons explaining this attitude. First, organizations might simply be unaware of the importance and benefits of TNA. Second, they might not have the capital to invest in employee training. Third, they might not want to spend on employees for fear they leave the company after acquiring the new skills before returns to cover the cost of training could be reaped, or they prefer to choose other alternatives, like hiring new employees with particular skills, which might appear easier and faster compared to the non-immediate returns of training. All these reasons definitely influence the practice of TNA since in order to produce an accurate and systematic TNA, participation and collaboration from various parties in organizations, especially to produce relevant data, is crucial.

2.2 Conceptual Model

Based on the vast review of the literature, the researcher constructed the following model for current study (Figure 1).

The argument for conceptual model is derived from the literature review.

Management support: This is management interest that determines TNA and how senior and line management perceive the training function and the process used to assess training needs (Dulworth & Shea, 1995). Dolliver (1993) concludes that though an essential first step, TNA is often overlooked because some managers consider it difficult and others think of it as wasting valuable time that would be better spent on problem solving without training or by means of management tactics. The literature highlights that management's mandate is found

as a primary response to the investigation into why companies assess employees' training needs (Elbadri, 2001). An empirical study by Ramus (2001) has shown that supervisory behaviours that encouraged daily praise and environmental awards were ranked as being among the most important factors for environmental innovativeness and problem solving by employees. Therefore, Bhantumvanian (2000) suggested that HRD efforts to improve social support should be concentrated on supervisors as they have a degree of control over their resources at work. A study conducted in Ireland by Murphy et al., (2006) found the main cause of nurses not wanting to participate in continuing professional education was lack of employer support, although respondents understand and accept the positive outcomes, they believe that continuing professional education is essentially a job-related activity, reliant on their employing organization.

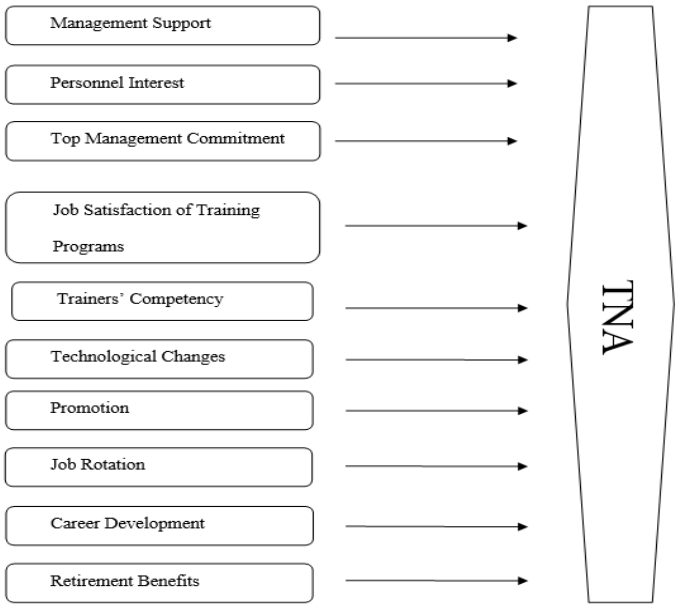

Figure 1 Conceptual Model

Personnel interest: Haslinda's (2007), findings revealed from the study that most of the respondents suggest that there exist negative groups who resist and do not support the effectiveness of training programs in the organization and thus determine TNA. In addition, it was reported that employees lack interest and were forced to attend the training program. Muthee (2012), revealed that personnel interest had the influence on training needs among secondary school teachers. In this study, the researcher will investigate if there any relationship between personnel interest and TNA.

