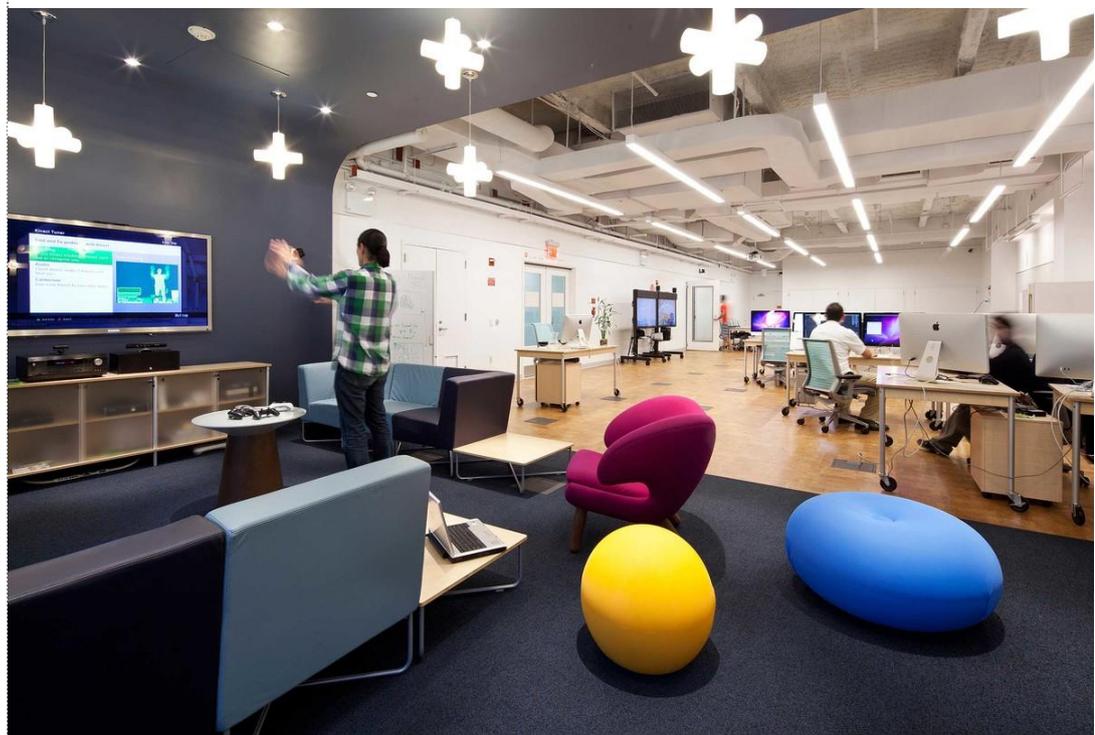


# Innovative Ideas on Rail Training



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## FOREWORD

This booklet offers new and innovative training programs that can also be utilized in the railway industry along with some beneficial tips be considered in training. The core of the booklet is made up of the various news ideas on training and possible content of the training in different railways throughout the world. In addition, we would like to focus on essential basic characteristics of the training and on selecting techniques and exercises based on the Middle East.

In the process of implementing different training schemes in different countries, we accumulated new experience of working. The results and insights from these training courses afford the reader a concrete insight into the training concept and assist in developing one's own training approaches.

Particular thanks are due to all the speakers involved in the 5<sup>th</sup> World Congress on Rail Training on 9-11 October 2019 in Morocco that have helped us in every conceivable way and provided feedback.

We hope that this booklet will give you fresh momentum and encourage you to become a provider of basic skills so that employee training in an organization can also reach the target groups who are particularly in need of them.

The purpose of this booklet is talking about how employees training will influence the performance of an organization.

Since it is very important to us to increase the quality of our documents, we look forward to receiving your feedback and assure you that it will be greatly appreciated. The higher the level of participation, the better we will be able to draw reliable conclusions about the audience satisfaction with documents that we offer.

If you are interested in participating for updating the booklet, please contact us by [rameuic@gmail.com](mailto:rameuic@gmail.com)

Once again, UIC M.E. Regional Office expresses gratitude to all staff and speakers in the 5<sup>th</sup> UIC WCRT 2019 contributed to this booklet by providing information and data, and by lending us their support.

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**UIC Middle East Regional Office**

## **Introduction**

High quality railway services are critically important to the future of fast-growing cities around the world as a driver of economic development and to provide the essential mobility to support the way that citizens want to live their daily lives.

In recent years, the development of railways around the world shows new features such as rapid technological innovation, fast development in scale, and close exchanges and cooperation. Such rapid development requires the support of training and education. Amid this backdrop, colleges, universities, and railway training centers having absolute advantages in railway science and technology popularize and arrange trainings in international railway technology on the basis of existing experience and advantages to provide intelligence, technology, and talents for the development of world railways, which will play an important role and be of great significance in promoting the healthy, rapid and sustainable development of the world railway industry, and even the development of railway civilization and social civilization.

Rail transport is a growing global market, in high-speed and freight, suburban, light rail; subway and tram services. One of the key challenges in this worldwide growing market is the qualification of personnel to handle the traffic in a safe and customer-oriented way.

With growing rail network, new trains, different high quality services designed by the railways and the promise of the government to deliver superior and safe rail services and growing expectation of our passengers and commuters for better amenities and services, it is imperative that the railway employees rise to the occasion to deliver on the promise. Employees can and do deliver only when they have the right skills, knowledge and the mindset to deliver to the new standards of excellence that the organization hold from them all and appropriate training will help achieve these objectives.

We understand the need for a highly skilled and competent workforce as well as the highest standards that the rail industry demands in all aspects of the operational environment. That is why three core services – management of training, design/development and delivery of training, and the provision/ management of training infrastructure – are geared to ensuring that all training is fit for purpose and contributes to the development of a suitably qualified workforce. By providing better railway service, we create better cities and improve the citizens' quality of life.

Noe (2005) states that “Training and development is including activities that help cultivate employees' skills, knowledge, and abilities. Trained employees have competencies to meet the current and future needs of organization. Through the training and intervention measures, the human resources departments help organizations to establish a high-performing, active and engaged workforce”.

In the business world, training and development refers to support internal human resource efficiency of extra studies education and improve the process in an organization. Due to the training and development inseparable, these two words are generally used to define employee

with each other in continuously improve to achieve a series of organizational goals. If without training and development programs, organization may not be able to realize their full potential. In most organizations, training and development task is to deal with human resource management personnel. This relationship depends on everybody's communication, cooperation and clear set of job skills as defined by job descriptions among all levels of the organization. When an organization's values can make employees eager to achieve their goals, then employee development plan can be implemented to make this kind of circumstance happening (Neo, 2005).

All employees want to be valuable at any times in the competitive labor market. This is only way can be achieved through staff training and development. All employees want to be valuable at any times in the competitive labor market. This is only way can be achieved through staff training and development. Employees always want to for improving career-enhancing skills, which will always lead to the enthusiasm and retention of the employees. there is no doubt that a good training employees will be a valuable asset to the organization and Thus increasing opportunities of efficiency in performing his duties (Tobby, 2011).

Training can be primarily of two types in an organization: Internal and external training course. When training is the internal training, it is including that organization's internal hr department or training department is using a senior staff or any outstanding staff in specific sectors as a resource person. On the other hand external training normally conducted outside the company, mainly is organized training institutions or consultant. No matter which training, it is crucial for all staff and helps in building career positioning and preparation of staff for greater challenges (Tobby, 2011).

The employer should enable staff to pursue work training and development in a direction that they choose and are interested in, not just in assigned specific direction. The organizations should support the learning, in general, and not just in support of the current knowledge workers needed for the job or next expected. It should be noted that the key factor is to ensure employees engaged in the interest of, attending, and motivated and retained (Adiele, 2009).

For every employee to perform well especially managers or supervisors, there is need for continued training and development. The right staff training, development and education offer big profit for the employer to the increased productivity, knowledge, loyalty, and contribution to common growth of the organization. In most cases, external training for the participants of the example provides a new way to meet people in the same field and network. The meeting will give them a chance to compare problems, find out what is to obtain the other side environment. It definitely will introduce positive changes where necessary (Adiele, 2009).

Noe (2005) states that "Traditionally, training and development was not considered as an activity that could help organizations to create "value" and deal with competitive challenges successfully. Nowadays, that view changed. Organizations use innovative training and development programs is likely to report better financial performance than their rivals that not do. Training and development also helps a company to meet competitive challenges. For

instance, as organizations tried to put new products to market and adjust services just-in-time, employees need training and knowledge required as soon as possible delivery.”

At present, training and development plays an important role in helping organizations meet some challenges. Therefore, organizations need to train employees to work with persons from different cultures both in domestic and foreign people. If the training such as Web and multimedia, these new technologies will reduce the costs associated with bringing employees to a central location for training. In homology, these training methods include the necessary conditions (feedback, practice, etc.) for learning to occur. Due to the development of the internet, e-commerce has exploded on the business scene. Organizations have already recognized that training and development activities can adapt to the Internet, reducing costs and increasing their effectiveness, resulting in the development of electronic learning (Neo, 2005).

Training effect has expanded beyond training program design. Effective instructional training is still important, but more and more training managers, human resource experts and training staff have been asked to create systems to motivate employees to learn, share that knowledge with other employees in the organization. Training has moved from an emphasis on a one-time event to the creation of conditions for learning that can occur through collaboration, online learning, traditional classroom training, or a combination of methods. There is increased recognition that learning occurs without a formal training course (Neo, 2005).

### **Better performance of the employees**

Training is a process of learning as well as the application of acquired knowledge aiming at better performance of the employees. Training programs bring a huge change in terms of knowledge, attitudes and behavior of employees. Because of these programs, the employees are not only familiar with what is expected of them and how they need to enhance their skills and abilities, but also it is a way to complete the entire organization development, effectiveness and efficiency in a desired manner.

The major advantages of training programs are the employees who are not trained need more supervision than those who are trained. An employee will gain new knowledge, skills and attitudes and applies them in their work situations. Training is a kind of method to build up confidence among the employees, so that they do not have any obstruction to operate their tasks.

### **Benefits for both organization and employees**

The benefits of training are intangible and it is good for both sides that the organization and employees for long-term investment in training. Training enhances the employees' level of skills. It provides sense of satisfaction; this is a kind of inner motivation. The training also provides a variety of skills employees. Training increases the employees' commitment to their job and their organization. It is better understanding of jobs reduces accidents (Ansar, 2009).

The one of the most important benefits of an organizational training is that it provides skills within the organization to reduce comprehensive cost of the organizational operations.

Quality is one of the key factors needed for survival of an organization in long-term interests. Total Quality Management (TQM) and other quality management techniques require employees' training as an important requisite for its successful implementation (Ansar, 2009).

### **Competitive lead**

To achieve competitive advantage from the organizational training and development, training departments help remove insufficient or performance deficiencies in employee. It is particularly true when – (1) the deficiency is caused by a lack of ability rather than a lack of motivation to perform, (2) the individual(s) involved have the aptitude and motivation need to learn how to do the job better, and (3) supervisors and peers are supportive of the desired behaviors (Kumar, 2011).

An organizational training and development pays dividends to the employee and the organization. Although there are no single training program benefits, the organization committed to improve its training and development to enhance its human resource capabilities and strengthens its competitive advantages. Meanwhile, the employee's personal and career goals are furthered, generally adding to his abilities and value to the employer. Ultimately, the objectives of the human resource department are also furthered (Kumar, 2011).

Training is a very perfect way to improve the competitiveness of an organization. It also enhances the employees' skills, abilities and many other aspects. Actually, both of employees and organization obtain the benefits. Training program is one of the best ways to expand the span of management. It is also to save money for organization.

# **CHAPTER 1**

## **Theoretical Framework**





## **1. Concept of training**

What is meant by training? Training is the process of teaching the new and/or present employees the basic skills they need to effectively perform their jobs. Alternatively speaking, training is the act of increasing the knowledge and skill of an employee for doing his/her job.

Thus, training refers to the teaching and learning activities carried on for the primary purpose of helping members of an organization to acquire and also to apply the required knowledge, skill and attitudes to perform their jobs effectively.

According to Edwin B. Flippo, “training is the act of increasing the knowledge and skills of an employee for doing a particular job.”

In simple terms, training refers to the imparting of specific skills, abilities and knowledge to an employee. A formal definition of training is it is any 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.

Thus, it can be concluded that training is a process that tries to improve skills, or add to the existing level of knowledge so that the employee is better equipped to do his present job, or to mould him to be fit for a higher job involving higher responsibilities. In other words, training is a learning experience that seeks a relatively permanent change in an individual that will improve his/her ability to perform his job.

**Training is found in four ways as stated below:**

- (i) What is trained?
- (ii) Who trains?
- (iii) Why such training takes place; and
- (iv) When training occurs?

## **2. Importance of training**

Training of employees and managers are absolutely essential in this changing environment. It is an important activity of HRD (Human Resource Development) which helps in improving the competency of employees. Training gives a lot of benefits to the employees such as improvement in efficiency and effectiveness, development of self-confidence and assists everyone in self-management.

The stability and progress of the organization always depends on the training imparted to the employees. Training becomes mandatory under each and every step of expansion and diversification. Only training can improve the quality and reduce the wastages to the minimum.

After employees have been selected for various positions in an organization, training them for the specific tasks in which they have been assigned assumes great importance. It is true in many organizations that before an employee is fitted into a harmonious working relationship with other employees, he is given adequate training. The essential features of training may be stated below:

- 1) Increases knowledge and skills for doing a particular job; it bridges the gap between job needs and employee skills, knowledge and behavior.
- 2) Focuses attention on the current job specific and addresses particular performance deficits or problems.
- 3) Concentrates on individual employees changing what employers know, how they work, attitudes toward their work or their interactions with their co-workers or supervisors.
- 4) Tends to be more narrowly focused and oriented towards short-term performance concerns.

The following Chinese proverb highlights the importance of the employee training:

*“When planning for a year,*

*plant corn.*

*When planning for a decade,*

*plant trees.*

*When planning for life,*

*train and educate people.”*

*Chinese proverb: Guanzi (c. 645BC)*

For companies to keep improving, it is important to have continuous training and development programs for their employees. Competition and the business environment keeps changing, and hence it is critical to keep learning and pick up new skills. The importance of training is as follows:

- To optimize human resources
- To develop skills like time management, leadership, team management etc.
- To increase the productivity and enhance employee motivation
- To provide the zeal of team spirit
- To improve the organization culture

- To improve quality, safety
- To increase profitability
- To improve the morale and corporate image

The importance of employee training can best be appreciated with the help of various advantages it offers to both employees and employers.

These are explained under the following heads:

### **2.1 Better Performance**

Training improves employee's ability and skills and, in turn, improves employee's performance both in quantity and quality. Better or increased employee performance directly leads to increased operational productivity and increased organizational profits. Improvements in employee performance/productivity in developed countries' lend support to this statement.

### **2.2 Improved Quality**

In formal training programs, the best methods of performing jobs are standardized and then taught to employees. This offers two-fold benefits. Firstly, uniformity in work performance helps improve the quality of work or service. Secondly, better informed, or say, trained workers are less likely to make operational mistakes.

### **2.3 Less Supervision**

A trained worker is self-reliant. He knows his work and way to perform it well. Therefore, his work requires less supervision. The supervisor can devote his time on more urgent works.

### **2.4 Less Learning Period**

A well planned and systematically organized training program reduces the time and cost involved in learning. Training enables to avoid waste of time and efforts in learning through trial and error method'.

### **2.5 High Morale**

Training not only improves the ability and skill of employees, but also changes employee attitude toward positive. Higher performance, job satisfaction, job security and avenues for internal promotion lead to high morale among the employees. High morale, in turn, makes employees' more loyal to the organization.

## 2.6 Personal Growth

Training improves employee's ability, knowledge and skills and, thus, prevents employee's obsolescence. This makes employees growth-oriented.

## 2.7 Favorable organizational climate

The aforesaid advantages combined lead to an improved and favorable organizational climate characterized by better industrial relations and disciplines, reduced resistance to change, reduced absenteeism and turnover of employees, and improved stability of organization.

Thus, it may be observed that the importance of training can be imbued with multiplicity of justifications. In fact, a systematic and effective training is an invaluable investment in the human resources of an organization. Therefore, no organization can choose whether or not to train employees.

The only choice left to organization is whether training shall be haphazard, casual and possibly misdirected or whether it shall be made a carefully planned part of an integrated program of human resource management. Hence, the real problem for an organization is how to design an effective training program. This we discuss in the following section.

## 3. Advantages of training

Training has a cost attached to it. However, since it is beneficial for companies in the long run, they ensure employees are trained regularly. The benefits of training can be summed up as:

- **Improves morale of employees-** Training helps the employee to get job security and job satisfaction. The more satisfied the employee is and the greater is his morale, the more he will contribute to organizational success and the lesser will be employee absenteeism and turnover.
- **Less supervision-** A well trained employee will be well acquainted with the job and will need less of supervision. Thus, there will be less wastage of time and efforts.
- **Fewer accidents-** Errors are likely to occur if the employees lack knowledge and skills required for doing a particular job. The more trained an employee is, the less are the chances of committing accidents in job and the more proficient the employee becomes.
- **Chances of promotion-** Employees acquire skills and efficiency during training. They become more eligible for promotion. They become an asset for the organization.
- **Increased productivity-** Training improves efficiency and productivity of employees. Well-trained employees show both quantity and quality performance. There is less wastage of time, money and resources if employees are properly trained.
- **Motivation-** Training your staff will give them great motivation to do their job well. They will feel valued and appreciate that you have taken the time to train them and improve their skills. This should give them an incentive and provide them with great

motivation to carry out their job to the best of their ability, to say ‘thank you’ for the training.

- **Help build relationships-** Training does not have to be done externally; sometimes, internal training works just as well, if not even better. This will not only show the trainees how to perform a task the way the company likes, it will help build good team relationships. Training involves a lot of teamwork and one-on-one time together, which is a great way to learn to work and get to know fellow staff members. A happy team that gets along will produce a brilliant working atmosphere. There are many other benefits to training your staff. Evidently, we believe that the pros far outweigh the cons of investing in training programs and resources for your team. The financial outgoings and time taken have the potential to show a great return on investment due to a workforce with renewed motivation, new skills, and strengthened morale. As such a crucial factor in staff development, training should be a fundamental requirement for all businesses.
- **Addressing weaknesses** – Most employees will have some weaknesses in their workplace skills. A training program allows you to strengthen those skills that each employee needs to improve. A development program brings all employees to a higher level so they all have similar skills and knowledge. This helps reduce any weak links within the company who rely heavily on others to complete basic work tasks. Providing the necessary training creates an overall knowledgeable staff with employees who can take over for one another as needed, work on teams or work independently without constant help and supervision from others.

#### **4. Disadvantages of training**

Even though there are several advantages, some drawbacks of training and development are mentioned below:

1. It is an expensive process which includes arranging the correct trainers and engaging employees for non-revenue activities.
2. There is a risk that after the training and development session, the employee can quit the job.
3. Improper training creates improper results. If an employee is not properly trained the first time around, then you have got to spend the money to properly train that worker a second time. There must be a high level of quality assurance and review placed on the initial training process to make sure productivity levels from new workers can be maximized.
4. It can create resentment. If one worker feels like they received an inferior level of training compared to someone else on their team, then they can take that experience personally. Their negative energy can then create resentment amongst others who feel the same way.

The pros and cons of training employees show that this process is generally a positive experience. As long as the negative components of this process are accounted for, it can save

you time and money in several different ways. That is why it is a process that should always be considered.

## 5. Objectives of training

Training is an investment that businesses make in their workforce. Like any investment, it must have a payoff if it is to be considered worthwhile. An immediate objective of training is to give employees the skills they need to become better workers, resulting in financial gain. Other objectives include creating a supportive workplace, so employees know they are valued and feel more satisfaction in their jobs.

The training concept aspires to achieve the following with the participants:

**5.1 Motivation:** The training course would like to inspire interest and motivation for lifelong learning in the participant.

**5.2 Human rights:** Participants shall become sensitized for their right to education and equal access to educational offerings.

**5.3 Recognizing own opportunities:** Participants will be made aware of the opportunities available to them to further their education and change their life.

**5.4 Taking personal responsibility:** Participants will no longer feel they are guilty and victims of society; they will learn not to accept this role if they have been assigned it by others.

**5.5 Recognizing own resources and strengths:** Participants are to recognize their existing resources and strengths and develop ideas as to how they can enhance them and acquire new ones.

**5.6 Acquiring skills:** Participants will actively upgrade their skills and be given the opportunity to experiment with new skills and behaviors in the protected environment of the training course.

**5.7 Self-worth and self-efficacy:** The training course aspires to support participants' sense of self-worth and instill in them the feeling of self-efficacy which is a fundamental precondition for the remainder of the learning process.

**5.8 Empowerment for self-regulated learning:** Participants will be empowered to plan and implement their own individual learning process independently and on their own authority.

**5.9 Equal access to educational offerings:** Participants will be helped to find equal access to formal and informal educational offerings.

## 6. Training process

Training is a continuous process as the skills, knowledge and quality of work needs constant improvement. Since businesses are changing rapidly, it is critical that companies focus on training their employees after constantly monitoring them & developing their overall personality.

Steps for training process are:

1. Determine the need of training and development for individuals or teams
2. Establish specific objectives & goals which need to be achieved
3. Select the methods of training
4. Conduct and implement the programs for employees
5. Evaluate the output and performance post the training and development sessions.
6. Keep monitoring and evaluating the performances and again see if more training is required.



## 7. Need for training

Training is the act of improving one's knowledge and skill to improve his/her job performance. Training is job-oriented. It bridges the gap between what the employee has and what the job demands. For that matter, imparting training to employees working in all organized sectors of human activity is no longer a matter of debate.

Training of employees takes place after orientation takes place. Training is the process of enhancing the skills, capabilities and knowledge of employees for doing a particular job. Training process moulds the thinking of employees and leads to quality performance of employees. It is continuous and never ending in nature.

Every organization should provide training to all the employees irrespective of their qualifications and skills.

Training of employees is a costly activity as it requires a lot quality inputs from trainers as well as employees. But it is essential that the company revises its goals and efficiencies with the changing environment. Here are a few critical reasons why the company endorses training sessions:

- When management thinks that there is a need to improve the performances of employees
- To set up the benchmark of improvement so far in the performance improvement effort
- To train about the specific job responsibility and skills like communication management, team management etc.
- To test the new methodology for increasing the productivity

As a matter of fact, the need for training has been recognized as an essential activity not only in the business organizations, but also in academic institutions, professional bodies and the government departments.

