Chapter Two

Literature Review
Chapter Two: Literature Review

The assessment of Training needs for employees in commercial printing industry is a major topic for the researcher. To make this topic more clear the Researcher has reviewed and studied different books on various topics related to Training, Training Analysis, Human Resource Management, Printing industry, Technology, Organizational Management. The number of research papers reviewed from Research Journals and professional journals have also been referred to write this review. A large volume of literature is published by the National Press Skill Standards and National Skill Development Corporations of India as guidance notes. These guidance notes throw light on the practical issues in Training in Commercial Printing Industry. Some websites were also used as a source of knowledge.

The literature review gives insights into various theoretical concepts, current trends and practical issues in the field of Assessment of Training Needs in Commercial Printing Industry. It will also help in understanding current trends of training in Commercial Printing Industry.

2.1 Conceptualizing the assessment of Training needs

2.1 a) Nature of Training

Successful candidates placed on the jobs need training to perform their duties effectively. Workers must be trained to operate machines, reduce scraps and avoid accidents. Training is very important to all the employees including operators and Managers. Training helps employees to produce quality, think positively and help the organization to grow. Training refers to the imparting of specific skills, abilities and knowledge to an employee. Training may be understood as an attempt to improve current or future employee performance by increasing an employee’s ability to perform through learning, usually by changing the employee’s attitude or increasing his or her skills and knowledge. 19

2.1 b) Training – Meaning & Importance

Training refers to a planned effort by a company to facilitate employee learning of job-related competencies. These competencies include knowledge, skills, or behaviors that are critical for successful job performance. The goal of training is for employees to master the knowledge, skill, and behaviors emphasized in training programs and to apply them to their day-to-day activities. For a company to gain a competitive advantage, its training has to involve more than just basic skill development. That is, to use training to gain a competitive advantage, a company should view training broadly as a way to create intellectual capital. Intellectual capital includes basic skill (skills needed to perform one’s job), advanced skills (such as how to use technology to share information with other employees), an understanding of the customer or manufacturing system, and self-motivated creativity.

2.1 c) Definition of Training

The process of increasing the knowledge and skills of the workforce to enable them to perform their jobs effectively. Training is, therefore, a process whereby an individual acquires job-related skills and knowledge.

Training is a systematic learning process that involves the acquisition and changing of knowledge, skill, behavior concepts, rules, attitudes, and motivation of the employees to enhance their performance on the job as per the business goals and objectives of the organization. Training is about knowing where employees stand (no matter how good or bad the current situation looks) at present, and where they will be after some point of time. It is all about the acquisition of knowledge, skills, and abilities (KSA) through professional development. 20

Within organizations training is used to try and fix problems that may be skills or knowledge related.21


21 Copyright Prioritisky sdn. bhd.; (2007), Understanding Training needs, Malaysia.
2.2 Inputs in Training

2.2 a) Skills

A worker needs skills to operate machines and use other equipments with least damage and scrap. This is a basic skill without which the operator will not be able to function. There is also the need for motor skills. Motor skills (psychomotor skills) refer to performance of specific physical activities. Employees, particularly supervisors and managers, need interpersonal skills popularly known as the people skills. Interpersonal skills are needed to understand oneself and others better, and act accordingly.

2.2 b) Education

The purpose of education is to teach theoretical concepts and develop a sense of reasoning and judgment.

2.2 c) Development

Another component of a training programme is development which is less skill oriented but stresses on knowledge. Knowledge about business environment, management principles and techniques, human relations, specific industry analysis and the like is useful for better management of a company.

2.2 d) Ethics

There is need for imparting greater ethical orientation to a training and development programme.

2.2 e) Attitudinal Changes

Attitudes represent feelings and beliefs of individuals towards others. Attitudes affect motivation, satisfaction and job commitment. Negative attitudes need to be converted into positive attitudes. Changing negative attitudes is difficult because – (i) employees refuse to change, (ii) they have prior commitments, and (iii)
information needed to change attitudes may not be sufficient. Nevertheless, attitudes must be changed to that employees feel committed to the organization, are motivated for better performance, and derive satisfaction from their jobs and the work environment.

2.2 f) Decision Making and Problem solving skills

Decision Making and Problem solving skills focus on methods and techniques for making organizational decisions and solving work related problems. Learning related to decision making and problem solving skills seeks to improve trainee’s abilities to define and structure problems, collect and analyze information, generate alternative solutions and make an optimal decision among alternatives.