Top management commitment: The commitment of top management is one of the factors that influences TNA. Organizations whose top management view training as a way to meet organizational goals are making sure that employees take an active part in the delivery of training and in the planning of training objectives; and by maintaining a financial commitment to training (Facteau et al., 1995). Two cases (Agnaia, 1996; Elbadri, 2001) highlighted lack of top management commitment to TNA, and on the training function in general. Agnaia (1996) listed gaining cooperation from top management and other departments as one of the main difficulties in carrying out training activities. There are probably several reasons explaining this attitude. First, organizations might simply be unaware of the importance and benefits of TNA. Second, they might not have the capital to invest in employee training. Third, they might not want to spend on employees for fear the employees may leave the

company after acquiring the new skills before returns to cover the cost of training could be reaped, or they prefer to choose other alternatives, like hiring new employees with particular skills, which might appear easier and faster compared to the non-immediate returns of training. All these factors definitely determine the practice of TNA since in order to produce an accurate and systematic TNA. Haslinda (2007), reported on top management commitment and support category and it was revealed from the study that there is no guidance and follow-up from the top management, leadership problems and, lack of support from the top management as well as from fellow colleagues. It was also reported that there is no commitment from others to implement new knowledge and skill on the job.

Job satisfaction of training programme: TNA is also determined by job satisfaction of training programs, Muthee (2012), points out that job satisfaction had determine on training needs among secondary school teachers. In a European study by Van Der Heijden et al. (2009), it was established that an unsupportive workplace and low leadership within healthcare organizations resulted in low job satisfaction, which in turn raised the likelihood of nurses intending to leave within one year. To effectively transfer knowledge to the workplace, learners must have the ability and motivation to succeed. Staff needs to have ample opportunities to use the training, and they need to perceive the benefit and validity of the training. Staff also need to feel that a change in behaviour will lead to a valued outcome or job enrichment. Haslinda (2007) reported that some training programs provided were not relevant to the job and the cost of attending external training programs is high. Good training practice is important to the effectiveness of training programs; however, in this case, various deficiencies exist in managing training in the public sector. Studies have revealed that these deficiencies do exist in managing training and development, not only in public sector but also in the manufacturing industry.

Trainers competency: The trainer's competency also determines TNA through evaluation of their training efforts. The trainer should conduct follow-up or booster sessions following a training program. Trainers should maintain their involvement in the training and transfer process by conducting field visits to observe trainees' use of trained skills and abilities, provide and solicit feedback and provide continued support and assistance to trainees (Lim & Johnson, 2002). Trainees must be able to use new knowledge and skills on the job as soon and as often as possible. At the same time, the trainees should meet with their supervisor to discuss opportunities for transfer. Trainees might also establish a network of peers who also attended a training program that can provide assistance and support each other for using their trained skills on the job. The trainees should also set goals for practicing their newly acquired skills on the job (Foxon, 1997). Indeed, the trainers' competency as a subject matter expert would determine the practices of TNA. Training programs can be trivialized if the organization hires unqualified trainers that could defect the transfer of learning to the employees. Learning is fun when presented in a stimulating, enthusiastic way by a trainer who genuinely cares about the relationship between him and his trainees. There is however a two-way responsibility, no trainer can maintain this climate on his own since he depends upon his trainees attainments to fulfill his needs. This understanding of mutual needs is important since the role of the trainer and the trainee revolves around it.

Technological changes: This is one of the major factors determining TNA. Muthee (2012), in his research revealed that technological changes had the greatest influence on training needs among secondary school teachers. Technological changes are determining the basic settings of organization. The technological changes are not only concerned with the structure or gadgets of an organization but these changes also influence the behavioural aspect of the people who are working in the organization.

Job rotation: Saeki et al. (2007), in his study found the factor having the largest effect on competencies of

workers was the job rotation and this determines their training needs. Muthee (2012), revealed that job rotation had the greatest determine on TNA among secondary school teachers.

