Research Article

Qualitative Vs Quantitative Training and Development Model: Evidence with Pharmaceuticals Sales Force in Indian Context

K. D. Balaji*, V. M. Shenbagaraman[1],
[1]Professor, Associate Dean, School of Management, SRM University, Chennai, Tamilnadu, India.
*Research Scholar, Assistant Professor, School of Management, SRM University, Chennai, Tamilnadu, India.
***Corresponding author's E-mail:** vr4ubala@gmail.com

Accepted on: 20-08-2015; **Finalized on:** 30-09-2015.

ABSTRACT

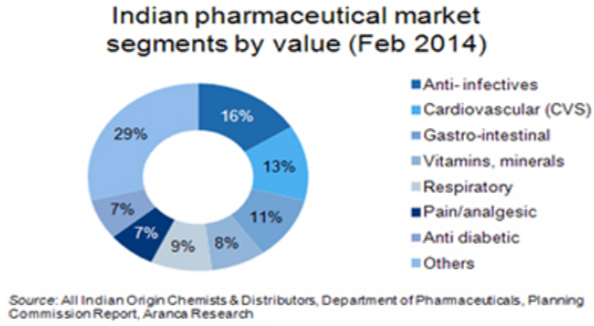
This particular research study deals with training and development model: evidence with pharmaceuticals sales force in Indian context. The main objective of this research is to examine the evaluation or effectiveness on employee training programme resulting through proper job satisfaction in the pharmaceuticals sales force in Indian context. The nature of the research is Exploratory method, and the sample size is 1220 respondents from various locations in India and data collection method used in the research is "Questionnaire Method". Data was analyzed by using SPSS 20.0 and AMOS 20.0. Findings, suggestions and conclusions were made by keeping an eye on the objectives. The results of the study indicates that both quality and quantity of the output. It reduces the supervision costs, facilitates economic handling of machinery and materials besides increasing the morale of employees and their loyalty towards the organisation. From employee's point of view, training helps them to acquire new skills easily, facilitates quick and safe handling of machinery, helps boost their confidence and have high job-satisfaction of pharmaceuticals sales force employees in Indian context.

Keywords: Pharmaceuticals Sales Force, Employee Training Programme, Job Satisfaction and Training and Development Model.

INTRODUCTION

ndian Pharmaceutical Industry

The Indian pharmaceuticals market is third largest in terms of volume and thirteen largest in terms of value, as per a pharmaceuticals sector analysis report by equity master. The market is dominated majorly by branded generics which constitute nearly 70 to 80 per cent of the market. Considered to be a highly fragmented industry, consolidation has increasingly become an important feature of the Indian pharmaceutical market. India has achieved an eminent global position in pharma sector. The country also has a huge pool of scientists and engineers who have the potential to take the industry to a very high level. The UN-backed Medicines Patents Pool has signed six sub-licences with Aurobindo, Cipla, Desano, Emcure, Hetero Labs and Laurus Labs, allowing them to make generic anti-AIDS medicine Tenofovir Alafenamide (TAF) for 112 developing countries.



(http://www.ibef.org/industry/pharmaceutical-india.aspx)

Figure 1: Indian Pharmaceutical Industry

Background of the study

India has more than one billion population with a 400 million strong labour force. During the recent years Indian economy has been growing at the rate of more than 8% per annum but the problem of large scale unemployment and underemployment is still prevailing. More than 90% of the Indian labour force is in the informal sectors and only five percent in the age category 20-24 has vocational skills obtained through formal training, thus emphasizing the need of provision of training to increase the productivity of such labour and consequently the GDP of the country. (Source: Special report prepared by the National Productivity Council of India, May 2002).

The labour productivity measured after provision of training in various Indian industries, recorded a rising trend during the period from 1988 to 1995. The comparative analysis of Indian labour productivity after provision of training showed that the labour productivity rose by 10% in 1989, by 16% in 1991 and by 24%in 1995. (Source: Productivity Statistics, National Productivity Council, India, 1995). Also comparison of productivity indices of Asian countries during the year 1995 showed that growth of productivity of labour was highest in Malaysia, followed by Republic of Korea, Singapore, China, India and so on making India stand fifth amongst the eighteen Asian countries which were studied. (Source: Productivity statistics, Asian productivity organization, Japan, 1997).