2.3 Training Process

2.3 a) Need of Training Training has become a need because of the changing technology. Systems and practices get outdated soon due to new discoveries in technology, including technical, managerial and behavioural aspects. Organizations that do not develop mechanisms to cope up with and use the growing technology soon become stale. However, developing individuals in the organization can contribute to the effectiveness of the organization.

Apart from this the training becomes necessary because of the following points.

- Employment of freshers and new labour requires detailed instructions for effective performance on the job.
- People should work smartly without supervision and save the cost, waste and spoilage and produce qualitative products on time.
- Increasing use of fast changing techniques in production and other operations require training into newer methods for the operatives.

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- Old employees need refresher training to enable them to keep abreast of changing techniques and the use of sophisticated tools and equipment.
- Training is necessary when a person has to move from one job to another because of transfer, promotion or demotion.

**Fig. 2.1 Training Process**


Such development, however, should be monitored so as to be purposeful. Without proper monitoring, development is likely to increase the frustration of employees if
they are not given opportunities for the application of their newly learned skills and raised expectations. A good training sub-system would help greatly in monitoring the directions in which employees should develop in the best interest of the organization.23

2.4 Benefits & Advantages of training

2.4 a) Benefits

- Employee Training can be used to create positive attitudes through clarifying the behaviors and attitudes that are expected from the employee by employer.
- Employee Training can be cost effective, as it is cheaper to train existing employees compared to recruitment of new employee with the skills you need.
- Training can save the organization’s money and time if the training helps the employee to become more efficient.
- The other benefit of training is that it will keep employees motivated. New skills and knowledge can help to reduce or minimize boredom.

2.4 b) Advantages of Training -

Training can be beneficial to both the parties, employees and the employers.

Advantages to the company:

- **Increased efficiency of employees:** An effective training programme can make the employees of the company work in an effective manner. Trained people gain confidence and produce quality output on time.
- **Reduced supervision:** An employee needs to be supervised when he works. When the employee has got sufficient training the amount of

supervision required is less as mistakes are less. This reduces the workload of the supervisor.

- **Less amount of wastage:** The amount of wastage by an employee is reduced a lot due to training and therefore if we take an account of the amount of wastage we find that the company has saved a lot of money.

- **Reduced Attrition:** Proper training improves chances of obtaining promotions and employees are happy because they have better opportunities. Due to this their chances of leaving their current job reduces greatly thereby reducing labour turnover in the company.

- **Helps new employees in the organization:** Training always benefits employees whether old or new. In case of new employees, training helps them a lot. This is because new employees may not be aware of the functioning of the organization and training helps them to gain knowledge and insight into the working of the company.

**Advantages to the employee:**

- **Self-confidence:** Training leads to increase in employee self-confidence. The person is able to adjust to his work environment and doesn’t feel humiliated in front of his seniors. This confidence leads to chances of better efforts in the future from the employees.

- **Increased motivation levels:** Training brings positive attitude among employees and increases the motivation levels of the employees in the organization, thereby improving the results of the organization.

- **High rewards:** An effective training programme helps an employee to take the benefit of the rewards system and incentives available in the company. Thus the employee is able to get these rewards, which in turn increases his motivation levels.

- **Group efforts:** An effective training helps the employees to become good team players. Thus training programmes improve group efforts.
• **Promotion:** Effective training programmes increase performance and increase the chances of obtaining promotions. Many employees even opt for certain programmes so that they can help themselves to improve their chances of promotions and obtaining higher positions in the organizations.

2.4 c) **Disadvantages of Training Employees**

All businesses have a duty to their employees to make sure they are adequately trained for their positions. Employees without the appropriate training often lack the confidence and ability to do their jobs properly. As a result, many businesses implement strict training programs. However, some businesses may cross the line into over-training their workforce, and this comes up with several problems.

• **Increased Stress:** Many companies offer continuous training to their employees. In general, continuous training is a good idea as it keeps employees up to date on new trends and also keeps them knowledgeable in their particular area of work. However, some companies go overboard by requiring their employees to complete an unrealistic number of hours of ongoing training. This level of over-training can become very stressful to the employee over time. And when employees are stressed, job performance goes down.

• **Waste of Time and Money:** Over-training in the workplace can be a waste of valuable resources and time, the company needs to spend money on training materials, hire or promote individuals to train the other employees, and also pay both the trainers and the trainee’s wages while they're learning. Instead of over-training can force the employee to work for overtime, employer should make sure that their employees receive adequate training, while not going overboard and crossing the threshold into over-training.

