

A New Model for Training Evaluation in The Banking Industry

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ABSTRACT

Various models for evaluating the effectiveness of training programmes have evolved over the last 50 years, such as Kirkpatrick's 4-level model, Stufflebeam's CIPP model, Hamblin's 5-level model, etc. In this context, Kirkpatrick's 4-level model is mostly used. Although the model has served the training community well, there is a need for a more sophisticated typology and more diagnostic and rigorous assessments of learning outcomes.

In the current study, the researcher has discussed various models for evaluating the effectiveness of training programmes in general, critically evaluated the difficulties associated with these models, assessed their relevance in the service industry in the present scenario, and suggested a new model to make the evaluation of effectiveness of training easy and

affordable for banking organizations. The new model was tested in a national level banking organization involving 332 participants in 18 different training programmes hailing from different branches across India. 40 different variables, both independent and dependent, were tested with the help of as many as 80 hypotheses. The validity and reliability of results were tested through z-test and chi-square test(s). The major findings, apart from creating a new model for evaluating the effectiveness of training programmes, included that it is the “**process**” (and not “**outcome**”) of training, which is to be evaluated for its effectiveness, in order to ensure the effectiveness of the training programmes.

Key words : *Training; Evaluation; Effectiveness; Models; Outcome; Process.*

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Introduction

Training is an organized procedure through which knowledge and skills for a definite purpose are imparted to employees in an organization (Beach, 1985). Training is just one (but expensive) solution to organizational and individual performance problems. Hence, questioning the effectiveness of this solution is inevitable. In this perspective, the 4-level model (Kirkpatrick, 1959) is widely used. The model distinguishes between reaction outcomes (trainee's perceptions of the training), learning outcomes (achievement of the training objectives), job behaviour outcomes (behaviour after the completion of training) and organizational outcomes (organizational result of the training, including return on investments). Although the model has served the training community well, there is a need for a more sophisticated typology and more diagnostic and rigorous assessments of learning outcomes (Salas & Cannon-Bowers, 2001).

The purpose of this study was to use an integrated (at the individual and the organizational level) system for evaluating the effectiveness of training programmes. The central question in this study was: 'How to evaluate the effectiveness of training programmes?'

This study, which was exploratory, descriptive as well as empirical in nature, was mainly focused on a leading banking organization in central India. The methods used were literature review, focus-interviews, document-analysis, modelling and survey-research. Additionally, for each type of training, several programmes in the organization were selected to participate in the study. The necessary measurement instrument was developed to measure the effectiveness (at the individual and the organizational level) of each type of training programme.

Objectives of the Study

Reviewing the literature on existing models for evaluating the effectiveness of training programmes;

assessing their relevance in the service industry in the present scenario; proposing and testing a new model for evaluating the effectiveness of training programmes in the banking industry; were the prime objectives of the study.

Review of Literature

The "Four Level Model" (Kirkpatrick, 1959) sets out different levels (not intended as a hierarchy but rather an indicator of the different levels at which training can be evaluated). At Level 1, through **reaction**, we want to know what the participants thought of the programme. At Level 2, through **learning**, we want to know what changes in knowledge, skills or attitude the participants achieved. At Level 3, through **behaviour**, we want to know what changes in 'on the job' behaviour and learning are being applied by the participants. At Level 4, through the **results**, we want to know how organizational performance has changed in terms of results and/or return on investment, attributable to the training programme in question. This model is an evaluation tool already used by most of the organizations and provides a pragmatic approach to determining the impact of training on the individual, their team and the wider institution.

CIPP Model (Stufflebeam, 1966) basically talks about four levels – context evaluation, input evaluation, process evaluation and product evaluation. The purpose of **Context Evaluation** is to "provide a rationale for the determination of objectives." Also, unmet needs are identified, reasons they are unmet hypothesized, and the curriculum environment defined (who, what, when, where, why). The purpose of **Input Evaluation** is to "provide information for determining how to utilize resources to achieve project objectives." Other purposes are the analysis of goals and objectives, resources and experiences to be used to meet goals, and the comparison with alternative programmes and strategies. There are three main objectives of **Process Evaluation**, "to detect or predict defects in the procedural design or its

implementation during the implementation stage; provide information for programmed decisions and to maintain a record of the procedure as it occurs." For the purpose of **Product Evaluation**, the formative and summative data are needed. Also needed are the rational interpretations on the basis of the recorded context, input, and process information.

Congruence-Contingency Model (**Stake, 1969**), also known as the Countenance Model lays its emphasis on the data that needs to be collected on the basis of "**Antecedents**" (i.e. conditions existing before the treatment begins), such as students' attitude, achievement levels, attendance, etc. and teachers' attitude, years of experience, etc.; "**Transactions**" (i.e. the interactions among students, teachers, materials, and environment), such as the teaching-learning process; "**Outcomes**" (i.e. the consequences of the programme), such as cognitive, affective, personal, community-wide, immediate, and long-term outcomes. The model also talks about evaluating data on the basis of what was intended and what was actually observed. **The idea is to find whether the outcomes were contingent upon the antecedents and the transactions.** Greater is the congruence between the intended and the observed outcomes, the better.

CIRO Model (**Warr et al., 1970**) gives importance to evaluation, in terms of context, input, reaction and outcome. The **Context Evaluation** is a collection of information about performance deficiency and setting the objectives with three levels - immediate, intermediate and ultimate. The following questions are relevant during the **Input Evaluation** - What are the relative merits of the different HRD methods? Is it feasible for an outside organization to be more efficient at conducting the programme? Should it be developed with internal resources? Should the line managers be involved? How much time is available for HRD? What results were achieved when a similar programme was conducted in the past? The **Reaction**

Evaluation includes subjective reports of the participants about the whole programme. And finally, the **Outcome Evaluation** defines training objectives, selects and constructs some measures of those objectives, makes the measurements in the appropriate time, and ultimately assesses the results and uses them to improve future programmes.

"Responsive Evaluation Model" (**Stake, 1975**), just like the Eisner Connoisseurship Model, focuses on describing activities and processes rather than on test scores and outcomes. It seeks to "tell the story of the programme". It is a ten-step formal evaluation plan consisting of negotiating a framework for evaluation with the sponsors; eliciting topics, issues and/or questions of concern from the sponsors; formulating questions for guiding the evaluation; identifying the scope and activities of the curriculum - the needs of clients and personnel; observing, interviewing, preparing logs and case studies; paring down information, identifying the major issues or questions; presenting initial findings in a tentative report; analysing reactions and investigating dominant concerns more fully; looking for conflicting evidence that would invalidate findings and corroborating evidence that would support findings; and lastly, reporting the results.