Training aimed at imparting knowledge to employees providing facts, information and principles related to his/her job. In general, training imparted in the knowledge area considers three aspects, namely, job context, job content and quality of work. The need for training is determined by the employee's performance deficiency.

Specifically the need for training arises because of following reasons:

### **7.1 Environmental changes**

Mechanization, computerization, and automation have resulted in many changes that require trained staff possessing enough skills. The organization should train the employees to enrich them with the latest technology and knowledge.

### **7.2 Organizational complexity**

With modern inventions, technological upgradation, and diversification most of the organizations have become very complex. This has aggravated the problems of coordination. So, in order to cope up with the complexities, training has become mandatory.

### **7.3 Human relations**

Every management has to maintain very good human relations, and this has made training as one of the basic conditions to deal with human problems.

## **7.4 To match employee specifications with the job requirements and organizational needs**

An employee's specification may not exactly suit to the requirements of the job and the organization, irrespective of past experience and skills. There is always a gap between an employee's present specifications and the organization's requirements. For filling this gap training is required.

## **7.5 Change in the job assignment**

Training is also necessary when the existing employee is promoted to the higher level or transferred to another department. Training is also required to equip the old employees with new techniques and technologies.

Organizations can bridge the knowledge gap in their training programs by conducting a training

Below is a guide, answering basic questions about what a training needs analysis is, its benefit, and how to conduct one.

### **8. What is a training needs analysis?**

A training needs analysis is a comparison of the current skills and competencies inside an organization against the skills required for the company to succeed. The goal of a training needs analysis is to identify gaps in the skillset of the current workforce.

An effective training needs analysis should account for the organization's overall business goals and strategy. It should assess what skills are needed toward a particular end, which is unique to the company.

For example, Company A might have a strategy built on high volume and low margins while Company B has a strategy built on luxury branding and high margins. Though they are in the same industry, each company will need different skills in its workforce.

### **9. Why do the training need analysis?**

There are several possible benefits to a training needs analysis:

#### **9.1 Inform the company's learning and development agenda**

It should uncover where the company needs to improve and where more training is needed. For example, a company preparing for a future with more automated customer service may consider training programs to ensure customer service representatives have the skills to handle more complex customer situations.

## **9.2 Save money and improve revenue**

It should identify workforce issues that will let a company streamline operations, improve employee engagement and grow the bottom line.

## **9.3 Re-organize L&D programs**

A training needs analysis also helps save direct costs and time on L&D programs by sorting out genuine priorities from training “wishes.”

## **9.4 Make L&D more effective**

A training needs analysis can improve the effectiveness of L&D investments. It can determine which employees actually need training and reveal where current training activities may not be necessary.

Lastly, a training needs analysis can show where training may not be the right solution. Sometimes a perceived skills gap may be addressed better by informal coaching, job shadowing or mentoring.

## **10. How is a training needs assessment conducted?**

A training needs assessment usually involves seven sources of information:

### **10.1 Interviews**

One-on-one interviews with employees, frontline managers and customers highlight performance gaps.

### **10.2 Surveys**

Surveys, questionnaires and polls solicit feedback from employees and managers about the skills they would like to enhance.

### **10.3 Focus groups**

Supplementing individual interviews, a focus group brings together a department to brainstorm and prioritize their training needs list.

### **10.4 Observations**

Having managers directly observe how employees perform their tasks gives a peek into areas for improvement. Beyond direct observations, managers can review an employee’s work output and yearly evaluations.

## 10.5 Learning data

If an organization already has online learning programs, reviewing results should provide insight about the current skills of the workforce and what needs still exist.

## 10.6 Performance data

Measurable results on the metrics that matter for your workforce (for example, customer conversions, customer retention or employee retention) should highlight where more skills training is needed.

## 10.7 Industry trends

A scan of data, trend reports and thought leadership from competitors and industry groups can help identify future skills needs.

One possible tool for a training needs analysis is a SWOT<sup>1</sup> chart identifying strengths, weaknesses, opportunities and threats. Tools like these should enable the company to identify gaps in the skill sets of the workforce that can prevent it from reaching its business goals.

### 11. How does a company identify training needs?

A training needs analysis will uncover many shortfalls in knowledge and skills. The company then has to decide which are truly important and the target of its training program. L&D leaders should consider questions such as:

- Will improving this skill help us achieve an organizational goal?
- Is training the right solution to this skills gap?
- Which employees need this training?

### 12. How does a company calculate the cost of training?

A training needs analysis should also include costs. The formula for the projected cost of training is simple: the number of employees to be trained multiplied by the average expense of the training. The difficulty is estimating the average expense.

A training budget can draw from two main sources for estimates:

- Industry averages. For example, it may be the rule of thumb in your industry to budget 2% of salary per employee per year for L&D.
- Price it out. If you know what initiatives or programs you need, you can begin gathering cost estimates from vendors.

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<sup>1</sup> SWOT analysis (or SWOT matrix) is a strategic planning technique used to help a person or organization identify strengths, weaknesses, opportunities, and threats related to business competition or project planning.

### **13. How does a company deliver training?**

While a company performs a training needs assessment, it will take an in-depth look at its current training programs to determine if changes are needed. These questions clarify how a training program is delivered:

- What training materials and content is available now?
- Does the organization have the subject-matter experts on staff to handle the training or should it partner with an outside organization such as a university?
- What are the learning styles of the employees?
- Should the learning be delivered in person or online?

Once those questions are answered, an organization has a blueprint for its training delivery methods.

### **14. How do organizations measure the results of a training program?**

Measuring the ultimate outcome of a training program after implementation depends on what the organization aims to accomplish. Soft skills improvement can show up in better customer satisfaction scores, for example. Well-trained employees will remain with the company, thereby boosting retention.

One model for measuring the results of a training program is to first establish SMART goals:

- Specific
- Measurable
- Achievable
- Realistic
- Time-based

Once you are clear on the goals, you can look for indicators of progress. Metrics that reveal the results of a training program can be found in:

- Learner satisfaction surveys
- Number of certifications earned
- Number of degrees earned
- Test results in courses
- Performance evaluations

Those are relatively short-term indicators. The long-term indicator is how the business grows.

Again, the purpose of measuring your training program is to ensure alignment with the ultimate strategy and goals of the business. It does not do any good to successfully train large numbers of employees on a skill that does not improve business results.

## **15. The trainer's tasks**

**The trainer is responsible for the following general aspects of the training course:**

A clearly defined framework and clear and realistic objectives should be made transparent for the participants.

The trainer should work with the participants' resources and align the training course with their experience and previous knowledge.

He ought to observe and evaluate the training process and tailor it to the participants' needs if so required.

The participants should be able to comprehend the training process so that they can appreciate their experiences within the group.

The trainer should be aware of his role and in particular of his boundaries within the training course context (e.g. education vs. therapy).

Linked to this, he should collaborate with other organizations and, if necessary, make contact with institutions and experts capable of supporting participants with other goals and questions.

## **16. The training course**

The training course can follow particular principles to meet participants' needs and to ensure a positive and productive atmosphere.

### **16.1 Trust**

It is very important for the participants to feel accepted and to develop trust in the trainer and training. This can be fostered by the following aspects:

Training should always take place under the aegis of a known organization or institution and not under the personal responsibility of an individual trainer.

It can be helpful for participants to get to know the trainer and the premises before training commences. As a result, they will be familiar with the setting and will already feel somehow more confident when the training gets under way. Individuals who do not feel confident can cancel their participation in the training without losing face.

The participants should receive detailed prior information about the content, techniques and rules of the training course.

### **16.2 Acceptance and good atmosphere**

A good atmosphere within the group and mutual acceptance between participants are essential for staging a successful training course, especially when we are working with target groups who are familiar with rejection and social exclusion in their day-to-day lives.

This requires a number of basic rules:

The group atmosphere has first priority. Conflicts between participants should be discussed immediately. Quite incidentally, these situations lend themselves to practicing social skills in a practical context.

A number of basic rules should be agreed at the beginning of the training course, for example, feedback rules, accepting different opinions and previous experiences etc.

Depending on the group and timeframe, these rules can be developed together with the participants.

Training should be fun. Sufficient time should be scheduled for breaks, relaxation or games and exercises to lighten the atmosphere (specific ideas: Fischer et al, 2004).

### **16.3 Take account of participants' needs**

#### **The training course should take account of the participants' needs and specific characteristics:**

When the training course gets underway, participants should have the opportunity to express their needs and expectations. Participants should be actively involved in designing the training course. In the process they can be helped to identify and select their learning goals for the training course themselves. The training course design and techniques should be consistent with the target group's cultural and social background. Participants should be able to introduce their cultural identity. The training course content and techniques should tie in with the target group's previous knowledge and everyday life.

Participants need to be motivated and empowered to transfer their newly acquired skills to everyday life and try them out in "real" situations. The learning process should envisage small steps from the familiar to the unfamiliar and from simple to more challenging material. It is the trainer's responsibility to ensure that each participant is able to follow the learning process.

The participants' questions and expectations should be answered. If possible, the participants should be able to continue their learning process after the training course. For example, this can be in the form of an ongoing training course or by group meetings for exchanging information.

The results and learning successes should be acknowledged upon conclusion of the training course. Firstly, respect should be shown for the participants' commitment and successes. Secondly, the participants should receive a form of certificate or written reference that they can specifically use for their own purposes (e.g. applications).

## **17. The participants**

### **Not only the trainer and training course but the participants as well should satisfy certain fundamental criteria:**

So that the participants really can benefit from the training, they need to possess a modicum of capabilities enabling them to interact, comprehend and learn. This means for example that there has to be a certain command of the language in order to ensure communication.

The participants must be motivated to take part in the training course and exercises. They should be open to learn new things and for the possibility of personal development or change.

This presupposes that the participants' involvement in the training course is voluntary. One aspect, which cannot categorically be answered, is the question about the group's homogeneity or heterogeneity. A homogenous group may be easier to handle, the course content can be tailored to specific questions relevant to many or even all the participants. In a heterogeneous group, on the other hand, the participants can benefit from their differences and learn from other people's different experiences and knowledge. It seems advisable to maintain a balance between diversity and similarity and thereby take account both of the social learning objective while also enabling participants to feel quickly at home in the group.

In the same manner, no one-size-fits-all statement can be made about the participants' familiarity and anonymity. Anonymity affords the participant the opportunity to speak and behave freely without the others having a preconceived opinion about him and without misgivings about how one's behavior on the training course will affect existing relationships. On the other hand, depending on the target group, participants in a familiar peer group can operate in a more free and less inhibited manner and provide one another mutual support during the training course. The trainer has to weigh up the influence of dependencies and strong social ties within the training group and select the set-up that seems to him to make the most sense in terms of promoting individual development.

### **18. Contract between the trainer and the group**

It can be helpful to conclude a contract between the trainer and the participants. This contract defines the training course's overriding goals, states what both parties are to contribute to the training and can lay down from the outset a number of fundamental rules and obligations (e.g. regular participation, punctuality or the like). This type of agreement is an initial contribution to ensuring that participants themselves assume responsibility for the training course.

### **19. Types of Training**

Various types of training can be given to the employees such as induction training, refresher training, on the job training, vestibule training, and training for promotions.

Some of the most effective and innovative training ideas are available below:

#### **19.1 Use workers' own smartphones**

With workforces more widely-distributed across the globe than ever before, the notion of relying upon transmissive, face-to-face learning can almost seem unconscionable. At the same time, while many learning management systems do allow eLearning to be performed on mobile devices, the non-native design means operation is clunky, user experience is poor and learning is less effective. However, all staff are likely to own a smartphone and so it still

makes sense to distribute lessons and course materials directly to those. By using a mobile-focused LMS with built-in authoring tool, lessons are immediately optimized for mobile and therefore intuitive to access.

Accessing lessons on mobile devices also means that microlearning can be employed – the breaking down of topics into easy-to-digest, bite-sized chunks. By adding lesson content to powerful interactive templates, which smartphones are easily capable of rendering, learning becomes much more engaging and far more effective. Last but not least, learners can learn at their own pace in their own time!

## **19.2 Peer Learning – innovative training ideas**

Experts say that up to a third of training should derive from peers and it is simple to see why. A great deal of training courseware comes from isolated instructional designers who may come from a different department and even a separate company. The real expertise on how to deal with a task or situation comes from the experienced employees who deal with it every day. But while it's not practical to involve regular employees (who likely have minimal L&D experience) in lengthy course authoring sessions, it's simple for them to produce microlessons using a related, integrated, rapid authoring tool.

## **19.3 Just-in-time training**

By embracing microlessons, it is simpler to make use of just-in-time training (JITT) methodologies. Rather than getting a workforce to sit through traditional (just-in-case) training sessions – and run the gauntlet of the forgetting curve – by distributing engaging microlessons shortly before they are needed, there is a far greater likelihood that the knowledge will still be fresh in the learners' minds. This can involve instructions on how to operate a machine or advice on how to deal with a particular client (especially if the lesson has been part-created by a peer).

**19.4 Blended training** is becoming more and more popular and as a company, we have seen a definite increase in this method of training over the last year. Blended Learning is the effective combination of online learning and classroom learning. Many of 2020's clients prefer their staff to learn on-site rather than attend off-site training programs – especially in industries like oil and gas where it is often very impractical to attend off-site courses.

## **19.5 Gamification and prizing**

Benjamin Franklin once said, “Tell me and I forget. Teach me and I may remember, involve me and I learn.” Indeed, the best, most effective training does not feel like learning at all. This is why gamification is so successful when it is employed with L&D (Learning and Development) and the most innovative training ideas.

The most critical issue to address when a new research literature forms around a seemingly new organizational construct is to develop a formal definition. The lack of an agreed-upon

definition of gamification for the early years of its popularity harmed both public perception of its value and researcher progress in studying it.

Gamification stops learning feeling like learning and so is more effective.

Gamification is often used as a corporate buzzword to refer to anything even tangentially game related in the workplace. Scholarly research on this concept has defined it more narrowly, as the implementation of game design elements in non-game contexts (Deterding, et al., 2011). This distinction is critical, because games have been in organizational training for decades (Sitzmann, 2011), whereas gamification is much more recent. Beyond training, the number of non-game contexts where gamification may be applied is numerous, but it is particularly common in business, education and computer science domains (e.g. Anderson et al., 2013; Landers & Landers, 2014; Stanculescu et al., 2016).

The use of game elements in non-game contexts (gamification) has previously been widely explored in contexts such as healthcare and marketing but less extensively in training. Traditional training methods often fail to engage or motivate students, especially Digital Natives raised from a young age with apps and games.

There are several types of training that can be provided for employees. In all situations, a variety of training types will be used, depending on the type of job.

- *Technical training* addresses software or other programs that employees use while working for the organization.
- *Quality training* is a type of training that familiarizes all employees with the means to produce a good-quality product. The <sup>1</sup>ISO sets the standard on quality for most production and environmental situations. ISO training can be done in-house or externally.
- *Skills training* focuses on the skills that the employee actually needs to know to perform their job. A mentor can help with this kind of training.
- Soft skills are those that do not relate directly to our job but are important. *Soft skills* training may train someone on how to better communicate and negotiate or provide good customer service.
- *Professional training* is normally given externally and might be obtaining certification or specific information needed about a profession to perform a job. For example, tax accountants need to be up to date on tax laws; this type of training is often external.
- *Team training* is a process that empowers teams to improve decision making, problem solving, and team-development skills. Team training can help improve communication and result in more productive businesses.
- To get someone ready to take on a management role, *managerial training* might be given.

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<sup>1</sup> The International Organization for Standardization is an international standard-setting body composed of representatives from various national standards organizations. Founded on 23 February 1947, the organization promotes worldwide proprietary, industrial and commercial standards. It is headquartered in Geneva, Switzerland.

- *Safety training* is important to make sure an organization is meeting *OSHA*<sup>1</sup> standards. Safety training can also include disaster planning.

Training is generally imparted in two ways:

1. **On the job training-** On the job training methods are those which are given to the employees within the everyday working of a concern. It is a simple and cost-effective training method. The inproficient as well as semi- proficient employees can be well trained by using such training method. The employees are trained in actual working scenario. The motto of such training is “learning by doing.” Instances of such on-job training methods are job-rotation, coaching, temporary promotions, etc.
2. **Off the job training-** Off the job training methods are those in which training is provided away from the actual working condition. It is generally used in case of new employees. Instances of off the job training methods are workshops, seminars, conferences, etc. Such method is costly and is effective if and only if large number of employees have to be trained within a short time period. Off the job training is also called as vestibule training, i.e., the employees are trained in a separate area( may be a hall, entrance, reception area, etc. known as a vestibule) where the actual working conditions are duplicated.

### **On the job training**

On the job training provides a person with the skills to do. A minimum level on the job, but it can and do much more than that. A number of techniques can be employed to provide OJT:

1. **Job duties:** Assignment, and responsibilities of an individual both horizontally and vertically in the organization. Opportunities are created for the individual in his or her present job to practice higher- level and inverse skills not normally required in the pre job.
2. **Job rotation:** Also called cress training. This involves moving individuals to various types of jobs within the organization at the same level or next immediate higher level for periods of time. This rotation may be for as short as an hour or two or as long as a year.
3. **Staff development meetings:** Discuss facets of each individual’s job and ways to develop ideas for improving job performance. These meetings may he held away from the job in a “retreat-type” atmosphere

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<sup>1</sup> The Occupational Safety and Health Administration (OSHA) is an agency of the United States Department of Labor. Congress established the agency under the Occupational Safety and Health Act (OSH Act), which President Richard M. Nixon signed into law on December 29, 1970. OSHA's mission is to "assure safe and healthy working conditions for working men and women by setting and enforcing standards and by providing training, outreach, education and assistance". The agency is also charged with enforcing a variety of whistleblower statutes and regulations. OSHA is currently headed by Acting Assistant Secretary of Labor Loren Sweatt. OSHA's workplace safety inspections have been shown to reduce injury rates and injury costs without adverse effects to employment, sales, credit ratings, or firm survival.

4. **Problem-solving conferences:** Conferences are called to solve a specific problem being experienced by a group or the org as a whole It involves brainstorming and other creative means to come up with mutually solutions determined to basic problems.



5. **Mentoring:** Mentoring assigns a guide or knowledgeable person higher ups in the organization to help a new employee “learn the ropes” of the organization land to provide other advice usually a social. Relationship is developed so that the employee

feels that she or he can go to the mentor for advice that cannot be asked of the immediate superior. Mentoring is most common for young executives.

6. **Special assignment:** Special assignment is special tasks or responsibilities given to an individual for a specified period of time. The assignment may be writing a report; investigating the feasibility for a new project, process, service, or product; preparing a newsletter; or evaluating a company policy or procedure.
7. **Apprenticeships:** This refers to training provided by working under an experienced worker or master in a craft. The apprentice works alongside a person skilled in the craft and is taught by that person. This often occurs on the job, and it sometimes is done in off-the-job settings.

### **Off the job training**

An effective training system supplements OJT with various forms of Off-the-job training. Most of this type of training is classroom training. Some the more frequently used types of training include the following:

1. **Outside short courses and seminars:** These are specialized courses conducted by educational institutions, professional associations, or private consulting and training firms that last one day to one week.
2. **College or University degree a certificate programs:** Specialized degree and certification programs are offered as evening and weekend classes by a variety of colleges and universities. Often these are in professional fields such as management, accounting, finance, or law.
3. **Advanced management programs:** Some universities offer in residence programs of two weeks to a full year for top management. Often they cover material typically found in an MBA program but at a much-accelerated rate.
4. **Correspondence schools:** If individuals can practice rigorous self-discipline, home correspondence study can be an excellent self-development tool. However, an employee needs to ensure that the correspondence school with which he or she deals is reputable.
5. **Outside meetings and conferences:** Most managers and professionals have opportunities to attend trade and professional conferences and conventions the year. If participants actually attend the scheduled meetings and workshops at these conferences, they can be excellent learning experiences.

# **Chapter 2**

## **Some Selected Practical Railway Training Ideas**



## 1. Experience from Mistakes<sup>1</sup>

### Turning mistakes into positive learning experiences

#### Are there any good “mistakes”?

Learn from Mistakes - Encountering Consequences from wrong Decisions in Training Sessions improves Learning Success

In railway operation mistakes performed by operational staff might have dramatic results. Human errors causing derailments or train crashes must be prevented at any time by technical systems and operational rules.

However, every human being has developed skills and competence from making mistakes. Try to remember how you have learned riding a bike. It never worked well right from the beginning, you had to make mistakes and learn from them to develop and improve the technical skills. Guidance from parents was welcome during this process but the skills itself could only be developed from own practice and own failures. Considering a similar situation in railway operational training the process nowadays is different. Trainers explain their students a lot of things they should never do because it will cause danger or at least delay minutes. The students should usually practice the correct handling in different situation.

Compare this process to how you learned bike riding and spot the difference.

A lot of research and practical experience in training processes have shown that students in a training process are better motivated when they can experience technical context by themselves rather than being introduced by a trainer. So why not allowing the students to practice in an environment, where they can make mistakes, experience the results of mistakes and being guided afterwards to learn from the mistake made.

In railway operation (e.g. operating trains from a control center) most incidents are handled by defined procedures. The operators are more or less guided by the systems they operate. To allow operation in degraded mode in case of technical problems the procedures help to keep the required safety in rail operation. Such procedures are very often considered to be extremely boring and the reasons behind the procedures are not always understood by trainee operators. If the trainees are able to experience the correct procedure in case of a dedicated incident they will understand the reasons behind the procedure much better. Scheidt & Bachmann has developed together with DB Netz and DB Training a simulation environment in which students in railway operation as well as experienced traffic controllers can learn procedures by themselves. After having learnt the basic principles, the students can practice the procedure by themselves and get an evaluation of their actions afterwards. Each deviation from the correct procedure is shown and they can try again to operate the correct commands of the procedure. After a limited number of false attempts, the students get additional hints concerning the correct procedure.

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<sup>1</sup> Jorg-Demitz, Head of Sales Simulation Systems, Scheidt & Bachmann System Technik GmbH

The training tool can run completely autonomous. The students can practice as often as they like and make as many failures as they want. Only in case they do not find the right solution by themselves they can contact a trainer.

Making mistakes is usually considered to be negative.

- A mistake is „good“, if...
  - ✓ ... only I have detected it
  - ✓ ... I can correct it immediately
  - ✓ ... it has no impact
- If you make a mistake and do not correct it, this is called a mistake.

