A STUDY ON EFFECTIVE TRAINING INPUTS PERTAINING TO WORKFORCE OF THE LOGISTICS INDUSTRY IN OMAN'

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ABSTRACT

This study was undertaken initiated by the Logistics Research Competition (LRC), Oman. All Logistics training may not yield better results and this study opens up path to make the training better effective so that employees perform better. The questionnaire was sent to workforce of many organizations through Google Form and the industries involved were Logistics, Services, Mining, and Manufacturing. The questionnaire was based on CIRO model of training evaluation.

84 responses were received and the gist of findings is depicted in conclusion. The study calls for more training in few areas and paying more attention on the inputs of training. There are more experienced employees but still they require inputs on inventory, warehousing, port operations, air cargo operations, containerization, service marketing, SCM, Steamer agent's role, cost control, teamwork, etc. It has implications for all stakeholders and the organizations of logistics industry and training agencies in particular. A regression model was formed which shows that input variables in logistics industry have good influence on reaction and outcome evaluation and decide the effectiveness. It means the performance of workforce is decided by the training inputs in a noteworthy way as revealed by the AMOS diagram. The training programs may focus on these aspects and the organizers need to pay more attention on inputs and especially with less experienced employees.

Keywords: (Training inputs, training effectiveness, CIRO model, workforce)

INTRODUCTION AND THEORETICAL BACKGROUND

With the advent of Globalization and after joining WTO, Oman has led the way to more MNCs and more trading activities apart from manufacturing. International trade is operated through three major ports Sohar, Al Duqm and Salalah. In domestic front, warehousing and domestic transportation are among the inland activities of Logistics Management in Oman. Oman has also contributed to the emergence of SMEs and the private sector in the Logistics map especially after joining WTO.

Training is costly and without training, it is costlier. Hence, the study is intended to assess whether training inputs are properly channelized. The training in Logistics industry manifests into many areas like Speedy documentation, Warehousing- layout and utilization, effective inventory management, transportation, Port operations and Customs House documentation, Air cargo operations, Containerization and bulk cargo liquid / cargo handling, Database systems for integration of logistics system, Services marketing, Supply chain management, Freight forwarding, Effective cost control, etc. Unless various levels of people are trained in these arenas with the appropriate inputs, the workforce productivity cannot be high. We have many models of training effectiveness measurement and we used CIRO model of training effectiveness measurement. Outcome is a measure of results and reaction is the immediate perception about it and these evaluations have been grouped in the questionnaire owing to the interfaces.

STATEMENT OF THE PROBLEM

Logistics industry suffers due to lack of skilled manpower and imparting skills to them can be through effective training and proper inputs of training. Training programs enable the employees to possess the capacity to cope

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with any new situation. But in reality many of the organization do not get involved in training activities. Hence training earns an indisputable immaculate power in making an 'idle man into an ideal corporate man', a dormant company into sustaining company.

Any training program conducted for the employees always have the aim of improving their skills and knowledge. This study aims at bringing out (i) the reactions of workforce about the course content, course structure (input evaluation) (ii) the impact of learning through training, other behavioral changes occurred (outcome evaluation). The study also envisages finding out the effectiveness of the training programs with reference to certain demographic variables.

RESEARCH OBJECTIVES

1. To study the training inputs currently offered to the workforce of Logistics industry in Oman
2. To investigate the effectiveness of the training inputs offered to the workforce of Logistics industry in Oman

PURPOSE AND IMPORTANCE OF THE STUDY

In the recent years, training has gained increasing importance to meet the growing needs of technology with the advent of radical changes happening in the Logistics industry. The need for human resource development as a means of promoting an individual employee's skills is now getting well acknowledged all organizations. Training is a continuous activity that starts with induction training offered to an employee at the start of his career to training on the job and occasionally off it, working in a congenial climate and conducive conditions for updating in the field so that the individual attains results corresponding to his full potential. The amount spent on training is an investment on employees and there has to be return on investment. In order to build up strong, efficient, effective, motivated and dedicated employees, training of workforce is required. Hence the research is concerned with the analysis of training needs, effectiveness of the training programs to mold them to equip the challenges faced in the current scenario. (Amitabh Deo Kodwani, 2004, pp.36-56).

RELATED LITERATURE

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In a study by the Kuhne Logistics University and the World Bank, logistics industry is successful only with specific skills and they are in daring need of hiring skilled workforce. The study reveals limitations in training in developed countries like resources and money spent, time allotted for training, etc. (McKinnon et.al, 2017).

