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Evaluation of training & development programmes in construction industry

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Abstract

A company's training & development strategies play a critical role in a competitive environment by focussing on employees' performance. If they are adequately nurtured, educated and developed, they become one of the most important assets of the company. Construction industry in India is growing ever-stronger with one of the largest contributors to Indian economy. This research studies training & development programs of three construction companies in India, and their effectiveness on their respective employees. There are varied and quite dynamic factors that determine the training's effectiveness, however there are few principles and indicators that are set to follow while imparting training programs so that effective delivery of the same is ensured to the beneficiary party, and they can be brought on a similar platform to be compared.

Keywords: Evaluation, training & development programmes, construction industry.

1. Introduction

In a continuous competitive business environment, companies today are focussing on innovative training and development strategies to achieve organisational goals and maintain their competitiveness by motivating and increasing the performances of their employees. Employee training is a specialised and one of the fundamental functions in an organisation, given on a variety of skills development and covers a multitude of courses. In recent times, more emphasis has been on the use of training programs and their effectiveness. This is because, training can provide added value but only if its beneficiaries have effectively received it. By *effectiveness*, we mean that training is able to add value to the personnel significantly by a series of quality and productive activities. Use of training and development programs do not connote a company's need to recover from a failing situation, but more often it is seen as a positive action in furthering corporate goals and retaining employees.

This research examines the effectiveness measurement tools of three organisations for their training and development programs to their respective human resources. Keeping in mind the fact that training is an investment for an organisation and the effectiveness of the training, i.e. its actual benefits to the organisation are equally important, the research has tried to come up with few practices in the corporate sector related to training and development that the organisations generally use and how their measurement takes place.

To measure or determine training's effectiveness is actually not an easy operation for a company to carry out because the factors on which the effectiveness is based, are varied and quite dynamic in them (selves). Such factors can be like, job environment, job satisfaction, job aids, experience and motivation of the workforce around you, individual motivation during the training, and commitment to work. Any of the two, training and other factors, cannot be studied or valued in isolation. As seen in the three organisations from which data has been collected for this research, there are few principles and indicators that are set to follow while imparting training programs so that effective delivery of the same is ensured to the beneficiary party. Through this way, monitoring gets feasible and evidence of overall training effectiveness, strengths and weaknesses can be determined.

2. Importance of Training and Development:

Training takes individual, group and organizational level forms such as e-learning, coaching, case studies and other various training methods. It is presented as a tool which can help employees develop themselves. Training requires a strong commitment not only from the employees' but also from the management to support it by chalking out clear objectives, individual roles and responsibilities, conducting the program and assisting it administratively and non-administratively. A detailed description of importance is given below:

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1. Optimum utilisation of human resources: Training and Development helps in optimizing the utilization of human resource that further helps the employee to achieve the organizational goals as well as their individual goals.
2. Development of Human Resources – Training and Development helps to provide an opportunity and broad structure for the development of human resources' technical and behavioural skills in an organization. It also helps the employees in attaining personal growth.
3. Development of skills of employees – Training and Development helps in increasing the job knowledge and skills of employees at each level. It helps to expand the horizons of human intellect and an overall personality of the employees.
4. Team spirit – Training and Development helps in inculcating the sense of team work, team spirit, and inter-team collaborations. It helps in inculcating the zeal to learn within the employees.
5. Organization Culture – Training and Development helps to develop and improve the organizational health culture and effectiveness. It helps in creating the learning culture within the organization.
6. Organization Climate – Training and Development helps building the positive perception and feeling about the organization. The employees get these feelings from leaders, subordinates, and peers.
7. Quality – Training and Development helps in improving upon the quality of work and work-life.
8. Healthy work-environment – Training and Development helps in creating the healthy working environment. It helps to build good employee, relationship so that individual goals aligns with organizational goal.
9. Health and Safety – Training and Development helps in improving the health and safety of the organization thus preventing obsolescence.
10. Morale – Training and Development helps in improving the morale of the work force.
11. Image – Training and Development helps in creating a better corporate image.
12. Profitability – Training and Development leads to improved profitability and more positive attitudes towards profit orientation.

We shall now discuss methods of training and development & effectiveness measurement of the training and development methods.

3. Methods of Training:

As training involves a person's learning and executing abilities, it involves at the backstage, psychological processes that drive the person's ability to deliver as expected. Several learning theories can provide a foundation for a training program through which trainees can be motivated well to learn. Cognitive and behavioural methods of training can be used keeping in mind the purview of each and their impact on trainees.

▪ Cognitive training methods

Cognitive methods are oriented more towards giving theoretical trainings to the trainees. By *theoretical*, we mean conducting session(s) related to how to and why to do something, written or verbal information, relationships among certain variables and concepts, etc.