## Motivation by making Mistakes



- A mistake is „good“, if...
  - ... only I have detected it
  - ... I can correct it immediately
  - ... it has no impact

- Isolated environment
- no shame, no other person nearby

- Situation shall be repeated (best: immediately after detection)
- Mistake shall be corrected

- Mistake shall be made in training environment
- No impact on „real life“

### Typical Simulator Training for Traffic Control

- Simulator training centers with Full-Scope Simulators
- Student and instructor workstations
- Instructor guides the training session and controls the simulator
- Simulator can hardly be used by students on their own

**Every mistake made is a “good” mistake and improves trainees’ experience!**

## Can Simulators motivate by Experience?

- Very complex functionality
- Knowledge required
- Automatic evaluation is difficult
- Breaks down complex functionality into small bits
- Practice without supervision
- Make mistakes and see results
- Part-Task Simulators

## Can Simulators motivate by Experience?

### • Full-Scope Simulators



Yes!  
But only for experienced users.

- Very complex functionality
- Knowledge required
- Automatic evaluation is difficult

### • Part-Task Simulators



Yes!  
And we can gain experience from the first day.

- Breaks down complex functionality into small bits
- Practice without supervision
- Make mistakes and see results

## Can Simulators motivate by Experience?

- Trainees respond to errors or deviations from defined procedures
- They improve their results until the solution fits properly into their mind
- They can practice as often as they like and make as many mistakes as they like
- Trainees independently develop knowledge and skills by practice
- The results are not transmitted to a central learning database
- Trainees can make mistakes without feeling observed or monitored

## 2. Mental Health Training<sup>1</sup>

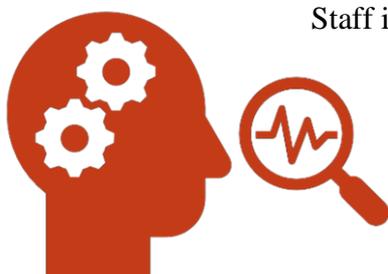
Mental ill-health is a leading cause of disability worldwide, accounting for more than 13% of the global burden of disease. Responsible for 33% of total years lived with disability, mental health problems are projected to affect at least one in three people over their lifetime. Furthermore, it is estimated that people with severe mental illness (e.g., schizophrenia, bipolar disorder and severe depression) are 60% more likely to die prematurely than those unaffected. Such high prevalence also has major economic consequences. It is estimated that mental ill-health will cost the global economy \$16.3 trillion between 2011 and 2030 which has serious implications for socioeconomic development and standards of living. Despite this global picture, stigma, governmental apathy and other barriers to treatment persist, exacerbating the current state of mental healthcare worldwide.

Aiming to address these concerns, an influential *Lancet* series published in 2007, with follow-up series in 2011, marked the beginning of an era that recognizes the importance of mental health in global health policy. Expanding on this, the WHO (World Health Organization) issued a comprehensive report in 2008 on the current state of mental health provisions globally. In response to its clinical, epidemiological and health economic findings, United Nations policy recommended a transition from tertiary, institutionalized mental healthcare towards the integration of mental health services into primary care with community support. This was projected to improve health outcomes, cost-effectiveness, access to services and reduce human rights abuses and stigma.

To help countries achieve this, WHO identified ten key principles for mental healthcare integration, drawn from best practice examples worldwide. One of these points recommended adequate training of primary care workers in diagnosing and treating mental ill-health, laid out in the WHO Mental Health Action Plan (2013–2020) and the WHO Mental Health Gap Action Programme (mhGAP). Such training is crucial to increase capacity for mental healthcare delivery across countries, particularly those with small or previously non-existent budgets for mental health.

### **Our increasingly challenging working environment strains employees' mental health**

We wait for people to get sick before we teach them valuable resilience skills. Let's teach them early so they stay healthy.

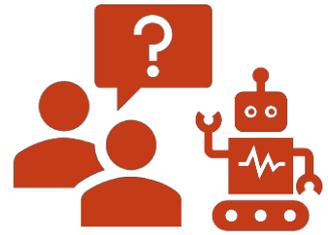


Staff is increasingly required to

- be accessible at all times.
- adapt to consecutive organizational changes.
- stay flexible and positive in the process.

<sup>1</sup> Annalena-BOTTMANN, Consultant from Deutsche Bahn, DB Training

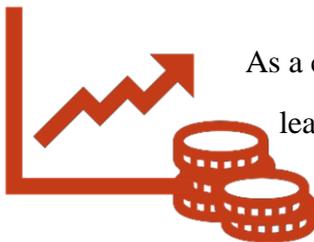
Additionally, narratives of digitalization and automation increase fears of possible future job loss, increasing internal pressure to constantly perform at the highest possible level.



### As a consequence, mental illness numbers are rising those affected



- experience existential suffering.
- On average, stay on sickness absence considerably longer than those suffering from physical conditions.
- are increasing in number.



As a consequence, companies are dealing with rising numbers of sick leave due to mental illness, resulting in high costs.

### Receiving curative treatment takes months

- In curative treatment, patients often learn techniques that will help them heal.
- Many of these techniques would have protected them in the first place – had they known them.
- Employing preventive techniques before crises would spare people the suffering and they would be easier, more pleasant and cheaper to use.

Why do we wait for people to become sick and suffer, before we teach them how to avoid suffering? Why not build up mental resources in times of ease, to be more fit to deal with challenging times when they appear?

### Power UP! Offers a boost for your resources in many different ways

Choose between different procedures:

- Habit training runs over the course of 66 days to form a new healthy habit.
- On-the-go tasks can be used whenever you have a couple of minutes to spare.
- Use the information section to get orientation on how to handle difficult situations.

**Disclaimer:** Power UP! is not meant as a substitute to professional therapy in case of acute illness. Similar to a vexing, Power UP! Is meant to boost your mental defenses beforehand, in order to avoid an illness altogether. It is not meant to fight an illness that has already manifested. In that case, we recommend curative treatment.

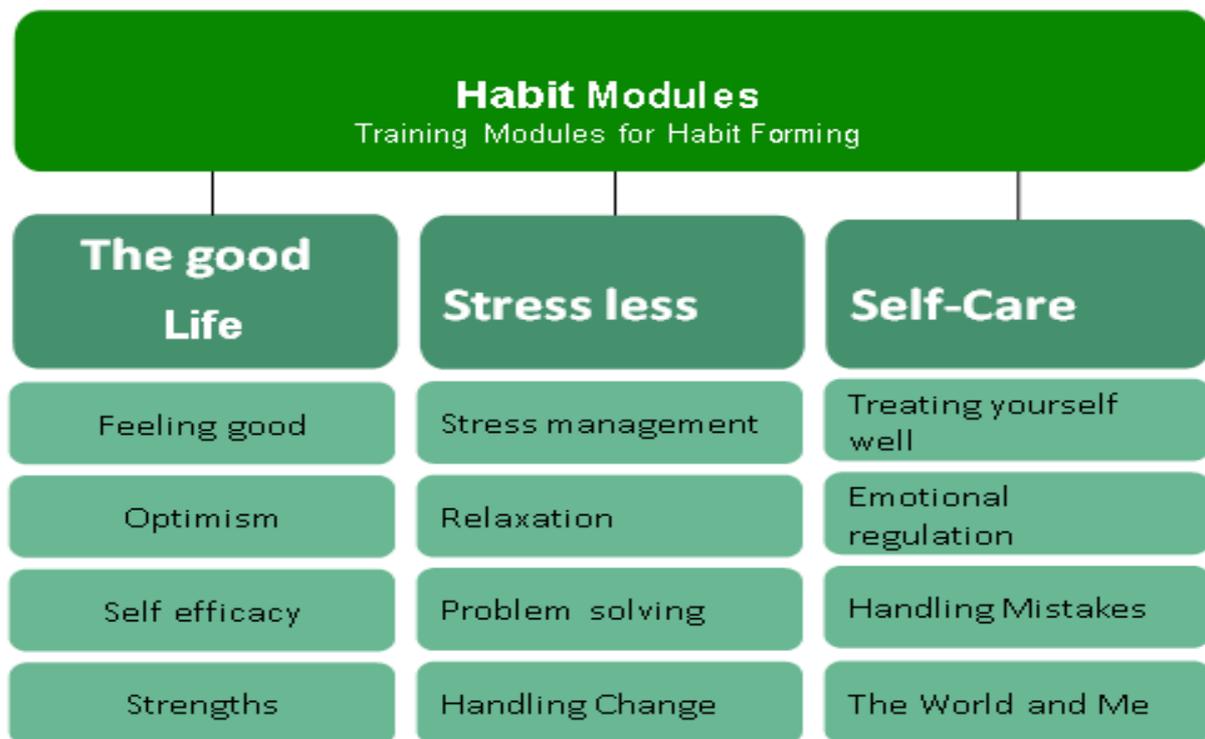
**Form healthy habits with Power UP!**  
**Each habit element consists of four steps:**

- The theory part will convey basic information on what you need to know about the element.
- On your reflection day you will connect the theory to your own life.
- The practical phase is the center piece where you will train your new habit on a daily basis.
- In consolidation you will receive helpful hints on making your results sustainable.

**Take your pick from a wide selection of content**

**PowerUP!** Offers three habit modules of four elements each:

- The good life is derived from positive psychology and contains training positive emotions, optimism, self-efficacy and strength training.
- Stress less contains basic stress management, relaxation techniques, adaptive problem solving and adaptive reactions to change.
- Self Care is derived from insight from cognitive- behavioral therapy. It addresses treatment of the self, emotional regulation, adaptive handling of mistakes and personal attitude towards the world.



## **Learn how to stay healthy in challenging settings such as shift work or customer service**

The most challenging jobs in a train company often include shift work and customer service. We want to support our colleagues in these areas with extra care:

- Information and tips on how to stay healthy while working shifts
- Helpful ideas on how to handle the challenges of customer care
- Integration of information and hands-on exercises – available on the go

## **Got a minute? Do an on-the-go exercise for when you have a couple of minutes to spare**

- Exercises from habit elements can be accessed separately as an on-the-go exercise
- While waiting for the train, instead of browsing another round of social media – do something for yourself: how about an optimism exercise?
- These exercises also let you peek into habit elements that you might want to try next.

## **Get orientation on how to handle crises when trying times do appear, Power UP! Will provide helpful information on how to handle them well:**

- Where to find the right kind of help in times of psychological crises – and quickly
- How to help loved ones in crises
- How to handle conflict and fights
- How to handle grief

## **Get helpful tips on how to navigate challenging times!**

### **Power UP! Is a strong tool that helps both employees and employers?**

- Power UP! Will help build healthy, stabilizing habits before trying times appear, so users are well protected and can cope with challenges more confidently?
- Personally, users will profit from more well-being, more calmness in everyday life and helpful information for handling crises.
- Professionally, companies offering Power UP! To their employees will see a decline in mentally *caused* sick leave, more productive and happier employees.

### **What can we learn from Power Up?**

We should acknowledge the relevance of mental well-being in today's workforce. If we embrace scientific findings we can create powerful preventive solutions. We can support our employees early – so they do not have to become sick.

It is clear that it is more important than ever to ensure that your staff have the tools and support they need to manage mental health in the workplace.

### **Why should you invest in mental health training?**

- To get people talking about mental health

- To address the stigma associated with mental ill-health
- To reduce the costs associated with mental ill-health.

Training non-specialist workers in mental healthcare is an effective strategy to increase global provision and capacity, and improves knowledge, attitude, skill and confidence among health workers, as well as clinical practice and patient outcome. Areas for future focus include the development of standardized evaluation methods and outcomes to allow cross-comparison between studies, and optimization of course structure.

### **3. Staying in tune: Non-technical skills <sup>1</sup> (NTS) that promote teamwork in Network Controller and Rail Driver interactivity**

Non-Technical Skills can be defined as “the cognitive and social skills that complement a worker’s technical skills” (Flin, O’Connor, & Crichton, 2008). Researchers have for some time recognized Non-Technical Skills (NTS) and Human Factors Skills as having high importance in safety critical roles across industries such as aviation, petrochemical, and medicine (e.g. Diehl, 1991; O’Connor, Flin, & Fletcher, 2002; Patankar & Taylor, 2008).

Non-technical skills (NTS) are social, cognitive and personal skills that can enhance the way you or your staff carry out technical skills, tasks and procedures. By developing these skills, people in safety-critical roles can learn how to deal with a range of different situations.

There is a growing appreciation within the rail industry of the importance of NTS. They form an important part of competence and competence management because they can improve the management operational risk by helping to manage threats and errors when they occur. They can also help safety critical staff to be aware of their own performance and to how to improve.

Non-technical skills (NTS) training is designed to be a catalyst for cultural change by influencing the attitudes and behaviors of all employees so as to fundamentally improve an organization's operating culture and safety levels. NTS enable safety critical workers to identify, manage, mitigate and recover from errors and other threats to operations by using all available resources - human, informational, procedural, equipment - to achieve a safe and efficient outcome. NTS training was first introduced in the aviation industry, and has spread to various other safety critical industries such as nuclear, healthcare and in more recent years to rail industries in Australia, Canada and the USA. Evaluation of this training suggests that it can reduce safety occurrences attributable to human error. In Great Britain, while rail workers are provided with good technical and procedural training, there has been comparatively little focus on NTS that enable groups (such as drivers, guards, train controllers, signallers, maintenance staff, shunters, track personnel) to work more effectively and safely.

Effective training for train controllers is important for supporting sustainable, dynamic and timely safety management activity across the network.

Train controlling is one of the most important roles in rail. Currently, the industry is experiencing high turnover, meaning that loss of staff has become a critical concern. This will affect businesses in terms of retaining necessary expertise, but also ensuring there is an adequate number of train controllers to mean service delivery needs. Understanding non-technical skills dimensions in train controlling will help develop the workforce and promote retention.

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<sup>1</sup>Prof. Anjum Naweed, CQ University & Philippa-MURPHY, Professor, Rail Safety and standards Board (RSBB)

The trend for digital railways (e.g. driverless trains, remote condition monitoring) also means that the traditional train controller role is evolving. Train controllers are likely to become rail safety managers, as tasks become more automated, meaning non-technical skills associated with situation awareness, conscientiousness and self-management (to name but a few) will become more critical to the role. Capturing this knowledge means we will be able to anticipate looming changes.

This research is the first to identify substantive non-technical skills for train controlling, and the first to produce a specific non-technical skills framework for this task.

In many rail systems, the person(s) within the train cab physically operate the train, but only do so through close communication with network controllers. In reality therefore, a “team” drives a train, where the driver and the controller must work and behave as a distributed system. However, the synergy in teamworking across time and space can often be disrupted and/or distorted by other factors; in practice, their roles require good “non-technical” skills to maintain their integrity as a team. These are social, cognitive and personal skills that enhance how technical skills, tasks and procedures are carried out, and can assist in learning how to deal with different situations.

While a number of non-technical skills frameworks exist for those who operate trains and maintain track, no such formalized non-technical skills framework has been developed for train controllers. Understanding what non-technical skills are critical for train controllers will not only support the resourcing and training needs of the workforce, it will also improve operations management and system safety. Importantly, it will also go some way towards identifying what non-technical skills are needed as the controller role continues to evolve.

This study drew on a qualitative phenomenographic approach to obtain rich insight into the decision process, experiences, perceptions and opinions of train controllers. Semi-structured one-to-one interviews were used to elicit knowledge and support the application of a method called the Scenario Invention Task Technique (SITT); a generative simulation task, the SITT combines principles of multi-pass retrospective inquiry from the Critical Decision Method and story-telling approach from the Rich Picture Data method to externalize decision-making in complex work.

A total of 55 train controllers (51 male ; 4 female) ranging from 22-67 years of age ( $M = 45.5$ ,  $SD = 11.1$ ) were recruited from 8 participating rail organizations across Australia & New Zealand, including Perth (Western Australia), Brisbane (Queensland), Sydney (New South Wales), Melbourne, (Victoria), Adelaide (South Australia) ; Launceston (Tasmania), and Wellington (NZ). Most participants had more than 10 years of experience ( $M = 15.83$ ,  $SD = 12.18$ ).

Based on a preliminary analysis of non-technical skills deficiency identified within scenarios, a number of non-technical skills are highly relevant for train controlling. Skills, for example, associated with situation awareness (i.e., being aware of what is going on around you so that you are able to anticipate what could happen in the future); conscientiousness (i.e., tendency to be careful, thorough, reliable and systematic when approaching tasks; communication (i.e., ability to communicate effectively through verbal and non-verbal means and stand your

ground as necessary); self-management (i.e., having the motivation and appropriate level of confidence to do the job well), recur as critical non-technical skills. However, skills such as leadership (i.e., how people are organized to work together, how they relate to each other and influence each other), are also important, and absent from the non-technical skills framework.

### **Perspective**

- Are SPAD's a product of human error?
- Distraction?
- Inattention?
- Systems thinking perspective
- Dyad of operations
- Distributed team and distributed cognition
- Systemic rather than causative
- Complex system or operations which can increase or decrease errors

### **Methodology**

- ✓ Qualitative approach Scenario
- ✓ Invention Task Technique (SITT) approach
- ✓ "Invent a scenario where even the most experienced train con decreases rail safety."
- ✓ 20 Network Controllers (NC's) from 4 Australian Rail organisa
- ✓ Operational experience SD 13.36 33 – 64 years old
- ✓ 90 - 120 minutes

### **Data analysis technique**

1. Transcription read line by line
2. Scenario descriptions were coded preliminarily against the seven main NTS categories in the RSSB<sup>1</sup> framework
3. Each preliminary code was revisited and developed into a behavioral marker and reviewed against the skill from RSSB framework
4. Each behavioral marker was populated into a coding sheet
5. Each analyzed scenario, code and behavioral marker was discussed between the two researchers for agreement and refined, with agreed codes populated into a scenario matrix
6. Codes and behavioral markers described as positive or negative application of the skill

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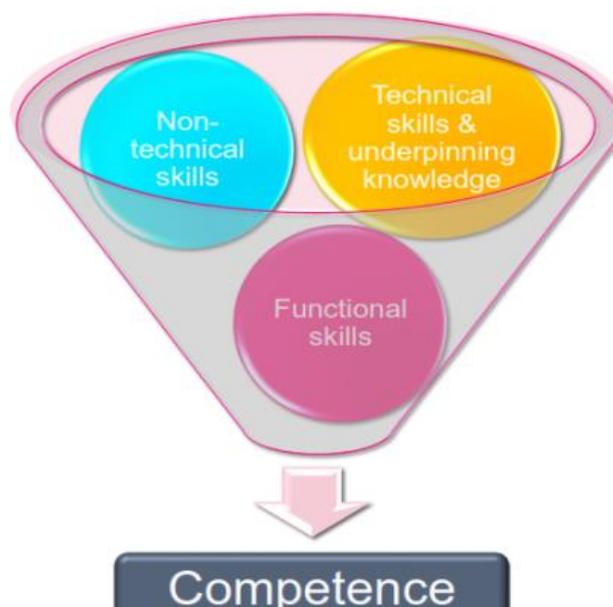
<sup>1</sup> The Rail Safety and Standards Board is a British independent not-for-profit company limited by guarantee, which was established in 2003 upon the recommendation of the public inquiry into the Ladbroke Grove rail crash

## What are non-technical skills categories?

Generic skills that underpin and enhance technical tasks and improve safety by helping people to anticipate, identify and mitigate errors

| NTS categories                      |
|-------------------------------------|
| Situational awareness               |
| Workload management                 |
| Decision making and action          |
| Conscientiousness                   |
| Communication                       |
| Cooperation and working with others |
| Self-management                     |

## What is competence?



# Non-Technical Skills

|  |  |
|--|--|
| <b>1. Situational awareness</b> <ul style="list-style-type: none"> <li>1.1 Attention to detail</li> <li>1.2 Overall awareness</li> <li>1.3 Maintain concentration</li> <li>1.4 Retain information</li> <li>1.5 Anticipation of risk</li> </ul> | <b>5. Cooperation and working with others</b> <ul style="list-style-type: none"> <li>5.1 Considering others' needs</li> <li>5.2 Supporting others</li> <li>5.3 Treating others with respect</li> <li>5.4 Dealing with conflict / aggressive behaviour</li> </ul> |
| <b>2. Conscientiousness</b> <ul style="list-style-type: none"> <li>2.1 Systematic &amp; thorough approach</li> <li>2.2 Checking</li> <li>2.3 Positive attitude towards rules &amp; procedures</li> </ul>                                       | <b>6. Workload management</b> <ul style="list-style-type: none"> <li>6.1 Multi-tasking and selective attention</li> <li>6.2 Prioritising</li> <li>6.3 Calm under pressure</li> </ul>   |
| <b>3. Communication</b> <ul style="list-style-type: none"> <li>3.1 Listening (people not stimuli)</li> <li>3.2 Clarity</li> <li>3.3 Assertiveness</li> <li>3.4 Sharing information</li> </ul>  | <b>7. Self-management</b> <ul style="list-style-type: none"> <li>7.1 Motivation</li> <li>7.2 Confidence and initiative</li> <li>7.3 Maintain and develop skills and knowledge</li> <li>7.4 Prepared and organised</li> </ul>                                     |
| <b>4. Decision making and action</b> <ul style="list-style-type: none"> <li>4.1 Effective decisions</li> <li>4.2 Timely decisions</li> <li>4.3 Diagnosing and solving problems</li> </ul>  |  |

Key: NTS Category NTS Skill

## Other NTS frameworks

RSSB's for Drivers

Guards, Dispatchers, Fitters and Shunters

Network Rail's NTS list

Signallers, COSS's, Lookouts etc

Other industries:

Healthcare: Anaesthetists, Surgeons, Scrub nurses

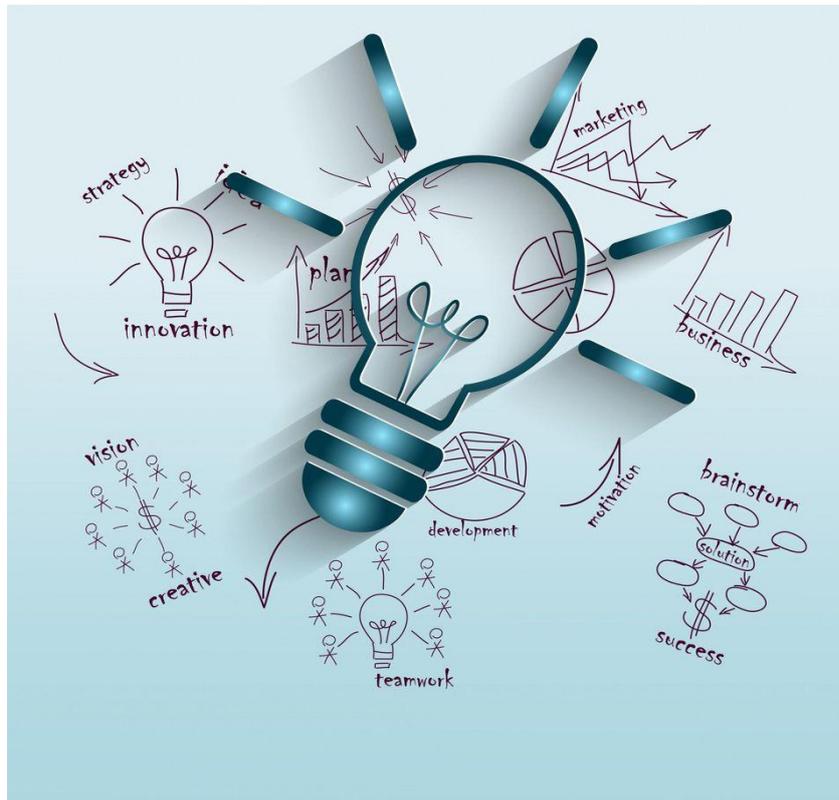
Aviation: CRM

## **Discussion and application of results**

- Importance of systems thinking
- Use in selection of Network Controllers
- Integration into initial and ongoing training for Network Controller
- Influence of NTS on technical training
- Task outcome can vary according to performance
- Knowledge retention and expertise during high turnover

#### 4. Managing effective knowledge transfer<sup>1</sup>

One of the major challenges an organization faces is to manage its knowledge assets. Increasingly, the use of knowledge is seen as a basis for competitive advantage.