The above data shows the emergent need to focus on provision of training to employees in different sectors of the economy to increase not only their productivity but

also the GDP of the country and to help it stand at a higher position in the world markets.

Past Studies Related to the Current Research

Sartori (2015) in their research a preliminary action to a European Social Fund project named "Training for trainers", whose main aim is to give birth to courses, experiences and other training programs, specifically dedicated to VET teachers and trainers, to allow them to develop or refresh the competencies they feel they need for work. Besides, it allowed testing of the benefit of using mixed methods for a competence-based analysis of needs.

Singh, R.; Mohanty, M. (2012) in their paper gave a diagrammatic presentation (Fig.1) of how the training given to employees increases their productivity. They stated that when training is imparted to employees, their skills, attitudes, knowledge, creativity and innovative thinking powers increase leading to increase in their productivity. They also stated that almost all practices of human development lead to development of these valuable resources but training is considered as the best practice to develop more qualified, proactive and flexible employees. (Bartel 1994)

Grip & Sauermann (2010) in their paper stated that unbiased estimation of the impact of training on productivity is important for assessing the role of further training in the development of human capital. Through their paper they stated that they made three contributions to the literature on training and productivity of workers. Firstly they suggested that random assignment to training overcomes selectivity in training. Secondly training externalities may arise due to human capital spill-over's or social pressures and lastly individual productivity should be taken as an outcome to measure the total effect of training on productivity and not any other factor like wages, etc.

Konings (2008) in his paper provided a systematic explanation of investment in human capital especially though training measures and associated employee productivity, wages, and mobility with it. He suggested that provision of training timely to the employees helps the firms in cutting their costs and wastages later on.

Bassanini, Brunello (2006) in their paper stated that the amount of training individuals receive during their working life has a significant impact on their career prospects, wages, productivity and employability. Since human capital is a key determinant of economic growth employees should constantly take measures to improve their productivity and hence their wages. Moreover, improving workers' competencies is crucial in the face of rapid technological change which is possible only through the provision of training.

Statement of the Problem

Human Resource Management activity is the backbone for an organization. Organizations invest huge capital for the development of employees' performance because the performances of the employees ultimately increase the performance of the organization. Stone R J. Human Resource Management (2002) training has an important role to achieve an organizational goal by incorporating the interests of the organization and the workforce. Iftikhar Ahmed and Siraj-ud-din (2009) agreed that training and development is an important activity to increase the performance of the employees. Brinkerhoff (2005) said in his paper that organization can no longer afford its provided training until it is not evaluated to achieve the organization's strategic goals, mission, and effectiveness.

Effective training program increase the productivity of employees. The terminology "Productive" means fruitful, lucrative and profitable. Scientifically productivity can be defined as the relationship between input and output. Employee productivity is the log of the net sales over total employees- an economic measure of output per unit of input. Over the time training has been an important variable to increase the organizational productivity. Colombo and Stanca (2008) and Konings and Vanormeligen (2009) explained in their research that training is one of the fundamentals and effectual instrument in successful accomplishment of the firm's goals and objectives, resulting in higher productivity.

Research Gap

Kuvaas (2008) examined whether and how the quality of the employee–organization relationship (EOR) influences the relationship between employee perception of developmental human resource (HR) practices and employee outcomes. His findings showed that four indicators of the EOR (perceived organizational support, effective organizational commitment, and procedural and interactional justice) moderated the relationship between perception of developmental HR practices and individual work performance. A strong and direct negative relationship was found between perception of developmental HR practices and turnover intention, but perceived procedural and interactional justice moderated this linkage. No support was found for a mediating role of the EOR indicators in the relationship between perception of developmental HR practices and employee outcomes Dysvik and Kuvaas (2008) investigated alternative relationships between training opportunities and employee outcomes in the form of task performance, citizenship behaviour and turnover intention. They presented both positive and negative implications for the relationship between employee training and development and employee outcomes.

At the positive side, they revealed little consistency between demographic variables, perceptions of training opportunities and employee outcomes, suggesting that a diverse mix of employees may react positively toward employee training and development efforts. Nevertheless, at the negative side there is a lack of a direct relationship between perceived training

opportunities and employee outcomes, and that this relationship is mediated by work intrinsic motivation. Kuvaas and Dysvik (2009) investigated alternative relationships between perceived investment in employee development, intrinsic motivation and different facets of work performance. Their findings showed that the relationship between perceived investment in employee development and work effort was mediated by intrinsic motivation.