Dubey and Gunasekaran (2015). The authors conducted this study to identify sustainable supply chain skill and propose a conceptual training framework for sustainable chain talent. By this study the authors identified the sustainable supply chain skill matrix and they proposed the conceptual framework.

Kovacs, G., Tatham, P., & Larson, P. D. (2012) They indicated that the persistence of natural disasters increased the demand for logisticians, but still they have little understanding of the skills required, and the analysis summarizes that logisticians need a wide range of functional skills such as (transportation, warehouse management and procurement) in addition to that skills logisticians need "contextual" skills such as (Security management and overall knowledge of donor regulations) suggests that further research leads to improvements in training and education programs.

The quality of a training program depends on several factors like soundness of approach to training, appropriateness of training designs, specificity of training objectives, choice of course contents and proper

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selection of target population. Broadly, it requires effective and positive collaboration among the training institutions, trainers and beneficiary organisations. As the job becomes more complex the importance of employee development also increases. In a rapidly changing society, employee Training & Development are not only an activity that is desirable but also an activity that an organisation must commit resources to, if it is to maintain a viable and knowledgeable work force (Thomas Acton, 2003, pp.137-146).

Gammelgaard, B. and Larson, P.(2001). This study has been conducted by these authors in order to study the abilities of supply chain management. In this study two methods were used to collect the data, survey method and qualitative research interviews. The surveys got important ratings of 45 Supply Chain Management skill areas and a three-factor skill model (interpersonal/managerial, quantitative/technological and SCM core). The results suggested that teamwork skill is rated as the most important skill for supply chain management in addition with gathering and sharing information.

RESEARCH GAP

From the studies, the researchers could identify no studies have been done in Oman or Arabic world context regarding the inputs pertaining to logistics industry in Oman. Hence, the topic of research becomes highly relevant to study and warranted to make the training and workforce performance effective.

RESEARCH QUESTIONS

Research questions:

1. What is the concept of training logistics workforce mean to the organizations in Oman and what is the level of importance given to training? 2. Whether the training programs for the Logistics industry are adequate and meet the requirement? 3. Whether the training inputs enable the workforce to face the challenges of the business suitably?

Research Design

The researchers undertook descriptive cum analytical research and do the sampling survey using questionnaire method. The researchers had detailed analysis of what type training was given and what are the inputs and also find out how relevant and sufficient they are. Hence, detailed descriptive and analytical research was chosen. The researchers have used facts or information about 4 types of evaluation and demographic variables and analyzed these to make a critical evaluation of Training evaluation. The study was conducted with a preliminary pilot study followed by the main study.

The first part of the questionnaire comprises demographic factors; next part consists of details of training had/ desired, last part contains statements relating to the evaluation of training with Likert's 5-point scale. All relevant statements are included to derive responses. The employees were informed that the study was being carried out as a part of the research work, in order to know their views about objectives of the training, types of training and evaluation of training. The researchers collected details of companies in Logistics industry in Oman and out of which chose 23 companies comprising 322 employees through Google Form. This contributed to 84 responses. Sampling was done through online survey.

Instrument

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A questionnaire common to operating and executive levels was designed which would accommodate the relevant training offered in logistics industry in general. Based on the respondents' opinion and suggestions, the effectiveness and suggestions is obtained. The questionnaires based on the concepts of logistics training and the variable from the literature. Hence, the designed questionnaire would suffice the requirement of research questions.

Reliability and validity evaluation

Reliability describes the degree to which observations or measures are accurate and precise (Thorndike, Cunningham, and Hagan 1991). Reliability was assessed based on Cronbach Alpha as presented in Table below: The Cronbach Alpha reflects both the number of items and their average correlations. The Cronbach's Alpha value for training area, context evaluation, input evaluation, reaction and output evaluation are 0.701(16 items), 0.834 (4 items), 0.734 (6 items), 0.70 (6 items) respectively.

The method used in the research has its own inherent external validity issues related to the objectives of the training, types of training and evaluation of training

Statistical Techniques

SPSS software and both descriptive and inferential Statistics was being fully used. Regression model using AMOS was used to ascertain the relationship between input variables and outcome variables. Effect of demographic variables was also studied.