"Connoisseurship Evaluation Model" (**Eisner, 1985**) focuses on the process itself, viz. what took place; who participated; and what did they think of the experience. It follows the model of criticism and evaluation of art. It is based upon "**referential adequacy**" and "**structural corroboration**" instead of scientific validity. **Referential adequacy** means that critical observations and interpretations must be empirically grounded (must be able to be replicated by independent observers). **Structural corroboration** means that there must be continuous inquiry about whether the various parts of the criticism fit together as a consistent whole. The criticism should

communicate to the public, what is going on in the school.

In the “**Cost Benefit Analysis**” of training programmes (**Gilley & Egglund, 1989**), the authors have explained at length about how to compare the cost and benefit of the training programme to be conducted, and give a suitable assessment report to decide whether to go ahead with the training programme or not. They have demonstrated how to suitably convert the benefit of the training programme into monetary values and then compare it with the costs incurred on that training programme. Cost-benefit analysis shows programme costs and evaluates them against the benefits.

IPO (Input, Process, Output, and Outcome) Model (**Bushnell, 1990**) distinguished between output and outcome of the training. It laid emphasis on the **Input**, which means evaluation of system performance indicators such as trainee qualifications, availability of materials, appropriateness of training, etc.; the **Process**, which means planning, design, development, and delivery of training programmes; the **Output**, which means gathering data resulting from the training interventions; and ultimately the **Outcomes**, which means long-term results associated with improvement in the corporation's bottom line - its profitability, competitiveness, etc.

“Organizational Elements Model” (**Kaufman, 1992**) promotes an assessment strategy involving four levels of analysis. The first level emphasizes on '**Audit or cost**' - cost based solely on inputs, looks at reductions of cost between old and new resources. The second level emphasizes on the '**Products**' - the building blocks of a product or service within an organization that contribute to the overall product or service (e.g., automobile fenders). The third level emphasizes on '**Outputs**' - products or services that are delivered to external clients. The fourth and final level emphasizes

on '**Outcomes**' - the value of the outputs (the aggregated products or services) delivered to external consultants and their clients, and ultimately to society.

TVS approach (**Fitz-Enz, 1994**) stands for Training Validation System. This is also a four-level model emphasizing on the '**Situation**', i.e. collecting pre-training data to ascertain current levels of performance within the organization and defining a desirable level of future performance. The second level is '**Intervention**', i.e. identifying the reason for the existence of the gap between the present and desirable performance to find out if training is the solution to the problem. The third level is '**Impact**', i.e. evaluating the difference between the pre- and post-training data. And the fourth level is '**Value**', i.e. measuring differences in quality, productivity, service, or sales, all of which can be expressed in terms of dollars.

Since the introduction of Kaufman's four-level OEM model, many researchers have used it as a viable framework for evaluation. Others, though, have found it restrictive and have attempted to modify and/or add to it. **Kaufman et al., (1996)**, for example, later added levels of impact that go beyond the traditional four-level, training-focused approach which they felt did not adequately address substantive issues an organization faces. Such modification to the model resulted in the addition of a fifth level, which assesses how the performance improvement programme contributes to the good of society in general as well as satisfying the client. On level one, it is the evaluation of '**Enabling**' where the focus is on the availability and quality of human, financial, and physical resources input. The suggested level is 'input level'. Another evaluation on level one is of '**Reaction**' where the focus is on the methods', means', and processes' acceptability and efficiency. The suggested level is 'processes level'. On level two, it is the evaluation of '**Acquisition**' where the focus is on the individual and

small group mastery and competency. The suggested level is 'micro level'. On level three, it is the evaluation of '**Application**' where the focus is on the individual and small group (products) utilization within the organization. The suggested level is 'micro level'. On level four, it is the evaluation of '**Organizational output**' where the focus is on the organizational contributions and payoffs. The suggested level is 'macro level'. On level five, it is the evaluation of '**Societal outcomes**' where the focus is on the societal and client responsiveness, consequences and payoffs. The suggested level is 'mega level'.

“Return on Investment” (ROI) approach (Phillips, 1997) argues on the evaluation of training programmes to assess the return (or the benefit) to the organization from the training programme, which has been concluded, as compared to the investments made by the organization on that training programme. Return on Investment (ROI) is a traditional financial measure based on historic data. It is a backward-looking metric that yields no insights into how to improve business results in the future. In educational organizations, ROI has been used primarily for self-

In yet another work on effectiveness of training programmes, the authors extensively write about the status of training evaluation in commercial banks (**Ganesh & Raghurama, 2008-09**). They argue that a large number of organizations, including banks, have set up their own training institutions or staff training colleges to train their employees at different levels. Training should be able to improve the capabilities of the employees by enhancing their skills, knowledge and commitment towards the work. But there is hardly any guarantee that training contributes to improved performance. Thus, measurement of training effectiveness is the best feedback measure to assess whether the training is able to deliver the goods as per the expectations. It is the evaluation of the training

that acts as an important tool of measurement to know how well training inputs are serving the intended purpose.

In a recent study, the association between organizational identification, employee engagement, turnover intention and the moderating role of Organizational Role Stress (ORS) has been investigated. Utilizing Conservation of Resources (COR) theory and a sample of 378 managers from the hospitality industry in India, the researchers found that organizational identification was positively related to employee engagement and negatively related to turnover intention (**Kapoor et al., 2019**).

Stress leads to increased employee turnover and lays the emphasis for our current research, relying on “process” and not on the “outcome” of the training as the indicator of effectiveness of the training programme.

Critical Analysis of Available Literature

The evaluation approaches given by **Kirkpatrick (1967)**, **Warr, Bird and Rukham (CIRO, 1970)** and **Hamblin (1974)** act as the base to design the training strategy for trainers and consultants who are confused by the evaluation process. They have stressed hard to include the evaluation process wherever there is training.