Research Questions

We formulated the research question for this study as follows:

"Is there a relationship between Qualitative Vs Quantitative Training and Development Model: Evidence with Pharmaceuticals Sales Force in Indian Context?"

METHODS

This particular research study deals with training and development model: evidence with pharmaceuticals sales force in Indian context. The main objective of this research is to examine the evaluation or effectiveness on employee training programme resulting through proper job satisfaction in the pharmaceuticals sales force in Indian context. The nature of the research is Exploratory method, and the sample size is 1220 respondents from various locations in India and data collection method used in the research is "Questionnaire Method". Data was analyzed by using SPSS 20.0 and AMOS 20.0. Findings, suggestions and conclusions were made by keeping an eye on the objectives.

Research Objectives

- To identify needs of employee training programme resulting through proper job satisfaction in the pharmaceuticals sales force in Indian context
- To identify perception among training methods on employee qualities and employee skills in the pharmaceuticals sales force in Indian context
- To examine the evaluation or effectiveness on employee training programme resulting through proper job satisfaction in the pharmaceuticals sales force in Indian context

Research Model

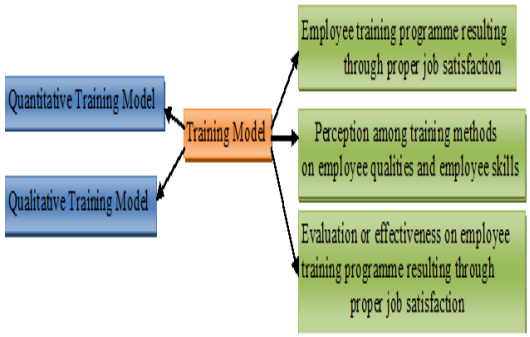


Figure 2: Research Model

Validation of Data

Reliability

The degree to which a measurement technique can be depended upon to secure consistent results upon repeated application, Reliability is the ratio of true variance to the total variance yielded by the measuring instrument.

It indicates stability and also the internal consistency of a test. The reliability of a measure indicates the stability and consistency with which the instrument measures the concept and helps to assess the 'goodness' of a measure.

A measure is reliable to the degree that it supplier consistent results. Internal consistency gives an estimate of the equivalence of sets of items from the same test (e.g., a set of questions aimed at assessing quality of life or disease severity).

The coefficient of internal consistency provides an estimate of the reliability of measurement and is based on the assumption that items measuring the same construct should correlate.

Perhaps the most widely used method for estimating internal consistency reliability is Cronbach's alpha. It is a function of the average inters correlations of items and the number of items in the scale.

It is used for summated scales such as quality-of-life instruments, activities of daily living scales, and the Mini Mental State Examination.

All things being equal, the greater the number of items in a summated scale, the higher Cronbach's alpha tends to be, with the major gains being in additional items up to approximately 10, when the increase in reliability for each additional item levels off. This is one reason why the use of a single item to measure a construct is not optimal. Having multiple items to measure a construct aids in the determination of the reliability of measurement and, in general, improves the reliability or precision of the measurement.

Table 1: Reliability of Instruments used for study

Scale	Reliability (Cronbach Alpha Value)
Demographic profile	0.800
Training Programmes	0.796
Training Methods	0.713
Identifying Training Needs	0.715
Training Methods Resulting Employee Satisfaction on Perceived Qualities	0.709

The desired value for reliability test is 0.5 and above. Overall reliability of the instrument is above 0.7568 indicating good testing norm for internal consistency. So the result of the reliability test, which indicates that questionnaire, is more reliable for the further study.

Validity

Validity is often defined as the extent to which an instrument measures what it purports to measure. Validity requires that an instrument is reliable, but an instrument can be reliable without being valid. For example, a scale that is incorrectly calibrated may yield exactly the same, albeit inaccurate, weight values. A multiple-choice test intended to evaluate the counselling skills of pharmacy students may yield reliable scores, but it may actually evaluate drug knowledge rather than the ability to communicate effectively with patients in making a recommendation. While we speak of the validity of a test or instrument, validity is not a property of the test itself. Instead, validity is the extent to which the interpretations of the results of a test are warranted, which depends on the test's intended use (i.e., measurement of the underlying construct). Much of the research conducted in health care involves quantifying attributes that cannot be measured directly.