Used CIRO model for training evaluation

It is important to determine whether a training program is accomplishing its objective clarity and validity of the content to determine training effectiveness. There are different approaches to training evaluation and we used CIRO approach. CIRP approach was developed by Warr, Bird and Rackhal. Context evaluation refers to collection of information about performance deficiency and setting the objectives. Input evaluation relates to the contents methods and trainers. Reaction evaluation includes subjective reports of the participants about the whole program. Outcome evaluation assesses the results. Evaluation is done in terms of context, input, reaction and outcome. (https://kodosurvey.com/blog/ciro-model-definitive-guide)

LIMITATIONS AND DELIMITATIONS OF THE STUDY

1. The study considers the perception of employees on types of training and evaluation of training and it is a reflection of current status of the industry.
2. A questionnaire survey is conducted among the employees of the selected companies of Logistics industry. The study is limited to the responded companies. But still is a reflection of that industry in Oman and need not be extensively across the globe.

ANALYSIS AND DISCUSSIONS

This chapter provides deep analysis pertaining to all objectives of the research. Analysis of variance extensively using SPSS apart from AMOS software for arriving at a model is subsequently used to verify the objectives. This section also tests all hypotheses framed in the research.

1**. Demographics:** Out of 84 respondents, 59% are Omanis. Others are expatriates. Male employees are 44%. are males. This industry deploys more females. 80% employees are less than 40 years which means the workforce is young. 76% of them have graduation and higher qualifications. They can pick up better in training. 76% have more than 15 years' experience. Employees are from Logistics industry 41%; and allied industries like services 45% Mining10% Manufacturing 4%

2. **Regarding the responses on training had, desirable and not needed,**

The respondents who desire the training are

Warehousing- layout and utilization (45% desires it); Effective inventory management (55% desires it); Logistics & transportation ((33% desires it, 15% had it formally); Port operations (51% desires it); Customs House documentation ((11% desires it, 28% had it formally); Air cargo operations (36% desires it); Containerization, stuffing & documentation (47% desires it), bulk cargo /liquid cargo handling, (37% desires it); Database systems for integration of logistics system (38% desires it, 4% had it); Services marketing, (48% desires it, 4% had it), Supply chain management, (36% desires it, 13% had it), Steamer agent's role, (40% desires it, 7% had it), Effective cost control (41% desires it, 3% had it);Interpersonal/ teamwork (38% desires).

3. Effect of demographic variables on reaction and outcome evaluation:

The reaction and outcome evaluation denote the effectiveness of training program in terms of performance. We discuss the effect of few demographic variables which have impact on training performance.

Tab 1- Anova – Analysis: Experience and CE, IE

ANOVA

		Sum of Squares	df	Mean Square	F	Sig.
CE	Between Groups	11.434	4	2.858	7.767	.000
	Within Groups	29.444	80	.368		
	Total	40.878	84			
IE	Between Groups	6.752	4	1.688	6.313	.000
	Within Groups	21.390	80	.267		
	Total	28.142	84			

The above table1 shows effect of experience. Experience has high influence on the context as well as input evaluation. Experienced people are already possessing part of inputs and that is why this result. (sig = 0.000)

There is an effect of experience on training areas viz., custom house documentation. It requires more experience in practice. Experience has no influence on other areas.

Experience has high influence on reaction evaluation parameters like facing challenges of business and experience has high influence on Outcome evaluation parameter like training promotes quality improvement. Experience does not influence other variables like training improves processes; equip to face challenges, intense learning occurs, etc. Experience has correlation with input evaluation too. Experience has very high influence (sig = 0.000) on the input variables viz.,

a. Interpersonal skill can influence & create an impact on the required job performance. b. New methods of learning always promote new ideas to accomplish the organizational targets. It is logical that they would be having good contact and relationship better than inexperienced employees.

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The effect on reaction evaluation alone by context and inputs variables can be seen below.

Regression Analysis: Dependent Variable : Reaction

Independent Variables : Context Evaluation, Input Evaluation

As per Tab 2, the context and input variables influence (sig = 0.000) on reaction (part of effectiveness) of training program. The adjusted R square value is 0.384 and it shows 38% of effectiveness (reaction part) is explained by context and input variables together.

The effect on outcome evaluation alone by context and inputs variables can be seen below in Tab 3.