Cognitive training includes the following methods:

1. Lectures: It is one of the oldest forms of teaching and training. Lecturer provides the information to the receiver

(generally called, the audience) in a printed or oral form. Lecture is given to enhance the knowledge of the audience or to give the theoretical aspect of a topic. It can be an interactive session or it can be one-way. When the trainer begins the training session by telling the aim, goal, agenda, processes, or methods that will be used in training, it is the lecture method.

2. Discussions: This method uses a lecturer to provide the learners with context that is supported, elaborated, explains, or expanded on through interactions both among the trainees and between the trainer and the trainees. The interaction and the communication between these two make it much more effective and powerful than the lecture method. If the discussion method is used with proper sequence i.e. lectures, followed by discussion and questioning, it can achieve higher-level knowledge objectives, such as problem solving and principle learning. The Discussion method consists a two-way flow of communication i.e. knowledge in the form of lecture is communicated by trainer to the trainees, and then understanding is conveyed back by trainees to trainer.
3. Computer based methods:

With the world-wide expansion of companies and changing technologies, the demands for knowledge and skilled employees have increased more than ever, which in turn, is putting pressure on HR department to provide training at lower costs. Many organizations are now implementing Computer-based training (CBT) as an alternative to classroom based training to accomplish the goals. According to a recent survey, about 75% of the organizations are providing training to employees through Intranet or Internet. Internet is not the method of training, but has become the technique of delivering training.

The growth of electronic technology has created alternative training delivery systems. CBT does not require face-to-face interaction with a human trainer. This method is so varied in its applications that it is difficult to describe in concise terms.

Methods of Computer-based training methods are:

- (i) Intelligent tutorial system: Intelligent Tutorial system uses artificial intelligence to assist in training or tutoring the participants. This system is a text-based system and works on the trainee responses. It selects the appropriate level of instructions for the participants, guides the trainees, and allows the trainees to communicate with the intelligent tutorial system. A training session manager interprets trainees' responses to improve on the methodology for teaching.
- (ii) Programmed Instruction: comprises of graphics, multimedia, text that is connected to one another and is stored in memory. Programmed instruction is the procedure of guiding the participants strategically through the information in a way that facilitates the most effective and efficient learning. It provides the participant with content, information, asks questions, and based on the answer goes to the next level of information i.e. if the trainee gives the correct answer; one branch moves the trainee forward to the new information. And if the trainee gives the wrong answer then different branch is activated, taking the trainee back to the review relevant information in more elaborate manner. This method allows the trainees to go through the content according to the individual speed, and capability. Those trainees, who respond better, move through the content rapidly. Programmed Instruction also comes in Printed

form i.e. books, tape, interactive video, and other formats.

- (iii) **Virtual reality:** Virtual Reality is a training method that puts the participant in a three dimensional environment. This environment stimulates situations and events that are experienced in the job to give trainee the impression of physical involvement in an environment. To experience virtual reality, the trainee wears devices, like headset (for audio and visual information), gloves (for tactile information), treadmills (for creating the sense of movement), sensory devices (to transmit how trainee responds in virtual workplace), etc.

▪ **Behavioural training methods**

Behavioural training methods give a practical approach to the training. These methods work best for skill development techniques in a training program. Methods under this training include:

1. Games and simulation

Training games and simulations reproduce or simulate events, circumstances and processes that take place in the trainees' job. A Training Game is defined as spirited activity or exercise in which trainees compete with each other according to the defined set of rules. Simulation is about imitating or making judgment or opining how events might occur in a real situation. It can entail intricate numerical modelling, role playing without the support of technology, or combinations.

Key components of games and simulation are:

- (i) **Behavioural modelling:** Here, some kind of process or behaviour is videotaped and then is watched by the trainees. Games and simulation section is also included because once the trainees see the videotape, they practice the behaviour through role plays or other kind of simulation techniques. The trainee first observes the behaviour modelled in the video and then reproduces the behaviour on the job.
- (ii) **Business Games:** Business games are the type of simulators that try to present the way an industry, company, organization, consultancy, or subunit of a company functions. Basically, they are based on the set of rules, procedures, plans, relationships and principles derived from the research. Trainees are given some information that describes a particular situation and are then asked to make decisions that will best suit in the favour of the company. System provides feedback about the impact of their decisions based on which, trainees make the decisions again. This process continues until some meaningful results come out or some predefined state of the organization exists or a specified number of trials are completed.
- (iii) **Case Studies:** Case Studies try to simulate decision-making situation that trainees may confront at their work place. It reflects the situations and complex problems faced from CEO to the field employees. Case Study method building decision making skills, assesses and develops Knowledge, Skills and Attitudes (KSAs), develops communication and interpersonal skills, management skills, procedural and strategic knowledge.
- (iv) **Equipment stimulators:** Equipment simulators are the mechanical devices that necessitate trainees to use some actions, plans, trials, movements, or decision processes they would use with equipment back at the their respective work place. It is imperative that the simulators be designed to repeat, as closely as possible, the physical aspects of equipments and operational surroundings