The 4-level evaluation model (**Kirkpatrick, 1967**) introduced techniques such as Reaction, Learning, Behaviour and Results of training evaluation. It is important to know how people feel about the programmes they attend. As the decisions by the top management are frequently made on the basis of comments they receive from the participants, a favourable reaction to the programme does not assure learning. The extent to which the principles, facts and techniques are understood by the trainees comes under learning. A systematic appraisal of on-the-job

performance should be made at pre- and post-training periods, to know the changes in the job performance of the participants. The results technique can be stated in terms of reduced turnover, reduced cost, improved efficiency, reduction in grievances, increase in quality and quantity of production and/or improved morale to evaluate training programmes directly in terms of results desired. The purpose of Kirkpatrick approach of evaluation is to stimulate the people to take a penetrating look at evaluation of training. The trainer can also gradually progress from a simple subjective reaction sheet to research design that measures tangible results.

The CIRO approach (**Warr et al., 1970**) uses context, input, reactions and outcome (Output) evaluations to strengthen the training system. Context evaluation begins by addressing the assessment of training needs and objectives, and issues which need to be changed. Input evaluation uses facts and opinions about the available human and material training resources and analyses the merits and demerits of alternative training methods. Reaction evaluation is significant in the light of obtaining the reaction of the participants regarding the training to improve the training process. Outcome evaluation, which is also called as process evaluation, encompasses measuring of the consequences of training (immediate changes in knowledge, skill and attitude; intermediate changes in on-the-job performance; and ultimate effect of job performance on the organization) in terms of Immediate, Intermediate and ultimate Outcomes.

The five levels of evaluation of training (**Hamblin, 1974**) are reactions, learning, job behaviour, organization and ultimate value. Hamblin considers these five levels as a well-knit chain that may snap at any of its links. A trainee may react correctly, but he may fail to learn or apply it on the job or may change his behaviour, but this may have no effect on the organizational variables; or the organization may

change. But this may have no effect on the profits or the ultimate criteria. The task of the evaluator is to discover whether the chain has held through its entire links. If it has not, he should be able to find the reasons for the snapping of links and can make some suggestions on how it should be mended. Hamblin goes beyond the trainee's job behaviour and studies the effects of any behavioural changes on the functioning of the firm, and from this, he tries to discover whether training has been worthwhile in terms of ultimate criteria by which the firm evaluates its activities. He labels the 'ultimate level' the cost efficiency level, which answers the question whether the financial benefits resulting from training are greater than the financial cost of training. These evaluation approaches provide a balanced strategy to bridge the gap between evaluation theory and evaluation in an action setting.

The ROI adds a fifth level to Kirkpatrick's study for a genuine reason. There are some pros and cons of calculating ROI of a training programme. The costs of training are known and expressed in monetary terms, but the benefits are often soft, subjective, and difficult to quantify and convert into monetary terms. Costs are known upfront, before training, but benefits may accrue slowly over time. But on the other hand, course objectives and content will become more lean, relevant, and behavioural, with focus on monetary results rather than on the acquisition of information. And by calculating ROI on the courses, wherever it is possible, it is more apt to be trusted on outcomes of such programmes, rather than evaluating only four levels (**Parry 1996, 72**).

Though “Kaufman's Five Levels of Evaluation” model removes the shortcomings of Kirkpatrick's four-level approach to some extent, the complexity also increases to one more level. At Level 5 is the evaluation of societal and client responsiveness, and consequences in payoff. This moves evaluation beyond

the organization and examines the extent to which the performance improvement through the programme has enhanced society and environment surrounding the organization. However, it is practically difficult to measure the effectiveness of the training beyond the organization (**Phillips, 1997**).

The four-level approach originally developed by Warr, Bird, and Rackham, (i.e. CIRO - Context, Input, Reaction, Outcome) is a rather unique way to classify evaluation processes. Originally used in Europe, this framework has a much broader scope than the traditional use of the term “evaluation” in the United States. As with other approaches, four general categories of evaluation are described, which form the letters CIRO (Context, Input, Reaction, Outcome). Context evaluation includes obtaining and using information about the recent operational conditions or context to determine training needs and objectives. Input evaluation includes gathering and using information about possible training resources to select between alternative inputs to training process. Reaction evaluation includes obtaining and using information about the learner's reactions to improve the training process. Outcome evaluation includes gathering and using information about the findings and outcomes of training, and is generally regarded as the most important part of the evaluation. If outcome evaluation is to be successful, it needs careful preparation before the training programme begins (**Phillips 1997, 39 & 41**).

The Kirkpatrick model is now nearly 45 years old. Its elegant simplicity has caused it to be the most widely used method of evaluating training programmes. ASTD's (American Society for Training Development) survey, which reports feedback from almost 300 Human Resource executives and managers, revealed that 67% of organizations that conduct evaluations use the Kirkpatrick model. Though the model is widely respected and provides an appropriate and useable

framework for analysis, it becomes increasingly difficult to measure the effectiveness of the training programmes as one moves from Level – 1 to Level – 4 (**Stone & Watson 1999**).

The Five Level Return on Investment Framework (ROI) is a measure of the monetary benefits obtained by an organization over a specified time period in return for a given investment in a training programme. Looking at it another way, ROI is the extent to which the outputs of training exceed the inputs. ROI can be used both to justify a planned investment and to evaluate the extent to which the desired return was achieved. However, it cannot measure all the aspects of training success: whether the learners liked the training or not, the number of learners participating in the training, and the extent to which learners' personal objectives were accomplished (**Shepperd, 1999**).

In general, when we analyse the available literature on training evaluation, we can conclude that most of the models are outcome / result based. All these models were working well with manufacturing organizations, wherein, the employees used to join at an early age and then would continue working in the organization till their retirement. But, with a rapid growth in the service industry over the last several years, as also the increase in competition due to the presence of multinationals, it has become practically difficult for organizations to keep one employee tied with one job for years. Hence, job rotation has become the need of the hour. And, when the employees are not entrusted with one job for more than 6 months, **the higher level of evaluation, viz. Kirkpatrick's Levels 3 & 4, is not justified, since the concerned employee is no longer working in that area for which he/she was trained.** Therefore, there is hardly any applicability of these models in the service industry.

On the other hand, due to over-ambitiousness, there is an increased tendency among employees to change

jobs frequently. Therefore, organizations are in a fix over the investments in training and development. In such a scenario, it is very necessary for researchers and professionals in the area of HR, to come up with a training evaluation model which is “**process**” based rather than being “**outcome**” based. This will result in the training programme being better planned, executed, monitored and controlled.