Develop an Effective Knowledge Transfer System

Before lifting a Black Hawk helicopter<sup>2</sup> off the ground, the pilot goes through a lengthy written checklist: oil pressure, fuel pump and generator switches, safety harnesses, altimeters — on and on it goes. The best way to store and retrieve the information was a notebook.

Similarly, doctors do not recite every patient's medical history from memory. That is what a medical chart is for, and it could mean the difference between life and death. In fact, the Mayo Clinic employs a sophisticated knowledge management system that captures what everyone knows and archives it.

Even the transportation industry is getting in on knowledge transfer. While your organization may not be responsible for people's lives, getting the right information to the right people at the right time is still a critical component to your business's long-term success.

<sup>1</sup> Eva-KRATZMEIER, Deutsche Bahn AG

<sup>2</sup> The Sikorsky UH-60 Black Hawk is a four-blade, twin-engine, medium-lift utility helicopter manufactured by Sikorsky Aircraft. Sikorsky submitted the S-70 design for the United States Army's Utility Tactical Transport Aircraft System competition in 1972.

Knowing who knows what, who needs to know what, and how to transfer that knowledge is critical — especially when so much of a company’s worth consists of information. Investing in developing an effective way to transfer knowledge may, in the least, save you some headaches and, at the most, save your business.

Here are some suggestions for implementing a system for knowledge management and transfer in your company:

**1. Make it formal.** While water-cooler banter is better than nothing, you need consistent, clear processes and tools.

As an example, a team creates documents that clearly outline how a process works. We also use checklists and sample templates to ensure that following the process is easy. This increases the confidence of the team members who know that they are not expected to just “figure it out” when the time comes. Even something as simple as taking notes during meetings and sharing them will keep your employees in the loop.

**2. Create duplication.** We are not suggesting that you need two people for every job, but you *do* need to plan for the worst. Cross-training can mitigate the risk of a key person leaving with a head full of knowledge. Ensure that there are at least two people who can step in during an emergency.

For example, imagine a football team. If the quarterback is injured, another player has to step into that position. But what if no one has practiced that role? Your team probably would not win the game.

**3. Train, train, train.** By providing your team members with formal training opportunities, you ensure that you have duplication of skills in the system. However, if you do not have the resources for formal training, you can try this simulation: Remove a key person from the system temporarily so the team can see what happens. If things fall apart quickly, people will be eager to figure out how to prevent that failure from happening in the future.

For organizations that have effectively transferred knowledge to others, these situations present opportunities for employees to put their knowledge into practice and build their confidence.

**4. Use systems.** Technology can capture key information for later generations to use. They should not have to relearn what others discovered. By standing on the shoulders of those who have come before, newcomers can take the ball and run with it rather than spinning their wheels rehashing the same ground that is already been covered.

**5. Create opportunities.** Set up informal gatherings where team members can exchange information and develop networks organically. Develop communities of practice so employees can work together to find and share information. This is a great way to capture and share knowledge with a broad audience.

**6. Be smart when using consultants.** While a consultant can be a valuable asset, keep in mind that they will leave after the work is through. Make sure you plan to have their knowledge transferred to internal personnel so you can carry on once they have departed.

For any of these practices to make a real difference in your business, you have to communicate the importance of knowledge transfer, explain how it will be done, and, most importantly, practice it yourself.

If you can do that, knowledge transfer will be a key resource and differentiator for your organization. By continuously spot-checking to make sure the right knowledge is being captured and shared, your organization can leap ahead of competitors and seamlessly transition during the departure of key personnel.

On top of that, your employees will be more engaged in their work and have a more in-depth understanding of the systems around them. When your employees feel confident in their ability to step in and help, the different parts of your organization will move together effortlessly. With effective knowledge transfer, your organization will be healthier and happier overall.

## **Knowledge transfer challenges**

### **Coordination challenges:**

1. **Temporal distance:** Due to time zone differences, teams do not have enough common working time or synchronous meetings.
2. **Diversity of organizational environments:** Process mismatches, differing technical and domain vocabularies, incompatible environments and conflicting assumptions can be problematic in GSD (Global Software Development).
3. **Geographical distance:** Inter-organizational boundaries get blurred and relationships become complex. This makes collaboration and KT (Knowledge Transfer) between the parties difficult.
4. **Infrastructure to support KT:** Systems did not always support project-level KT. This may have a negative impact on training and KT.
5. **Expertise in applying the knowledge and level of experience:** Differences in skills, expertise, infrastructure, tools, and methodologies hinder KT. In addition, the lack of prior experience of working together and changes in team membership hinder KT.
6. **Lack of awareness and control:** The client has minimal awareness of the status of KT and, therefore, no basis from which to manage it.
7. **Coordination and integration of multiple knowledge sources:** Different locations and departments use different terminology and tools, making KT across departmental boundaries a challenge.
8. **Content, location, and use of knowledge:** In GSD, many people are involved in the development activities, and thus organizations tend to have problems in terms of content, location, and use of knowledge.
9. **Staff management:** Cross-site coordination of roles and responsibilities of team members can hinder KT between GDT (Globally Distributed Team).

10. **Costs management:** Costs of KT are not known.
11. **Unwillingness to communicate:** Fixed organizational routines and rigid structure caused, to a certain extent, an unwillingness to share vital knowledge.
12. **Structure of the development network does not nurture KT:** The “tacitness” and stickiness of knowledge cause problems for KT.
13. **Changing vendor:** Lack of clients’ operational knowledge caused by changing from a long-time vendor to a new one.

### Communication challenges:

**Communication challenges can be Language differences:** Information may be written or spoken in a language that is a foreign language for the team members and thus will be hard to understand. The information may be also represented from different perspectives than expected, leading to misunderstandings.

1. **Poor communication:** The effectiveness of KT in virtual organizations is limited because people tend to simplify knowledge when using technology as a communication media, and communication messages can lose richness in these settings.
2. **Mental models:** Differences in absorptive capacity between knowledge provider and recipients (personal attributes).
3. **Lack of appropriate tools:** A few tools support KT in GDT and some of them were not developed for KT purposes.
4. **Knowledge types and needs:** Knowledge needs vary from person to person.
5. **Poor or lack of documentation:** Documentation is an important means to share and transfer information, and its quality is essential for success.
6. **Transfer technological knowledge:** Technological knowledge between the different organizational units is particularly challenging when employees have to delegate sophisticated individual software development tasks to offshore workers, which requires constant communication and adjustment processes.
7. **Complexity and stickiness of knowledge:** The diversity of contexts exacerbates the ‘stickiness’ of information.
8. **Inadequate understanding of the customer’s business:** The shared understanding may not reflect the original needs.
9. **Loss of knowledge in project hand-off processes:** Different locations and departments use different terminology and tools in handoff processes making KT across departmental boundaries a challenge.

### Cultural challenges:

1. **Cultural diversity:** Cultural barriers negatively affect face-to-face interaction, communication, and collaboration.
2. **Social rules:** Cultural rules, habits and subconsciously accepted rules affect offshored business process and IT (Information Technology) outsourcing.
3. **Trust and motivation to transfer and share knowledge:** Knowledge sources may be not trustworthy, and trust affects cooperative learning.

4. **Incentives and priorities:** Incentives and priorities for taking the necessary time to engage in the KT.
5. **Climate:** Working conditions and physical surroundings in GSD projects.
6. **Political philosophy:** Political issues cause rigidity and routine in operating models.

## Knowledge transfer practices

### Practices for coordination challenges:

- **Use of enabling technologies:** different technologies must be employed to successfully ensure that various offshore sites can efficiently share knowledge resources.
- **Transactive memory system:** it can be developed and maintained to support KT through the propagation of certain rules and standardized work that can overcome differences in local contexts, skill levels and work routines.
- **Adoption of common platforms and tools among sites:** the organizational entities should provide a common infrastructural platform, which makes use of different project-specific and generic environments in which members of projects can interact using collaboration tools.
- **Adoption of personal coordination mechanisms:** mechanisms such as routines that encourage personal interfacing have a direct influence on KT effectiveness.
- **Mitigation of project issues:** project guidelines should define the teams' participation in requirements elicitation and mapping during KT and weekly meetings.
- **Share point-based knowledge portal:** it provides specific information to all employees.
- **Development of guidelines and handbooks:** describes architectural solution, quality conformance rules, and configuration tools.
- **Project knowledge:** all the knowledge generated in the project should be made as accurate, complete and up-to-date as possible.
- **Promote staffing motivation:** individual motivation stimulation, mentoring, and shadowing.
- **Increase personal attributes:** education in business processes, technology management, and interpersonal skills.
- **Mitigation of project issues for requirements:** conducting oral and written tests/quizzes, reverse presentations for requirements validation, support simulation, playback or replay sessions.
- **Mitigation of project processes:** understanding the organizational learning sub-process, leveraging the knowledge base and experience of peers, dynamic navigation aids to search information, modularization, use of outside expertise, joint collaboration, personal identities at work.
- **Requirements understanding:** for newcomers it's more important to experiment with the system than to have up-to-date and complete documentation. Newcomers need to have ways to find and access relevant documentation.

- **Adoption of traditional mechanisms:** coordination and control frameworks, combined with appropriate integrated voice, data and video communication technologies could be effective methods and tools for KT in projects.
- **On-site customer:** when customers are working on-site with the team, collaboration can be enhanced through effective participation in release planning, daily meetings, review meetings and retrospectives.
- **Jointly modeling processes:** it can be an appropriate solution to enhance KT if the effort is not too big in comparison with the project itself, which can be the case, especially if the involved companies are not process driven.
- **Team set up and adjustment:** it is obtained through the learning of agreement roles, responsibilities and authorities, definition of an explicit statement of the project goals, communication about the design rationale, management of resources and aligning teams.
- **Team synchronizing:** definition of clear and fixed requirements, a common shared understanding of the architecture and information about the performed tests and test results, the compatibility of the partners' development tools and environments, and the identification of cultural differences.
- **Implementation of virtual environments to develop competences:** if individuals possess more of a certain type of competence, they will be able to achieve higher performance.
- **Define responsibilities:** includes asking directly when problems occur, and asking emergency contact people when required.

### Practices for communication challenges

- **Communication tools:** document management, video conferencing, e-mails, wikis, and instant messaging can support communication.
- **Awareness improvement:** frequent meetings can improve awareness among distributed sites.
- **Face-to-face interaction:** facilitates effective KT between team members.
- **Explicit KT:** can be successfully transferred in the form of documentation and data.
- **Informal communication:** the offshored teams should continually have ongoing informal conversations with onshore teams.
- **Adoption of a centralized communication structure:** can help new teams to remain aware, whereas a decentralized structure decreases communication.
- **Community of practice:** define a community of practices to share common interests and have face-to-face meetings.
- **Social media tools for urgent requests:** adoption of social media tools provides services for distribution of information as an urgent request mechanism for KT.
- **Discussions:** facilitates openness and communication between teams in different locations. Discussions with subject matter experts on specific issues faced in the teams provide opportunities to refine, re-prioritize, and generate requirements and solutions.
- **Information through magazines:** monthly quality magazines to disseminate best practices.

- **Communication between remote teams:** remote team members should find a way to socialize, interact virtually and perhaps even simulate a shared space for creating and exchanging tacit knowledge.
- **Email lists:** e-mail lists are characterized by frequent discussions and questions on a specific topic related to a project. These topics are not further structured, but allow for fellow practitioners to share experiences and respond to questions.
- **Implement a knowledge repository:** a centralized knowledge repository shared by client and vendor is considered important for successful KT.
- **Group problem solving:** obtained through the adequate communication means and information sharing and management of collaboration related risks.
- **Division of work and responsibility into smaller units:** minimizing communication-related problems through decreasing communication needs and contact points to a minimum by splitting the project into smaller, independent units managed by a local manager. If no local project manager can be appointed, at least a contact person should be named for answering questions and acting as a contact point.

### Practices for cultural challenges

- **Cultural bridges:** cultural bridges can be established by creating a collectivist culture, onsite visits and replay sessions, and cultural workshops.
- **Visits:** GSD teams should visit other members in different locations when and as needed to gain better understanding of critical situations through face-to-face interactions that offer rich communication and effective KT.
- **Rotation:** rotation of team members between different locations, often between 3-6 months, promotes the distribution of the business and domain knowledge across the teams.
- **Creating a common culture:** to create a common culture, one needs to choose a specific, common language that is to be used within the organization.
- **Establish relationships among team members:** the success of implicit KT is further moderated by the quality of the relationship among group members. If knowledge recipient and source do not have a trusting relationship, willingness to transfer background information and implicit knowledge is inhibited.
- **Promoting trust:** understand the language and business culture of the clients, reinforce communication, pay attention to client relationship management, frequent travel, and private contacts.
- **Mentoring technique:** mentoring has been identified as one of the leading success factors in expanding organizational culture.

Whenever employees leave a company, essential knowledge for organizational success is often lost.

Imminent loss of knowledge has to be recognized in time in order to plan and execute a systematic transfer of knowledge from the retiring employee to his/her successor. An important challenge for the company is also to secure non-documented knowledge of experience.

To this end, Deutsche Bahn Group has developed checklists, tools and a qualification program for facilitators who professionally accompany the process of knowledge transfer; these have been used successfully since 2016.

It can be shown how the Deutsche Bahn Group qualifies chosen facilitators and how employees can be prepared to pass on their knowledge in a structured manner. Typical difficulties of this process are being presented and an insight is given into the systematic and successful support of knowledge transfer.

In this way, the new employee can be quickly familiarized and performance is maintained. Apart from that, a well-planned and appreciative exit is an important contribution to corporate culture and secures learning ability and innovative potential.

### Learning points:

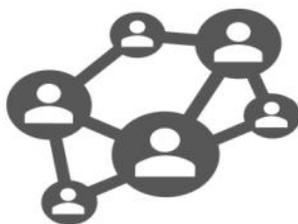
- ▶ How to design an effective knowledge transfer
- ▶ Suitable tools to secure non-documented knowledge
- ▶ Training for facilitators that accompany knowledge transfer
- ▶ Best practice

### The need for knowledge transfer

- Demographic change
- Aging employees
- Declined number of employees

Knowledge from experienced employees could help new employees but is not used sufficiently.

## Knowledge is...



... linked to a person.



... difficult to explicit.



... an important production factor.

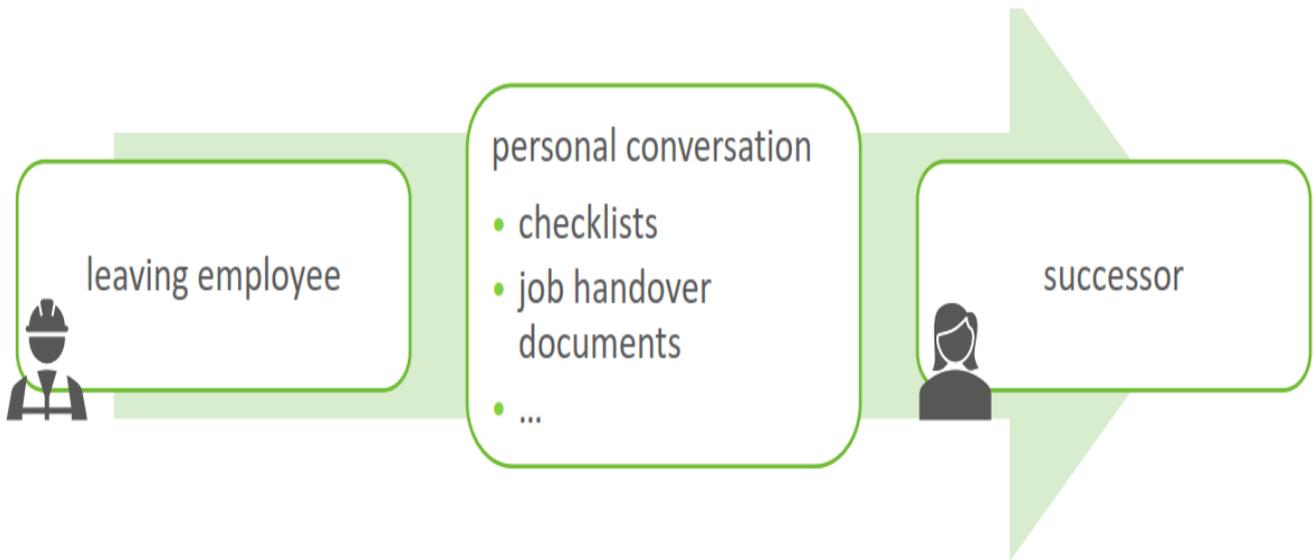
### How Deutsche Bahn AG supports employees

- Knowledge Transfer
- Basic and expert variant

- Specificity of the knowledge
- Number of employees with the specific knowledge
- Generation tandems

### Knowledge Transfer – Basic variant

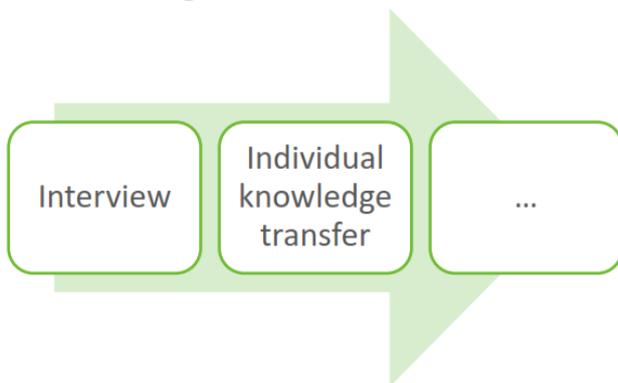
High proportion of regulated and documentable process knowledge. Other employees have similar knowledge



### Knowledge Transfer – Expert variant



- Employees with specific knowledge



Roles in the expert variant:

-  Facilitator
-  Manager
-  Leaving employee
-  Successor

## **Knowledge Transfer – Expert variant**

Knowledge transfer workshops

- Clarification Meeting
- Checklist of daily activities
- Project profiles
- Sociogram
- Knowledge map

### **Generation tandems**

Exchange of knowledge between experienced and new employees.

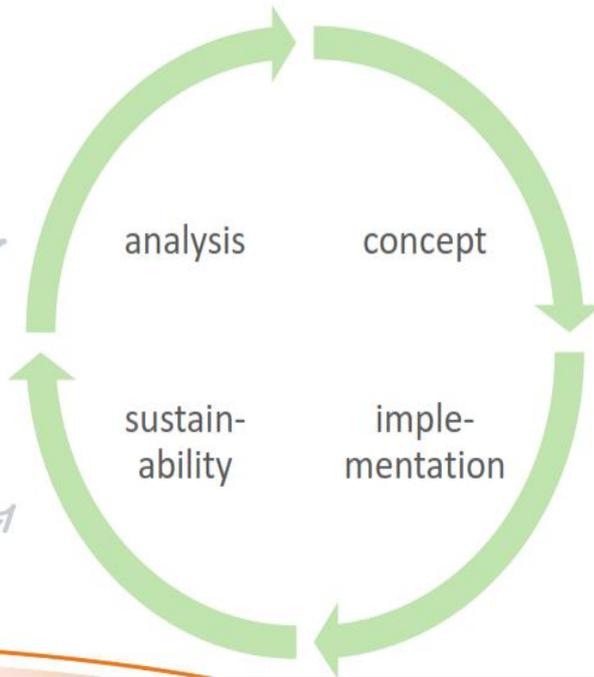
Work together and help each other for about 6 months, in highly specialized professions



# From knowledge transfer to knowledge management



What type of knowledge?  
Who has the knowledge?  
Where is the knowledge?



Tools and methods



Longterm solutions



Qualification  
Communication



## **5. Ideation<sup>1</sup>: Modeling and Upskilling Railway Leadership (A case study in Innovative Training Initiative)**

Ideation is a creative process that seeks to generate new ideas (or new products) by encouraging participants in brainstorming sessions to contribute freely and openly, often in a collaborative environment. It pulls together new perspectives, challenges assumptions and helps participants think beyond the obvious. The ideation process seeks to quickly generate a large number of new and innovative ideas that can later be assessed for their value and viability and is often applied when looking for new ways to achieve a goal or find a solution to a challenging problem. It is commonly used in the product design process, in marketing, in sales or anywhere that people wish to spark product innovation or generate new and creative ideas.

For better service delivery and emphatic positioning of an organization, it is significant that the Leaders/Managers on guard and those of future must develop the skill set of 'ideation'. Training initiatives have a great role to play in developing this skill. The essential pre condition is that the trainer must believe that:

1. Ideas are born with free thinking and they mature with criticism.
2. No idea is ever small - Dare to think and speak.
3. Community participation ensures success of an Idea.
4. 360° look around an idea.
5. Unique experience of process of Developing Ideas from Raw Perceptions to concrete Plan.

These will be the key takeaways for the delegates committed to 'Unite Inspire and Connect' that can be well illustrated through this case study.

### **i) The scope of this case study in India has been:**

- To familiarize future managers of Indian Railways the concept of ideation and enhance their capacity to form new ideas and successfully implement them. These managers as they progress with time and performance gradually assume higher position of authority where they are able to provide policy direction to the entire organization.
- This entire case study is based on the premise that ideation as one of the most critical factor of good leadership can be trained and cultivated in the Senior Managers and Administrators.
- It is widely accepted that the leader is one who has the trust of the people around him that he has the desired sensitivity, drive and skill to pull his followers through most difficult of the crisis. It is also accepted that a leader should have capability of Strategic orientation, Problem solving orientation, Implementation ability, Communication and Meta-cognition.
- The value proposition which will drive these capabilities are widely accepted as Positive orientation, Calculated risk taking, Perseverance, Tempered self-belief.