trainees will find at their work place. The mental conditions are also closely matched under which the equipment is operated such as, increasing demands, pressure of time, and relationship with colleagues, subordinates. Trainees of this method can be, taxi drivers, telephone operators, ship navigators, airline pilots, maintenance workers etc.

- (v) **In basket technique:** It provides trainees with a log of written text or information and requests, such as memos, messages, and reports, which would be handled by manger, engineer, reporting officer, or administrator.
- (vi) **Role plays:** When trainees are to be trained for developing interpersonal and communication skills, conflict resolution, insight into one's own behaviour etc, role play method is used. Role play is a simulation in which each participant is given a role to play. Trainees are given with some information related to description of the role, concerns, objectives, responsibilities, emotions, etc. Then, a general description of the situation, and the problem that each one of them faces, is given. For instance, situation could be strike in factory, managing conflict, two parties in conflict, scheduling vacation days, etc. Once the participants read their role descriptions, they act out their roles by interacting with one another.

Various types of role plays are as:

- (a) **Multiple Role Play:** All trainees are in groups, with each group acting out the role play simultaneously. Then each group analyzes the interactions and identifies the learning points.
- (b) **Single Role Play:** One group of participants plays the role for the rest, providing demonstrations of situation. Other participants observe the role play, analyze their interactions with one another and learn from the play.
- (c) **Role Rotation:** It starts as a single role play. After the interaction of participants, the trainer will stop the role play and discuss what happened so far. Then the participants are asked to exchange characters. This method allows a variety of ways to approach the roles.
- (d) **Spontaneous Role Play:** In this kind of role play, one of the trainees plays herself while the other trainees play people with whom the first participant interacted before.

2. Management development method:

The more future oriented method and more concerned with education of the employees. To become a better performer by education implies that management development activities attempt to instill sound reasoning processes.

- (i) **On the job training:** Coaching and mentoring are two ways through which on the job training can be provided. According to a survey conducted by International Coach Federation (ICF), more than 4,000 companies are using coach for their executives. This method best suits for people at the top management level. Mentoring is an ongoing relationship that is developed between a senior and junior employee. It provides guidance and clear understanding of how the organization goes to achieve its vision and mission to the junior employee. In cases where the executive is new to the organization, a senior executive could be assigned as a mentor to assist the new executive settled into his role. Mentoring is one of the important methods for preparing them to be future executives.
- (ii) **Job rotation:** This approach allows the manger to operate in diverse roles and understand the different issues that

crop up. An organized and helpful way to develop talent for the management or executive level of the organization is job rotation. It provides the employees with opportunities to broaden the horizon of knowledge, skills, and abilities by working in different departments, business units, functions, and countries.

- (iii) Job instruction technique: Job Instruction Technique (JIT) uses a strategy with focus on knowledge (factual and procedural), skills and attitudes development. JIT consists of four steps:
- (a) Plan: A written breakdown of the work to be done because the trainer and the trainee must understand that documentation is must and important for the familiarity of work. Therefore, a structured analysis and proper documentation is ensured to cover all the points in the training program, followed by what the trainee knows and what training should focus on. A comfortable atmosphere is to be created for the trainees' i.e. proper orientation program, availing the resources, familiarizing trainees with the training program, etc.
- (b) Present – In this step, trainer provides the synopsis of the job while presenting the participants the different aspects of the work. When the trainer finished, the trainee demonstrates how to do the job and why is that done in that specific manner. Trainee actually demonstrates the procedure while emphasizing the key points and safety instructions.
- (c) Trial – This step actually a kind of rehearsal step, in which trainee tries to perform the work and the trainer is able to provide instant feedback. In this step, the focus is on improving the method of instruction because a trainer considers that any error if occurring may be a function of training not the trainee. This step allows the trainee to see the after effects of using an incorrect method. The trainer then helps the trainee by questioning and guiding to identify the correct procedure.
- (d) Follow-up – In this step, the trainer checks the trainee's job frequently after the training program is over to prevent bad work habits from developing.