The Proposed Model

The proposed model for evaluating training programmes can be called as the “**P3 Model**”, since it relies on the evaluation of three different phases of training, i.e. “**Pre-training phase**”, “**Pro-training phase**” and the “**Post-training phase**” (i.e. all the three words starting from “**P**”).

In this model, we have divided the “**process of training**” into 3 different phases, namely, “**Pre-training phase**”, “**Pro-training phase**” and “**Post-training phase**”; each phase is then sub-divided into a number of factors, namely, “**Pre-training factors**”, “**Pro-training factors**” and “**Post-training factors**”, which, if ensured, will lead to the effectiveness of training programmes. Therefore, we have to measure the effectiveness of these factors in 3 different phases of training in order to conclude whether the training programme was effective.

The **pre-training factors** are defined here as the “**conditions, which should be ensured by the organization for its effectiveness, before sending the concerned employee for the training programme.**” It is in fact, the learning ability of the trainee, which is to be ascertained by the organization well before the concerned employee is selected / nominated for the training programme (Saxena & Vyas, 2011).

The **pro-training factors** are defined here as the “**conditions, which should be ensured by the**

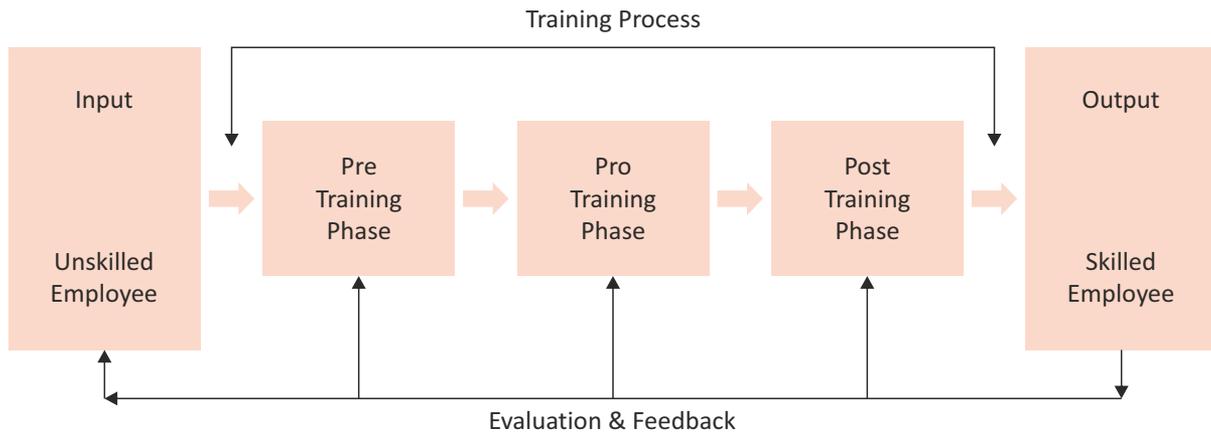
organization for its effectiveness during the ongoing training programme.” It is in fact, the efficacy of the trainer and training centre, which is to be ascertained by the organization before or during the ongoing training programme (Saxena & Vyas, 2010).

The **post-training factors** are defined here as, “**the conditions which should prevail in the organization at the time of (or well before) arrival of the employee after learning a new skill, in a recently concluded training programme.**” It is in fact, the organization's ability to provide a learning climate to the employees, which should prevail at all times (Saxena & Vyas, 2009).

Thus, we come to the following proposition, “**A high score on the effectiveness of pre-training factors, pro-training factors and post-training factors jointly, will lead to the effectiveness of the training programmes.**”

To further simplify, we can also put it in these words, “**A high score on the different variables under the pre-training, pro-training and post-training factors, will lead to the effectiveness of the training programmes.**”

Figure – 1: Block Diagram* of Proposed Model for Training Evaluation



**Also see the proposed model in tabulated form, at the end of this paper (Table 9)*

The proposed model (as given above in Figure 1) can also be represented in the given algorithm:

“Effectiveness of a training programme is directly proportional to the effectiveness of its pre-training, pro-training and post-training factors”.

Et α Ep

Or

Et α E(P1 + P2 + P3)

Where, Et = Effectiveness of Training programme

Ep = Effectiveness of Training process

P1 = Pre-training factors

P2 = Pro-training factors

P3 = Post-training factors

In other words,

Effectiveness of training programmes

α Learning ability of the trainee

+

Efficacy of trainer & training centre

+

Organization's ability to provide a learning climate

It can be said that the **“effectiveness of the training programme is directly proportional to the learning ability of the trainee, efficacy of the trainer and training centre, and the organization's ability to provide a learning climate”**. Therefore, a **high score on all the three factors** of the different phases of training,

namely, pre-training phase, pro-training phase, and post-training phase, **will result in higher effectiveness of the concerned training programme.**

The following **advantages** are expected from the **new model** for measuring the effectiveness of the training programmes:

- It is simple to understand and administer.
- Since it emphasizes on the **“process”** rather than the **“outcome”** of the training programme, the monitoring, controlling and reviewing of the whole training programme is well within the purview of the organization.
- Evaluation of the **“process”** is also advantageous in saving the resources, over the evaluation of the **“outcome”** which results in wastage of various resources.
- It can be used in any type of organization (viz. manufacturing, service, etc.), since all the phases and its associated factors exist in all types of organizations.
- Similarly, it can be used for any type of training programme (viz. on-the-job, or off-the-job etc.), since all the phases and its associated factors exist in all types of training programmes.
- It is authentic since the feedback comes from the trainees, i.e. the internal customers in TQM

parlance.

- It is less time consuming, since the structured questionnaire is close ended and needs a maximum of 30 minutes to answer all the questions.
- With the individual variable analysis, we can easily understand the weakness of a particular segment of the training programme and improve upon it later.
- In just one questionnaire, we can evaluate the learning ability of the trainee, efficacy of the trainer and training centre, and finally, the organization's ability to provide the right climate for efficient working.
- In the long run, the use of this model proves to be a '**preventive approach**' for the organization, whereby, constant feedback from different phases of training can help improve the design of the training programme, resulting in its better effectiveness.

Research Methodology

The research was a judicial mix of exploratory, descriptive and empirical study. The **primary objectives** of the study were the following:

1. Evolving a suitable model and/or methodology for measuring the effectiveness of training programmes.
2. Evaluation of the effectiveness of training programmes based on the selected / chosen model.
3. Critical analysis of the effectiveness / workability of the model being used.

