

THE IMPACT OF HUMAN CAPITAL ON EMPLOYEE PRODUCTIVITY OF MEDIUM SCALE APPAREL INDUSTRY IN SRILANKA

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Abstract

Human capital refers to the stock of knowledge, habits, social and personality attributes including creativity, embodied in the ability to perform labour so as to produce economic value. Further, several studies have found that a number of factors affect on human capital; education is in the premier position among these factors. It includes the knowledge that comes from formal education, non-formal education and informal education. The current study is carried out with the objective of identifying and analysing the impact of human capital on employee performance of medium scale apparel industry in Sri Lanka. As the data collection tool, a semi-structured questionnaire was used with a sample of 100 employees selected on simple random sampling techniques from 10 apparel companies which were selected on convenient sampling method. Structural equation method was used to analyse the data statistically. As the tool to analyse the data, SPSS Amos (version 21) was used. Finally, the research study finds that education, age, sex, civil status, rural or urban distinction, work experience, and training and development effect on employee performance. The study found that urban employees are more productive than rural employees; female employees are more productive than males; female employees with the age lesser than 25 years are more productive while males with age less than 30 are more productive; the impact of primary education with training and development are more productive.

Further, being the employees in the urban sector, being a male aged between 30 to 35, having experience between 10 to 15 years and having education up to secondary education contribute to better employee performance.

Keywords: *Human Capital, Employee Productivity, Education, Training, Experience*

1. BACKGROUND OF THE STUDY

Every organization is based on resources such as Man, Machine, Money, Material and Method. 'Man' factor is all about human capital. Human capital is a process of enhancing an individual's knowledge, skills and ability in order to increase his/her individual performance. It characterises people's skills, knowledge, attitudes, behaviour and capacity. Once an organization has created its human capital rightly, it increase; employee performance which eventually change the organizational performance with the help of new skills, knowledge and abilities.

Sri Lanka's apparel sector has become one of the main pillars in the country's economy for the last few decades. A higher percentage of the population in apparel processing plants in Sri Lanka are working in small and medium scaled. Human capital is considered as a very important factor in the medium scale apparel industry. It plays a vital role in the development of the industry in the context of competitive advantage in both low cost and differentiation. Therefore, it is important for an organization in the apparel sector to recruit right employees with right, creativity, innovativeness, skilfulness, knowledge and attitude in order to have a sustainable spectrum of human capital development. This human capital development makes it possible to boost the employee performance (Olaniyan and Bankole (2005) and, as a result, the productivity in the apparel industry is floating on apparel industry is a labour intensive one.

1.1 Problem Statement

Human capital is considered as a one of the most important aspects of the capital in the apparel industry, and it is more significant than other capitals because it decides the employee productivity. Source of human capital comes from formal education,

informal education and non-formal education (Rajapaksha, 2014). This tri-sources of education makes from many different attributes. Further human capital mix affects employee productivity than other capitals. Then the question arises as to what type of employee attributes would make an impact on employee productivity. However, in macro perspective, the problem that the apparel industry in Sri Lanka is facing today is the lack of better human capital mix, which can increase cost-effectiveness and product differentiation (Oxley, 2005) in order to compete with competing countries apparel producing in the world at low cost.

1.2 Research Objectives

While the core objective of this research study is to identify the impact of human capital on employee performance. Hence its secondary objectives are;

- i. to identify the factors influencing on human capital of medium scaled apparel sector in Sri Lanka.
- ii. to explore the impact of factors affecting on human capital on employee performance of medium scale apparel sector in Sri Lanka.

2 LITERATURE REVIEW

Schultz (1963) in his book 'Investment in Human Capital' recognizes human capital as the stock of knowledge, skills and abilities that are derived from education. He classifies human capital as the accumulation of skills and knowledge that a people acquire during a span of time period. As Schultz (1961) identifies, the development of human capital can be categorized into five areas; (1) investment in health and services (2) employment in on the job-training (3) empowerment in education level (4) extension programmes (5) migration due to changing job opportunities. All these five areas bring education to individuals from the three sources namely formal, non-formal and in-formal (Weir, 1999). These areas give the knowledge, experience and skills to an individual to form human capital. Therefore, human capital and education cannot be separated because human capital is a further extension of education along with training, experience and health (Chandrakumara, 2009). Further, education can make a human as a capital or as a resource or as an asset due to his knowledge, skills and abilities. Oxley (2005) defines human capital as the knowledge and skills embodied in people rather than physical capital that is vital to a country's economic growth. In contrast,

Olaniyan and Bankole (2005) recognize human capital as the abilities and skills of a country. They indicate human capital is to be acquired, built up and developed and it does not come spontaneously. Hence, it needs cognitive and non-cognitive thinking to acquire, build and develop the human capital where education, training, experience can provide the same. As he indicates all forms of education does not make the human capital. Therefore, only the aspects where skills development could be made instrumentally, forms the human capital. Oxaal (1997) is in an opinion that the human capital is a private and social good which provides many economic and non-economic consequences to an individual and society.