Career development. Muthee (2012), revealed that career development influences training needs among secondary school teachers. Sometimes, jobs are redesigned, promotions take place, or workers are placed in lieu of those who are given golden handshakes in case of downsizing. All these possibilities entail TNA of those who are asked to take up new responsibilities. Raja Roslan (2012) in his study revealed that there is a strong relationship between career development and training needs and they were statistically significant. TNA is acknowledged for its contribution to career development, which has long been recognized in both organizational theory and practice (Rees et al., 2005), because TNA's results reveal data that provide guidelines for employees' career development (Schneier et al., 1988). While placing more emphasis, Brown (2002) maintains that career development demands for TNA, especially when new individuals are accepted to work in the organization, existing individual are promoted up the job ladder, or to deal and work with changes such as technology intervention and business expansion (Agnaia, 1996). Therefore, a clear assessment of training needs of all employees who are involved in such processes enables an organization with its limited resources to achieve its strategy in a suitable time. The literature also emphasizes that the results of TNA are perceived to have significant implications for the future career progress (Ford & Noe, 1987), job security, and career prospects of key staff members (Clarke, 2003).

Promotion and Retirement benefits: Promotion and retirement benefits are factors that may also determine TNA. Muthee (2012), found that promotion influences training needs among secondary school teachers. In contrast, in the same study it was revealed that retirement benefits had no influence on training needs among secondary school teachers. The workforce plan predicts exposures resulting from promotions, retirements, and labour turnover which further provides a demographic base for identifying current and future training needs of the human resource of the organization (Leat and Lovell, 1997).

2.3 Research Hypotheses

Ten research hypotheses were tested in this study, they are:

H1: Management support positively influences TNA
H2: Personnel interest positively influences TNA
H3: Top management commitment positively influences TNA
H4: Job satisfaction of training programmes positively influences TNA
H5: Trainers competency positively influences TNA
H6: Technological changes positively influences TNA
H7: Promotion positively influences TNA
H8: Job rotation positively influences TNA
H9: Career development support positively influences TNA
H10: Retirement benefits support positively influences TNA

3. Methodology

Initially, the research included some inductive reasoning as is indicated within the problem statement. Specific observations were made regarding the situation in the DHS, Al Buraimi Governorate, MoH in Oman. Following this reasoning, the rest of the research follows the deductive approach, as through an assessment of the

literature, a broad spectrum of information is reviewed so as to arrive at the specific factors for hypothesis testing. Moreover, this study follows a cross sectional design for three main reasons. Firstly, there is no time dimension. Secondly, and there is a reliance on existing differences rather than change following intervention, and thirdly, the study group has been selected based on its existing differences rather than random allocation. Due to these reasons, the survey strategy has been utilized to gather data. This study used a survey strategy to examine the factors determining TNA of administrative employees. The survey data were collected by means of the questionnaire which according to Sekaran (2000) is an efficient data collection tool.

3.1 Population and Sampling

The level of analysis used in this study is individual analysis. The study population was made up of administrative employees of DHS, Al Buraimi Governorate, MoH in Oman. Due to the small size of the population, all members were chosen. Therefore, the study was a census survey as the population was all administrative employees of DHS, Al Buraimi Governorate, MoH, Oman. The study covered all employees in the administrative departments in two large hospitals, a poly clinic, and six health centres in Al-Buraimi governorate in Ministry of health in Sultanate of Oman. Therefore, the study was a census as it covered the entire population of respondents. Of the 392 respondents covered, usable questionnaires were retrieved from 348 (88.8%) respondents. The decision to cover the entire population was based on the fact that, sampling would only be meaningful if at most half the population was sampled, which would be slightly below 200. If the non-response rate turns out to be high, then the resulting sample may not be sufficient for all the analyses required for the study. The researcher, on the other hand had the resources even if the response rate had turned out to be high.

A draft of the questionnaire was discussed and reviewed with the administrative supervisors and the consultant/trainer experienced in the TNA field. Comments from them were used as guidelines to improve the instrument. It was then addressed to the Director of Health Services at Al Buraimi Governorate or key person involved in making TNA decisions with a cover letter attached, explaining the purposes of the study. In order to ease responses, self-addressed, stamped envelopes were also sent together with the questionnaires to all respondents.