• **Loss of Interest:** During extensive training sessions, employees may get bored and lose interest in what they are learning. Once an employee loses interest, much of the information being taught will not be understood. It becomes very difficult for a trainer to repeat the same information numerous times. Employees may end up tuning out because they already know what is
going to be said. As a result, they may miss any new information that is being added.

- **Too Much Theory**: Some company training programs, especially those pertaining to management, tend to focus more on theory than application. Many individuals struggle with learning in lecture-type environments, and learn better with hands-on experience. For these individuals, too much theoretical training can become extremely boring, especially when it seems to go on for a longer time. Instead of focusing solely on theory, companies may wish to focus more on teaching their employees how to apply and implement these strategies in their actual work. Mixing in practical knowledge and hands-on experience will keep employees better engaged throughout the training process.24

### 2.5 Importance of Training Needs Assessment

Needs assessment is the first step in the instructional design process, and if it is not properly conducted any one or more of the following situations could occur:

- Training may not be a need for getting good performance.
- Training programs may have the wrong content, objectives or methods
- Trainees may be sent to training programs for which they do not have the basic skills, prerequisite skills or confidence needed to learn.
- Training will not deliver the expected learning, behavior change, or financial results that the company expects.
- Unnecessary training programs may lead towards company’s financial loss.25


The Figure shows the three types of analysis involved in needs assessment and the causes and outcomes resulting from needs assessment. There are many different ‘pressure points’ which suggest that training is necessary. These pressure points include performance problems, new technology, internal or external customer requests for training, job redesign, new legislation, and changes in customer preferences, new products or employee’s lack of basic skills.

The needs assessment process results in information related to who needs training and what trainees need to learn, including task in which they need to be trained plus knowledge, skill, behavior or other job requirements.

2.5 a) The Purpose of Training Needs Assessment

With the motive of Training is conducted to tie the performance deficiencies and identify the working need and be sure that the benefits of conducting the training are greater than the problems being caused by the performance deficiency. Conduct two types of analysis to answer this question:
1. *Needs versus wants analysis and*

2. *Feasibility analysis.*

Involve appropriate parties to solve the deficiency. Conduct a target population analysis to learn as much as possible about those involved in the deficiency and customize a training program to capture their interest.

Training can fix the performance deficiency or suggest other remediation if training is not appropriate. Conduct a performance analysis to identify what skill deficiency is to be fixed by a training remedy.

There is a better or preferred way to do a task to get the best results. Set the job performance standards and governmental regulations to consider to complete a task.

Conduct a task analysis – To identify the best way to perform. When will the training take place?: the best timing to deliver training has to be decided properly because attendance at training can be impacted by work cycles, holidays and so forth.26

2.5 b) *Techniques of Training Needs Assessment*

i) *Observation*

- It can be as technical as time-motion studies or as functionality of behaviorally specific as observing a staff member interacting during a meeting.
- May be unstructured as walking through an agency's officers on the lookout for evidence of communication barriers.
- It can be used normatively to distinguish between effective and ineffective behavior, Company structures and / or process.

ii) *Interviews*

- Can be formal or casual, structured or unstructured or somewhere in between.

• May be used with a sample of a particular group (board, staff, and committee) or conducted with everyone concerned.
• Can be done in person, by phone at the work site, or away from it.

iii) Self – Assessment

Ask participants to evaluate what they have learned about themselves, including their knowledge, behavior, and attitudes. Taking stock or oneself is a great motivator of change. A wide variety of techniques can help participants with their self – assessment. Make use of questionnaires post tests, or final role-play performances. Even game like activities, such as the one below, can be appropriate.

iv) Key consultation

Secures information from those persons who, by virtue of their formal or informal standing are in a good position to know what are the training needs of a particular group?

a. Board chairman
b. Related service providers
c. Members of professional associations
d. Individuals from the service population

v) Records and Reports.

• Consist of Company charts, planning documents, policy manuals, audits and budget reports.
• Employee records (Grievance, turnover, accidents, etc.)
• Includes minutes of meetings, weekly, monthly programme reports, memoranda, agency service records, program evaluation studies.

vi) Work samples

• Are similar to observation but in written form.
• Can be products generated in the course of the organization's work, e.g.: Advertisement layout, program proposals, market analyses, letters and training designs.

• Written responses to a hypothetical but relevant case study provided by the consultant.

vii) Questionnaires

• May be in the form of surveys or polls of a random or stratified sample of respondents, or an enumeration of an entire "population"

• Can use a variety of question formats: open-ended, projective, forced-choice and priority-ranking.