4. Evaluation of Training & Development

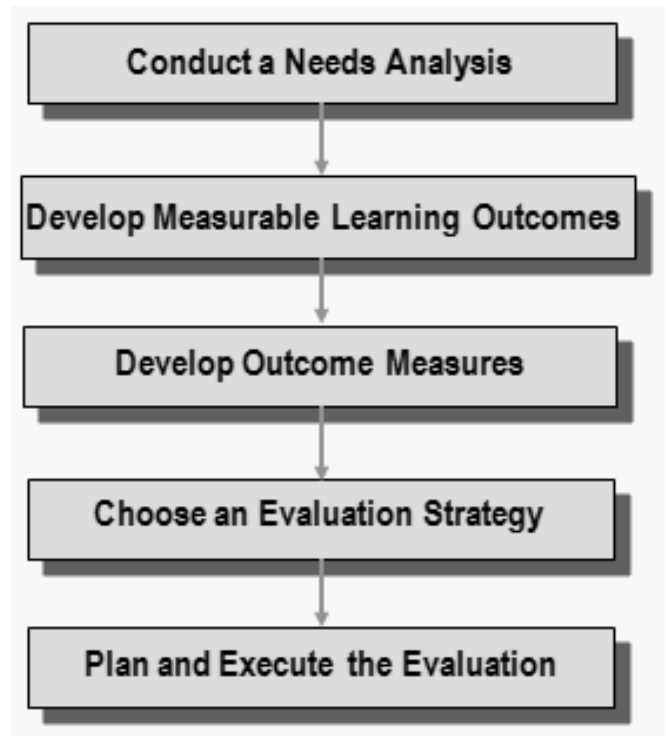
Training investments are increasing among the companies as learning through trainings creates knowledge for the employees that become an asset to the companies; it makes them differentiable to those who do not succeed. However, it may not be always there that all the elements of a training program are delivered up to the mark and hence to monitor the effectiveness and to strive to improve the loopholes can bring competitive advantage to the company and can bring the benefits against the investment made.

To establish a training program and carry out its activities, a systematic approach is used. Some training programs, after they are established, can be used over the years to train and qualify the trainees. Some programs are, however, made for one-time purpose or for a specific goal.

Training evaluation involves evaluation of training as a process and evaluation of output of the training. The former one is called the Formative evaluation in which the evaluation is conducted to improve the training process. Latter one is called Summative evaluation which is conducted to determine the extent to which trainees have brought in the aspects and learnings of training in themselves, and thus have changed as a result of the training in which they participated.

Evaluation process

The evaluation of a training program is a step-wise process once it has been made known that the nature of evaluation is formative or summative. The following steps (as shown in the figure) are taken for the evaluation process.



(Source: Employee Training & Development, Raymond A. Noe, Tata McGraw Hill, 2002)

An initial needs assessment for evaluation of training program is conducted that is followed by chalking out the parameters that can be measured. Keeping into account the nature of the parameters so decided, strategy for their evaluation is chosen from the various methods of evaluation available, and is executed towards the end. The results show the level of effectiveness of training conducted.

The evaluation apart from formative or summative can differ on the basis of components used in evaluation. It can be solely based on the traits of trainee after the training only, i.e. post-test only. It can be a comparison of the traits before and after the training, i.e. both pre-test and post-test. Other ways of conducting the evaluation can be, post-test with the comparison group, comparison of pre-test and post-test with the comparison group, and time series reflecting trainee's behaviour and work over a period of time with/without training.

Outcomes used in evaluating training

There are five kinds of outcomes that are used in evaluation of the training and development programs.

1. Cognitive outcomes: Such outcomes determine the degree to which trainees are familiar with the principles, facts, techniques, procedures, or processes emphasized in the training program, and knowledge that they gained in the program.
2. Skill-based outcomes: It assesses the level of the level of skills with the trainee initially, and acquisition or learning of skills and their use on job after the training.
3. Affective outcomes: Affective outcomes evaluate a trainee's perceptions of the program that include the FABCLities, the trainer and the content of the program.

4. Results: Results tell a company's payoffs against the training program.
5. Return on Investment (ROI): It compares the benefits of the training in monetary terms with the cost of the training. It includes, direct and indirect costs and benefits.

Literature Review

The literature on training and development shows that its traditional role is of insuring that the workforce is equipped with the right kind of knowledge and skills (Berge *et al*, 2002) that are necessary to achieve the organisational as well as individual objectives. Mathis and Jackson (2000) see training as a process whereby people acquire capabilities to aid in the achievement of organisational goals. Sometimes the individuality of training and development as two separate terms is discussed with development being broader in scope and focusing on individuals gaining new capabilities useful for both, present and future jobs. Training as a concept emerged later but had started being discussed in early 19th century by eminent authors like Taylor (1911) and Munsterberg (1913). The principles of scientific management by Taylor had mentioned both selection of best workers and extensive training; where Munsterberg focussed on training and selection procedure in civilian and military sector, with latter one during World War I. McGhee and Thayer are regarded as the first few researchers who contributed in systematic treatment of major issues in training and development when they published their work on training in business and industry in 1961.