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<sup>1</sup> Sudhendu-Jyoti-Sinha, from Centre for Railway Information Systems, Ministry of Railways, Govt. of India

- A great idea should be maverick with instant gravity that can leave behind big impact. A great idea should be precise and clear entailing low cost and less gestation.
- The skill up gradation in ideation can be achieved through modeling technique, mathematical formula, diagrams and hands on exercises.

## ii) Issues addressed

To inculcate and strengthen the skill of ideation in the target group following issues were addressed:

1. Strengths of a ‘great idea’.
2. Process of ‘Idea Formation’ – Conceptualization, Formation, Consolidation, Implementation and Feedback.
3. Formation of ‘idea statement’ – Precise, Catchy and conveying the import clearly.
4. Explaining and highlighting the ‘big impact’ of a great idea.
5. Outlining ‘Big Moves’/ Imperatives to realize the aspirations.
6. Highlighting ‘enablers’/ ‘keys success factors’ for implementation of the idea.
7. Identifying ‘big risks’ and their ‘mitigation plan’.

## iii) Objectives/Proposed Outcome

The target group, after this exercise and periodic re enforcement, practice and refresher inputs and feedback, was found to be absolutely confident. The popularization and impact has been so great that it is being replicated in other training academies and is gradually adopted as essential part of curriculum.

It is an innovative training initiative (‘New ideas incorporated’) to upscale ideation for Great Leadership. It is an experiment with the senior traffic transportation officers of Indian Railways one of the largest in size and operation with stellar impact on the transport choices in India. It, therefore, qualifies for ‘Fair Geographical Balance’ and deserves favorable appreciation and consideration.

### Ideation: Thought Starters

- Think processes system & structures.
- Rewards, recognition & performance managements systems to Reinforce desired behaviors.
- Role modeling & mentoring in achieving desired results.
- Training & skill building interventions required.
- Understanding-Agility, innovation & collaboration.
- Ensuring long term change.

### Ideation: Axioms

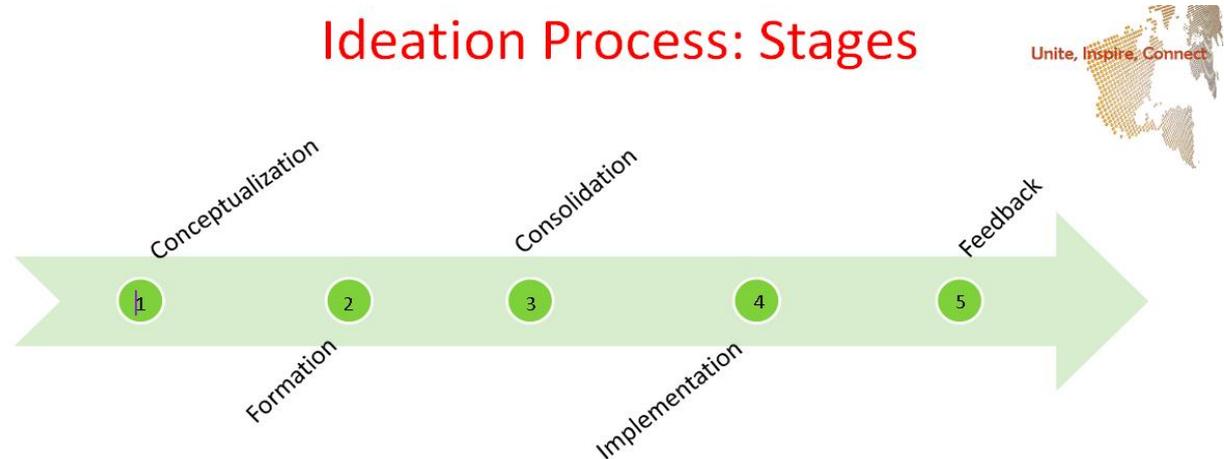
- Ideas are born with free thinking and mature with criticism.
- No idea is ever small - Dare to think and speak.

- Community participation ensures success of an Idea.
- 360° look around an idea.
- Unique experience of Developing Ideas from Raw Perceptions to concrete Plan.

### Ideation: UIC

- Unite- with knowledge and experience
- Inspire- from idea theme & impact
- Connect- to unknown/innovate

### Ideation: Wow! Idea



### Parameters for ‘Approved’ idea:

- Lowest Cost
- Shortest Gestation
- Highest Visibility & Impact

### Ideation: Idea Statement

A kind of Vision Statement

- Precise
- Catchy
- Conveying the Import

### Ideation: Idea Description

What is the problem/ opportunity?

Should clearly explain the Background & purpose of an Idea

### **Ideation: Idea Detail & Importance**

- What is the detailed idea?
- Why is your idea important?
- Aspiration / Target for the entire theme

### **Idea Theme**

How to make IRITM<sup>1</sup> a world class institution.

Indian Railways Institute of Transport Management (IRITM), Lucknow was set up in the year 2003. It was conceived to bridge the gap arising due to the fast changing business scenario in India and consequent changes in the transport sector in the areas of Supply Chain Management, Logistics, Aviation, Ports, Shipping, Highways and Railways.

### **Courses Offered:**

- => Integrated Course
- => Spl Course Traffic Officers
- => Appreciation Course
- => PPP - IRAS (P)
- => Safety & Disaster Management
- => Appreciation Course-IRSEE (P)
- => Appreciation Course-IRPS (P)

### **Ideation: Big Risks & Mitigation**

- Conceptualize & delineate the pain points and formulate ideas around them.
- Learned to look into risks and problems in an idea and navigate them.
- Our mind started thinking about our comforts in the beginning and later about the needs of the others and finally about environmental needs.
- Understanding how quickly we run out of an ideas & how most of us have similar pattern of thinking – only expression and alignment is needed.
- Respect and care for others' ideas.
- Awesome learning process.

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<sup>1</sup> Indian Railways Institute of Transport Management

## 6. Learning Management Systems, a training management tool for railway operators (LMS)<sup>1</sup>

A **learning management system (LMS)** is a software application for the administration, documentation, tracking, reporting, and delivery of educational courses, training programs, or learning and development programs. The learning management system concept emerged directly from e-Learning. Although the first LMS appeared in the higher education sector, the majority of the LMSs today focus on the corporate market. Learning Management Systems make up the largest segment of the learning system market. The first introduction of the LMS was in the late 1990s.

Learning management systems were designed to identify training and learning gaps, utilizing analytical data and reporting. LMSs are focused on online learning delivery but support a range of uses, acting as a platform for online content, including courses, both asynchronous based and synchronous based. An LMS may offer classroom management for instructor-led training or a flipped classroom, used in higher education, but not in the corporate space.

An LMS delivers and manages all types of content, including video, courses, and documents. In the education and higher education markets, an LMS will include a variety of functionality that is similar to corporate but will have features such as rubrics, teacher and instructor facilitated learning, a discussion board, and often the use of a syllabus. A syllabus is rarely a feature in the corporate LMS, although courses may start with heading-level index to give learners an overview of topics covered.

Today's enterprise learning strategies require smart solutions that go beyond the capabilities of traditional tools. A Learning Platform empowers L&D departments to drive business growth through their efforts, and a key pillar of this solution is the Learning Management System (LMS).

To understand how a Learning Platform will help improve enterprise learning objectives, you must first grasp what an LMS is, why it is an essential tool, and how to get the most out of it. Our complete guide to a Learning Management System is here to help.

### **Our complete guide to a Learning Management System (LMS)**

A Learning Management System is a software-based platform that facilitates the management, delivery, and measurement of an organization's corporate e-learning programs. The powerhouse of a complete learning technology solution, an LMS is a fundamental component of an effective learning strategy.

Learning management systems are used to deploy a variety of learning strategies across different formats, including formal, experiential and social learning to manage functions such

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<sup>1</sup>Chantal G. Berntzen, Chief Advisor Learning Management, NSB AS

as compliance training, certification management and sales enablement. E-learning has also evolved into a revenue generator for the extended enterprise.

But it does not stop there.

New advancements in learning technology have helped to support evolving learner needs and revolutionize the e-learning space. LMSs now provide improved data collection activities and support activities such as mobile learning and gamification to help achieve greater engagement, boost productivity and promote continuous learning.

Online learning platforms, such as Docebo<sup>1</sup>, go beyond basic LMS functionality by incorporating social learning features into the platform and leveraging Artificial Intelligence (AI). Sophisticated AI technology grows to understand each learner's behaviour, creating unique, personalized learning experiences, and social learning lets learners consult peer mentors, ask questions, and collaborate.

Let's break it down:

*A learning management system (LMS) is a software-based platform that facilitates the management, delivery, and measurement of an organization's corporate eLearning programs.*

### **Who Needs an LMS?**

LMSs are used globally, across multiple different industries and for a variety of different enterprise learning use cases. LMS adoption has been on the rise for the past several years all around the world.

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<sup>1</sup> Docebo is a software as a service learning management system. Established in 2005, Docebo offers a learning portal for companies and their employees, partners and customers. Docebo is compatible with SCORM 1.2 and 2004 as well as Tin Can

There are two key types of LMS users:

**Administrators:** Administrators are responsible for managing the LMS, which involves a combination of multiple tasks, including creating courses and learning plans, assigning specific learner groups to specific learning plans, and tracking their learners' progress.

**Learners:** They are on the receiving end of learning initiatives (after all, they are to whom training programs are intended). Learners who have access to the LMS will be able to see their course catalog, complete assigned courses and any evaluations, and measure their own progress. Learners can be assigned training on an individual basis, or according to their job function, and/or role in a company's organizational structure.

### **What is an LMS used for?**

At a very basic level, learning management systems centralize, deploy, and measure learning activities. A state-of-the-art learning management system supports a variety of internal and external corporate use cases, including:

**Employee Onboarding:** Perhaps the most common LMS use case is to support new employees with their initial onboarding. Bring newcomers up-to-speed on your company's learning culture by providing them opportunities to consume relevant materials across multiple devices, contribute their own knowledge, and be recognized for it.

**Employee Development and Retention:** Another common LMS use case is to support the training and development of current employees. Within the LMS, courses can be assigned to ensure employees acquire the right job skills, are informed about product changes, are up-to-date on compliance training, etc.

**Compliance Training:** An LMS can also be used to make sure employees receive any mandated training and manage recurring certification and training programs. This centralized approach mitigates risk and helps to avoid any potential regulatory compliance issues.

**Sales Enablement:** An LMS is also central to enabling sales at scale by preparing salespeople with the knowledge they need, exactly when they need it. The platform also speeds up onboarding so that new hires can start selling sooner, and ensures that you retain your top performers.

**Customer Training:** Another common LMS use case is for organizations to provide training to customers. This is especially common for software and technology companies who need to effectively onboard users so they can use their product. Ongoing customer training will also provide more value to customers and prevent customer churn.

**Partner Training:** An LMS can also be leveraged to train an organization's partners and channels (e.g., resellers). This is a great way to enhance your partnership programs and provide more value to partners.

**Member Training:** An LMS is also commonly used to amplify membership value by creating centralized content and facilitating engagement among your members with digital learning.

### **What are the advantages of an LMS?**

There are many benefits and advantages to both businesses and their learners when implementing an LMS.

#### **Top Benefits:**

- Reduce learning and development costs
- Cut down training/onboarding time for employees, customers, and partners
- Leverage AI to free-up time for L&D administrators
- Maintain compliance
- Track learner progress
- Measure how learning impacts organizational performance

#### **Top Benefits for Learners:**

- Increase knowledge retention
- Acquire skills and knowledge required for career advancement
- Improve performance

### **Key LMS Features**

Here are some of the key features that an LMS should include:

**Artificial Intelligence (AI):** An AI engine under the hood of an LMS helps personalize the learning experience for each learner by offering course formats best suited to them, and suggesting courses with topics relevant to those already completed.

**Automated Admin Tasks:** Features that allow administrators to automate recurring/tedious tasks, such as user grouping, group enrollment, deactivation, and new user population.

**Certifications and Retraining:** The LMS should allow for the tracking and management of all certification and retraining activities (e.g., by managing recurring training/continuing education/compliance programs).

**Course and Catalog Management:** At its core, a learning management system is the central system that holds all e-learning courses and course content. Administrators can easily create and manage courses and course catalogs to deliver more targeted learning.

**Content Integration and Interoperability:** Learning management systems should support learning content packaged according to interoperable standards such as SCORM, AICC and xAPI (formerly Tin Can).

**Content Marketplace:** Allows L&D administrators and their learners to access, browse and purchase courses from content providers within their learning platform.

**Gamification:** Increase learner engagement by allowing learners to achieve points, badges, awards, etc. on all learning activities.

**Integrations:** Keep your organization's data in sync with an LMS that allows for third-party integrations with other platforms, such as your Salesforce CRM, video conferencing tools, and so on.

**Mobile Learning:** Learning content should be able to be accessed anytime, anywhere, regardless of device. Learning management systems should allow content to be accessed on mobile devices to better enable learning at the point of need.

**Multi-Domain:** Build different platforms to suit your audiences (i.e. customers or partners in extended enterprise scenarios) by assigning customized elements for each subdomain, including custom branding, from a central location.

**Microlearning:** Microlearning means providing easily accessible, bite-sized learning content. This content helps to better accommodate short learner attention spans and encourages learning at the point of need.

**Reporting:** One of the most important features an LMS should include is the ability to track and measure the impact that your learning programs are having on your business. Your LMS should allow you to derive learning insights through customizable reports and dashboards that provide metrics on learner activity.

**Social Learning:** As mentioned, your LMS should also be able to support informal training activities. Your LMS should include features that encourage collaboration and discussion, peer mentorship, and knowledge curation.

**White-labeling and Branding Customization:** Immerse your learners in a completely unique e-learning platform and maintain brand consistency within your e-learning experience.

### **LMS Deployment Options**

**Open Source:** Generally, open source learning management systems are free and online-based. Users can modify the source code to suit their needs and establish a consistent look-and-feel for their learning platform, as well as the content that lives within it. A major drawback of open source LMSs, however, is that the user will generally need some programming experience to use the system efficiently and effectively. There is also usually a lot of customization required which can be costly.

**Enterprise LMS:** Also known as commercial Learning Management Systems, these are typically easier to use and provide the user with a variety of support services and features. An

enterprise LMS has intuitive user interfaces and, in some cases, asset libraries that help the learning administrator develop and deploy learning materials quickly.

As many other train operators, NSB (Norwegian State Railways) has experienced challenges in effectively managing both national and internal training requirements to insure all employees – but especially train personnel – receive necessary training within set deadlines. Planning of training activities and follow-up of training needs were time-consuming tasks that were impeding effectivity efforts compelled by a new deregulated environment. Additionally, employees felt little involved in their own competency management, with limited or cumbersome access and insight into required training. These challenges were the results of several factors, among others:

- Relevant information being registered and managed in different independent systems (some of them simple Excel registers), by different people
- Many manual processes that are time consuming, require the involvement of many resources and cause unnecessary delays and risk of error
- Lack of centralized tool to collect and access training-related information like training needs and training history
- Lack of effective and user-friendly tool to plan and distribute all learning activities, including digital learning
- Outdated, complicated and parallel systems and user-interfaces hindering employee's and their manager's ability to effectively and proactively follow-up competency, especially compliance-related mandatory retraining, as well as access training.

The solution chosen by NSB was to implement a powerful Learning Management System, fully integrated with its HR (Human Resource) system, which was able to provide the following capabilities:

- Host a wide variety of learning content, including traditional classroom training, digital learning, digital exams and external courses, but also informal training like documents, task lists, quick-guides videos to support and encourage self-based training.
- Manage learning plans with curricula to handle complex certification retraining requirements, and with programs to ensure conformity in onboarding training of new employees
- Automated assignment profiles to ensure regulatory compliance and reduce safety risks by automatically assigning training tailored to an employee's job, role and region
- Manage all aspects of training planning and administration, including booking of necessary resources like facilities, equipment and instructors, track cost as well as report on a wide array of metrics
- Provide easy, live access for supervisors, training managers and training planners to monitor certification or curricula status for their employees, assign new training, register employees to classes and review training results
- Provide easy, live access for instructors to view planned classes, assigned resources and student roster, and register training results

- Provide easy, live and mobile access for employees to view assigned learning and due-dates for retraining, access digital content, and complete digital exams and evaluations.
- Ensure all training-related information and all learning content is available through one shared interface, where roles, workflows and access are clearly defined and centrally managed

Software applications (standard or in-company specific) which may be used to help on training needs assessment, simulation training, competencies development and evaluation, training management, etc.

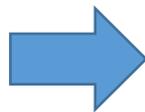
- Background: factors impeding efficient training management
- Understanding the need for an LMS
- Learning Management Model
- Manage learning content
- Manage learning assignment
- Manage planning of training activities
- Manage classroom offerings
- Manage delivery & evaluation of training
- Manage metrics
- Practical application in rail training
- Conclusion

### **Factors impeding efficient training management**

- Multiple systems
- Manual processes
- Lack of a centralized database
- Lack of a process-wide tool
- Outdated user-interfaces

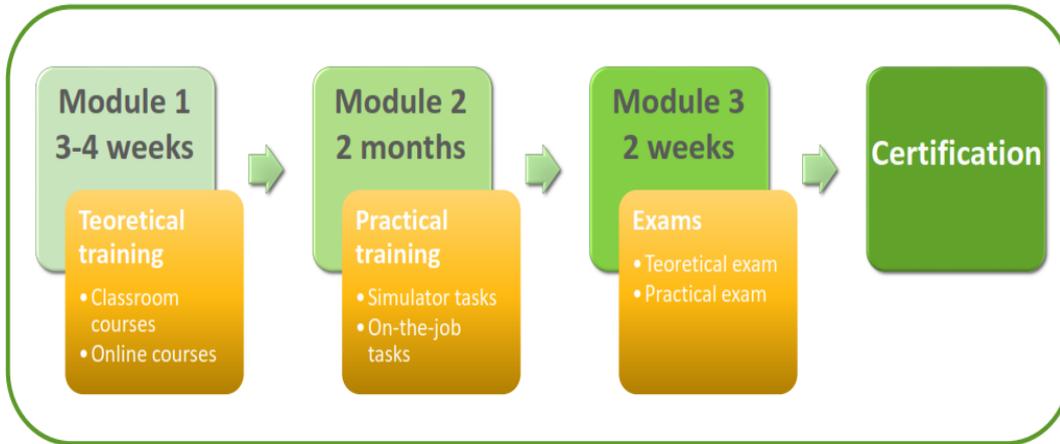
### **Lessons learned: Understanding the need for an LMS**

- The old way is good enough
- Our needs are too complex
- We're unique
- We don't have time
- We can't afford it
- It won't work
- It's too complicated
- It's for schools



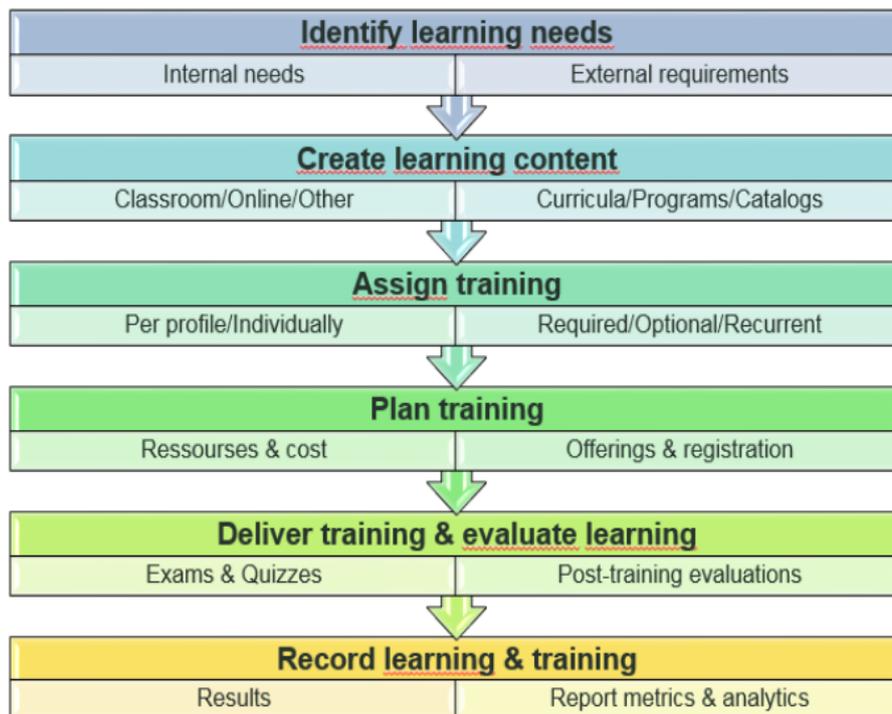
- What's an LMS
- What does it do
- Why do we need it
- How will it save money
- How will it save time
- How will it reduce risks
- What's in it for you?

## Manage Learning Content - Programs



Example of a learning program leading to certification

## Learning Management Model



## **Manage Learning Content - Courses**

- Instructor-led training
- Scheduled classroom training
- Virtual classrooms
- Lectures & seminar
- **Online training**
- Web-based training course
- Digital exam, quiz
- Video demonstration & Slide-show presentation
- Documents (SOP, governing documents,...)
- **Other learning activities**
- Digital Task-list
- External certifications

## **Manage metrics**

- Learning content
- Learning needs
- Training delivery
- Employee training history
- Evaluation & exam results
- Resource usage
- Cost of delivered training

## **Practical applications in Rail Training**

- Mobile access to digital content via app on train driver's tablets
- Onboarding program for new train drivers and conductors
- Automated assignment of curricula for compulsory training requirements towards renewal of train driver certificate
- Learning needs reports as basis for training planning
- Digital task lists for supervisor follow-up of certification process
- Digital task lists for on-the-job practical training for rolling stock training and infrastructure training
- Follow-up evaluation of new conductors 6 months after program completion

## **Conclusion: why do you need an LMS to manage training?**

- Easy access to learning content and clearly defined learning plans enables employees to proactively seek to refresh existing competencies and develop new skills, making them more competent, but also more engaged and productive.
- Automated processes to manage training needs, from onboarding programs to mandatory retraining,
- A powerful and effective tool covering the whole specter of the learning process provides a clear economic enticement to invest in a solid Learning Management System by enabling the move toward digitalized learning and greatly reducing resources needed to plan and manage training.