• Can take alternative forms such as Q sorts, slip sorts, or rating scales, either pre-designed or self-generated by respondent

• May be self-administered (by mail) under controlled or uncontrolled conditions, or may require the presence of an interpreter or assistant.

viii) Group discussion

• Resembles face-to-face interview technique, E.g., structured or unstructured, formal or informal, or somewhere in between.

• Can be focused on job (role) analysis, group problem analysis, group goal setting, or any number of group tasks or themes, E.g "leadership training needs of the board"

• Uses one or several of the familiar group facilitating techniques: brainstorming, nominal group process, force-fields, consensus ranking, company mirroring, simulation and sculpting.

ix) Tests

• Are a hybridized form of questionnaire

• Can be very functionality oriented (like observations) to test a board, staff, or committee member's proficiency.
• May be used to sample learned ideas and facts.
• Can be administered with or without the presence of an assistant.\textsuperscript{27}

2.6 The Needs Assessment Process

In practice, organizational analysis, person analysis and task analysis are not conducted in any order. Whether time and money are devoted to training is contingent on the results of organizational, person and task analysis. While any one analysis can indicate the need for training, companies need to consider the information from all three types of analysis before the decision is made to devote time and money for training.

A thorough needs analysis examines training needs on three levels:

1. Organizational
2. Task, and
3. Individual

2.6 a) Organizational Analysis

Organizational analysis examines where training is needed in the organization and under what conditions the training will be conducted. It identifies the knowledge, skills, and an ability that employees will need for the future, as the organization and their jobs evolves or changes.

Analysis of HR data can indicate areas where training could improve performance. For example, departments or divisions with high turnover, high rates of absenteeism, poor performance, or other problems can be tagged. After a thorough analysis, training objectives can be determined and the appropriate training program could be

developed. An organizational needs analysis may also deal with employee grievances, customer complaints, quality control issues, accident records and so on.

**Fig. 2.3 The Needs Assessment Process**

HR and line management also need to anticipate and plan for changes.

Three such changes that should be carefully considered are:

i. Future skill needs

ii. Labor pool

iii. Changes in laws and regulations

**i) Future skill needs:** How is your organization changing? Examples of situations that will affect planning for training needs on the organizational level include:

- Compliance with affirmative action plans. Affirmative action guidelines require HR and management to be aware of equal employment opportunity (EEO) regulations and understand compliance goals.
• Installation of new equipment. New equipment creates the urgent need to train employees so the new equipment bring out good productivity & save cost with its safety.

• Changes in standards and procedures. Whenever performance standards or procedure changes, the need for new skills will occur.

• Working in a team environment. New interpersonal skills and decision making will be needed with this type of cultural change.

ii) Changes in the labor pool - Organizations have to plan for adjustment as the labor pool changes. As more women, minorities, immigrants and elder workers join the workforce, employers must plan how to accommodate employees’ diverse needs and still get the job accomplished.

iii) Changes in laws and regulations - Laws and regulations may dictate training needs. For example, the decision in the 1998 Oncale v. Sundowner Offshore Services, Inc. held that same-sex harassment is forbidden by Title VIII of the Civil Rights Act of 1964. In addition to a policy statement, training would be particularly important in instructing employees about blatant and subtler forms of same-sex discrimination.

2.6 b) Task Analysis

Task analysis begins with job requirements and compares employee knowledge and skills to determine training needs. Examining job descriptions and specifications provide necessary information on expected performance and the skilled employees need to accomplish their work. Any gaps between performance and job requirements indicate a need for task training.

A good task analysis identifies:

• Tasks that have to be performed.
• Conditions under which tasks are to be performed.
• How often and when tasks are performed.
• Quantity and quality of performance required.
• Skills and knowledge required to perform tasks.
• Where and how these skills are best acquired.
2.6 c) Individual Analysis

Individual Analysis targets individual employees and how they perform in their jobs. Using information or data from an employee’s performance review in determining training program needs is the most common method. If an employee’s review reveals deficiencies, training can be designed to help the employee meet the performance standard. Employees can also be surveyed, interviewed or tested to determine their training needs. They can indicate problems they have or provide recommendations to solve problems. These interviews can be conducted on an individual basis or in a group setting.  