Instead, hypothetical or abstract concepts (constructs), such as severity of disease, drug efficacy, drug safety, burden of illness, patient satisfaction, health literacy, quality of life, quality of provider–patient communication, and adherence to medical regimens, are measured. Hypothetical constructs cannot be measured directly and can only be inferred from observations of specified behaviours or phenomena that are thought to be indicators of the presence of the construct.[1]

Measurement of a construct requires that the conceptual definition be translated into an operational definition.

An operational definition of a construct links the conceptual or theoretical definition to more concrete indicators that have numbers applied to signify the "amount" of the construct. The ability to operationally define and quantify a construct is the core of measurement. The instrument is designed based on validated instruments from the literature survey. Two hundred and five item questionnaires have given to the employees those who are working in pharmaceuticals industries in Indian context and duplicate and ambiguous items are removed. A test survey has been conducted among fifty respondents to ensure face validity and based on the feedback 185 items are selected.

RESULTS

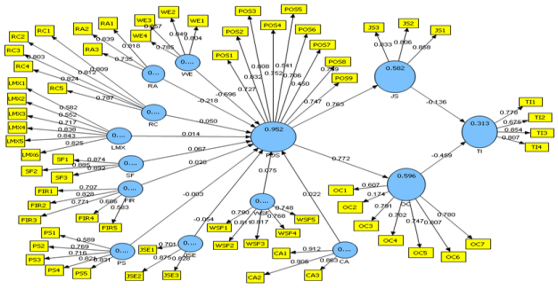


Figure 3: Training and Development Model: Evidence with Pharmaceuticals Sales Force in Indian Context

Table 2: Path Coefficients – Inner Loadings

Dimension	Towards	Dimension	Path Value	T – Value	Result
Case Study (H1)	→	Job satisfaction	-0.696397	14.45364	**Supported**
Conference (H2)	→	Job satisfaction	-0.218214	4.28601	**Supported**
Lecture (H3)	→	Job satisfaction	-0.050418	1.98383	**Supported**
Business Games (H4)	→	Job satisfaction	0.014266	0.37126	Not Supported
Presentations (H5)	→	Job satisfaction	0.067109	2.03778	**Supported**
Videos (H6)	→	Job satisfaction	0.027612	0.76056	Not Supported
Role Playing (H7)	→	Job satisfaction	-0.002563	0.05508	Not Supported
Sensitivity Training (H8)	→	Job satisfaction	-0.053936	1.65637	Not Supported
Brainstorming (H9)	→	Job satisfaction	0.075218	1.99807	**Supported**
Delphi Method (H10)	→	Job satisfaction	0.022384	0.60401	Not Supported
Simulations (H11)	→	Job satisfaction	0.763082	16.94020	**Supported**
Sales Modelling (H12)	→	Job satisfaction	0.771947	22.39470	**Supported**
Climate Surveys (H13)	→	Job satisfaction	-0.135898	1.98445	**Supported**
Job Related Problems Solving (H14)	→	Job satisfaction	-0.458900	3.342340	**Supported**

Training and Development Model: Evidence with Pharmaceuticals Sales Force in Indian Context

The above table shows the path co-efficient of between dimensions formulated as hypotheses to predict the turnover intentions of the middle level employee in the organization. It was identified from the above SEM model that training and development model are the strong predictors of Perceived job satisfaction. The mediating dimension Job Satisfaction is the strong predictors of turnover intentions. Out of 14 hypotheses formulated 9 hypotheses were accepted and remaining 4 hypotheses were rejected based on the path value and T-value.