The first objective of the study was achieved by a 'literature review' and 'modelling' methodology, wherein, a prototype of the proposed model was designed, as shown in Figure 1. The remaining research methodology was as follows:

- Using convenience sampling, we chose a prominent public sector bank (name withheld due to confidentiality reasons) and all its branches

across India as the **universe** of study.

- Its Staff Training Academy situated in Central India was the Nodal centre to collect the **primary data** from the trainees.
- All the trainees who arrived at this Training Academy from across India, were the **population** under the current study.
- Using Stratified **Sampling**, the whole population was divided (i.e. stratified) into 3 different categories (i.e. stratas) depending upon the duration of the training programme:
 - (i) Small Duration training programmes (up to 3 days),
 - (ii) Medium Duration training programmes (4 to 7 days),
 - (iii) Long Duration training programmes (8 days or more).
- The **sample size** consisted of 332 trainees distributed over different training programmes, and coming from different cadres (viz. Clerical cadre, Officers and Managerial level employees etc.).
- A total of **18 different training programmes** spread across 3 months were selected for primary data collection from the trainees.
- A specially **structured questionnaire** was first tested for its reliability and validity, and then administered to the trainees over the entire period of data collection.
- The responses of the trainees, arrived for the training programmes, were recorded on a **five-point Likert scale** with extremes on both sides, and the centre point being neutral. The training programmes ranged from 2 days to 21 days.
- The collected data was then fed to the **SPSS 16.0** for tabulation, graphical representation, interpretation and analysis.
- There were 80 different **hypotheses** (i.e. 40 null and alternate each) formulated by the researcher, which were tested using z-test and chi-square test to draw the necessary conclusion.

Empirical Results

The main purpose of primary data collection was to achieve the 2nd and 3rd objective, i.e. evaluation of the effectiveness of the training programmes based on the selected / chosen model; and critical analysis of the effectiveness / workability of the model being used. The data was collected through a structured questionnaire, as explained by the researcher earlier. There were 7, 17, and 13 parameters / questions respectively in each of the three phases of the training, i.e. pre-training, pro-training, and post-training phases. The interval scale was used to measure the responses of the participants of the training programme. A five-point scale was chosen with the

centre point being neither positive nor negative and the extremes on either side.

- 1 = **Strongly Ineffective / Strongly Disagree**
- 2 = **Ineffective / Disagree**
- 3 = **Neither Ineffective Nor Effective / Neither Disagree Nor Agree**
- 4 = **Effective / Agree**
- 5 = **Strongly Effective / Strongly Agree**

A brief summary of responses from 332 employees of this public sector bank (i.e. participants of the training programmes) in 18 different training programmes, spread over 3 months, is shown in the following tables:

Table – 1 : Case Processing Summary of Pre-Training Phase (Learning Ability of the Trainee)

| Variables | Ratings | Responses | | | | | Total (N) |
|-------------------------|---------|-----------|----|----|-----|-----|-----------|
| | | 1 | 2 | 3 | 4 | 5 | |
| Relevant Qualification | | 5 | 5 | 35 | 135 | 152 | 332 |
| Required Skills | | 2 | 7 | 34 | 158 | 131 | 332 |
| Right IQ | | 3 | 8 | 46 | 174 | 101 | 332 |
| Desired Aptitude | | 5 | 5 | 41 | 118 | 163 | 332 |
| Job Satisfaction | | 3 | 12 | 20 | 135 | 162 | 332 |
| Positive Attitude | | 4 | 1 | 36 | 140 | 151 | 332 |
| Career Growth Prospects | | 2 | 5 | 40 | 108 | 177 | 332 |

It is evident from **Table 1** that the responses of 4 and 5 (i.e. Effective & Strongly Effective) put together are more than the sum of ratings from 1 to 3, indicating that the effectiveness of the pre-training phase was sufficiently high, leading to the effectiveness of the training programme.

Table – 2 : Case Processing Summary of Pro-Training Phase (Efficacy of Trainer & Training Centre)

| Variables | Ratings | Responses | | | | | Total (N) |
|--------------------------------------|---------|-----------|----|----|-----|-----|-----------|
| | | 1 | 2 | 3 | 4 | 5 | |
| Reimbursement of Journey Expenses | | 10 | 17 | 26 | 95 | 184 | 332 |
| Convenient Transportation | | 17 | 22 | 43 | 98 | 152 | 332 |
| Comfortable Accommodation | | 4 | 6 | 29 | 89 | 204 | 332 |
| Good Quality Food | | 13 | 21 | 81 | 110 | 107 | 332 |
| Ambience of Training Centre | | 2 | 2 | 29 | 127 | 172 | 332 |
| Air Conditioning of Training Centre | | 30 | 16 | 32 | 77 | 177 | 332 |
| Sufficient Lighting in Training Room | | 4 | 2 | 23 | 60 | 243 | 332 |
| Correct Training Methodology | | 7 | 16 | 29 | 135 | 145 | 332 |
| Careful Choice of Training Aids | | 2 | 16 | 44 | 133 | 132 | 332 |
| Interactive Training Sessions | | 3 | 7 | 55 | 137 | 130 | 332 |
| Training Notes | | 8 | 10 | 60 | 110 | 144 | 332 |
| Library Facility | | - | 28 | 40 | 94 | 170 | 332 |
| Internet Facility | | 38 | 45 | 64 | 100 | 85 | 332 |
| Trainer's Experience | | - | 2 | 23 | 121 | 186 | 332 |
| Trainer's Skills | | - | 4 | 25 | 136 | 167 | 332 |
| Trainer's Attitude | | 2 | 3 | 12 | 84 | 231 | 332 |
| Trainer's Job Satisfaction | | - | 2 | 14 | 98 | 218 | 332 |

It is evident from **Table 2** that the responses of 4 and 5 (i.e. Effective & Strongly Effective) put together are more than the sum of ratings from 1 to 3, indicating that the effectiveness of pro-training phase was sufficiently high, leading to the effectiveness of the training programme.