2.7 Current Practices - Training Need Identification

The Training and Development, as a process starts with Training Need Identification and ends with Training Effectiveness Evaluation and all the stepwise sub processes are very critical for meeting the objectives of the organization. To make it very specific, the Training Need Identification and the Training Effectiveness Evaluation are closely linked with each other and not mutually exclusive. No Training Needs Identification System is complete without a good evaluation system in place. To make it specific, both are integrated and cannot be used separately. But, unfortunately while the training needs are identified, the managers are not having any clue or idea that how that need will cater the objectives of the organization, group and individual employee. Moreover, the managers are not keen to know that how the effectiveness of the training imparted to the employees are evaluated in a scientific manner. The Organizations are budgeting huge amount every financial year for Training and Development. More money, time, energy and human resources are invested for Training.

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Despite all these investments, the organizations could not see or not even perceive any tangible outcome through Training and thus Training rather being an effective process to enrich the potential of the employees has become an activity completion for HR department also.
Suggestions for Improvement

1. **Data Gathering:** Basis for identifying training need to be supported with some critical incidents at workplace, non-performance or sub-standard performance of the employee or group and gap between the expected and actual result on a particular job. These details can be obtained by accessing the certain data or discussing with the Manager or the Supervisor of the employee. The employee may also be assessed by discussing with him or administering a test to the employee on the subject matter to assess his knowledge level. HR department should facilitate this exercise.

2. **Module Design:** Post assessing the need, HR department has to design a module defining the purpose of the need, proposed nature of intervention or methodology, target group, resource person and the deliverables.

3. **Defining the deliverables:** and methodology to measure the deliverables are very critical while identifying the need. In other words, without this step training need identification for an employee shall not arise.

4. **Training Need Validation:** After identifying the list of training needs, the same to be tabulated and discussed with the Core Committee of the Organization comprising all the functional heads who are one level above the departmental heads. During this exercise, the relevance of each training need with the forthcoming financial year and the business requirement should be validated. Before taking up this exercise to this committee, HR should have the complete Cost data for each training need identified by the departmental heads.

5. **Training Need Prioritization:** The training needs to be categorized as high impact and low impact and also the training needs involve with high cost and low cost. In order to prioritize the training needs, a priority to be prepared.

6. The deliverables of the training needs which may likely to create High Impact on the business with Low Cost to be given first priority and all such training to be grouped in Priority 1 Grid. (High Impact Low Cost).
7. The training needs with High Impact and High Cost to be grouped in Priority Grid 2 and the training needs (Low Impact Low Cost) to be grouped in Priority Grid 3. The training needs with Low Impact and High Cost should not be entertained.

8. **Identifying Appropriate Trainer:** Post prioritizing the needs, HR department should identify the appropriate trainer or faculty for each training need. The success of any training depends on identifying the right trainer. To identify appropriate trainer, HR should follow very stringent process by administering the Vendor Enquiry Form wherein the Trainer has to furnish three references where the HR can conduct the reference check about trainer regarding the capabilities of the trainer on designing the Course Content, Presentation and ability to connect with the trainees effectively. Each criteria should carry minimum and maximum score and based on the reference check conducted by HR department, the trainer who has got average and above score may be called for personal discussion to validate the data obtained through the reference check. If the HR department is satisfied with the trainer, he can be empanelled as a trainer for the particular need.

9. **Course Content:** After empanelling the trainer, HR should share the requirements, data and the deliverables expected out of the training need to the trainer and advise him to design the course content. The course content should broadly cover the conceptual orientation with pre training exercise sheets, exercise to be done during the course of training, action plan for the trainee post training and evaluation sheet for the Departmental Head and HR Department.

10. **Pre Profiling:** Before the employee is nominated for the training, the course content should be provided to him and he will be required to carryout the pre training exercise. Post completion of the exercise, his Departmental Head and HR Department should jointly facilitate the employee by sharing the content of the programme, objective of identifying the said training need and
nominating him for the programme, key learnings expected from him and the action plan to translate the learning into action in the workplace.\footnote{Santhanamani, C., & Panchanatham, N. (2005), “Training Need Identification – Ideal Method Vs Reality”,}

2.8 Methods and Techniques of Training

A multitude of methods of training are used to train employees.

Training methods are categorized into two groups – i) On-the-Job and ii) Off-the-Job Methods. On-the-Job methods refer to methods that are applied in the workplace, while the employees are actually working. Off-the-Job methods are used away from workplaces.

