Impact of Training and Development on Innovation Capability

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Abstract: Today, entire world became a global network, treated as a global economy that drives organizations to be competitive. Thus, Organizations tend to be more concern on innovations and establish an innovative culture to be unique and gain competitive advantage. In this process, Training and Development acts a critical role that accelerates employees thinking ability and their behavior. This study investigated the impact of training and development on innovation capability of employees. The study context was an Apparel organization in Sri Lanka. The primary purpose of this study to fill the literature gap while giving stimuli to Sri Lankan organizations towards to be innovative. To measure effectiveness of training and development, researcher used the model developed by Wise and Ezell (2003) and innovation capability was measured by the model developed by Dadfar et al. (2013). Findings of the study reveals that organizational effective training and development positively affects to boost innovation capability of organization. In addition, the study proposed how an organization inculcate an innovative culture within by improving learning, productive behavior and personal/group achievements.

Keywords: Effective Training and Development, Innovation Capability, Apparel manufacturing

1. Introduction

1.1 Background of the study

The entire world became a global network, treated as a global economy which is under control of giants. Due to environmental changes creates high competition between each business unit more and more. Part of them tries to maintain their higher position, another part attempts to be a giant while some others seeks to be survive. What could be the reason to this difference?

Many top management people in those giant organizations revealed that the main cause for this is the innovation or be innovative other than being traditional. That’s why most of business organizations are moving towards to create completely new products, procedures and methods, models or recreate a new by modifying the existing. Some research studies have confirmed it by saying that the ability to develop new ideas and innovations is one of the top priorities of some organizations. Also the performance hurdles for success have increased considerably being increasingly focused on innovation.

Be innovative is neither a miracle or one-night result. To be innovative, it should be practiced. As an organization, should combine strategic orientation with their employees’ thinking pattern. They should go beyond; not been stuck in one single mental block; should dig and bring out the potentiality of creative thinking to the surface. According to [1], there are 7 rules which can affect to have an innovative thinking in an organization. Strong leadership, matching to business strategy, culture, correct rewards, balance creativity and value capture, neutralizing organizational antibodies, and innovation network are those rules.

However, managing the complex and risky process of innovation has been problematic and fraught with difficulty. In an organization only operational or production department cannot be solely carry out innovations forward. It’s an idea occurred in a human brain, referred as thinking out of the box. For that the HRD should involve and contribute to establish an innovative culture within an organization.

1.2 Research problem

Innovation is not limited only to a nation which is treated as developed or enjoys high per capita where based in technological driven economies. It is entailed by developing countries more since it provides opportunities and conditions for developing countries to compete in global business world [2][3]. Organizations in developing countries treat the importance of innovation as a potential way to join in world economy strengthening their firms’ competitive position.

Accordingly, Sri Lanka as the nation has identified the importance of innovation for the future prosperity of the country. In 2017 Global Innovation Index (GII) Sri Lanka (SL) has placed 90th among 130 nations while performing 0.76 innovation efficiency ratio [4]. Moreover, the central bank statistics [5] shows that Sri Lanka’s export earnings dropped by 2.6% to US dollars 932 million in July 2015 where apparel sector performs as the main contributor to the export earnings. As the contribution to the above state, the former Deputy Governor of the Central Bank [6] pointed out that when compare to the global companies they are moving 5 times faster than Sri Lankan companies because of not being novel, and lack of expansion [7].

Yet, there is no a common formula or a model to be innovative or to be success through innovations. It’s differed upon the differences of companies. It confirmed by [1], saying the difficulty of innovation building and executing by comparing to regular manufacturing and financial control functions. They see that somewhere along the line the correct set of rules have been misplaced, distorted or simply misinterpreted. The way of most managers thinking is not up to the right direction with regard to innovation. Most of them feel that only manufacturing or R & D departments responsible or that’s their task to generate innovations.

But the ideal condition should be the collaborative actions
and responsibilities for all the departments; each individual. Supportive and directive culture and working atmosphere should guide towards to inculcate an innovative thinking culture.

Still, it is bit difficult to change employees’ mind set in order to get their involvement in innovation. As organizations see, enthusiasm of employees is lesser than employees in competitive firms even though they get the same opportunity to deliver their innovative performance. For an example, most of employees have the intention to finish up daily tasks without developing their psychological capacity to think and come up with new thoughts. It shows that, by explaining the low interest of employees to participate for competitions regarding innovations.