Table – 3 : Case Processing Summary of Post-Training Phase (Organization's ability to provide Learning Climate)

| Variables | Ratings | Responses | | | | | Total (N) |
|--|---------|-----------|----|-----|-----|-----|-----------|
| | | 1 | 2 | 3 | 4 | 5 | |
| Resource Allocation | | 4 | 17 | 46 | 148 | 117 | 332 |
| Relevant Placement | | 11 | 13 | 67 | 122 | 119 | 332 |
| Revised Compensation | | 44 | 33 | 85 | 101 | 69 | 332 |
| Climate of Openness | | 7 | 15 | 63 | 104 | 143 | 332 |
| Climate of Collaboration | | 4 | 13 | 41 | 122 | 152 | 332 |
| Climate of Trust & Trustworthiness | | - | 13 | 32 | 112 | 175 | 332 |
| Climate of Autonomy | | 10 | 13 | 50 | 173 | 86 | 332 |
| Climate of Pro-activity | | 3 | 13 | 56 | 153 | 107 | 332 |
| Climate of Authenticity | | 12 | 15 | 62 | 155 | 88 | 332 |
| Climate of Confrontation | | 14 | 17 | 58 | 141 | 102 | 332 |
| Climate of Experimentation / Risk-taking | | 19 | 15 | 114 | 95 | 89 | 332 |
| Encouragement / Guidance by Superiors | | 4 | 17 | 55 | 110 | 146 | 332 |
| Policy of Rewarding | | 13 | 22 | 47 | 135 | 115 | 332 |

It is evident from **Table 3** that the responses of 4 and 5 (i.e. Effective & Strongly Effective) put together are more than the sum of ratings from 1 to 3, indicating that the effectiveness of post-training phase was sufficiently high, leading to the effectiveness of the training programme.

Table – 4 : Case Processing Summary of Measuring Effectiveness of New Model

| Variables | Ratings | Responses | | | | | Total (N) |
|--|---------|-----------|----|----|-----|-----|-----------|
| | | 1 | 2 | 3 | 4 | 5 | |
| Achievement of Trainees Objectives | | 19 | 7 | 33 | 158 | 115 | 332 |
| Achievement of Unit / Branch Objectives | | 8 | 10 | 43 | 149 | 122 | 332 |
| Achievement of Organizational Objectives | | 8 | 5 | 32 | 174 | 113 | 332 |

It is evident from **Table 4** that the responses of 4 and 5 (i.e. Effective & Strongly Effective) put together are more than the sum of ratings from 1 to 3, indicating that the trainees' objectives, unit / branch objectives, and the organizational objectives were achieved through the concerned training programme.

Validity Test

The traditional criteria for validity test are to find their roots in a positivist tradition, and to an extent, positivism has been defined by a systematic theory of validity. Within the positivist terminology, validity resided amongst, and was the result and culmination

of other empirical conceptions: universal laws, evidence, objectivity, truth, actuality, deduction, reason, fact and mathematical data to name just a few (**Winter, 2000**).

The Z-test was considered appropriate for testing the

hypothesis of pre, pro and post-training phase(s), since Likert – 5 point “interval” scale was used and the sample size was larger than 30 (Zikmund, 2006). The following criteria were laid down:

- **H₀ : μ is equal to 3**
- **H_a : μ is not equal to 3**
- **Reject H₀ if the observed value of 't' is more than its critical value, i.e., $t_{ov} > t_{cv}$**
- **Retain H₀ if otherwise, i.e., the observed value of 't' is less than its critical value, i.e., $t_{ov} < t_{cv}$.**

For the purpose of calculation, the **SPSS 16.0** was extensively used.

Hypothesis Testing for the Pre-Training Phase

There were 7 null and alternative hypotheses each in the pre-training phase for testing the validity of 7 different variables. **Table 5** shows the summary of one sample test in respect of pre-training phase of the study.

Table – 5 : Summary of One-Sample Test (Pre-Training Phase)

| Variables | Test Value = 3 | | | | | |
|-------------------------------------|----------------|-----|-----------------|-----------------|---|-------|
| | T | Df | Sig. (2-tailed) | Mean Difference | 95% Confidence Interval of the Difference | |
| | | | | | Lower | Upper |
| Trainee's Qualification | 28.130 | 331 | .000 | 1.277 | 1.19 | 1.37 |
| Trainee's Skills | 29.385 | 331 | .000 | 1.232 | 1.15 | 1.31 |
| Trainee's IQ | 25.351 | 331 | .000 | 1.090 | 1.01 | 1.17 |
| Trainee's Aptitude | 27.612 | 331 | .000 | 1.292 | 1.20 | 1.38 |
| Trainee's Job Satisfaction | 29.606 | 331 | .000 | 1.328 | 1.24 | 1.42 |
| Trainee's Attitude | 30.860 | 331 | .000 | 1.304 | 1.22 | 1.39 |
| Career Growth Prospects for Trainee | 31.146 | 331 | .000 | 1.364 | 1.28 | 1.45 |

Table 5 shows that for 95% confidence interval and 331 degrees of freedom (since, $n = 332$, and $df = n-1 = 332-1 = 331$), the observed value of 't', in all the cases, is more than its critical value, i.e., $t_{ov} > t_{cv}$. The critical value of 't', i.e., ' t_{cv} ' is between 1.960 to 1.980 as per the 'Standard Table - III' (Fisher & Yates, 1963). Hence, the null hypothesis is rejected in all the cases and the alternate hypothesis is accepted. Therefore, it is statistically proved that **there is a significant impact of all the variables of the pre-training phase over the effectiveness of the training programme.**

Hypothesis Testing for the Pro-Training Phase

There were 17 null and alternative hypotheses each in the pro-training phase for testing the validity of 17 different variables. **Table 6** shows the summary of one sample test in respect of pro-training phase of the study.