3.2 Survey Instrument (Questionnaire)

Two principal sources were used in the development of the questionnaire. One of these was the experiences of the specialists from the Directorate of Health Services in Al-Buraimi Governorate. The other was through a review of the relevant literature. The questionnaire was developed with the aim of providing answers to the research questions.

The questionnaire was anchored on a 5-point Likert Scale to measure the responses on employees' perceptions towards the various constructs. The first questions in Section A address general information about the respondent, such as gender, age, number of years of working experience, educational level, marital status and monthly salary. The subsequent questions in Section B are directed towards their opinions on factors that affect training needs analysis.

Once the survey instrument was developed, it underwent careful pre-testing to ensure usability, validity and reliability (Cavana et al. 2001). This was achieved by checking that the questions were clear, concise and unambiguous, and the instrument measured what it was intended to measure. There are a number of pre-tests recommended in the literature to address these concerns (Cavana et al. 2001; Leedy & Ormrod 2005). After consideration of those available, the pre-tests chosen for the survey were face validity, content validity and a pilot study (Leedy & Ormrod 2005).

For the face validity, 27 respondents were engaged. Collation of the 27 sets of results enabled the researcher to make improvements to the survey as follows: Changes were made to instructions for section B factors; Slight word changes; An adjusted layout of the survey to improve user friendliness by adding bolded font, increasing spacing and use of shading where possible. Overall, the feedback from the respondents was positive and no major issues arose as a result of the respondents' completion of the survey. For content validity, the questionnaire was sent to three experts in the field (administrative supervisor and training supervisors) for their comments and feedback. The three experts were asked to comment throughout the development stages of the survey and their contributions included critique on layout as well as construction and content. Feedback provided was carefully considered and changes made accordingly to improve the content validity. The main improvements included: Rewording of questions in Section A (Demographics), and rewording instructions in Section B, factors that determine TNA to improve clarity; coded all questions; ensured consistency when using Likert-type scales. The pilot study was very useful to test what type data might be returned from the survey and to determine potential problems with the survey instrument. For this process, the respondents were asked to complete the survey instrument and return them to the researcher. Minor modifications were made where necessary, in the light of the results of this pilot study. There were initially 93 items in the questionnaire but after the pilot study seven items were deleted, as feedback from the respondents indicated that they were very similar to other items. Therefore, the final questionnaire had 86 items. Thirty-seven respondents were involved in the pilot study. They were asked to complete the questionnaire twice, within an interval of two weeks. Response patterns were compared between the two applications to gain some measure of the reliability of the instrument. A reliability analysis was also carried out by examining the Cronbach alpha for the measurement scales. The results revealed the minimum Cronbach alpha of 0.712 for technological changes; and a maximum of Cronbach alpha 0.947 for management support. They were all above the minimum recommended threshold of 0.7 (Nunnally, 1978).

Furthermore, the questionnaire was originally developed in English. As the primary language in Oman is Arabic, the questions were also translated into Arabic. The verbal equivalence between the Arabic and English versions was checked through back-translation to ensure the compatibility of the meaning of the questions in the two versions. To ensure the greatest clarity possible, slight adjustments were made in the light of this comparison.

4. Data Analysis

Table 1 presents a summary of all the demographic information collected for this study.

4.1 Factor Analysis

To reduce the list of major variables factors to a more manageable number, factor analysis was conducted on all 86 items presented in the study scale. Factor analysis used was a principal component analysis with varimax factor rotation. In the beginning there were total 86 items in the whole questionnaire. The questionnaire had 10 predictors (independent) and 1 response (dependent) variable. For the independent variables which contain 76 questions altogether, the result of the KMO test was 0.846 and Bartlett's test of sphericity was high at 58397.343 ($p = 0.000$) after reducing four factors namely, hiring process, HR policy of training, motivation and retention factors and many variables. For the dependent variable TNA the result shows of the KMO was 0.917 (very close to one), and P value < 0.001, i.e., adequacy of the sample and data are suitable for factor analysis.