Training techniques represent the medium for skills and knowledge to employees. Obviously, training techniques are the means employed in the training methods. Among the most commonly used techniques are lectures, films, audio cassettes, case studies, role playing, video-tapes and simulations.

i) Apprenticeship

Apprenticeship is work-study training method with both on-the-job and classroom training. To qualify as a registered apprentice under state of federal guidelines, apprentices in most cases must complete at least 144 hours of classroom instruction and must obtain 2,000 hours, or one year, of on-the-job experience.

ii) Job Rotation

It is the process of training employees by rotating them through a series of related jobs. Rotation not only makes a person well acquainted with different jobs, but it also alleviates boredom and allows to develop rapport with a number of people. Rotation must be logical.
### iii) Mentoring

The focus in this training is on the development of attitude. It is used for managerial employees. Mentoring is always done by a senior inside person. It is also one-to-one interaction, like coaching.
iv) Job Instructional Technique

It is a Step by step (structured) on the job training method in which a suitable trainer (a) prepares a trainee with an overview of the job, its purpose, and the results desired, (b) demonstrates the task or the skill to the trainee, (c) allows the trainee to show the demonstration on his or her own, and (d) follows up to provide feedback and help. The trainees are presented the learning material in written or by learning machines through a series called ‘frames’.

v) Lectures

Lecture is a verbal presentation of information by an instructor to a large audience. The lecture is presumed to process a considerable depth of knowledge of the subject at hand. A virtue of this method is that is can be used for very large groups, and hence the cost per trainee is low. This method is mainly used in colleges and universities, though its application is restricted in training factory employees.

vi) Vestibule

Vestibule Training is a term for near-the-job training, as it offers access to something new (learning). In vestibule training, the workers are trained in a prototype environment on specific jobs in a special part of the plant. An attempt is made to create working condition similar to the actual workshop conditions.

vii) Simulation Exercises:

Simulation is any artificial environment exactly similar to the actual situation. There are four basic simulation techniques used for imparting training: management games, case study, role playing, and in-basket training.30

2.9 Evaluation of Training

The last stage in the training process is the evaluation of results. Since huge sums of money are spent on training, how far the programme has been useful must be judged / determined. Evaluation helps determine the results of the training programme.

2.8 a) Need for Evaluation

The main objective of evaluating the training programmes is to determine if they are accomplishing specific training objectives, that is correcting performance deficiencies. A second reason for evaluation is to ensure that any changes in trainee capabilities are due to the training programme and not due to any other conditions. Training programmes should be evaluated to determine their cost effectiveness. Evaluation is useful to explain programme failure, should it occur.

2.8 b) Criteria for Evaluation

Training validity:
Did the trainees learn during training?

Transfer validity:
What has been learnt in training, has it been transferred on the job? Has it enhanced performance in the work place?

Intra-organizational validity:
Is performance of the new group of trainees, for which the training programme was developed, consistent with the performance of the original training group?

Inter-organizational validity:
Can a training programme validated in one firm be used successfully in another company?

These questions often result in different evaluation techniques.\textsuperscript{31}

2.10 Significance of Assessment of Training Needs – Research Paper

Evidences

2.10 a) Being home to more than a billion people and with nearly half the population below 25 years of age, India enjoys a distinct demographic dividend, which when leveraged fully has the potential to transform the country into an economic super power. However, for this the country’s largely unskilled population needs to be adequately skilled to improve their productivity and
match global quality standards. This ambitious goal requires an unprecedented effort and a high level of collaboration between public and private sector entities. Collectively we need to address this challenge and take concrete, bold steps towards creating large scale employment linked skills training opportunities for the youth of our country.

Skills and knowledge are the driving forces of economic growth and social development of a country. India is one of the few countries in the world where the working age population will be far in excess of those dependent on them and, as per the World Bank, this will continue for at least three decades till 2040. This has increasingly been recognized as a potential source of significant strength for the national economy, provided we are able to equip and continuously upgrade the skills of the population in the working age group. In rapidly growing economies like India with a vast and ever-increasing population, the problem is two-fold. On one hand, there is a severe paucity of highly-trained, quality labor, while on the other; large sections of the population possess little or no job skills.