In literature [8], explains that there are different measures of organizational practices that able to develop innovativeness of employees, such as incentive pays, recruitment and selection, team work, flexible job assignment, job security, communication and training and development. Among these, training and development has been identified as a practice which can involve more in creating innovative thinking in an organization [9] [10] [11] [12] [13]. Therefore, the researcher conducted an investigation between the training and development and innovation capability.

1.3 Hypothesis

Hypothesis were tested are as follows.

H1: There is an impact of Training and Development on Innovation Capability
H2: There is an impact of Learning on Innovation Capability
H3: There is an impact of Productive behavior on Innovation Capability
H4: There is an impact of Personal and group achievements on Innovation Capability

2. Literature Survey

2.1 Innovation Capability

The enabler of the innovation is the innovation capability [14] within an organization which aids to have a sufficient and sound innovation management system, may be sector or industry specific, if not firm specific. Most importantly, innovation capability is the criteria that brings sustained competitive advantage to organizations [15].

Innovation capability is defined as the skills and knowledge added to effectively absorb, master and improve existing technologies and to create new ones [16].

Researchers [16] defines that innovation capability is proposed as a higher-order integration capability [16] [17] that is, the ability to mold and manage multiple capabilities. Organizations possessing this innovation capability have the ability to integrate key capabilities and resources of their firm to successfully stimulate innovation [16].

Researchers [14] [18], defined innovation capability as a firm’s ability, relative to its competitors, to apply the collective knowledge, skills and resources to innovative activities relating to new products, processes, services or management, marketing or work organization systems, in order to create added value for the firm or its stakeholders.

Researchers conceive innovation capability as a higher integration or a capability of integrating the firm’s key capabilities and resources. It means organizations should improve leadership, people and partnerships and organizational capability to learn before trying to improve their process of innovation [19]. Similar explanation has been given by some researchers [20] that process of integration and coordination, learning, practicing and accumulation of core competencies.

Capability of innovation has been presented as a combination of three key areas in previous study [21] strategies, internal environment, and competencies. [22] Another study brought similar argument explaining how to improve capability of innovation by using internal and external sources, clear and aware strategies, learning process and innovative cultural factors.

[23] Some researchers suggest four characteristics of successful innovation capability build up as: Strategy based (Strategy), dependent on effective internal and external relations (linkage), dependent on effective mechanism for making changes happen (process), happens in a supporting organizational context (organizational structure). An expansive model of previous study [23] has been presented by few contributors [19] after including “Learning” as well.

2.2 Training and Development

Training and development is the systematic process of developing knowledge, skill, attitudes and technology needed to assist a person to perform better in his job and supporting individual to meet the expectations of a higher and more challenging future jobs [24].

Although training and development could not be held entirely responsible for any of organizational flourish or survival or success, plays a major role as it deals with the knowledge, skill and attitude gaps of people [24].

Many companies spend enormous amounts of money on training and development every year. However, the golden question to ask is that how much of such expenditure really contributes to improve organizational effectiveness in the achievements of organizational goals [24] [25].

In order to achieve this, the designing and resourcing of training should be done to meet the learning outcomes. By conducting training need analysis organization can identify skill or knowledge or attitude gaps and design training and development programs according to that. To get the results or identify the planned expectations achieved after the training or development program can be done through an evaluation.
The evaluation of trainings is required to measure the effectiveness or value of the training programs. Training evaluation is the systematic collection of data regarding success of training programs [25]. Evaluation is done to answer two questions: whether training objectives were achieved and whether accomplishment of those objectives results in enhanced performance on the job.

Mostly, organizations misunderstand the two concepts, training evaluation and training effectiveness are similar. As in literature training evaluation is a system to measure whether trainees have achieved learning outcomes. In contrast, training effectiveness seeks to explicate why training did or did not achieve its outcomes [25]. If summarized, training effectiveness is broader than evaluation. On this basis, [25] set of researchers introduced three criteria: cognitive, skill based and affective outcomes as to measure effectiveness of training and development.

Other than these, a model for training and development has been developed in one study [26] including few major criteria of effective training and development. Those criteria were learner-focused, productive behavior and effective skills, motivation and personal and group achievements [26].

An effective training is learner focused since such training identifies and addresses issues important to the learner, while building on learner strengths [26]. It includes opportunities for active participation by the learner, while recognizing and drawing on the knowledge and experience of the learner [27].

Effective training demonstrates productive behavior and effective life skills [26]. With such training experience, essential skills of employees such as decision making, planning and implementation can be enhanced and integrated. Further, it provides opportunities for learners to expand their social networks and mutual learning [24] [28] [29]. Collectively, it supports to model and reinforce workplaces ethics and productive use of resources, subsequently, novelty [26] [24].