After data reduction through factor analysis the number of items were reduced to 70 items. Table 2 shows results of factor analysis for each construct.

Table 1 Summary of the Descriptive Demographic Characteristics of the Survey Respondents

Characteristics		Frequency	Percent
Gender	Male	296	85.1
	Female	52	14.9
	Total	348	100
Age Group	25-29	95	27.3
	30-34	97	27.9
	35-39	81	23.3
	40-44	75	21.6
	>44	56	20.6
	Total	348	100
Marital Status	Single	70	20.1
	Married	278	79.9
	Total	348	100
Education	Secondary or Below	130	37.4
	Diploma	89	25.6
	Bachelor	123	35.3
	Master	6	1.7
	Total	348	100
Salary	(200 to 500) RO	84	24.1
	(501 to 1000) RO	245	70.4
	(1001 to 1500) RO	15	4.3
	(1501 to 2000) RO	4	1.1
	Total	348	100
Years of service	1 to 5 years	119	34.2
	6 to 10 years	41	11.8
	11 to 15 years	90	25.9
	16 to 20 years	78	22.4
	Over 20 years	20	5.7
	Total	348	100

Table 2 Summary of Data Reduction (Factor Analysis)

Construct	Total Items	No. of items eliminated	No. of items remaining
Management support	11	1	10
Personnel interest	11	4	7
Top management commitment	8	1	7
Job satisfaction of training programs	10	3	7
Trainers' competency	6	2	4
Technological changes	7	-	7
Promotion	6	1	5
Job rotation	6	-	6
Career development	6	-	6
Retirement benefits	5	1	4
TNA (dependent variable)	10	3	7

4.2 Descriptive Statistics of Factors Determining TNA

Table 3 shows the mean answers and standard deviation of each factor and TNA. For example, mean of factor trainers' competency = (Q5.1+Q5.3+Q5.4+Q5.6)/4 = 1.88. The Table shows that all of factors' mean = 3.67 or less, i.e., the respondents disagree or are not sure in all factors with exception of their agreement with personnel interest means = (4.26).

Table 3 Descriptive Statistics of Factors Determining TNA and TNA Score

Constructs	N	Minimum	Maximum	Means	Std. Deviation
Management support	348	1.30	4.30	1.86	0.72
Personnel interest	348	3.29	4.86	4.26	0.37
Top management commitment	348	1.86	3.71	2.54	0.37
Job satisfaction of training programs	348	2.71	3.86	3.40	0.30
Trainer's competency	348	1.00	4.25	1.88	0.76
Technological changes	348	2.00	3.86	2.46	0.40
Promotion	348	2.20	3.60	2.82	0.23
Job rotation	348	2.50	3.67	2.94	0.20
Career development	348	2.33	4.00	3.29	0.40
Retirement benefits	348	2.50	4.25	3.07	0.24
TNA(TNA) score	348	1.57	4.57	2.18	0.70

4.3 Correlation Analysis

The nonparametric correlations table displays correlation coefficients, significance values, and number of cases with non-missing values. In the nonparametric correlations in Table 4, the researcher reviewed the information from Spearman's rho using the ranks of the data to calculate correlation coefficients. Spearman's rho is a rank-order correlation coefficient which measures association at the ordinal level. This is a value of the correlation coefficient range from -1 to 1. The sign of the correlation coefficient indicates the direction of the relationship (positive or negative). The absolute value of the correlation coefficient indicates the strength, with larger absolute values indicating which variables are stronger. The researcher found the following:

Table 4 Correlations of Factors Determining TNA in DHS at Al Buraimi Governorate, MoH, Oman