When training is well designed, it gives individuals opportunities to enter the job market with the needed skills to perform in the new functions and to be promoted in to the new situations. This emphasis on training opportunities is consistent with the concept of work and its value as an activity of daily life. Since the evolution of this concept, a lot of research and literature work has been done on the importance and advantages of training and development activities in business sector firms. And comparatively it is less on the effectiveness of those training programs and their analysis from a result-oriented approach. A study by Campbell in 1971 mentioned that the training and development literature by then was voluminous, non-empirical, non-theoretical, poorly written and dull, and that needs assessment and evaluation of training systems had highly been lacking. Studies came later that emphasised on evaluation in training and development systems in companies. Towards the end of 19th century, Goldstein mentioned that there were certain developments in the training and development systems regarding the needs assessments procedures, evaluation methods, methods and theories of trainings like development of behavioural role modelling, however both the depth in the quantity and quality of the work in evaluation methods was a long way to achieve. Literature can be found on the individual factors that impact the outcome of training on the trainee and environmental factors that contribute in this process but not on effectiveness and assessment of training and development activities conducted. It is an important aspect that should be studied thoroughly as relationship between training effectiveness and job satisfaction, employee commitment, motivation to work are crucial in a company. A management study cited by Burke and Baldwin in 1999 mentions that when the managers work in an environment favourable to them, i.e. the environment that encourages trainees to use and maintain their learned capabilities, they are more likely to apply those capabilities. A significant relationship was found by Noe and Schmitt in 1986

between job involvement and other training outcomes like motivation to learn and to transfer the learnings to the job. Smith and Hayton (1999) argue that there are a complex set of factors that influence the extent and nature of training like organisational size, occupational structure, industrial relations, senior management commitment to training etc. One of the results of this study was that the size of the organisation is strongly correlated to the volume and diversity of the training; the size of the training itself however, is not likely to be a determinant of trainings in the organisations directly (Smith and Hayton, 1999). This was hence deduced that the larger the organisation, greater the economies of scale can be achieved in the training. Also, they have greater capacity to provide trainings with training infrastructure, and more skilled and professional employees to train.

Powell and Yalcin in 2009 added significance to the past researches done related to training programs and variables that affect the effectiveness of such programs. Their finding was that the training programs which were implemented to achieve learning outcomes had largest effect and were consistently significant as compared to the programs that were results oriented. Also, both the public and private organisations engage in developing effective managers through substantial investment in their training and development programs. A study showed training and development effectiveness measurement at a nuclear power plant too. McAlearney (2005) referred learning and mentoring methods of training that develop skills in mid- and senior- level management and provide better financial benefits too as compared to other methods.

In a study conducted in 1998, it was shown that 73 percent of the companies studied recognize that training and development mechanisms are necessary for a company to have multi-skilled workforce to stay competitive in the market. Out of them, 47 percent have a formal process in their company, out of which only 35 percent actually execute an effectiveness measurement practice.

There are various modern training techniques that are often used. Some of them are, on-the-job training, vestibule training, apprenticeship, coaching, job rotation, lectures and conferences, simulation training, management games, role playing, and in-basket exercise (Ajilouni *et al*, 2010). Training sometimes, is seen as a process and the methods of training chosen depend on the requirement or expectation from the training. According to the requirement, the tools and techniques are identified and are designed in such a manner that training is imparted to achieve the objectives of the program and the output of the program is productive.

Although evaluating the training is a very important exercise to conduct, it is not quite easy to do so. Evaluation cannot be done without relevant and reliable data. Information related to performance problems, gaps where improvement can be done, monitoring of those gaps after the training, and also monitoring other human factors like inadequate direction, personal motivation etc. Berge (2008) said that even before execution of the training program, there are certain factors that have already contributed their part in ineffectiveness of the training before the training has actually started. He mentions that sometimes conducting training for wrong reason at the first place becomes the factor of poor training program. The reason behind lack of performance need not be lack of training always, and infact this gap has been in almost all the cases. Other thing he cited was that lack of sponsorship or budget also sometimes lead to an unsuccessful training. Evaluation of such under the line factors that cannot be

evaluated through a questionnaire or formal tools, become a point of concern in evaluation of the training and this is why evaluation within an organisation is difficult.

Research Methodology

The nature of the study is qualitative in nature. It is an exploratory study where it has been tried to explore that whether organizations undertake evaluation of their training programmes or not, and if so, what methods and techniques they use to do the same.