2.10 b) The objective of Skill Development is to create a workforce empowered with the necessary and continuously upgraded skills, knowledge and internationally recognized qualifications to gain access to decent employment and ensure India’s competitiveness in the dynamic global market. It aims at increasing the productivity and employability of workforce (wage and self-employed) both in the organized and the unorganized sectors. It seeks increased participation of youth, women, disabled and other disadvantaged sections and to synergize efforts of various sectors and reform the present system with the enhanced capability to adapt to changing technologies and labour market demands.32

2.10 c) ASTD defines a skills gap as a significant gap between an organization’s current capabilities and the skills it needs to achieve its goals. It is the point at which an organization can no longer grow or remain competitive because it cannot fill critical jobs with employees who have the right knowledge, skills, and abilities. It is not just individual organizations or sectors that are feeling the consequences of the skills gap. Communities, states, regions, and entire nations pay a heavy price when they cannot find or equip workers with the right skills for critical jobs.33

2.10 d) Canadian Printing Industries Sector Council (2008); The Canadian Printing Industries Sector Council (CPISC) obtained funding from Human Resources and Social Development Canada and Industry Canada to spearhead development of a skills and technology roadmap for the printing and graphic communications industry. Unlike conventional technology roadmaps, which help industry stakeholders identify, understand and leverage the technologies that will drive the industry in the next 10 years, this skills and technology roadmap also explores the impact that adopting new technologies will have on human resources issues such as skills development and training. In doing so, it provides industry players with a way to identify the skills-development requirements of the industry and contribute to developing strategies and methods that enable the industry to meet the workforce training needs associated with advances in technology.

To accomplish its objectives, the skills and technology roadmap addresses three fundamental questions: Where is our industry today? Where is our industry going? How do we get there?

Where is our industry today?

The skills and technology roadmap describes the current condition of the printing and graphic communications industry and highlights six factors that are exerting a profound influence on industry development.

- Burgeoning use of the Internet
- Expanding markets
- Shifting customer base
- Progressively more specialized products and services
- Advancing technology
- Increasing need to ensure workers are equipped with new skills

Where is our industry going?

Identifies significant technological changes in the industry, and links to technological changes in the industry to skill development by identifying the training challenges associated with these changes.

Seven technology trends shaping the industry’s future

- Enhanced systems integration
- Greater demand for database management services
- Widespread use of customer interface software
- Significant developments in press technologies
- Increased automation and integration of post-press tasks
- Radical new advances in science and technology
- Ever-increasing environmental awareness

How do we get there?

Provide industry recommendations to help industry players develop and implement human resources strategies and tactics that will enable current and new industry workers to gain the skills they require to thrive and the industry to prosper.
Seven vital recommendations

- Explore development of national training programs and delivery models based on industry-developed skills standards
- Develop management and process training tools
- Create an industry-awareness program
- Improve systems integration capability
- Develop a database management research program
- Enhance industry access to support for training and technology
- Support greater environmental awareness

2.10 e) This study addresses the link between technological change and employer-provided training in the western Balkans. It is hypothesized that firms subject to technological change have an increased demand for skills and one mechanism to accommodate this demand is by providing additional training for their workforce. The findings of this analysis suggest that firms that undergo technological change are indeed more likely to provide training and there is some evidence that the training is of greater intensity. This positive association between technological change and training suggests that one way to address underinvestment in training in the western Balkans is to enhance incentives for firms to undertake technological change.35

2.10 f) This article examines the connection between training and technological change by looking at the printing industry through the experiences of six companies. The study revealed that these companies hold training to be

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strategic, not just peripheral. They invest heavily in the retraining of workers, using a multiplicity of strategies, including training by equipment manufacturers, OJT, peer tutoring, teamwork, customized training at vocational colleges, and tuition reimbursement. The study adds an empirical dimension to what is largely a rhetorical literature on the connection between technological change, training, and competitiveness. \(^{36}\)

2.10 g) Canadian Printing Industries Sector Council (January 2010); Bridging the Gaps is a comprehensive report that assesses the skills of workers in three process areas of Canada's printing and graphic communications industry: prepress, press, and finishing and bindery. The report uses the findings of this assessment to identify gaps between workers' existing and required skills, and proposes a training model that the industry can implement to meet the current needs and anticipate future needs of workers in terms of skills development and training.

To develop this proposed model, the Canadian Printing Industries Sector Council undertook a comprehensive research project that consists of two parts. The first component of the research project involved CPISC analyzing industry responses to a comprehensive research questionnaire. Bridging the Gaps contains results from much of this component of the research project. In particular, that document uses results and analysis from the questionnaires to reveal gaps that exist between the skills that are required by industry workers and the current skills possessed by industry workers, and to determine whether or not training is available to bridge any identified gaps.