		TNA	F1	F2	F3	F4	F5	F6	F7	F8	F9	F10
TNA	Spearman's rho	1.00										
	Sig (1 tailed)											
	N	348										
F1	Spearman's rho	0.701**										
	Sig (1 tailed)	0.001										
	N	348										
F2	Spearman's rho	0.210**	0.265*									
	Sig (1 tailed)	0.002	0.031									
	N	348	348									
F3	Spearman's rho	0.356*	0.070**	-0.094**								
	Sig (1 tailed)	0.012	0.003	0.002								
	N	348	348	348								
F4	Spearman's rho	0.129**	0.137*	-0.129*	0.056**							
	Sig (1 tailed)	0.003	0.022	0.010	0.002							

	N	348	348	348	348							
F5	Spearman's rho	0.219**	0.629*	-0.309*	0.256*	0.109**						
	Sig (1 tailed)	0.002	0.021	0.011	0.013	0.002						
	N	348	348	348	348	348						
F6	Spearman's rho	-0.296*	0.237*	-0.227*	0.809*	0.144*	0.513**					
	Sig (1 tailed)	0.030	0.021	0.012	0.011	0.031	0.001					
	N	348	348	348	348	348	348					
F7	Spearman's rho	-0.495*	-0.148*	-0.144*	0.636**	-0.007*	0.386**	0.703*				
	Sig (1 tailed)	0.012	0.031	0.012	0.002	0.012	0.003	0.031				
	N	348	348	348	348	348	348	348				
F8	Spearman's rho	-0.489**	-0.430*	0.153*	0.244**	-0.024**	-0.558*	0.156**	0.082*			
	Sig (1 tailed)	0.001	0.014	0.013	0.001	0.001	0.012	0.003	0.012			
	N	348	348	348	348	348	348	348	348			
F9	Spearman's rho	-0.449**	-0.766*	0.288*	-0.121*	-0.149*	-0.783*	-0.292**	-0.072*	0.505**		
	Sig (1 tailed)	0.002	0.021	0.012	0.031	0.013	0.011	0.001	0.031	0.001		
	N	348	348	348	348	348	348	348	348	348		
F10	Spearman's rho	0.202**	0.272*	-0.288*	-0.297*	0.270*	0.192*	0.370*	-0.027*	0.121**	-0.188*	1.00
	Sig (1 tailed)	0.002	0.013	0.019	0.041	0.034	0.011	0.031	0.012	0.004	0.012	
	N	348	348	348	348	348	348	348	348	348	348	348

*p value < 0.05; **p value < 0.01; ***p value < 0.001

TNA = Training Needs Analysis, F1 = Management support, F2 = Personnel interest, F3 = Top management commitment, F4 = Job satisfaction of training programmes, F5 = Trainers competency, F6 = Technological changes, F7 = Promotion, F8 = Job rotation, F9 = Career development, F10 = Retirement benefits

From the results of the correlation analysis, the following findings are deduced; There was a significant relationship between TNA and all factors (F1, F2 …F10). Spearman's correlation coefficient between the determinant factors and TNA ranged from 0.129 to 0.701. There was a positive relationship between TNA and Management support ($r = 0.701$, $p < .01$), Personnel interest ($r = 0.210$, $p < .01$), Top management commitment ($r = 0.356$, $p < .01$), Job satisfaction of training programmes ($r = 0.129$, $p < .01$), Trainers competency ($r = 0.219$, $p < .01$), as well as Retirement benefits ($r = 0.202$, $p < .01$), while there was a negative relationship between TNA and Technological changes ($r = -0.296$, $p < .05$), Promotion ($r = -0.495$, $p < .01$), Job rotation ($r = -0.486$, $p < .01$), as well as Career development ($r = -0.449$, $p < .01$).

4.4 Multiple Regression Analysis

Before conducting regression analysis, the researcher checked whether the dependent variable (TNA score) and independent variables (management support, personnel interest, top management commitment, job satisfaction of training programs, trainers' competency, technological changes, promotion, job rotation, career development, retirement benefits) were normally distributed. Therefore, the Skewness and Kurtosis of these distributions were examined as illustrated in Table 5.