Three companies from the construction/real estate sector is the sample for this research. The selection is based on the response and willingness of the organisations to participate in the research. Initially fifteen organisations based in Delhi and NCR region were approached in total from IT, HR consulting and real-estate fields. Five organisations responded with a positive response out of which three companies from altogether construction/real-estate field were chosen for the study as choosing companies from similar field gives the data analysis an edge by keeping different organisations on similar pattern of operations and management. They also represented their sector in greater percentage than other sector companies.

The method for data collection was in-depth interviews and the instrument for data collection was an open ended questionnaire. Open ended questionnaire help in getting as many dimensions as possible from the respondents for each aspect in the study.

There are three organisations studied for the research whose names are not disclosed here. They may be connoted as:

1. ABCL Contractors Ltd.
2. Moon Infra Pvt. Ltd.
3. BK & Sons

ABCL Contractors Ltd. is one of the leading civil contractors in India. Their projects range from residential and township housing, to corporate and industrial complexes, hospitals, five-star hotels, educational and training institutes, sports complexes etc. This company boasts of turnover over Rs. 1600 Crores with certifications of ISO and OHSAS. The Human Resources department of ABCL Contractors Ltd. pays great emphasis on regular training and in-house/external professional development programmes for its employees. Training and other programs support the corporate strategy of the company by bringing on board the requisite skill, making and implementing prudent HR policies and processes and creating a productive work atmosphere by way of employee engagement and training programs.

Moon Infra Pvt. Ltd. is an infrastructure company that focuses on medium and large turnkey construction projects on pan-India basis. Its purview of operations ranges across commercial, to industrial and residential sectors. Moon Infra stands itself out in the market by focussing on high transparency levels in the operations and throughout the projects, with strong emphasis on the timely delivery of the output along with the safety and quality.

BK & Sons is one of the prestigious companies in infrastructure sector with a pan India presence. It provides services in construction of malls and multiplexes, factories, corporate and residential complexes, and hotels. The company has a decentralised approach in its structure that removes the traditional barriers of communication in an organisation. This gives an edge to the training and development programs as well as multi-level interactions within and outside BK & Sons through rapid and accurate message delivery and quality decision making.

Research Gap

As the available literature indicates, much of research has been conducted on the understanding, implementation, methods and advantages of conducting training. Not much and required attention has been given to how companies evaluate their training programmes in terms of their effect on performance and their cost effectiveness. By effect on performance we mean whether the training has been able to achieve the objectives it was planned to, like increase in sales, increase technical competencies of employees, their ability to serve customers etc. And by cost effectiveness we mean if the costs incurred on training and development are justifiable or are they less than the benefits reaped. So there is a need to study whether companies undertake evaluation of their training programmes and if so then what methods they use for the same.

Beneficiaries:

The proposed outcomes of this study will be beneficial for the industry and academia both. Industry will appreciate the research as it will provide insights about important activities (evaluation of training programmes) which they might not be undertaking and thus are incurring opportunity costs for it (in case it is found that they do not undertake). This will also provide them with the common methods and practices being used in the industry to evaluate effectiveness of the training programmes (if found that organizations undertake evaluation exercise). Academicians can use the outcomes to further research and understand what factors can restrict the organizations to undertake evaluation of training programmes or otherwise on what factors and by using what methods organizations are undertaking evaluation.

Data Presentation and Analysis

(A) ABCL Contractors Ltd. (ABCL)

• Levels and Methods of Training and development:

ABCL has a centralised Functional organization structure with Technical & Quality, Projects, Electricals, Plumbing & services, General administration and HR as different functions. Each functional division is headed by an Executive Director (ED), followed by functional General Manager (GM) and a team of Managers & supporting staff reporting to them.

ABCL conducts Training & Development programmes for all levels of employees in its organization and uses different type of methods for respective employees. It has a special 'Corporate training centre' within its premises in Delhi, where it conducts various managerial and technical trainings round the year for its employees.

At lower level, it uses two types for methods

1. *Vestibule/Simulation Method*: ABCL is a pioneer in using latest equipments for construction purposes; it gives high emphasis on worker capability and knowledge in using these equipments. It conducts vestibule training of all newly recruited workers at its corporate learning centre to train them in the efficient usage of the equipments at actual work site.
2. *Job Rotation and MDP's*: Since ABCL has a functional structure and each function requires different set of capabilities, it rotates its middle and senior level employees/managers in the projects related to different functional areas. ABCL believes that it helps the company develop versatile managers who are capable of handling complete projects individually.

It also has tie ups with local business schools in NCR region for conducting Managerial Development Programmes (MDP) for its senior level employees.