## 7. How to Develop Leadership Skills<sup>1</sup>

### A New Training Targeting Rail Managers at All Levels

Training business executives are important more than ever today. The leadership role is challenging due to the constant change in the market. In order to cope with the changes brought about by government regulations, increased competition, changing consumer tastes, it is important to train executives to become effective leaders.

With the increasing number of companies transitioning to the cloud (a fancy term for internet), individuals in the leadership position need to learn effective techniques to respond to cyber threats.

Just like all employees, it is essential to properly train your executive level managers. This is important to ensure that the executives have up-to-date knowledge of effective leadership skills so that the organization is able to achieve strategic goals, which can include a strong reputation, high market share, and profitability.

The basics of management such as honest and open communication, continuous feedback, quality control, and performance evaluation are not rocket science. However, in the quest to maximize profit and shareholder value, leaders often lose sight of these basic principles for which training is required.

Devising an effective training program for top executives will result in various benefits.

- **Enhanced Strategic Leadership Skills** — Leaders need to have a long-term outlook when devising programs. They should be provided targeted training to improve the strategic decision-making process. Through effective leadership training, the executives can learn about how to make informed and wise business decisions.
- **Increased Employee Retention** — According to experts in corporate psychology, the majority of employees do not quit their jobs; they quit their bosses. The most common reason includes the autocratic leadership style whereby the leader retains total control over the decision-making process concerning the employees. Leadership training will train the executives in decision-making practices that increase organizational commitment and self-belonging drive among employees.
- **Improved Productivity** — Another benefit of executive training is that it can result in improved productivity. Through an effective leadership program, the leadership will learn about the latest effective techniques to motivate employees. Motivating employees can result in improved productivity and profitability.
- **Emotional Intelligence** — Renowned psychological expert and author Daniel Goleman<sup>2</sup> had mentioned in his book the New Leaders that emotional intelligence is essential for the success of a leader. A leadership course can teach the leadership

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<sup>1</sup> Dr. Grégory Rolina, Project Officer, European Union Agency for Railways

<sup>2</sup> Daniel Goleman is an author and science journalist. For twelve years, he wrote for The New York Times, reporting on the brain and behavioral sciences. He educated from Amherst College, Harvard University.

about techniques to hone emotional skills in order to better handle the emotions of employees and effectively engage with them.

Now that you know about the importance of training top executives, let's look at some tips that can enable you to create an effective leadership training program.

## 1. Strategic Thinking Skills

Top executives have to make long-term decisions. They must think strategically to chart the future direction of the company. That is why it is important to make improving strategic decision-making skills a priority.

The strategic thinking training program should help leaders to know about the importance of reflection. As Liane Davey<sup>1</sup>, the author of *You First: Inspire your Team to Grow Up*, puts it strategic thinking entails creating a connection between people, plans, and ideas, that others fail to see. Through reflection will the leaders will discover hidden connections and improve the strategic decision-making process.

Another important tip to increase the strategic thinking is to broaden their horizons through conferences and seminars. By keeping up-to-date with the latest trends, leaders will be able to better set the future course of the company.

## 2. Focus on Priorities

One of the biggest challenges in strategic thinking is taking care of mundane business tasks. Tasks such as responding to emails take a lot of time of the managers. One way to overcome this problem is to use the 2x2 matrix<sup>2</sup> outlined by management expert Stephen Covey in his book the 7 Habits of Highly Effective People.

The matrix consist of four quadrants as follows

- Urgent but not important
- Urgent and important
- Not urgent but important
- Not urgent and not important

The executives must prioritize tasks according to their importance. The first priority should be urgent and important tasks. These are the tasks that should be completed first. After these tasks are completed the manager can focus on urgent but not important and urgent but

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<sup>1</sup> Liane Margaret Davey is a psychologist, author, public speaker, and business strategist, Born: 1972 (age 47 years), Toronto, from Western University

<sup>2</sup> conversation about insights and findings. Designers create a 2X2 matrix with opposing characteristics on each end of the spectrum (ie. cheap vs expensive see examples above). Then they sort their ideas/insights according to where they fall along the spectrum.

important tasks. The last priority should be set to not urgent and not important tasks. This strategy has also been called as putting 'First Things First' by Covey<sup>1</sup>.

But how can you know which tasks are important and which are not?

According to Covey, important tasks include relationship building tasks, planning and preventing tasks, and recognizing new opportunities. These are the tasks that contribute to the mission and values of the company. On the other hand, unimportant tasks are generally filled with activities that waste time or do not result in a positive outcome for the company. These include unnecessary meetings and responding to unimportant emails or phone calls.

### 3. Improve Communication Skills

Effective communication is important for a leader. Around 3/4<sup>th</sup> of a leader's day is spent on communicating. This is why it is critical that training should be devised to improve communication skills of top executives.

Only through effective communication, a leader will be able to encourage and motivate the staff. Important communication skills of executive-level leaders include the following.

- Verbal and non-verbal (body language) communication
- Listening skills
- Writing skills

Effective leaders do not just focus on the words but also the context of those words. They identify the core issues by eliminating the pretences or emotional content of the message. This ability allows them to effectively get to the bottom of the problem.

### 4. Network Security Training

The interdigitation of technology and business processes has made it vital that leaders gain technological knowledge. They should at least know about the basic technical terms relating to network and security.

Cyber threats a growing concern for large and small firms. According to a report by Business Continuity Institute (BCI)<sup>2</sup> in the UK, malicious online attacks has emerged as a top threat mainly due to the increased adoption of the Internet of Things (IoT) technologies.

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<sup>1</sup> *First Things First* (1994) is a self-help book written by Stephen Covey, A. Roger Merrill, and Rebecca R. Merrill. It offers a time management approach that, if established as a habit, is intended to help a person achieve "effectiveness" by aligning him- or herself to "First Things". The approach is a further development of the approach popularized in Covey's *The Seven Habits of Highly Effective People* and other titles.

<sup>2</sup> The **Business Continuity Institute (BCI)** was established in 1994 by Andrew Hiles and others, evolving from the Survive Group, a network of disaster recovery and business continuity experts. The institute's initial vision

The leaders should know about the basic terms related to cyberthreats such as phishing, DDOS<sup>1</sup> attack, cookie theft, keylogging<sup>2</sup>, malicious bots, malware, trojan horses<sup>3</sup>, and ransomware<sup>4</sup>. It is important to educate the leaders about the key technological risks facing firms today.

## 5. Action Learning Technique

One of the most common leadership training techniques for internal executives is action learning. The program involves a CEO or other C-level<sup>5</sup> executive selecting a business challenge. The project involves some tough strategic issue that needs to be solved.

The executive level managers are grouped in a team to coordinate and develop recommendations to solve the problem. The team is provided access to internal and in some cases external experts. Taking part in the executive level program helps broaden the strategic thinking acumen and strengthen leadership traits such as leading, communicating, influence, etc. The participants get coaching and valuable exposure to active learning opportunities.

## 6. Scenario-Based Learning

Another way leaders can gain exposure to opportunities to develop critical leadership skills is through scenario-based learning. This involves using existing knowledge and skills to solve case studies or scenario. The programs help validate the leadership learning through fictional or real-life scenarios. Some of the benefits of a scenario-based learning program include the following.

- Allow leaders to learn by doing
- Leaders improve skills through getting direct feedback
- It facilitates problem solving in learners
- Scenario-based learning re-enforce primary messages

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was to enable individual members to obtain guidance and support from fellow business continuity practitioners. The BCI has around 8,000 members in more than 100 countries worldwide.

1 A distributed denial-of-service (DDoS) attack is a malicious attempt to disrupt normal traffic of a targeted server, service or network by overwhelming the target or its surrounding infrastructure with a flood of Internet traffic.

2 Keystroke logging, often referred to as keylogging or keyboard capturing, is the action of recording (logging) the keys struck on a keyboard, typically covertly, so that person using the keyboard is unaware that their actions are being monitored. Data can then be retrieved by the person operating the logging program.

3 In computing, a Trojan horse, or Trojan, is any malware which misleads users of its true intent. The term is derived from the Ancient Greek story of the deceptive Trojan Horse that led to the fall of the city of Troy.

4 Ransomware is a type of malware from cryptovirology that threatens to publish the victim's data or perpetually block access to it unless a ransom is paid.

5A C-level executive is a high-ranking executive of a company in charge of making company-wide decisions. The "C" stands for "chief." Some best-known C-level executives include the chief executive officer (CEO), chief operating officer (COO) and chief information officer (CIO).

The scenario-based learning is a highly immersive approach to improve the abilities of leaders. It focuses on learning through application of knowledge. You can design complex or basic scenarios with the goal of validating leadership skills.

## **7. Outdoor-Based Leadership Education**

Outdoor-based leadership education has been gaining traction among corporations on the other side of the Atlantic. Many US firms such as NASA<sup>1</sup>, USNA<sup>2</sup>, Columbia Business School<sup>3</sup> and others are using outdoor-based education courses for leadership development.

The outdoor leadership programs focus on team-based leadership model. Participants are provided the opportunity to develop leadership skills by taking part in challenging expeditions. These expeditions let leaders practice and improve communication, team building, collaborative, and other critical leadership skills. The program leaders improve their leadership skills as they lead a team across mountains, sea, coasts, lakes, and rivers.

Participants in the outdoor-based leadership program learn through situational appropriate actions in order to achieve group goals. They serve different roles such as peer leader, designated leader, self-leaders, and active followers. The participants have to make personal goals, take initiative, collaborate and show respect to team members. They have to communicate effectively and show tolerance under uncertainty and adversity.

The best thing about these outdoor-based leadership training programs is that they teach environmental awareness. Participants of the leadership program learn about the connection between the natural and corporate world. They find out how different business decisions affect the environment — both positive and negative impact. It will help the leaders become aware of developing sustainable and environmentally friendly policies.

### **The Importance of Hiring the Right Candidate for the Executive Level Position**

Apart from an effective leadership training program, it is recommended that you devise an effective program to recruit the most talented and experienced individuals for the leadership position. You need a top executive with experience, qualifications, skills, and expertise required to perform strategic decision.

The executive level managers will be at forefront of your company tasked with achieving overall corporate objectives. Most likely, your top executives have accumulated decades of

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<sup>1</sup> The National Aeronautics and Space Administration is an independent agency of the United States Federal Government responsible for the civilian space program, as well as aeronautics and aerospace research. NASA was established in 1958, succeeding the National Advisory Committee for Aeronautics.

<sup>2</sup> The **United States Naval Academy (USNA, Annapolis, or simply Navy)** is a federal service academy adjacent to Annapolis, Maryland. Established on 10 October 1845, under Secretary of the Navy George Bancroft, it is the second oldest of the United States' five service academies, and educates officers for commissioning primarily into the United States Navy and United States Marine Corps.

<sup>3</sup> Columbia Business School is the business school of Columbia University in the City of New York in Manhattan, New York City. Established in 1916, Columbia Business School is one of the oldest business schools in the world.

experience with several milestones under their belt. They utilize their experience and knowledge to play a significant role in setting the strategic direction of the company.

It is best that you hire an executive search company to find prospects who will be ideal for the leadership position. This will save costs and time involved in searching for a leadership position. However, for an experienced executive search agency to find you the perfect candidate, you need to define the position to them, so they can focus their search on finding candidates that fall under your criteria.

Here are some of the things that you need to tell the headhunting firm.

- What the position entails?
- What will be the everyday responsibilities and duties of the employee?
- What attributes, skills, experience, and talent you require the employee to have to perform their responsibilities and duties effortlessly?

Since executive search agencies have worked with several companies in your industry, they can help you refine your search criteria. This will result in hiring of professional leadership who can steer the company to achieve corporate success.

Grégory Rolina, project officer in European Union Agency for Railways<sup>1</sup> introduced a 1-day training session shaped by an original film that relates an accident has been developed by the European Union Agency for Railways, with the support of French Institute for an Industrial safety culture. The film shows the circumstances of the accident. It is used to highlight the impact of Human and Organizational Factors on safety and to stress the importance of developing safety leadership skills throughout the organization. While the training introduces conceptual models on behavioral and cultural aspects, it focuses on concrete and practical implementation on how to be a safety leader on a daily basis.

The training has been tested in two railway companies over Europe. He introduced a brief report of the training course as the following:

- Strong relationship between (safety) leadership and (safety) culture
- Common Safety Methods on SMS Requirements (EU) 2018/762
- “Top management shall demonstrate leadership and commitment to the development, implementation, maintenance and continual improvement of the safety management system (...)”
- “The organization shall provide a strategy to continually improve its safety culture”
- The European Union Agency for Railways (ERA) has developed tools to support the development of a positive safety culture within the Single European Railway Area, e.g.
  - European railway safety culture model
  - European railway safety culture declaration

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<sup>1</sup> The European Union Agency for Railways is the agency of the European Union that sets mandatory requirements for European railways and manufacturers in the form of Technical Specifications for Interoperability, which apply to the Trans-European Rail system

- 1-day training on safety leadership

### **Development of the Training Course Benchmarking**

Good practices identified in the nuclear, oil & gas, construction,...

This leads to the following specifications:

- The training will target managers at all levels.
- The training will be disseminated within any rail organization via a top-down approach
- Duration of the training will be one day
- To allow interactions and role-plays, the training will be delivered to small groups (12-15 participants)
- Emotional means will be used to convey the main messages. In particular, a film, which relates an accident shall be developed and used as the training's red line

#### **Film: Technical Specifications (1)**

The film should be based on existing or plausible situations, e.g. incidents and accidents that occurred in European railways, as well as realistic dialogue and scenes that describe the complexity of railway operations. While it should be possible to watch the film in one go, it should be made

up with sequences to be incorporated in the workshop, according to the different topics related to safety leadership

- Film language is English
- Cinematographic techniques and dramatic devices such as flashbacks, foreshadowing and suspense should be used to increase public attention

#### **Film: Technical Specifications (2)**

• The film should relate the story of a railway fatal accident and describe the systemic causal network that leads up to the accident, with a clear focus on poor safety leadership and safety culture.

- Good practices and appropriate behaviors should also be highlighted
- Poor commitment to safety at different levels of the railway socio-technical system,
- Production and economic pressures from the client and senior management,
- I behaviors of team leaders,
- Unconvincing safety staff,
- Miscommunications between train drivers, shunters and signallers,
- Poor monitoring of contractors,
- Bad quality of procedures and documentation,
- Weak preparation and risk analysis,
- Inappropriate regulations,
- Poor regulatory supervision,
- Unhealthy work environment,
- Lack of training,...

## **Task Force on Railway Safety Leadership**

- Under the umbrella of the Agency's Human and Organizational Factors Network
- Experts from ERA, ICSI, RSSB, SNCF, UIC
- Three meetings took place between July and October 2018 to accomplish the following objectives:
  - Enrich the training curriculum on safety leadership
  - Monitor the development of the workshop, including the specific movie
  - Reflect on test, deployment and dissemination of the training

## **Training Curriculum and Deployment Five Safety Leadership Expectations**

- 1- Create the safety vision
- 2- Share the safety vision
- 3- Be credible and lead by example
- 4- Promote team spirit and horizontal cooperation
- 5- Acknowledge good practice and apply fair sanctions

## **Conclusion**

- The safety leadership is now to be implemented in several other Agency's stakeholders,
- To allow faster dissemination and increased capability building, a train-the-trainer program has been tested to certify in-company trainers.



"Safety is a state of mind.  
Safety requires time and resources and  
above all dedication, from the top to the  
bottom.  
Let's not leave anyone behind!"

As leaders, your behaviour counts more  
than anyone else's. You have a major  
influence on culture and this is why we  
expect you to be safety leaders."

Josef Doppelbauer  
European Union Agency for Railways  
Executive Director

## 8. Innovation Lab<sup>1</sup>

### Italian Railways (FS), by Mirella Battista

Gruppo Ferrovie dello Stato Italiane is currently operating in a framework characterized by the need of integration between a traditional mindset, strongly linked to our historical and cultural background, and the pursuit of innovation.

Young people in Italy face the challenge to comply with the rules and procedures and to recognize the possibilities to rethink practices and behavior. In order to support people in this cultural evolution, the Group has developed a new Leadership Model.

Ferrovie dello Stato Italiane Group encourages the inclusion of typically exposed to unconscious bias categories, promoting, among other actions, a cross company mentoring program for female empowerment. Focus of the project are female middle managers mentees that are guided on the path to more challenging positions within the company by senior manager mentors. With a strong male predominance in all the organizational levels, FS aims to reach a more “diverse” management composition, working also on the ability to transmit know-how and best practices throughout the Company.

This Model combines the need to continue to ensure the excellence of our services and standards and the importance of being open and ready to changes.

For this reason, the organizational structure “Group Training & Learning” introduced “Innovation Lab” in the Training Offer. Innovation Lab is a 6 days Learning Path based on the concept of “Cross-Connections”.

Before we dive deep into how to design an innovation lab, let’s take a moment to think about what an innovation lab is and what it means to a growing organization in today’s world.

In a broad sense, an innovation lab is a physical space dedicated to the creation, development, and execution of ideas. It is a space to cultivate, share, and grow not only potential earning opportunities, but also relationships within an organization. An innovation lab can take on many different titles such as innovation center/space, maker space, creativity lab etc., but the overall goal remains the same; to create. Organizations everywhere, from universities, to health care clinics, to libraries, schools, and especially businesses are becoming more innovative than ever, and this process of design thinking is for any organization willing to use it.

The style of work in businesses today is drastically shifting from individual, heads-down work to a more collaborative and innovative style where multi-person projects are the norm.

What better place to innovate than in an innovation lab?

Testimonials from Startups and Companies, meet the trainees in order to promote the growth and

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<sup>1</sup> Mirella Battista, FS

transfer of Know-How and managerial/behavioral skills.

The issues being addresses:

- How can we train our people to become innovation drivers? To what extent is necessary to acquire an innovation and barrier-breaking oriented new mindset?
- Will the Opening to the outer world, thanks to the meeting with successful realities different to FS Group, succeed in enlarging the vision of our people?
- How can we, through class and virtual learning activities, develop and train people to integration and collaboration (these two seen as opportunities to handle complexity throughout moments of comparison and sharing)?
- How can we rethink our business processes from an innovative point of view ? Will it help to increase faster internal improving processes and external ones such as quality and customer satisfaction?

### **Objectives or proposed outcome**

During the learning activities, participants are divided into subgroups. Testimonials from Startups and Companies help them to adopt a divergent and innovative mindset. In the end the subgroups challenge themselves in conceive and present their new and innovative startup.

The Learning Path helps to achieve the following goals:

- Training and experimentation on following competences:
  - ✓ Innovation, flexibility and change management, with main aim of becoming confident in finding innovative solutions and at the same time handling discomfort situations.
  - ✓ Teamwork and collaboration, to learn how to collaborate in order to reach common targets, integrating and sharing competences.
  - ✓ Fast execution, to become quick decision-makers and achievers.
- Production of innovative solutions with high impact and improvement over business processes.

Market challenges launch FS towards a fundamental evolution of its own business model.

“Innovation is a critical ingredient for success in today’s work environment. Being able to innovate allows you (and your company) to stay ahead of the game instead of constantly playing catch-up.

### **Innovation Lab is born**

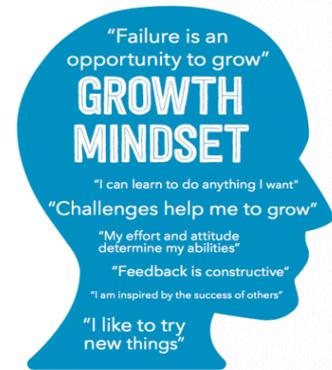
Starting from newcomers allows us to create an intensive and innovative training with minimal resistances and with learning mindset.

Innovation lab is an experimental laboratory for the entrepreneurship of new employees through the generation of business ideas.

**Accessible entrepreneurship** becomes an essential competence, which will prove managers' and professionals' capacity to face strategic challenges. In 2018, the new Leadership Model strengthens it as the main value every employee should follow.

**Training and experimentation on following competences:**

- Innovation, flexibility and change management, with main aim of becoming confident in finding innovative solutions and at the same time handling discomfort situations.
- Teamwork and collaboration, to learn how to collaborate in order to reach common targets, integrating and sharing competences.
- Fast execution, to become quick decision-makers and achievers.
- Production of innovative solutions with high impact and improvement over business processes.



**Innovation Lab – Methodology**

“Cross-connections” is a methodology that is part of the methods of design thinking and open innovation, which, above all, enhances the value that comes from looking at others’.

**Strengths:**



- Comparison with sectors other than the one to which they belong
- Open dialogue with witnesses of those real worlds and protagonists of innovation putting into practice the process (cognitive and relational) that leads to the realization of a new business project.

**The Innovation Labs have created 20 innovative projects that have been made available to the company to assess its chances of success.**

**One of these projects gave rise to a Start UP:**

Blink, designed during the training course by a team of 6 new hires, was taken on by the Innovation structure of the FS Group, which, together with the creators, built the prototype.



Today, the idea behind Blink is in Nugo, the app that

the FS Group offers customers to organize intermodal trips.

Experience and context lead people to always see things with the same "glasses", that is, with a reassuring filter that nevertheless always shows the same reality. There is no innovation in this frame and there can be no business.

Looking at other worlds in "cross-connection" allows you to get out of the "comfort zone" and your habits and acquire other points of view from which originality, courage and desire to take up the challenge are born.

Experience and context lead people to always see things with the same "glasses", that is, with a reassuring filter that nevertheless always shows the same reality. There is no innovation in this frame and there can be no business.

Experience and context lead people to always see things with the same "glasses", that is, with a reassuring filter that nevertheless always shows the same reality.

### **Innovation Lab – Results:**

From a learning point of view, new hires have trained critical thinking, innovation mindset, team working, ability to expose themselves, in a word, have trained their entrepreneurship.

Their feedbacks in one word:



### **2019 ... two years after Innovation Lab....**

- ➔ Today Innovation Lab is the last Induction Course Module for new hires.
- ➔ The First «Engagement» Module is a journey to discover the roots of the railway when the entrepreneurship consisted of building tracks and making trains walk for everyone.
- ➔ The entrepreneurship throughout history and is renewed, and gives a frame of unitary meaning to the young people who enter our world.
- ➔ The Module was concentrated in two days, because from 2018 FS realizes INNOVATE every year, a participatory Innovation program open to all 83,000 employees of the Group, from which business ideas are born.