According to the classical guidelines provided by Bulmer (1965), values of Skewness and Kurtosis between 0 and .50 (in absolute value) are indicative of approximately normal distributions; values between .50 and 1.00 (in absolute value) are indicative of moderate non-normality; and values greater than 1.00 (in absolute value) are indicative of high non-normality.

The above table shows that all factors and TNA scales were substantially non-normal. So, the researcher transformed (Log & square root) those variables to be absolute normal.

The R2 is 0.920, this means that the determinant factors (management support, personnel interest, top

management commitment, job satisfaction of training programs, trainers' competency, technological changes, promotion, job rotation, career development, retirement benefits), which acts as the predictors in the present study, explain 92% of the variance in the TNA score. The ANOVA result is significant and is shown in the Table 6. The result of the β value, T value, and p value is shown in the Table 7.

Table 5 Skewness and Kurtosis Statistics of Factors and TNA Score Means

	Skewness		Kurtosis	
	Statistic	Std. Error	Statistic	Std. Error
Management support	1.840	0.131	2.346	0.111
Personnel interest	-0.947	0.112	-0.005	0.411
Top management commitment	0.702	0.109	2.711	0.261
Job satisfaction of training programs	-0.515	0.093	-0.729	0.141
Trainer's competency	1.514	0.061	1.611	0.261
Job rotation	1.393	0.142	1.484	0.203
Career development	-0.064	0.109	-0.777	0.091
Technological changes	-0.929	0.111	1.772	0.118
Promotion	-1.574	0.131	1.287	0.061
Retirement	2.534	0.138	7.355	0.261
TNA	1.866	0.102	3.359	0.204
Valid N (listwise)	348			

Table 6 ANOVA

Model		Sum of Squares	df	(M) Square	F	Sig.
1	Regression	154.998	10	15.5	397.855	.000a
	Residual	13.129	337	0.039		
	Total	168.127	347			

Table 7 Multivariate Analysis between TNA Score as Dependent Variable with Factors Determining TNA as Predictors

Constructs	β	T	P-Value	Remarks
Management support	0.114	19.54	0.000	Significant
Personnel interest	0.189	-3.21	0.002	Significant
Top management commitment	0.347	4.73	0.000	Significant
Job satisfaction of training programs	0.196	1.22	0.041	Significant
Trainer's competency	0.231	2.63	0.009	Significant
Technological changes	-0.384	-3.94	0.000	Significant
Promotion	-0.194	-1.62	0.012	Significant
Job rotation	-0.388	-2.17	0.033	Significant
Career development	-0.265	-2.35	0.021	Significant
Retirement benefits	0.192	1.93	0.048	Significant

4.5 Summary of Hypotheses Testing

The research hypotheses was subjected to the multiple regression analysis, and the summary from the hypotheses testing is presented in the Table 8

Table 8 Summary of Hypotheses Testing

HA	Hypotheses	Method of testing	Remarks
H1	Management support positively influences TNA	Correlation analysis and multiple regression analysis	Supported
H2	Personnel interest positively influences TNA	Correlation analysis and multiple regression analysis	Supported
H3	Top management commitment positively influences TNA	Correlation analysis and multiple regression analysis	Supported
H4	Job satisfaction of training programmes positively influences TNA	Correlation analysis and multiple regression analysis	Supported
H5	Trainers competency positively influences TNA	Correlation analysis and multiple regression analysis	Supported
H6	Technological changes positively influence TNA	Correlation analysis and multiple regression analysis	Not supported
H7	Promotion positively influences TNA	Correlation analysis and multiple regression analysis	Not supported
H8	Job rotation positively influences TNA	Correlation analysis and multiple regression analysis	Not supported
H9	Career development support positively influences TNA	Correlation analysis and multiple regression analysis	Not supported
H10	Retirement benefits positively influences TNA	Correlation analysis and multiple regression analysis	Supported

5. Conclusion

This study was conducted in the Directorate of Health Services at Al Buraimi Governorate in Oman. The purpose of this study was to examine the factors that determine TNA. To carry out this study, first the researcher identified a set of variables presented in relevant research literature. Then, these set of TNA practices were used to formulate the conceptual framework of factors determining TNA. A structured questionnaire was created to collect data from employees.