2.10 h) The questionnaires also produced information that enabled CPISC to gain an understanding of industry Training-past, present and future. Employers shed light on their past and current training participation and spending; on how their workers acquired the skills they currently have; on how their workers would

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go about acquiring skills that they do not have; and on what the ideal training scenario would be for industry workers and the industry as a whole in terms of training source, location, duration, timing, breakdown between practical and theoretical, cost, payment source and outcome. Even further light was shed on the ideal training scenario for industry workers by breaking down results into the ideal training scenario for current workers and the ideal training scenario for workers who are entering the industry.  

2.10 i) This study illustrates the power of IT that enables two SMEs in the printing industry, namely Superskill and Xpress Print, to transform the traditional manual printing processes to become high technology printing processes. By doing so, they are now more agile in their production processes and more responsive to customers’ needs. It is interesting to note that these two local printing firms have not only redesigned their organizational processes, but have also consequently transformed the printing industry. Of course, the degree to which the firms make changes, whether radical or incremental improvements, depends on the owners’ propensity to take risks and their motivations to initiate changes in their business operations. This study also illustrates that the innovations that were adopted had high level management and organizational support.

Firms in the printing industry range from small stationery print shops to commercial printers. This paper focuses on how two local firms in the first category, namely Superskill Graphics and Xpress Print, leverage IT to redesign the printing processes to build in quality in their print products. These two companies took the lead in transforming the printing industry from a low technology, labour-intensive industry into high technology intensive

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operations with their adoption of IT. Today both firms have become leaders in their respective printing market niches.\textsuperscript{38}

2.10 j) Investigates the implications of digital technology for the skill and training needs of small printing firms. The picture that emerges is one where the emphasis is on re-training due to technological change. The bulk of this training takes place in the workplace, with initial training typically being supplied by an equipment or software supplier as part of the initial purchase package.

The skills gained by the key workers selected for initial training are then passed on informally to other staff in the firm. There is rarely a high level of commitment or a systematic approach to training that might be expected given the scale of the investment costs that many of these firms have incurred. Only a few proactively-managed small - to medium-sized enterprises are recognising the need to constantly update their workforce skills.\textsuperscript{39}

2.10 k) In this research, technological developments such as Computer integrated manufacturing, Quality management and Multimedia application are considered with Labour market conditions and policy regulations in this industry.

Strategies and policies of enterprises based on two principles that broadening the perspective of the company and building a special profile based on core competencies that is penetration strategy, transition strategy and

\textsuperscript{38} Margaret Tan, & Thompson Teo. (1997). From low technology to high technology: a tale of two printing companies. Information Technology & People, Vol. 10, no 4, pp. 287-302.

transformation strategy has been considered. This research report uses the findings of this assessment to identify gaps between workers' existing and required skills, and proposes a training model that the industry can implement to meet the current needs and anticipate future needs of workers in terms of skills development and training.

2.10 l) The Canadian Printing Industries Sector Council used questionnaires to generate skills and training-related information from industry employers and training providers who employ or train workers in three process areas: prepress, press, and finishing and bindery. Bridging the Gaps contains results from much of this component of the research project. In particular, that document uses those results and analysis to reveal gaps that exist between the skills that are required by industry workers and the current skills possessed by industry workers.  

2.10 m) This research paper has emphasized on integration of commercial printing process with MIS. It proposes a model of an integrated management information system for effective functioning of commercial printing organizations. The commercial printing organizations are dominated by variety of products to satisfy the demands of a large number of customers.

The system is developed keeping in mind the complex nature of the medium sized commercial printing organizations having different types of processes and variety of end products like books, forms, continuous stationary, security printed products and advertising materials.

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2.11 Summarization of Literature Review:

The Literature review section detailed the empirical and conceptual work that has been conducted with regards to Assessment of Training Needs. Assessment is a process to gather and discuss information from multiple and diverse Commercial Printing industry in order to develop a deep understanding of what employees know, understand, and can do with their knowledge. The process culminates when assessment results are used to improve subsequent learning. This Assessment can be done at various times throughout a program and a comprehensive assessment plan will include formative and summative assessment.

The important factors of Assessment of Training needs include knowledge, skills, and abilities/behaviors that are critical for successful job performance. With the motive of Training is conducted to tie the performance deficiencies; where the benefits of conducting the training are greater than the problems being caused by the performance deficiency.

In practice, organizational analysis, person analysis and task analysis can indicate the need for training; companies need to consider the information from all three types of analysis before the decision is made to devote time and money for training. On-the-Job and Off-the-Job Methods of training are used to train employees. The last stage in the training process is the evaluation of results. Evaluation helps to determine the results of the training program in Pre-Press, Press and Finishing & Binding sections of the employees in Commercial printing industry.