➔ Furthermore, the methodologies related to the development of Innovation and Entrepreneurship are becoming an integral part of all the Leadership training programs (from graduates to senior management to executives)

### **Tips to Improve Your Innovation Lab**

As leaders look toward the future of their industry, many CEOs are opening up an innovation lab at their organization in order to promote collaboration and new approaches. This trend has empowered many businesses and organizations alike to improve their processes and ideation framework, but innovation labs as a whole still have a long way to go to reach their potential. If you have recently created an innovation center at your organization or are looking to develop one, here are 6 tips to help you improve your innovation lab today:

- **Set relevant and achievable organizational goals**

Make sure your innovation lab has a clear, achievable purpose. You can center your lab around achieving key organizational goals that are outlined from the beginning and have clear action steps to take to achieve them.

- **Build a team of creative thinkers and leaders**

Your innovation lab is nothing without a team of thoughtful, creative and innovative employees to lead it. Make sure your lab has a robust team that is up for the challenges set for them.

- **Provide funding and resources**

Devote the necessary funding and resources to your innovation lab. Your team cannot succeed without the correct tools and resources they need to empower their work and achieve your organizational goals.

- **Create an environment that fosters interaction, collaboration and creativity**

Your team needs to feel as though every member can contribute and that their contribution is valued. Work on building an environment that fosters innovation and collaboration, one in which your employees are comfortable and confident in their abilities and their team members'.

- **Encourage your team to take chances**

Your innovation lab will go nowhere if you are too afraid to take chances. Try new and different approaches to doing things and don't be afraid to see where they lead you. Innovation requires risk. Remember your innovation lab was designed specifically to take risks.

- **Move your efforts beyond the lab**

Our last tip to make your innovation lab better is to move your efforts beyond the lab. The innovative approaches developed in your lab should touch every corner of your organization and inform future processes and approaches.

These six tips to improving your innovation lab or center are sure to help your business or organization grow. Remember that true innovation requires a leap of faith, and that it may not always be easy or quick.

How can you make sure that your innovation training improves workplace efficiency?

Use the following 4 tips to increase your business's efficiency through innovation training:

### **1) Encourage employees to find innovations with positive reinforcement**

One of the things you can do with your innovation training is establish a reward program for employees who find faster or more resource-efficient ways to accomplish basic tasks.

For example, say that you are a manufacturer, and a worker introduces an innovation that reduces time to completion for a product by 10% or the need for reworks/remanufactures by 50%. This kind of innovation could massively improve production output and save both time and money for the company.

Without some kind of reward, there is little incentive for the worker to bring that innovation to your attention. However, with a reward program in place, that employee has a reason to present that innovation to you—their employer.

An alternative to paying bonuses is providing employees with extra time off for vacations. Another idea could be to honor employees with a “Best Idea of the Month” plaque and turn it into a contest to see who can come up with the best innovation each month.

### **2) Train more than once to reinforce lessons**

There is a concept in education known as “learning loss,” which typically refers to the information/knowledge that students lose over summer break when they are out of school. The same concept can be applied to workplace training. Basically, if your employees do not use the training, then they will lose the benefits of it over time.

To prevent workplace learning loss, it is important to repeat, reinforce, and use the lessons learned in training over time. So, rather than treating innovation training as a “one and done” event that your team only goes through once, do the following:

- **Break Up Training into Several Smaller Sessions.** Instead of hosting an hours-long, draining lecture, try breaking up your innovation training into many shorter, easier to digest sessions that each highlight a specific element of the training program. Your

employees won't be as overloaded—allowing them to focus more and better absorb information.

- **Hold a Pop Quiz (or Two) a Week Later.** To really reinforce the lessons from the training, let your employees know that you'll be quizzing them on what they learned. This quiz does not (and should not) have to be too in-depth—just a quick couple of questions about what was covered, and maybe a demonstration of how they are applying it to their work.
- **Have More Experienced Employees Coach Newer Ones.** One of the best ways to learn anything is to try to teach it to someone else. Set up mentoring pairs where your most experienced employees (or the ones who are most successful at innovating in the workplace) provide guidance to the workers who may be struggling with the concepts of the training. Your struggling employees will benefit from the unique lessons and perspectives provided by their mentors, and the employees offering the mentoring may get even better at innovation.
- **Hold a Refresher Course.** Every now and again, hold a training refresher course to renew the information for your workers. How often you hold these courses is up to you, whether you do them quarterly, annually, biannually, or so on. Some companies may choose to do this training just after each of their major hiring periods, while others just hold this training during the slower times of the year when there's more free time to focus on training. Occasional retraining helps keep the information fresh in an employee's mind, preventing learning loss.

### 3) Tailor innovation training to the role of the employees completing it

Just like a sales department has to tweak their elevator pitch to the person they are making it to, leaders have to tweak the training of their employees. Training programs that make sense to and engage an accountant might not work so well with a design engineer or sales clerk, and vice-versa.

Training programs need to take into account who is being trained, how many people are being trained at once, and the outcomes that are being sought.

So, before sitting a group of employees down to do innovation training, review the training program and make sure it has been optimized for the intended audience. This rule, naturally, can be applied to almost any kind of training program and not just innovation training.

Tailoring training might mean using a specific format, such as online training, roundtable discussions, lectures, or one-on-one role play sessions with employees, in which you pose a problem and ask them to come up with a solution on the spot.

By tailoring training to the audience, you can maximize the effects of the training so it has more impact on efficiency afterward.

#### **4) Keep scalability of training in mind when fashioning a training program**

In a perfect world, we would all have unlimited time and money to craft perfect training programs that would help each and every employee achieve their maximum potential. However, in the real world, we all have strict deadlines and budgets that have to be adhered to.

So, when crafting an innovation training program, you need to focus on what the goals of the program are, which elements of training are most critical for achieving those goals, and how the training can be most efficiently delivered to employees.

Setting goals may mean taking some time to establish appropriate success metrics for the training. For example, attendance rates and session scores from employees could be appropriate metrics to track during the training, and the rate that innovations occur or other business outcomes can be good metrics to track after the training. This helps businesses gauge the return on investment that the training provides.

Additionally, when creating the training, compare your training budget to the number of people that need training and the estimated time it will take to complete the training. This can help you establish the most economically-efficient training method for your innovation training so you can train more of your employees at once.

Get started on making your workplace more efficient by using our Big Think Edge-exclusive training course right now! Our online innovation program features short-form, easy-to-implement training videos hosted by industry experts to engage your employees and maximize results.

They will become competent and perform their assigned task independently. Training can reduce staff turnover and help an organization to retain its staff. Better training can make an organization more competitive in business market. Trained employees become efficient. Efficient employees contribute to the organization. Finally, training and development can bring a lot of benefits to both of organization and employees.

## 9. Gamification of training programs<sup>1</sup>, by Noémie ROUAULT, Université Transilien, French Railways (SNCF)

### Developing Innovative Training Techniques Using Gamification

The most effective employee process is one that gets employees excited!

Make sure your employees are actively engaged from day one with gamified elements strategically scattered throughout the entire staff training process.

Gaming for learning combines elements of fun, with instructional design, to create a training platform that will **hold an employee's attention and motivate them to actually finish a course.**

By not letting employees progress until they complete a task, for example, gamification makes training entertaining with challenges and competition.

Each task plays an integral role in the employee onboarding experience, and each is an element that can be “gamified” to elicit continued motivation.

After the employee completes each task, send out a congratulations email. *Furnished with explosive confetti of course...*

**Gamification in employee training lets new hires make mistakes and figure out the optimal strategies and solutions- without the pressure of performing perfectly.**

Gamification is a new way to evaluate professional abilities and competences in a profitable way. We have to have the specific objective clearly identified and defined within this technique and the expected results. There exist different gamification actions that we could apply to the railway industry

Gamification has always been related to games. But with the peak of virtual reality, and artificial intelligence, many of them started to realize that this technology could change the way we train ourselves, as experience is the greatest way of developing new knowledge and we could adapt faster basing on practice.

Gamification is a philosophy that consists of extracting all the dynamics and mechanics of ‘pleasure technologies’ that have an influence on our motivational system, with the aim of influencing behaviors and facilitating learning.

### Companies with Gamification Apps.

**Indra** is one of these companies. It has developed an App based on gamification, geolocation and augmented reality, which allows companies to suggest groundbreaking initiatives to its

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<sup>1</sup> Noémie ROUAULT, SNCF – Université Transilien

professionals and/or customers by means of games which encourage their participation, relationships, commitment and motivation.

The App is called **TGo Games** and you can enjoy of it with different tasks and challenges, as much as individual as collective, in which you have to get to different goals in a playful and creative way. As a reward, the tool provides access to different recognitions, prizes and/or promotions, opening a whole world in the relation of companies with its professionals and customers. You can also catch virtual objects, solve a problem, pass tests working in team or share a message in social media, among others. In respect of rewards, there are also different options to offer, from prize draws, to special offers, tickets, products, services to merchandising and charitable donations.

Gamification is a good way to relate with your customer or suppliers.

## **BIM<sup>1</sup>**

**BIM** methodology is one of the methodologies, inside the world of virtual reality, which helps us to manage the elements which are a part of the infrastructure during the whole life cycle. It makes possible to virtually access and modify its development with a high level of accuracy. This way, you can construct in a more efficient way, providing with profitability, efficiency and sustainability to construction projects. It is a new way of conceiving the work, by sharing information and producing some kind of **big data**.

For example, **Adif<sup>2</sup>** has been applying virtual reality, performing a project to introduce virtual reality in the technological training center. To train their employees in the maintenance of electrical sub stations by means of simulation.

## **Games to foster learning of complicated concepts**

SNCF TRANSILIEN is the activity of SNCF which manages the train in Ile de France. This concentration of rail activity in such a small area has led SNCF to implement specific management strategies, which are described as Mass Transit<sup>3</sup>.

Mass Transit: systemic vision of the management of passenger flows in dense areas.

The specificity of the training at Transilien lies in the understanding of Mass Transit, that is to say the acquisition of a global vision of the railway production in a dense zone. The Ile de France region accounts for 10% of the national rail network, 40% of its rolling equipment,

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<sup>1</sup> Building information modeling is a process supported by various tools, technologies and contracts involving the generation and management of digital representations of physical and functional characteristics of places.

<sup>2</sup> ADIF is a Spanish state-owned railway infrastructure manager under the responsibility of the Ministry of Development, charged with the management of most of Spain's railway infrastructure, that is the track, signaling and stations.

<sup>3</sup> Mass transit, also called mass transportation, or public transportation, the movement of people within urban areas using group travel technologies such as buses and trains.

and 70% of SNCF travelers. To manage the density of passenger flows, Transilien agents must master a wide range of skills: travel information, customer care, railway production, safety, etc.

But how to address these complex concepts in training, especially in initial training, and how to help managers to coach these skills?

Transilien has redesigned its pedagogical model to appropriate and disseminate this notion of Mass Transit by relying, among other things, on the use of educational games.

Why resort to gamification?

The game, whether on-line or in-game, is booming in France: fun cafes and escape games are flourishing in the cities of France, MMORPGs (massively multiplayer online role-playing) are constantly winning over new players. The recipe for this success: the networking of people around an activity that is fun, emotional, and is suitable for all audiences.

Some of the different challenges offered by games are appropriation of complex rules, resource management, strategy, and communication.

The success story of games is an inspiring model for training, especially in dealing with conveying complex notions. As Mass Transit is an integral part of the Transilien strategy, the Mass Transit training course offered to agents has been enriched by several fun activities:

- ✓ The design of a micro-learning platform where learners are invited to understand the issues of Mass Transit and operations in dense areas.
- ✓ The design of a board game used during face-to-face training: players compete in teams to produce trains in dense zones and try to satisfy as many customers as possible.
- ✓ The creation of an Escape Game (or Escape Room) for Transilien managers: locked in a room, they have 60 minutes to complete a mission. They must mobilize their knowledge to solve puzzles, managing their time and stress, and communicate and interact with their colleagues.
- ✓ The design of a technical learning platform: the objective is to leave the formal framework of the classroom by offering an immersive experience, with a reproduction of the station environment enriched with elements in augmented reality (ticket control equipment, ticket sales equipment, information screens). This platform must encourage interactions and inter- business situations, which are essential in a Mass Transit environment.

All of these teaching methods radically transform the training experience : the participants are in a relaxed and positive state of mind. Errors are considered part of game play and not as "defects".

For the trainer, this reinforces his role as animator. He is the game master, focusing on the experience, emotions, and success of learners.

## Why gamify?

- Using games' mechanisms to achieve educational goals
- Creating emotions and positive experiences while training

Capture attention



Engage



Exchange



Consolidate



How has SNCF TRANSILIEN leveraged games to promote the learning of complex notions among learners?

- + To train staff regarding Mass Transit (dense zone)
- + To increase the engagement and knowledge retention by increasing the attractiveness of training
- + To adapt to the expectations and habits of new generations without excluding others
- + To develop soft skills (such as agility, listening, and teamwork) through games

### The gear game

Used during the continuous training (The Fundamentals of Mass Transit) designed for Transilien's managers.

Game: Sort out and position pieces to build a mechanical system of gear transmission



## 10. Successful digital transformation requires skilled employees<sup>1</sup>

According to Korn Ferry<sup>2</sup> International's Future of Work survey, the world is facing a global talent crisis. An imminent skilled labor shortage is affecting both developed and developing economies, with the potential to drastically alter the balance of global economic power. To quantify the talent shortage, it is estimated that by 2030, a talent deficit of 85.2 m workers can be expected.

Nowhere is this skills drought more evident than in IT, where demand for talent already vastly outweighs supply. While many new initiatives and programs are encouraging more students to pursue careers in science, technology math and engineering (STEM), it is clear that hiring new workers to plug this gap will not be an effective strategy for most organizations.

That is not to say attracting and retaining the right talent won't be crucial over the coming years, it will – more so than ever before. But the key to long-term success for many businesses will be providing their people with the opportunities to transition into roles that are more skilled, value-based and rewarding.

This means ensuring employees have access to high-quality digital skills training, while also encouraging an organization-wide culture of continuous learning. Not only will this help employees prepare for the jobs of tomorrow, it will drive innovation within the organization today.

### Digital transformation

Digital transformation will affect every aspect of the world of work. It is a global megatrend that will affect, change and challenge every sector with an increasing pace. It is no longer enough to find talented workers to meet current skills demands – now organizations must look ahead to ensure they have the ability to compete effectively in an ever-changing digital economy. This means ensuring your workforce is agile, adaptable and engaged with transformation.

The future of work is increasingly about anticipating what is coming next – new innovations and how people will use new technologies. Digitalization, mobility, artificial intelligence and machine learning are fundamentally changing the way organizations engage with both their customers and their workforce. This means career trajectories are now far from linear and it is up to organizations to ensure their workforce is best prepared for these new technologies as they transform the workplace.

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<sup>1</sup> Dr. Sandra Hutterli, Head of Corporate training SBB and digital transformation (fit4future), Swiss Railways SBB Schweizerische Bundesbahnen

<sup>2</sup> Korn Ferry is a management consulting firm headquartered in Los Angeles, California. It was founded in 1969 and as of 2019, operates in 104 offices in 52 countries and employs 8,678 people worldwide. Korn Ferry trades through three business segments: Korn Ferry Executive Search, Korn Ferry Advisory and Korn Ferry RPO and Professional Search.

Central to this move is ensuring the right tools are in place to support learning and fostering a new culture within organizations. Every member of the workforce needs access to modern, intuitive and technologically advanced corporate learning platforms that tailor learning to unique individual needs. Every employee is different. They have different learning styles – be it via video, reading or taking quizzes – and different training needs.

To help employees think wider, learning platforms need to be able to recommend content and courses based on what other employees within their role are doing, what content they have viewed before, which areas of the business they are working with, as well as their interests and career development preferences. These capabilities will be essential, as agile learning and increased collaboration take on a more central role for employees.

But the right tools only go so far. Sustainable change will mean establishing a culture of learning, development and agility within the organization. This must have innovation at its core, and a clear vision that staff and senior management alike can grasp. Everyone needs to know that learning and non-linear career development is something the organization values and actually views as a priority.

Similarly, it must be clearly demonstrated that the training is relevant and useful for staff. Learning solutions must be aligned to the larger goals and targets of the business, with a clear agenda outlined as to why a learning culture matters. The future of work demands skills based around problem-solving, decision-making and critical thinking, along with deep understanding of disruptive technologies that are impacting the new world of work and employees.

Changing an organization's culture can be a lengthy and involved process, but it is a necessary one. Businesses that can provide their employees with not only the tools they need to perform their tasks but also the opportunity to enhance their existing skills will be best placed to compete effectively in the ever-changing digital economy. It may sound drastic, but to survive and thrive in the digital transformation era companies need to train their workforce to be ready for anything.

Based on the experience gained in the program fit4future, that is dealing with the human factor in the digital transformation at Swiss Railways SBB you will get - an overview of the key drivers of digital transformation in the railway and transport industry that require innovation in corporate training - concrete examples of how to change from a linear to a strategic planning of job areas and competence development - insights of innovative approaches that lead from a blended learning approach to learning journeys - Information about the changes of the role of corporate training, trainers, employees and leaders.

The railway and transport industry is undergoing a huge transformation driven by new technologies, more competition and increasing customer demand. To keep a key role within the mobility ecosystem, railway companies adapt their business models and production processes. In addition, it is essential as a company to remain an attractive employer and assure qualified people today and for the future.

As the pressure on productivity is increasing and at the same time, new competences are required, corporate training becomes a significant role in the strategy management and the value chain. Therefore, corporate training needs to improve and implement innovative approaches to assure the right competences at the right moment and the right place in an effective and efficient way.

Swiss railways SBB launched in 2016 the program fit4future. Its aim is to raise awareness and qualify employees and leaders (in total 33'000) for the digital transformation and to assure the sustainability of the SBB. The program comprises around 15 projects that cover five main areas: - Planning the future required competences based on changes in and of job areas - Raise awareness for the need of change and reduce anxiety - Develop competences with innovative learning approaches - Increase team performance and agility - Establish appropriate learning conditions Overall, there are two main areas of innovation: First, there is a shift from a linear to a strategic planning of job areas and competence development. Corporate training and HR play an important role in estimating the changes of job areas and the future required competences in a company. Based on the results of our "job area analyses" we have carried out for 30 job areas and we continuously develop further, employees get transparency on how and why jobs change at SBB and what possibilities are offered to develop their own competences. The results serve also as a common starting point for strategic workforce planning (sourcing, recruiting and training), health prevention and the implementation of new technologies. Second, there is a need of innovation in the way employees and organizations learn. The traditional learning approach of blended learning is complemented and sometimes even replaced by learning journeys and self-organized learning. General digital competences, as basic key competences for example, are developed with the help of our "DigiCheck", an instrument for self- evaluation and with automatically customized learning journeys and open learning communities. To increase productivity in the business and enable self-organized learning, learning journeys in 3D- simulation and virtual classrooms are further developed and implemented as exclusive learning settings as well as on the job trainings. Innovative instruments and cool software alone do not guarantee successful implementation. The presentation will also cover obstacles we had to overcome, as anxiety of employees, new roles of trainers and leaders as well as new forms of collaboration with unions.

### Digital Transformation in the Mobility Ecosystem



Increasing demand



Changing customer expectation



Higher competition

## Training as a success factor in digital transformation

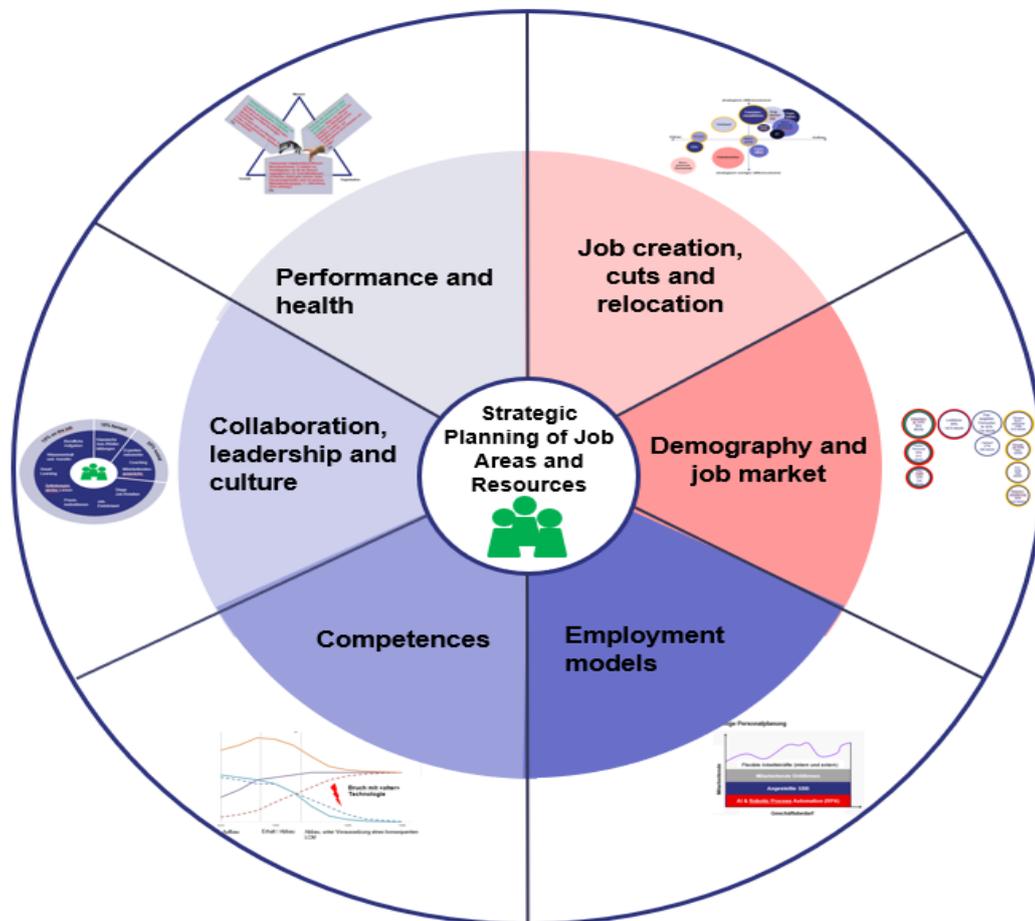
- Skilled and engaged employees increase profitability (+21%)
- 58% of executives assume that companies should take the lead in addressing the competence gap
- 87% of professionals believe in the need to get training and develop new competence throughout their work life to keep up with changes in the workplace



## Strategic Planning of Job Areas and Resources

- Mid- and longterm forecast of future required competences
- Indicator based analyses of changes of job areas