Training Methods Resulting Employee Satisfaction on Perceived Qualities

Table 3: Structural Equation Models (SEM's) – Path Diagram and Model Fit Analysis

Coding	Name of the Independent Variable
V1	Integrity
V2	Courage
V3	Commitment
V4	Passion
V5	Determination
V6	Compassion
V7	Sensitivity
V8	Cool under pressure
V9	Energetic
V10	Enthusiastic
V11	Ability to delegate tasks
V12	Good Communicator
V13	Innovative
V14	Appreciative
V15	Flexible

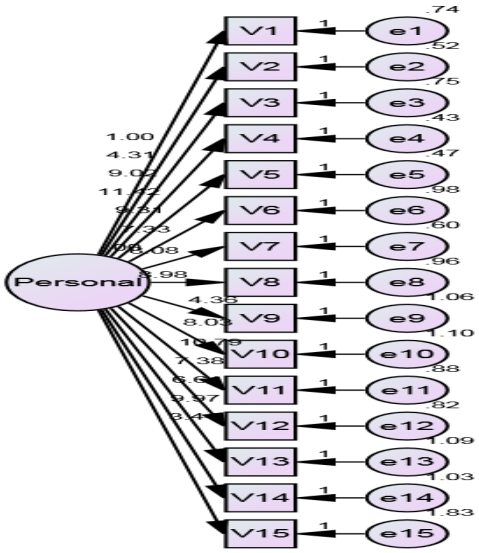


Figure 3: Training Methods Resulting Employee Satisfaction on Perceived Qualities

Table 4: CMIN

Model	NPAR	CMIN	DF	P	CMIN/DF
Default model	30	1774.129	90	.000	19.713
Saturated model	120	.000	0		
Independence model	15	3200.086	105	.000	30.477

Table 5: RMSEA

Model	RMSEA	LO 90	HI 90	PCLOSE
Default model	.176	.169	.183	.000
Independence model	.221	.214	.227	.000

The desired value CMIN and degree of freedom for default model is 19.713, which is good and reliable to fit a model fit for mentioned independent variables.

The actual default model value arrived is 19.713. So the variables are accepted to fit a structural equation modelling.

From the RMSEA table, it's inferred that the significant value for default model is 0.000, which is significantly fit a model at the level 5 percent.

Model Fit Summary

Step 1:- Variables for training methods resulting employee satisfaction on perceived qualities are listed; in our research work.

Step 2:- From the variables identified in step 1, contextual relationship among the variables with respect to which pairs of variables are examined.

Step 3:- The explained and assumed variables are

- Integrity
- Courage
- Commitment
- Passion
- Determination
- Compassion
- Sensitivity
- Cool under pressure
- Energetic
- Enthusiastic
- Ability to delegate tasks
- Good Communicator
- Innovative
- Appreciative
- Flexible

Step 3:- A Structural Equation diagram is developed for variables, which indicates pair wise relationship among variables of the system under consideration.

Step 4:- Model fit is developed from the Structural Equation diagram and the Default model summary is checked for training methods resulting employee satisfaction on perceived qualities. The independent variables are very much necessity for training methods resulting employee satisfaction on perceived qualities.

Step 5:- Based on the contextual relationships in the reach ability matrix, a directed graph is drawn and the transitive links are removed.

DISCUSSION

Two main models of training measurement have been listed in this study. First is the Training Impact Measurement Framework given by **Bersin and Associates (2006)** which helps training managers implement a measurement process which would deliver actionable information needed to improve the employee's and organisation's performance and productivity using nine parameters. Second is the Training Effectiveness Questionnaire given by **Prof. T.V. Rao (2006)** which intends to assess the effectiveness of the training function in an organisation by using set of questions related to training and employee productivity.

Many factors affect training like organizational changes, support of top management, commitment from managers at different levels, technological advances and organizational complexity. A skilled management of all these factors can ensure the success of training programmes and efficiency development in the organisation. The present research classifies the methods of training under two main heads, i.e. On the job training and Off- the job training methods. Under On-the job training, various methods have been identified as Apprenticeship training, Position rotation, Observation assignment, Serving on committees, Internship training, Coaching and Counselling, Induction/Orientation training etc. Under Off-the job training various methods have been identified as Vestibule training , Lecture/Discussion method, Assignment of special projects, Conferences and seminars, Case Study, Incident Method, Role Playing, Sensitivity training, Grid training, Refresher training, Creativity training, Team training, Diversity training and Vocational training. The suitability of each type of training, its advantages and limitation has been discussed in the first chapter of this research work.

Training has many benefits both from the organisation's point of view and from an employee's point of view. It benefits the organizations by reducing learning time of employees, making them reach acceptable levels of performance required for the job, and increasing their productivity. This enhances both quality and quantity of the output. It reduces the supervision costs, facilitates economic handling of machinery and materials besides increasing the morale of employees and their loyalty towards the organisation. From employee's point of view, training helps them to acquire new skills easily, facilitates quick and safe handling of machinery, helps boost their confidence and have high job-satisfaction.