Table – 6 : Summary of One-Sample Test (Pro-Training Phase)

| Variables | Test Value = 3 | | | | | |
|--------------------------------------|----------------|-----|-----------------|-----------------|---|-------|
| | T | Df | Sig. (2-tailed) | Mean Difference | 95% Confidence Interval of the Difference | |
| | | | | | Lower | Upper |
| Reimbursement of Journey Expenses | 23.021 | 331 | .000 | 1.283 | 1.17 | 1.39 |
| Convenient Transportation | 16.557 | 331 | .000 | 1.042 | .92 | 1.17 |
| Comfortable Accommodation | 32.200 | 331 | .000 | 1.455 | 1.37 | 1.54 |
| Good Quality Food | 14.190 | 331 | .000 | .834 | .72 | .95 |
| Ambience of Training Centre | 35.227 | 331 | .000 | 1.401 | 1.32 | 1.48 |
| Air Conditioning of Training Centre | 15.234 | 331 | .000 | 1.069 | .93 | 1.21 |
| Sufficient Lighting in Training Room | 39.385 | 331 | .000 | 1.614 | 1.53 | 1.70 |
| Correct Training Methodology | 23.198 | 331 | .000 | 1.190 | 1.09 | 1.29 |
| Careful Choice of Training Aids | 21.181 | 331 | .000 | 1.105 | 1.00 | 1.21 |
| Interactive Training Sessions | 25.181 | 331 | .000 | 1.157 | 1.07 | 1.25 |
| Training Notes | 21.056 | 331 | .000 | 1.120 | 1.02 | 1.23 |
| Library Facility | 23.193 | 331 | .000 | 1.223 | 1.12 | 1.33 |
| Internet Facility | 6.231 | 331 | .000 | .449 | .31 | .59 |
| Trainer's Experience | 41.309 | 331 | .000 | 1.479 | 1.41 | 1.55 |
| Trainer's Skills | 37.505 | 331 | .000 | 1.404 | 1.33 | 1.48 |
| Trainer's Attitude | 44.859 | 331 | .000 | 1.623 | 1.55 | 1.69 |
| Trainer's Job Satisfaction | 48.589 | 331 | .000 | 1.602 | 1.54 | 1.67 |

Table 6 shows that for 95% confidence interval and 331 degrees of freedom (since, $n = 332$, and $df = n-1 = 332-1 = 331$), the observed value of 't', in all the cases, is more than its critical value, i.e., $t_{ov} > t_{cv}$. The critical value of 't', i.e., ' t_{cv} ' is between 1.960 to 1.980 as per the 'Standard Table - III' (Fisher & Yates, 1963). Hence, the null hypothesis is rejected in all the cases and the alternate hypothesis is accepted. Therefore, it is statistically proved that **there is a significant impact of all the variables of the pro-training phase over the effectiveness of the training programme.**

Hypothesis Testing for the Post-Training Phase

There were 13 null and alternative hypotheses each in the post-training phase for testing the validity of 13 different variables. **Table 7** shows the summary of one sample test in respect of post-training phase of the study.

Table – 7 : Summary of One-Sample Test (Post-Training Phase)

| Variables | Test Value = 3 | | | | | |
|--|----------------|-----|-----------------|-----------------|---|-------|
| | T | Df | Sig. (2-tailed) | Mean Difference | 95% Confidence Interval of the Difference | |
| | | | | | Lower | Upper |
| Resource Allocation | 21.892 | 331 | .000 | 1.075 | .98 | 1.17 |
| Relevant Placement | 17.681 | 331 | .000 | .979 | .87 | 1.09 |
| Revised Compensation | 5.051 | 331 | .000 | .355 | .22 | .49 |
| Climate of Openness | 19.950 | 331 | .000 | 1.087 | .98 | 1.19 |
| Climate of Collaboration | 24.844 | 331 | .000 | 1.220 | 1.12 | 1.32 |
| Climate of Trust & Trustworthiness | 30.380 | 331 | .000 | 1.352 | 1.26 | 1.44 |
| Climate of Autonomy | 18.725 | 331 | .000 | .940 | .84 | 1.04 |
| Climate of Pro-activity | 22.372 | 331 | .000 | 1.048 | .96 | 1.14 |
| Climate of Authenticity | 16.475 | 331 | .000 | .880 | .77 | .98 |
| Climate of Confrontation | 15.991 | 331 | .000 | .904 | .79 | 1.01 |
| Climate of Experimentation / Risk-taking | 11.036 | 331 | .000 | .663 | .54 | .78 |
| Encouragement / Guidance by Superiors | 21.773 | 331 | .000 | 1.136 | 1.03 | 1.24 |
| Policy of Rewarding | 16.538 | 331 | .000 | .955 | .84 | 1.07 |

Table 7 shows that for 95% confidence interval and 331 degrees of freedom (since, $n = 332$, and $df = n - 1 = 332 - 1 = 331$), the observed value of 't', in all the cases, is more than its critical value, i.e., $t_{ov} > t_{cv}$. The critical value of 't', i.e., 't_{cv}' is between 1.960 to 1.980 as per the 'Standard Table - III' (**Fisher & Yates, 1963**). Hence, the null hypothesis is rejected in all the cases and the alternate hypothesis is accepted. Therefore, it is statistically proved that **there is a significant impact of all the variables of the post-training phase over the effectiveness of the training programme.**

Hypotheses Testing for Evaluation of Model

The model for measuring the effectiveness of the training programme, as proposed earlier, was deployed by the researcher for measuring the effectiveness of training programmes in a national level banking organization, i.e. the universe of the study. The current paragraph speaks about the validity

testing for that model.

There were 3 indicators for measuring the effectiveness of the model. These 3 indicators (i.e. dependent variables) are as follows:

1. The achievement of **trainees' objectives** through the concerned training programme;
2. Achievement of **unit / branch objectives** through the concerned training programme;
3. Achievement of **organizational objectives** through the concerned training programme.

There were 3 null and 3 alternate hypotheses for testing the "goodness of fit" of these 3 indicators (dependent variables), namely, achievement of trainees' objectives; achievement of unit / branch objectives; and the achievement of organizational objectives. The researcher wanted to find out whether the achievement of the trainees' objectives,

achievement of the unit objectives, and achievement of the organizational objectives are merely coincidental or there are other factors (i.e. pre, pro, and post training factors) governing it.