- 2018/2019: analysis of 33 job areas



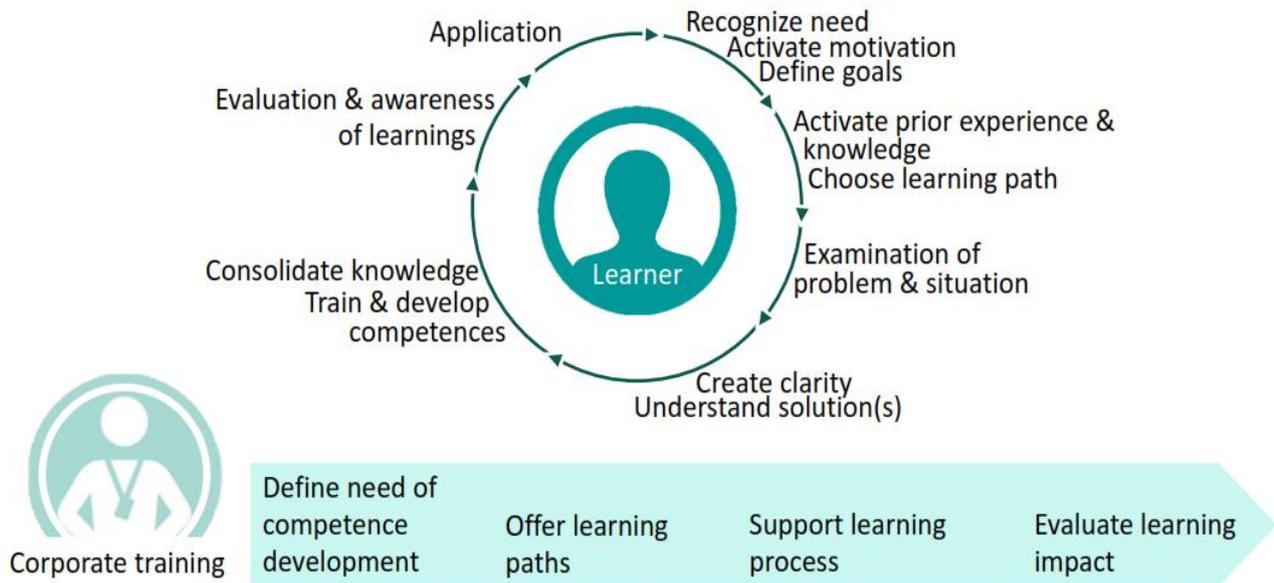
### Results of job area analysis: Key competences

- Ability to solve problems
- Self -competence
- Capacity to act
- Analytical skills
- Digital competence
- Vigilance
- Customer orientation
- Entrepreneurial thinking





# Optimization of learning process.



## From a blended learn setting...

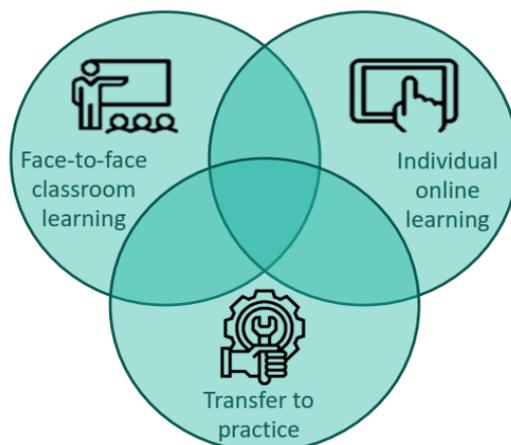
- Ordered learn offers by the business
- 80% developed in house, 20% externally bought
- Published and booked via LMS
- Tracked in individual learning history

Examples at SBB

Total of 2500 learning offers

- 75% of newly developed offers digitalized
- Same or slightly higher learning results
- Annual cost reduction of 5.3 million CHF by digitalized learning offers (reduced travel expenses, higher productivity in business...)

## From a blended learn setting...

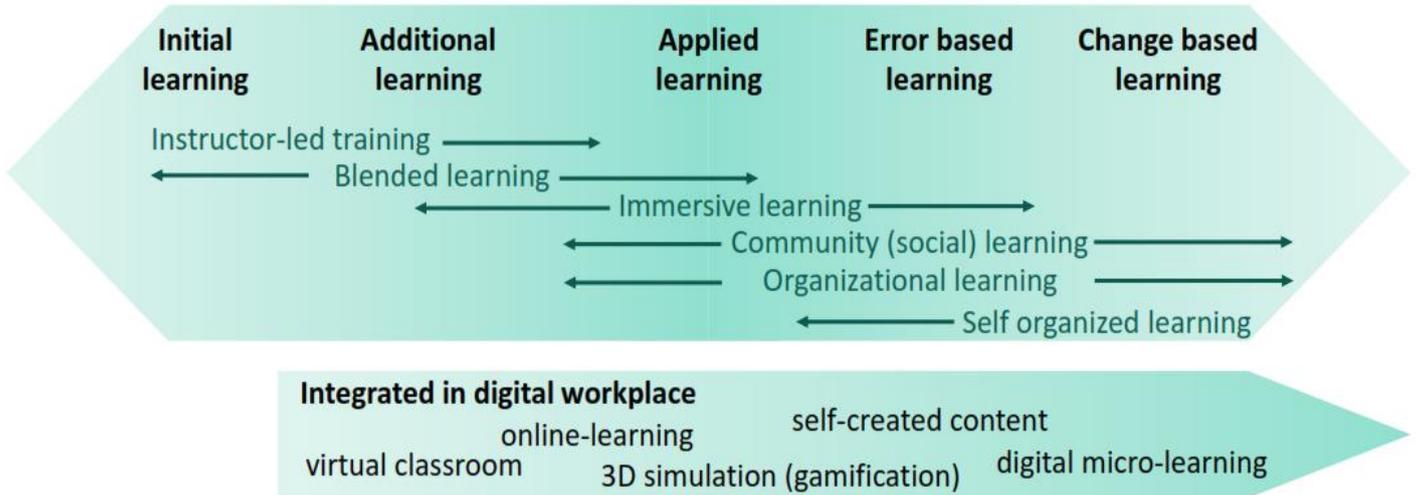


# To formal and informal learning opportunities.

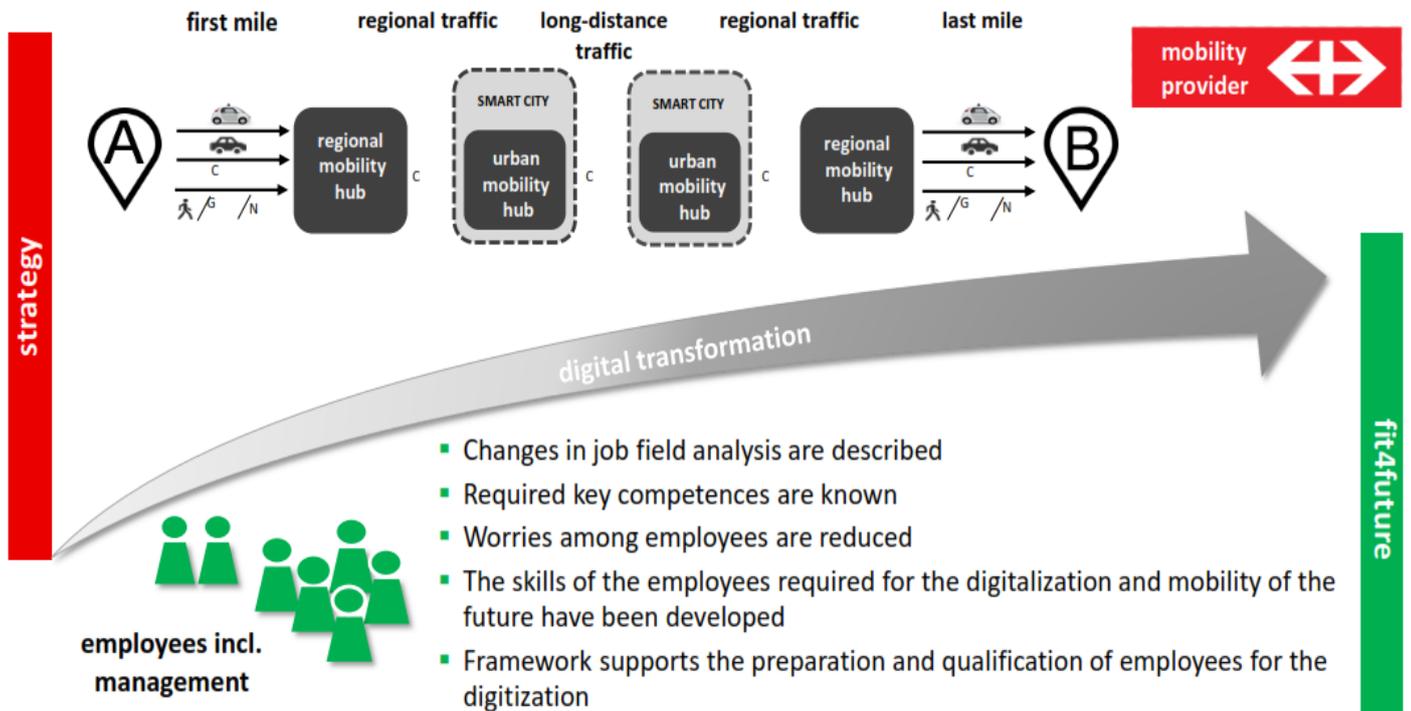


**Formal, content based learning:**  
Specific, systematic learning achievements

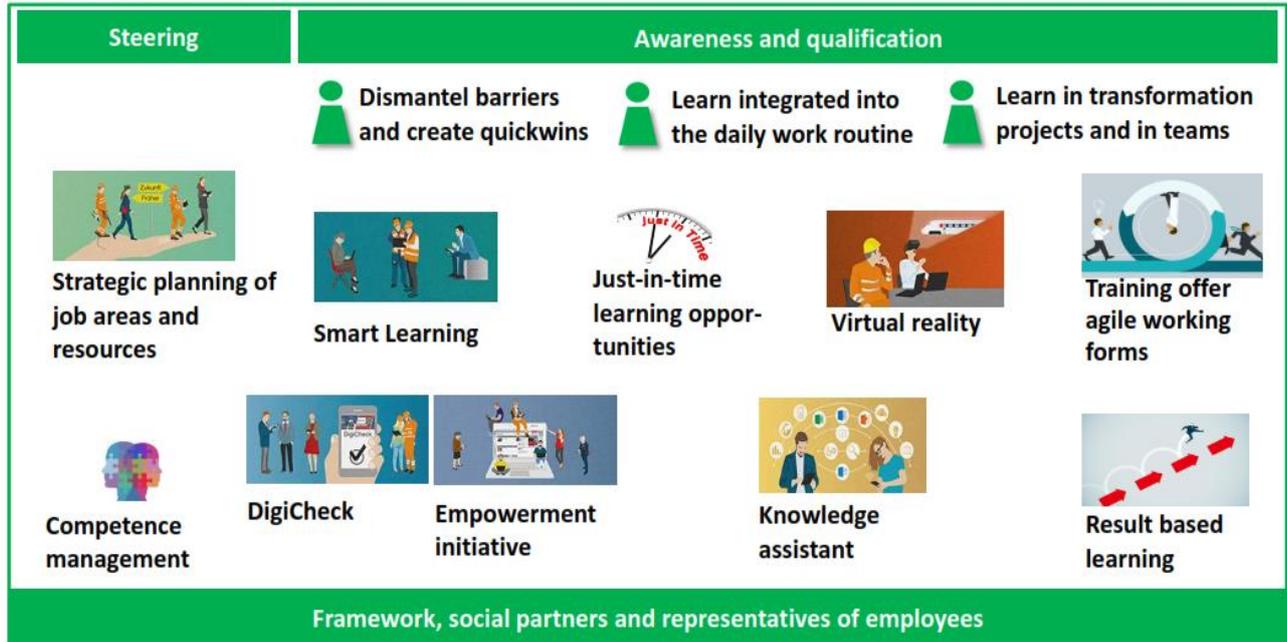
**Informal, social learning:**  
Proficiency



# Programm fit4future.



# Action fields.



## General digital skills: Goals evaluation

1. Raise awareness of importance of general digital skills
2. General digital fitness based on need based competence profile
3. Findings about the level of self-organized learning competences

## Virtual learning journeys: Goal and method.



Build-up basic knowledge



Exchange, deepening, ensuring of understanding



Development of professional competencies



Maintaining competencies

## Virtual learning journeys: Some results

Experienced with 40 employees in 4 professions Employees benefit from:

- Need based learning at any time and any place close-to-working-reality conditions
- As many repetitions as needed
- Motivating and interactive learn settings
- Interdisciplinary learning
- Joint training with virtual presence
- Higher satisfaction due to higher

Visibility the company benefits from:

- Increase in productivity (due to less mechanical load of assets and rolling stock)
- Lower costs (travel expenses, payment of trainers, costs for assets and rolling stock, costs for security procedures, occupancy costs and lower participant costs thanks to efficient knowledge transfer)

## Roles of a trainer.



## **10 key learning:**

### **Positive conditions**

- 1 Digital device for all employees
- 2 Direct support by executive / governing board
- 3 Enough time

### **Challenges**

- 4 Restrictive conditions for individualized , informal learning
- 5 Learning estimated as non-productive time
- 6 Fear of leaders of not being experts anymore

### **To continue**

- 7 Find new ways of collaboration with unions
- 8 Foster dialogs with employees
- 9 Merge operation, collaboration and learning
- 10 Do it with passion

*We cannot teach people anything;  
We can only help them discover it  
within themselves.”*

Galileo Galilei (1564-1642)



# **Chapter 3**

## **Conclusion**



**The Future success of your company is with innovative training.**

**Properly training employees to perform their best is key to the success of any company.**

We are witnessing today the emergence of development and modernization projects planned for the railway sector. The strategic plan for development of Middle East Railways seeks to raise the rail productivity for both passenger and freight. A need to develop a predictive maintenance policy in the early phases of this plan must be accompanied by a high level of skills and human capital in terms of expertise both qualitatively and quantitatively. Training, as one of the most important priorities of the Middle East Strategic Action Plan, should be expanded to a large number of people to renew the potential of expertise and supervision in the sector. On the other hand, the mapping of the proposed higher training deserves to be developed in terms of specialized training in the railway sector, particularly in infrastructure maintenance, safety, and security to meet the needs of these extended infrastructures and the recruitment of the management staff and experts.

In today's knowledge-based society, companies are being challenged to become learning organizations and to implement the trends quickly. If companies do not undergo or refuse to embrace this change, they will lose the battle for skilled labor and will no longer be competitive.

Today's rail sector is both knowledge-driven and interdisciplinary. To achieve a high level of quality and reliability, companies in the rail sector need to remain aware of all of the issues and challenges surrounding rail transport.

An in-depth knowledge of quality, safety, environmental and legislative issues will enable our organization to remain responsive to current and future developments.

Employee training is an inevitable aspect of a growing organization. It not only develops the individuals' skills but it also increases business's worth and growth rate. An organization that offers a strategic employee training program, keeping every aspect of the organization and employees' training needs into consideration, is the one who establishes the best customer portfolio.

Moreover, it helps employees as well as the business to develop itself with time and to stand out from the rest. It brings satisfaction, happiness, and confidence amongst employees and helps them to perform better. Similarly, corporations that take employees training and development as a crucial and important business practice are always advancing in the diverse working environment and never fail to bring new ideas for the organization's improvement.

Keeping staff fully trained in all aspects of their role not only allows for greater workplace synergy and greater productivity, it also gives employees a tangible sense of progression and achievement.

As they learn new skills and take on greater responsibilities, they feel more satisfied that their role is valuable, subsequently improving workplace morale and reducing staff turnover.

Nonetheless, a strategic employee training program is the one that starts with hiring a new employee and continues throughout their employment.

Good designing of training paths for learning and assessment of technical skills is critical to ensure high quality execution on railway construction and maintenance operations according to updated procedures, standards and rules.

A commitment to training and development has been central to the company's success. The technical training courses equip employees to safely operate a large, complex, and technologically advanced rail network.

Traditional employee training process can become monotonous, resulting in diminishing engagement and poorer results. But... you can make employee training sessions exciting with the help of a few creative techniques!

**Beat the humdrum associated with staff training and excite your employees with some innovative methods:**

1. Integrating Elements of Gamification
2. Encouraging a High Feedback Environment
3. Utilizing innovation
4. Involving Customer Success
5. Blending e-learning Methods
6. Using Interactive Software Guides
7. Using simulation in training

Instructional designers can identify when gamification is appropriate and use science-based techniques to better meet their organization's training needs. Thus, we hope this booklet aids understanding of gamification in the use of game elements in a science-driven way in both research and practice.

The booklet suggests that gamification of training, including the use of points, badges, leaderboards, challenge, narrative and immersion, can be used to positively affect learning outcomes.

Innovation training can help make your business more flexible and resilient to disruptive changes in your industry.

By engaging in training designed to foster innovation, employees can learn and be inspired to create new solutions to old challenges that are more effective and efficient than previous methods.

## **Conclusion & Recommendation**

### **Conclusion**

In conclusion, we all know that training programs are important for an organization to develop the employee. When a child was born, he required constant touch of parents till he stood on his own feet. An organization though flowered by creams of the society, still training is required due to rapid technological upgradation and change in working methods every day. Training aims at continued self-development of the employees. Employees are expected to develop themselves continuously in an organization. When the employees in an organization are developed from time to time with all updated knowledge, then definitely that organization will grow to a greater height.

### **Recommendation**

Both employees and companies are concerned with developing future skills and managing careers. Companies want a work force that is motivated and productive, has up-to-date skills, and can quickly learn new skills to meet changing customer needs. Employees want to develop skills that not only are useful for their current jobs but also are congruent with their personal interests and values. Employees are interested in developing skills that can help them remain employable with either their current employer or a future one. Given the increasing time demands of work, employees are also interested in maintaining balance between work and nonworking interests.

The result of the training program should also be analyzed and training should be arranged periodically. Company has to introduce effective training in every department of the firm so as it helps to learn more knowledge in the subject. Give computer based training to the employees once in every three months. Provide employees motivation programs and other training programs for the development towards profit making. On the job training and off the job training is equally important. Provide both the training continuously to the employees. Ensure that there is a proper linkage among organizational, Operational, and individual training needs Skill based training (Product / Process Training) should be provided.

Stress management training is more important for the employees as it was observed that people are all the time in tension like situation as to how to do what to do , no time and things like that kept them tensed all time.

Conclusion of training can have different meanings for different businesses. Generally speaking, training expands the knowledge of employees in the career of their choice.

Training aims at continued self-development of the employees. Employees are expected to develop themselves continuously in an organization. When the employees in an organization are developed from time to time with all updated knowledge, then definitely that organization will grow to a greater height.

A good training program can help safeguard against holes in your team's knowledge.

Everyone is different and we do not all learn in the same way. Many of us learn using a combination of “learning styles” which can include visual, audio, reading and kinesthetic.

As the trainer, it is up to you to make sure you are doing everything you can to keep your trainees engaged and interested. It won't matter how good your content is or how much planning you have done, if your delivery is boring, rushed, or confusing. Making these mistakes will lead to your trainees not only becoming disinterested or disengaged, but they also won't be learning.

Training is crucial for organizational development and success. It is fruitful to both employers and employees of an organization. An employee will become more efficient and productive if he/she is trained well.

Training is given on four basic grounds:

1. New candidates who join an organization are given training. This training familiarizes them with the organizational mission, vision, rules and regulations and the working conditions.
2. The existing employees are trained to refresh and enhance their knowledge.
3. If any updating and amendments take place in technology, training is given to cope up with those changes. For instance, purchasing a new equipment, changes in technique of production, computer implantment. The employees are trained about use of new equipment and work methods.
4. When promotion and career growth becomes important. Training is given so that employees are prepared to share the responsibilities of the higher level job.

**Training is not just important to any company, it is vital.**

Training presents a prime opportunity to expand the knowledge base of all employees, but many employers in the current climate find development opportunities expensive. Employees attending training sessions also miss out on work time which may delay the completion of projects. However despite these potential drawbacks, training and development provides both the individual and organizations as a whole with benefits that make the cost and time a worthwhile investment. The return on investment from training and development of employees is really a no brainer.

Training is needed to serve the following purpose:

- 1) Newly recruited employees require training so as to perform their tasks effectively. Instructions guidance and coaching help them to handle jobs competently without any wastage.
- 2) Training is necessary to prepare existing employees for higher level jobs (promotion)
- 3) Existing employees require refresher training so as to keep abreast of the latest development in job operations. In the face of rapid technological changes, this is an absolute necessity.
- 4) Training is necessary when a person moves from one job to another (transfer). After

training the employee can change job quickly, improve his performance levels and achieve career goals comfortably.

5) Training is necessary to make employees mobile and versatile. They can be placed on various jobs depending on organizational needs.

6) Training is needed to bridge the gap between what the employees has and what the job demands. Training is needed to make employees more productive and useful in the long run.

7) Training is needed for employees to gain acceptance from peers (learning a job quickly and being able to pull their weight is one of the best ways for them to gain acceptance.

Training is seen as an additional company benefit. Recruitment costs therefore go down due to staff retention.

Having a strong and successful training strategy helps to develop your employer brand and make your company a prime consideration for graduates and mid-career changes. Training also makes a company more attractive to potential new recruits who seek to improve their skills and the opportunities associated with those new skills.

Training can be of any kind relevant to the work or responsibilities of the individual, and can be delivered by any appropriate method.

Many organizations keep the internal hiring policy for employees and help them in moving up in better positions. Similarly, when an employee spends a considerable time in a position, he/she may be considered for a better managerial position. Hence, when an organization holds such practices then managerial training is inevitable.

Organizations in which employees receive continuous training remain on the cutting edge of industrial developments. Regardless of whether the training is conducted in the form of full-fledged scheduled training sessions or one-on-one format, employees are always in need of refreshers and training so that they perform their jobs well and contribute maximum in achieving business goals.

Top companies take employee training and development as a business investment because they understand that, this investment eventually pays off – both on an individual and organizational level.

From an organization's perspective, employee training results in:

- Profit and growth
- Deeper skill succession pipelines
- Reduced turnover rate

From an employee's point of view, training and development are crucial for:

- Career progression
- Financial growth
- Enhanced productivity and competency

As you hone the development process of every role, your business objectives get clearer and your employees get the right direction to succeed and grow in their future job roles.

### **Our benefits from training at a glance**

- **Increase efficiency** – with training that combines applied theory with practical experience in the rail sector.
- **Minimize risk** – with a workforce that is up to date on standards and regulations, allowing it to pinpoint issues before they impact your operations.
- **Gain a competitive edge** – by applying knowledge of various rail disciplines to interdisciplinary solutions for your customers.

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