ABCL considers this as a futuristic step as it is entering into international construction projects, as the versatile managers will be able to handle standalone foreign assignments easily.

• **Evaluation of Training & Development Programmes at ABCL:**

Being a mid-sized company ABCL has limited financial resources, the management reasonable return on each penny invested in business and so is the case with investment in T&D.

ABCL uses return on investment (ROI) approach for evaluating the effectiveness of its training and development programmes. For calculating the ROI on various T&D programmes, it uses a series of steps right from their planning to implementation. Following is the process it follows.

The calculation of ROI in [training and development] at ABCL begins with the basic model, where sequential steps simplify a potentially complicated process. The process provides a systematic approach to ROI calculations.

Step-1. Post-Program Data collection: For ABCL data collection is central to the overall ROI calculation activity and is the first step in the entire process. It collects both Hard (cost, time, quality) data and Soft (change in work attitude and work environment) data for further processing and comparison.

It uses following tools for collecting data from different levels of employees;

1. *Questionnaires:* For senior and middle level employees, ABCL uses questionnaires to collect hard and soft data related to the planning, execution and effectiveness of the programme.
2. *Project assignments:* To the middle level employees (engineers etc.), it assigns those projects where they are supposed to apply newly developed skills and knowledge. Later, data related to their performance on these projects is collected.
3. *Action plans:* These methods are used for lower level workers, where they are given new targets for increase in their performance after the training. The data on their performance (achievement of these targets) is then collected.

Step-2. Conversion of data into monetary values: ABCL converts the qualitative data into monetary values on basic criteria's. First it considers the profitability and second it considers the monetary value of increased quality.

1. It converts the output data to profit contribution or cost savings. With this technique, output increases are converted to monetary value based on their unit contribution to profit or the unit of cost reduction. These values are assigned on the basis of predetermined standards.
2. It calculates the cost of quality, and convert quality improvements directly to cost savings. For this also the standard values are used.

Step-3. Calculation of Return on Investment (ROI):

ABCL uses a simple and standard formula to calculate ROI;

$$ROI = \frac{\text{net benefits}}{\text{program costs}} \times 100$$

Where,

Net Benefits= Program benefits – Program costs

(B) Moon Infra Pvt. Ltd.

• **Levels and methods of Training and Development:**

Moon Infra is a new entrant in the infrastructure sector. Set up in 2007, this organisation has established itself by analysing the sector and its dynamics over the years and has senior management team with more than 100 years of experience. It follows a flat and decentralised organization structure and manages its business on project-by-project basis across pan India.

Its core competency is its ability to undertake 'turnkey projects' in construction business for various industries. This competency has a unique impact on its HR policies relating to recruitment & selection and training of its manpower.

Moon Infra uses contract labour in different cities for short periods as per requirements and thus do not conduct any training programmes for these temporary workers.

It has the policy of recruiting only experienced people and thus do not recruit any fresh talent for its supervisory, middle management and top level management. It uses a mix basket of methods to train its people at various levels in the organization.

1. *Understudy:* This method is used for newly joined employees at supervisory and middle management level. The main motive of this training is to give recruits the knowledge of organizational procedures and to orient them to the culture of the organization. The recruits work under a senior manager for a period of 2-3 months and then is allocated his/her profile.
2. *Demonstrations and Lectures:* Employees in the sales and marketing team at Moon Infra go through annual training to improve and learn new methods/trends in marketing and sales. This programme consists of demonstrations of 'ideal sales' by experts and lectures related to new marketing trends and techniques being used in construction industry.
3. *Job rotation:* Moon Infra also uses the method of job rotation to train its top level managers. It rotates these managers and assigns them turnkey projects in various industries like Education, Healthcare institutions etc.

• **Evaluation of Training & Development Programmes at Moon Infra:**

Management at Moon Infra believes that training is expensive if it does not meet the purpose for which it is given. Training should be able to develop the capabilities of individuals as well as the organization, and if it is not so, then the loss to the organization is way more than that of loss of money spent on T&D (the organization may even lose its competitive edge).

Moon Infra attempts to measure three types of training outputs to evaluate the effectiveness of T&D. These are;

1. *Output related to the course planning, relevance, comprehension and implementation of programme as whole:* It uses detailed questionnaires to collect data on various dimensions of relevance, comprehension etc. It also asks and identifies the ideas which the employees/participants have found useful and which they will try to apply to their actual work.
2. *Output related to transfer of learning to the job:* For this purpose the data is collected from the person, his peers and supervisors on the perceived change in behaviour and work styles. The type of data ranges from questionnaires to 'critical incidents' before and after the training programme.
3. *Outcome in relation to the changes in the mindset (attitude, values, social competencies etc.):* This involves

measuring changes within the individual as well as measuring actual behaviour changes at work. The company uses a technique called "Field Force Diagram" to measure relationship between internal changes and its impact on actual behaviour at work.