Learners always get motivated by effective training as it increases knowledge about the subject matter, and reinforces worthwhile values and principles [26]. In addition, learners’ individual and collaborative milestones are incorporated into successful training [29]. Such training programs improve knowledge sharing and various organization wide learning practices which encourage employees to participate in innovation process [24] [30].

2.3 Innovation Capability Vs. Training and Development

In literature explains that creativity and innovation can be enhanced through training and development and organizational level OD interventions while emphasizing the significant role of HRD practitioners in establishing an innovation capability [31]. According to literature [9] has explained the requirement of trainings in order to have innovation capability in an organization. Their study indicated that innovative or innovating firms engage in more training than non-training firms. As per their study, high income countries invest more to grow knowledge workers equipped with skills of problem solving and analytical thinking. Further, they highlighted that exploration of new processes and methods through which firms assign value to their stock of skills and commitment to perspective training investments [9] [10] [32].

In literature [12] stated that adequate training and employee skills are required to establish and grow up innovation capability. As explained his study, a firm with poor employee skills and inadequate training is a challenge to organizational innovations.

Similar argument was made in another study [33] confirmed the strong relationship between training intensity and product/process innovation as innovation depends on acquisition and development of employees. With the deep study of skill requirement, he identified the importance of intermediate technical skills rather than higher level technology skill for innovation performance.

It shows the importance of learning as a major enabler of innovation capability [14]. As literature [11] stated, innovative firms have more educated employees than non-innovative firms after the evaluation done on education and skill characteristics of workforce in innovative firms and non-innovative firms. Further, it is depended on the educational competence and skills of employees to generate innovation and make profits. Other than that, if workforce is skilled, experienced, motivated enough, mutual learning and achievements, innovation capability is found to be higher [13].

3. Methodology

3.1 Conceptual framework

In literature, researchers have come up with different conceptual models according to their studies and context. After deep literature referring present researcher identified basics required to have in a firm where the innovation capability is possessed. Therefore, researcher develop a conceptual framework including basics which represents existing models.
dependent variable.

The study consists of both primary and secondary data. The primary data will be collected through self-administrated questionnaires and direct interviews. Independent variable, effectiveness of training researcher used the model developed by [26]. The variable was measured under three indicators, learning, productive behavior and personal/group achievement. Altogether 15 items were there. Innovation capability was the dependent variable, measured by the innovation capacity scale [19]. Reliability value of original questionnaire was Cronbach alpha (=0.903) and validity was (=0.85). Researcher attempted to include items that were written in positive as well as negative direction items into it.

Secondary data were collected from relevant documents of Company, research publications, standard journals and all other necessary resources.

### 3.3 Population and Sampling

The population of the research consists with employees which was accounted for 356 (N=356). With a 95% confidence level and 7% margin of error the minimum sample size would be 130 employees [34]. Therefore, the researcher selected a sample size of 130 employees using Stratified Random Sampling. 5 departments were taken as strata of the case and selected proportion from each department as; sawing-17, cutting-13, packing-11, stores-11, quality assurance-20, and other-58, according to the total number of departments.

### 4. Data Presentation and Analysis

#### 4.1 Descriptive data analysis

Total sample was consisted with 68% females and 32% males and it is obvious in apparel sector. Researcher categorized the sample by age. Majority of respondents was in the age range between 25y-30y with value 29%. The least percentage (20%) of respondents was from age less than 25y. Respondents more than 40y and 31y-40 were as 23% and 28% respectively. Sample composition of each department shows as 15% in Quality assurance, 13% in Sawing, 10% Cutting, 9% in Stores, 8% in Packing and 45% in other departments including HRD, Admin, Accounts, Planning, Work-study, Fabric and Maintenance. Moreover, researcher attempted to identify the educational level of each respondent for further understanding of the context. According to the findings, highest number of respondents (51%) were completed their secondary education.

The reliability analysis was measured by using Cronbach alpha. Reliability of training and development in present study was Cronbach alpha (=0.901) and validity was (=0.811). Dependent variable, innovation capability was received Cronbach alpha value of (=0.914)

#### 4.2 Hypothesis testing

Researcher was analyzed the correlation and regression coefficient for training and development and innovation capability with the collected data (Table 1 and Table 2 respectively). As Table 2 presents, R2 value is 0.514 indicates that 51.4% variance of innovation capability is explained by training and development. And 48.6% variation of innovation capability is explained by other effective factors which were not covered by the current study [35].