The following criteria were laid down for chi square test for 'goodness of fit':

- Expected Frequency (Ei) = Sample size / No. of Categories, i.e., 332/5 = 66.4
- Ho : Oi = Ei = 66.4 (Oi = Observed Frequency)
- Ha : Oi ≠ Ei

- Significance level (alpha) = 95% or 0.05
- Reject H₀ if the observed value of 'chi square' is more than its critical value, i.e. $\chi^2_{ov} > \chi^2_{cv}$
- Retain H₀ if otherwise, i.e., the observed value of 'chi square' is less than its critical value, i.e. $\chi^2_{ov} < \chi^2_{cv}$

For the purpose of calculation, the SPSS 16.0 was extensively used. Table 8 shows the summary of test statistics in respect of evaluation of effectiveness of model:

Table 8 : Summary of Test Statistics (Evaluation of Effectiveness of Model)

| Indicator (Dependent Variable) | Mean | Standard Deviation | Minimum | Maximum | χ^2 |
|--|------|--------------------|---------|---------|----------|
| Achievement of Trainees' Objectives | 4.03 | 1.023 | 1 | 5 | 265.711 |
| Achievement of Unit / Branch Objectives | 4.11 | .909 | 1 | 5 | 256.825 |
| Achievement of Organizational Objectives | 4.14 | .834 | 1 | 5 | 333.030 |

(For n = 332 and df = 4)

Table 8 clearly shows that the value of chi square for all the 3 indicators is much more than the critical value of chi square, i.e. 9.49 (at 95% significance level, alpha = 0.05, and 4 degrees of freedom) as per the 'Standard Table - IV' (Fisher & Yates, 1963). Since, $\chi^2_{ov} > \chi^2_{cv}$, the null hypothesis is rejected in all the cases and the alternate hypothesis is accepted. Therefore, we can say that the achievement of trainees / unit / branch / organizational objectives is not merely by chance and significantly attributable to the effectiveness of various factors viz. pre, pro and post training factors.

Findings & Discussions

The major findings of the study are as follows:

- It is the **“process”** of the training which is to be measured for its effectiveness and not the **“outcome”**;
- It is the **“process”** of the training which can be better monitored and controlled and not the **“outcome”**;
- The training process can be divided into **“pre-**

training phase”, **“pro-training phase”**, and the **“post-training phase”**;

- If the **“pre-training phase”** of the training process is ensured for its effectiveness, the outcome of the training will be effective;
- If the **“pro-training phase”** of the training process is ensured for its effectiveness, the outcome of the training will be effective;
- If the **“post-training phase”** of the training process is ensured for its effectiveness, the outcome of the training will be effective.

Limitations of the Study

There were certain limitations of the current study, some of which are as follows:

- During the period of data collection, there were no training programmes for Scale-4 and Scale-5 employees of the bank, and hence, the findings of this study cannot be generalized for all the employees of this bank;
- Due to the nature of research and paucity of time,

the universe of the current study was taken as only one bank, and hence, the findings cannot be generalized for all other banks;

- Since a banking sector organization was the universe of the current study, the findings cannot be generalized for other sectors.

Suggestions and Recommendations

Following are the suggestions and recommendations for future research in this direction:

- The new model, as suggested in this research, can be further tested for individual weightage of the variable having its impact on the effectiveness of the training programme;
- The individual weightage of the three phases of the training process, as suggested in this study, can be further studied for its due share;
- The suggested model can further be tested in different types of industries for wide generalization.

Applicability and Generalizability of Study

The study typically laid emphasis on the “process” rather than the “outcome” of training as an indicator of effectiveness of that training programme. We are aware of the fact that customer preferences in all the sectors are fast changing (Joshi, 2012) and as a result of this, the organizations too are responding with product / services with new features, almost within every 3 to 6 months. In order to achieve this, the

organizations can't keep one employee with one product / service for more than 3 to 6 months. Therefore, the applicability of the proposed model, as suggested in the current research, which is “process based” and not “outcome based” is quite obvious for all types of organizations. Another reason for “process based model” was the high rate of employee turnover in the service industry. In India, turnover rates have always been high. It was around 80 percent in the IT sector a decade ago and 100 percent for the BPO industry (Mitchell, 2005 & 2007). Stress among employees is also leading to a high degree of employee turnover (Kapoor et al., 2019), calling for a model for measuring the effectiveness of training programmes which is “process based” and not “outcome based”.

Use of information technology, internet and globalization, etc. has reduced the world to a single village, in the literal sense. MNCs working across the world have to be on the same platform and the evaluation of effectiveness of training is no exception. Irrespective of location or industry, every organization spread across the world has to emphasize on the “process” rather than “outcome” in order to measure the effectiveness of any product / service. It is quite obvious for all the organizations across the world to use a “process based model” for measuring the effectiveness of training programmes, as suggested by

Table 9 : The proposed model for measuring effectiveness of training programmes

| Desired Input / Intended Query | Phases of training / Levels of evaluation | No | Factors / Variables / Antecedent Conditions | Projected Outcome/ Effectiveness of Training Programme |
|--|---|----|---|--|
| Learning Ability of the Trainee | PRE - TRAINING PHASE | 1 | Trainees' Qualification | Attainment of Trainees' Objectives |
| | | 2 | Trainees' Skills | |
| | | 3 | Trainees' IQ | |
| | | 4 | Trainees' Aptitude | |
| | | 5 | Trainees' Motivational level | |
| | | 6 | Trainees' Attitude | |
| | | 7 | Trainees' Growth prospects | |
| Efficacy of Trainer & Training Centre | PRO - TRAINING PHASE | 1 | Sponsored Journey | Attainment of Unit / Branch Objectives |
| | | 2 | Local Transportation | |
| | | 3 | Accommodation | |
| | | 4 | Quality of Food | |
| | | 5 | Ambience of Training Centre | |
| | | 6 | Air Conditioning | |
| | | 7 | Lighting Arrangement | |
| | | 8 | Training Methodology | |
| | | 9 | Training Aids | |
| | | 10 | Interactive Sessions | |
| | | 11 | Training Notes | |
| | | 12 | Library Facility | |
| | | 13 | Internet Facility | |
| | | 14 | Trainer's Experience | |
| | | 15 | Trainer's Skills | |
| | | 16 | Trainer's Attitude | |
| | | 17 | Trainer's Motivational level | |
| Organization's Ability to provide Learning Climate | POST - TRAINING PHASE | 1 | Allocation of Resources | Attainment of Organizational Objectives |
| | | 2 | Relevant Placement | |
| | | 3 | Revised Compensation | |
| | | 4 | Climate of openness | |
| | | 5 | Climate of collaboration | |
| | | 6 | Climate of trust | |
| | | 7 | Climate of autonomy | |
| | | 8 | Climate of pro-activity | |
| | | 9 | Climate of authenticity | |
| | | 10 | Climate for confrontation | |
| | | 11 | Climate of risk taking | |
| | | 12 | Supervisor's guidance | |
| | | 13 | Reward for exemplary results | |

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