From the results gotten, a positive influence was established between TNA and management support, personnel interest, top management commitment, Job satisfaction of training programmes, trainer's competency, as well as retirement benefits. This supports six (H1, H2, H3, H4, H5, and H10) of the ten research hypotheses. On the other hand, the positive influence between TNA and Technological changes, promotion, Job rotation, as well as Career development was not supported. Hence, four (H6, H7, H8, and H9) out of the ten hypotheses were not supported.

The study concluded that from the factors, management support was the most significant. This is in agreement with previous studies that showed the trainees or employees should feel that they will receive the support and feedback necessary regarding their performance from the management or supervisor in order to effectively develop the training needs. One way this can be accomplished is by the management focusing their attention on analyzing the possible motives of senior management for understanding the TNA. There is a need to gain involvement and support from top management and supervisors in training processes in order to achieve the best results (Elbadri, 2001; Brown, 2002; Clarke, 2003). Without management support, there would not be designated funds for training programs, and employees would not feel comfortable using new knowledge and skills. The researcher concludes from the results that lack of managerial support and lack of feedback are very stressful for employees. Employees want a supervisor to be concerned about their personal needs, to be accessible and to treat them with respect.

Also, the study concluded that top management commitment came as another important factor which plays a very significant role on the TNA process. This result is supported by Facteau et al. (1995), that the top management view training as a way to meet organizational goals by making sure that the employees takes an active part in the delivery of training and in the planning of training objectives; and by maintaining a financial commitment to training (Facteau et al., 1995). Top management should simply be aware of the importance and benefits of TNA and also have the capital to invest in employee training and guidance and follow-up from the top management should exist. Some respondents also felt that their top management did not take training issues seriously and failed to understand the purpose of TNA.

The study concluded that personnel interest was significant on TNA. This result supported by Haslinda (2007) revealed that most of the respondents suggest that there exist negative groups who resist and do not support the effectiveness of training programs in the organization and thus determine TNA. In the result of this study, there is evidence that the administrative employees are interested to attend training programs to upgrade their skills. The employees want to learn as much as they can from training programs even if there are no rewards or incentives on wages. They are usually motivated to learn new skills.

The study concluded that trainers' competency was significant on TNA. This result is supported by Lim & Johnson (2002) who revealed that the trainer should maintain their involvement in the training and transfer process by conducting field visits to observe trainees' use of trained skills and abilities, provide and solicit feedback and provide continued support and assistance to trainees. The result of this study shows that the trainers must be qualified to transfer the knowledge to the administrative employees. Also, they should encourage employees to reach their full potential. The trainer must be able to communicate efficiently, facilitate a conversation to ensure the needs and expectations of the learners are met, present material clearly and successfully, and make information interesting.

Based on the results of this study, the researcher can argue that for factors determining TNA to maximize performance of administrative employees in the Directorate of Health Services at Al Buraimi Governorate in Oman, they need to focus on all related factors that determine TNA: Management support, Personnel interest, Technological changes, Top management commitment, Trainers' competency, and Retirement benefits. This suggestion is in line with Aigbogun, Ghazali & Razali (2014, 2016) who argue that for organizations to remain competitive in the twenty-first century, there is need for development of capabilities in targeted areas of their business. It is worthy of note that the human resources of every forward-looking organization are a paramount capability worth investing in. Hence, the study results show that identifying the factors determining TNA is helpful to ensure that training is designed such that it matches the ability level of employees. Also, this will help ensure to close the performance gap among administrative employees in the Directorate of Health Services at Al Buraimi Governorate in Oman.

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