Strong positive relationship between innovations and profitability proven by the strong correlation value of 0.811 (=0.000<0.05). Also as per results, coefficient value 0.658 which means 65.8% of innovation capability determined by training and development.

The researcher has evaluated data relevant to Hypothesis 2 using correlation and linear regression. Refer to data calculation, Pearson correlation between the two variables was 0.674 (=0.000<0.05) which indicates moderate positive correspondence among two variables. The coefficient among the two as 0.455 (=0.000<0.05) which indicates 45.5% of innovation capability is determined by learning. Thus it is evident that there is a positive impact of training to uphold innovations. Hence, Hypothesis 2 is positively accepted by the researcher while rejecting null.

Third hypothesis referring about productive behavior and innovation capability got the correlation value as 0.510 (=0.000<0.05) and it implies that there is a moderate positive correlation between two variables. Coefficient value of 0.26 (=0.000<0.05) proved that there is a positive impact of productive behavior on innovation capability which could be beneficial in encouraging innovations. Therefore, hypothesis 3 was positively proven.

Refer to findings, Pearson correlation between the two variables resulted at 0.866 (=0.000<0.05) which indicates strong positive relationship by certifying hypothesis 4. The researcher has found after regression calculations, coefficient among the two as 0.75 (=0.000<0.05). Evidentially, it proved that there is an effect of individual/group achievement to innovation capability. Hence, Hypothesis was positively accepted by the researcher while rejecting the null.

### 5. Discussion

The results of the present study resulted that the effect of training and development and its dimensions on innovation capability significantly with a strong positive relationship.
As per the literature, shows that the importance of learning as a major enabler of innovation capability, based on the research done to increase organizational performance in retail industry in Kenya [14]. Compare to the present study it explains there is a moderate positive relationship between learning and innovation capability proven by coefficient value, 0.674.

The researcher also found that 45.8% of responsiveness of innovation capability is determined by learning. However, the study explored, the hidden potentiality and knowledge of employees of the context haven’t identified by the management. Simply, there is a lack of opportunity to trigger out their potentiality or creative and innovative ideas.

As the less effective dimension, productive behavior positively relates to the innovation capability with the value of 0.510. And the coefficient value, 0.26 implies that productive behavior possesses 26% determination of innovation capability.

Referring to the context, productive behavior is almost there as it’s an apparel manufacturing set up which fundamentally focuses on productivity. It means the existing training and development programs has covered up the productivity which acts as the least determinant regarding innovation capability.

As the last dimension of training and development, personal and group achievement got 0.866 as the correlation and 0.75 as the coefficient. According to the present study the strongest positive relationship is there between personal and group achievement and innovation capability. Further researcher has identified personal and group achievement as the main contributor on innovation capability with the 75% determination percentage. Refer to the findings of the present study reveals that the lack of programs which motivates innovative thinking of employees in the context has hidden the potentiality of employees.

According to the analysis it was found that the training and development has a significant effect on innovation capability of the present context. Referring the findings of the present study proves that there is a strong positive relationship between training and development and innovation capability with the correlation value, 0.811. And the coefficient value, 0.658 which means that strong impact of training and development on innovation capability. Furthermore, R2 value 0.514 justified that responsiveness of innovation capability based on training and development is 51.4%. The study [9], also revealed the positive relationship between training and development, and innovation capability.

6. Conclusion

The study encompasses analysis of the research findings from 130 sample employees in a Sri Lankan apparel firm. A questionnaire comprising 30 questions has been tested in this study from which, developed hypothesis were evaluated. The results of the data analysis revealed the correlation and coefficient among the independent variables and dependent variable.

According to the findings, the research analysis concludes that all hypothesizes tested had a positive impact of training and development and its indicators on dependent variable. Further, the indicator of independent variable; personal and group achievement has shown a significant strong positive relationship and impact to the innovation capability with 0.866 and 0.75 respectively. Other independent variables; learning and productive behavior correlate moderately with innovation capability. All together it reveals that there is a strong positive relationship between training and development and innovation capability. Ultimately, the present study proved that training and development strongly impact on innovation capability.

7. Suggestions for future research

It was evident that less number of researches have been done on innovations, and hardly few researches are available in Sri Lankan apparel industry. Thus, the researcher suggests this subject area for future researchers as a beneficial area to further explore.

Due to limitations the researcher has focused on three elements of training and development which direct innovation capability of employees. Hence, the researcher suggested to continue the present study with more elements in different set ups.

Other than that the researcher suggested to conduct a deep study regarding the creativity and the role of HRD on innovative based culture which may build a new concept or a model to the existing literature. And it will strengthen the function of HR more and more.

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