CONCLUSION

This particular research study deals with training and development model: evidence with pharmaceuticals sales force in Indian context. The main objective of this research is to examine the evaluation or effectiveness on employee training programme resulting through proper job satisfaction in the pharmaceuticals sales force in Indian context. The nature of the research is Exploratory method, and the sample size is 1220 respondents from various locations in India and data collection method used in the research is "Questionnaire Method". Data was analyzed by using SPSS 20.0 and AMOS 20.0. Findings, suggestions and conclusions were made by keeping an eye on the objectives.

The results of the study indicates that both quality and quantity of the output. It reduces the supervision costs, facilitates economic handling of machinery and materials besides increasing the morale of employees and their loyalty towards the organisation. From employee's point of view, training helps them to acquire new skills easily, facilitates quick and safe handling of machinery, helps boost their confidence and have high job-satisfaction of pharmaceuticals sales force employees in Indian context.

Recommendations for further research

- As recommendations for future studies we can state that this study can be expanded by conducting it in other companies additionally, even by investigating the results to be obtained between the employees of local and multinational companies.
- An expansion to other companies in the pharmaceutical sector could make it possible to conduct this study with larger samples, to retrieve more data to analyze and generalize the impact accordingly.
- Furthermore, answers might be evaluated in a more detailed manner according to organizational levels, positions as managerial and non-managerial, and functions of participants.

REFERENCES

1. Acemoglu D.; Pischke J., Why do Firms Train? Theory and Evidence, Quarterly Journal of Economics, 113,no.1, 1998, 79-119.
2. Acevedo L.; Tinajero G.; Rubio M., Mexico: Human capital effects on wages and productivity, World Bank Policy Research Working Paper No.2005, 3791.
3. Bartel A., "Productivity Gains from the Implementation of Employee Training Programs", Industrial Relations 33, 411–425. Chen, T.; Chang, P.; Yeh, C. (2004), An investigation of career development programs, job satisfaction, professional development and productivity: the case of

Taiwan, Human Resource Development International, Taylor and Francis ltd.; 7,4, 1994, 441–463.

4. Delame E. and Kramarz F., Enterprises et. Formation Continue, Economie et. Statistique, 1997, 127, 63-82.
5. Frazis H.; Gittleman M.; Horrigan M.; Joyce M., Results from the 1995 Survey of Employer-Provided Training, Monthly Labor Review, June, 1998, 1-11.
6. Gielen A.; Kerkhofs M.; Ours J. Performance Related Pay and Labor Productivity, Discussion Paper Series, Discussion Paper no. IZA DP No.2211, Bonn, Germany, 2006, 1-17.
7. Henderson L.; Washington P.; Butler A., Training for Business Success: Does Diversity Training Improve Productivity, Performance, and Fair Promotions?, Academy of Management Journal, 49, 2003, 877–893.
8. Jones D.; Kalmi P.; Kauhanen A,; The Effects of General and firm specific training on wages and performance : Evidence from banking, The Research Institute of the Finnish Economy, Discussion Paper no. 1184, 2009, 1-36.
9. Khandekar A.; Sharma A., Organizational learning in Indian organizations: a strategic HRM perspective, Journal of Small Business and Enterprise Development, Vol. 12, no 2, 2005, 211-226.
10. Kling J., High Performance Work Systems And Firm Performance, Monthly Labour Review, May 1995, 29-35.
11. Narayan A.; Johnson D., Relationship between prior experience of training ,gender, goal orientation and training attitudes, International Journal of training and development ,Vol11, Issue 3, 2007, 166-190.
12. Raudenbush S. W. (1981), Random Effects Models, In Cooper, H. and Hedges, L., The Handbook of Research Synthesis. New York: Russell Sage Foundation, 301–321.
13. Weber K.; Joseli C.; Marinho D.; Amaral G. (2000), Measurements of Quality and Systemic Productivity in the Brazilian Software Industry 3rd International Conference on Technology Policy and Innovation, Austin, TX, USA, 1-8.

Source of Support: Nil, **Conflict of Interest:** None.