Moon Infra also uses various 'projective tests' to identify before and after training internal thought processes of employees. The HR department mentions that this is the most difficult part of the evaluation process and is done by the immediate supervisor or peer of the employee. This involves great amount of subjectivity and hence is given relatively less weightage in the evaluation process.

(C) B K and Sons

BK & Sons has a vision to create an organization that would be admired and sought out for its professionalism and quality of work. It puts lot of emphasis on development of its employees to achieve the desired professionalism, commitment and quality. BK & Sons believes that T&D programmes sends a signal to employees that the organization cares for them and thus plays a key role in promoting employee commitment towards it. Following are the details regarding Training & Development programmes and their evaluation at BK & Sons.

• Levels and methods of Training and Development:

BK & Sons has a flat and decentralized organization with clearly defined structures and open lines of communication ensure that everyone on a project is on the same page at all times. At the heart of its success is the perfect blend of man and machine, working in unison and to a precise plan, to create world-class constructions and infrastructure. This requires highly versatile and flexible employees competent enough to handle & manage a variety of work. The company gives a lot of emphasis on training and development of its employees especially at technical level to achieve this objective. It uses a variety of methods to trains its employees across various areas.

1. *Quality Certifications:* BK & Sons has the policy of sending its senior engineers for quality certification programmes on annual basis. It selects 10 senior engineers annually on the basis of a selection test and then sponsor's quality certification programmes for them. The company considers this as an important step in its HR policies to develop and sustain intellectual capital and to deliver projects of international quality standards to the clients.
2. *Classroom Training:* For its associate engineers and lower level technical employees, it conducts classroom training. The purpose of this training is to impart employees with the knowledge of new technologies being used in the industry and to impart knowledge regarding the mandatory process which they have to follow under ISO (The company has got ISO certification).
3. *International Trips:* BK & Sons organises international trips to China and other Arab countries for its Architects. It has tie up with "AIGEN Dubai-the architects of Burj Dubai" to train its architects on new construction designs and capabilities.

Being a partnership organization run and managed by partners only, it does not emphasize much on training and development of its senior management.

• Evaluation of Training & Development Programmes at BK & Sons:

BK & Sons does not have any standard or comprehensive setup to measure the effectiveness and return on its training and development programmes. It follows some ad-hoc steps randomly after the conduct of programmes to measure their effectiveness. It broadly classifies its evaluation process in three stages.

Stage-1. Setting of objectives: It specifies the goals and objectives of the training programmes usually in terms of improved quality, improved knowledge of new technologies and improved decision making capabilities etc.

Stage-2. Collection of data: Though the data collection procedures are not standard at BK & Sons, it uses various techniques as suitable to collect data from the employees. It uses;

1. Self assessment questionnaires (to be filled by trainees)
2. Feedback forms
3. Interviews with trainees

Stage-3. Evaluation of training during its execution & determining reaction level of trainees: Evaluation of the training while it is in the process tells the management at BK & Sons whether it is moving in right direction or not. Reactions of trainees when the training is half way, ascertains whether or not the training is achieving its objectives that it was destined for during the planning stage. Open discussion among the trainees, trainers and the management of BK & Sons is the tool used for this determining this reaction.

Findings

The research comes out with a study of three organisations and their level of operations in training and development evaluation. It shows that there is not a standard procedure that is followed by all the companies and they differ as per the nature of the organisation, their requirements and the convenience to carry out the training at the first place, and later their evaluations. Although methods vary from company to company, the nature of trainings are generally technical in nature in all the three organisations. It means that trainings that enhance the skills of the trainees in their respective field are more popular. Whereas, general management trainings that focus on cognitive and behavioural aspects of trainees were found missing. It could be inferred from the study that more dedicated efforts and a sincere approach towards effectiveness of training and development programs could lead to better results and cost effectiveness.

Conclusion and learning

The idea that training and development should be for the benefit of the firm or organization rather than only for the individual represents a perspective transformation within the training and development function. It moves the focus of the training specialist from dealing only with the individual to the organizational-systems level. There are a variety of training and development methods suited for different types of objectives and literature substantiates the value of these methods to achieve competitive position in the market. Therefore, there cannot be a benchmark for training programs and their evaluations for all the organisations. A similar framework/concentrated approach, however, will be beneficial for organisations related to a particular sector and similar level of scale of operations. Training for "all", both within and sometimes beyond the boundaries of the organization, can be linked to organizational goals and strategies.

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