Regression Analysis: Dependent Variable : Outcome

Independent Variables : Context Evaluation, Input Evaluation

Tab 3 model Summary

Model	R	R Square	Adjusted R Square	Std. Error of the Estimate	Change Statistics				
					R Square Change	F Change	df1	df2	Sig. F Change
1	.392[a]	.154	.133	.93105107	.154	7.451	2	82	.001

It can be seen that the input and context variables have good influence (sig = 0.000) on outcome / effectiveness

Tab 2 Model Summary

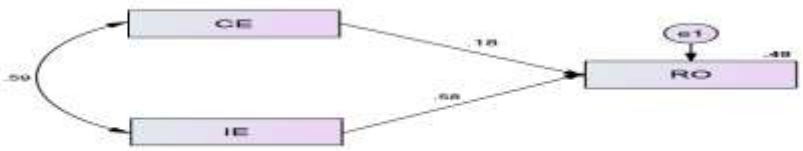
Model	R	R Square	Adjusted R Square	Std. Error of the Estimate	Change Statistics				
					R Square Change	F Change	df1	df2	Sig. F Change
1	.632[a]	.399	.384	.78465778	.399	27.216	2	82	.000

a. Predictors: (Constant), IE, CE

of training program. Determination coefficient, adjusted R square value shows 13.3% of effectiveness (outcome) is explained by context and input variables together. However, input evaluation makes significant impact on outcome evaluation.

Using AMOS software, a regression model is formed and is given in the fig 1 on overall effectiveness of reaction and outcome.

Fig 1 Regression Model of CE & IE on RO (Effectiveness – Reaction & outcome combined)



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Regression Analysis: Dependent Variable: RO

Tab 4 Model Summary

Model	R	R Square	Adjusted R Square	Std. Error of the Estimate	Change Statistics				
					R Square Change	F Change	df1	df2	Sig. F Change
1	.698[a]	.487	.474	.39064	.487	38.865	2	82	.000

a. Predictors: (Constant), IE, CE

Tab 4 b ANOVA[a]

Model		Sum of Squares	df	Mean Square	F	Sig.
1	Regression	11.861	2	5.931	38.865	.000[b]
	Residual	12.513	82	.153		
	Total	24.374	84			

a. Dependent Variable: RO

b. Predictors: (Constant), IE, CE

Tab 4c Coefficients[a]

Model		Unstandardized Coefficients		Standardized Coefficients	t	Sig.
		B	Std. Error	Beta		
1	(Constant)	.759	.313		2.428	.017
	CE	.137	.076	.178	1.812	.074
	IE	.538	.091	.578	5.888	.000

a. Dependent Variable: RO

A regression model is given in fig 1 which depicts that IE (inputs) has high influence on Reaction & Outcome (effectiveness). The β viz., the regression weight of 0.58 in figure 1 shows that for 1 unit of increase in inputs, the combined effectiveness(RO) will increase by 0.58 unit; 1 unit context increase will lead to 0.18 increase in the combined effectiveness(RO). In short, the model proves that for an effective performance, high IE score is vital which means the inputs of training should be strong. Here, 't' value is high and significance is .000 which says that the input has strong influence on the effectiveness of a training program and the others are peripherals only. The determination coefficient 0.49 shows that IE & CE could explain 49% of the effectiveness of training

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(RO) altogether. The inputs are the contents of training programs and they are more important in deciding effective performance of workforce.

CONCLUSION

The study reveals that training inputs are more significant for logistics industry in deciding the employee performance. There are more experienced employees but still they require inputs on inventory, warehousing, port operations, air cargo operations, containerization, service marketing, SCM, Steamer agent's role, cost control, teamwork, etc. It has implications for all stakeholders and the organizations of logistics industry and training agencies in particular. Experience has influence on context and input evaluations. It shows less experienced workforce need to be trained more. Experience has high influence on outcome or results of training. 40% of reaction as a part of effectiveness is explained by context and input variables. Care has to be exercised to strengthen the input and context variable so that training will achieve its results.

A regression model was formed which shows that input variables have high influence on reaction and outcome and decide the effectiveness. Context variables also have some effect on reaction and outcome / results. The training programs shall focus on these aspects and the organizers need to pay more attention on inputs and with less experienced employees.

RECOMMENDATIONS

The industry may focus more on training less experienced employees. Refresher training programs updating latest developments can be arranged for shorter duration to all employees. Training inputs may be tailor made to suit their requirement of workforce instead of arranging general training on particular topic. Need analysis can be made industry wise and then the training organizations may be asked to come up with required inputs of training program. Employees with lesser qualifications and experience require special attention and training programs to be additionally arranged to make them still better performers.

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