Education means acquiring knowledge and skills. Weir (1999) identifies education in a three-fold manner; i.e. Formal, Non-Formal and Informal. Formal schooling is usually considered as education by many scholars. While formal education enhances people's cognitive skills and abstract reasoning ability, non-formal education fosters specific information needed for a particular task or type of work. However informal education directs people to form attitudes, beliefs and habits. Formal education is known as Education from schooling. It is the process of transferring knowledge and skills from one generation to the next (Janjua and Kamal, 2011). Non-formal education includes Education from extension, apprenticeships and training programmes. Informal education means Education from wide range of experiences, including 'learning by doing' and migration or other activities which provide exposure to new ideas and facilitate learning. Further, as Chandrakumara (2009) indicates human capital is also a result of formal, informal and non-formal education

Flora *et al* (2005) defines human capital as; 'the native intelligence, skills, abilities, education, self-esteem and health of individuals within a community'. Tabari & Reza (2012) define human capital as an accumulation of science, knowledge, experience, ability, health, regularity and discipline that is stored by education and health in the workforce in order to increase their work efficiency in production. Both studies perceive that human capital has the ability to increase productivity of the workforce. Gazdar *et al* (1994), Malick (1991), Ahmed (1990) and Kazi (1995) indicate that education plays a critical role in human capital development. Janjua and Kamal (2011) and Rosen (1989) are more specific on this. They point out while the stock of people with knowledge and skills is considered as human capital the

basic source of human capital comes from formal education.

However, Taking into consideration what Chan (2009) indicates about human capital, and the definition given by Chandrakumara (2009) regarding human capital and further taking into consideration the definition given by Schultz (1961) as '*human capital is a 'means' of achieving higher productivity and*

higher wages for individuals (p.3), the below Figure 1 is drawn.

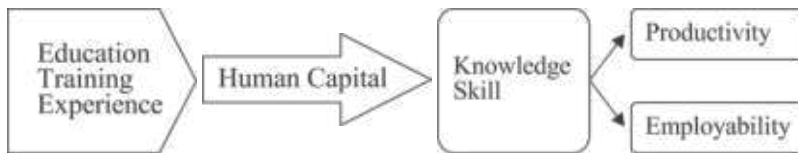


Figure 1 : Means and Ends of Human Capital

Source : Created by author based on the studies done by Chandrakumara (2009) and Schultz (1961)

Figure 1 indicates education and training along with health factor improve human capital. This notion is further consistent with what Schultz indicates; the productivity and employability are consistently developed due to the continuous expansion of knowledge, skills and abilities which come through human capital.

Human capital theorists' views on the role of education are different from the concerns on correspondence theorists (Bowles, Gintis). According to correspondence theory concern, education is valued based on employment perspective. Correspondence theorists believe that education is perceived by the employers for its non-cognitive qualities and attributes more than its cognitive skills. Correspondence theorists argue that the non-cognitive skills correspond strongly to the attributes required of employees at unskilled, middle and higher levels of the occupational hierarchy. Human capital theorists identify when the level of education increases, it increases the skills and abilities of people to enhance the employee productivity, eligibility of employment in informal sector and promotion after that. Further, correspondence theorists believe that increasing education can increase the functionality in the employment aspects.

3. RESEARCH METHODOLOGY

3.1 Introduction

In this research, the researcher is using 'positivism' as the research philosophy and the 'deductive' approach is applied as the research approach since this research is developing research questions based on the existing theory. As the research method, the quantitative method is used. As the research strategy, survey method is used while the time horizon of the study is cross sectional.

3.2 Conceptualization

Conceptual framework is shown in the Figure 2.1 to interpret how the factors of human capital have an influence on employee productivity. The researcher has developed this conceptual framework based on the findings from the literature review.

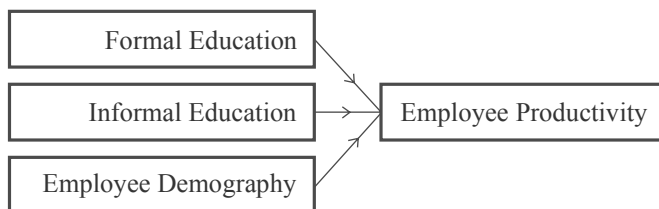


Figure 2 : Conceptual Framework: The Factors Affecting on Human Capital to Employee Productivity.
Source : Developed by Author (2015)

According to the Figure 3.1, formal education, informal education and employee demographics are the source of human capital (Rajapaksha, 2014). The factors affecting human capital such as formal and informal education along with employee's demographics have an impact on employee performance. Formal education is represented here by the school education while informal education is the non-volunteer education that comes from age and experience. The factors such as sex, marital status, rural/urban divide and sex are indicated as the employee demographics. All these factors contribute to form the human capital. However, the human capital formed thus will affect the employee productivity as identified by the review of literature.

3.3 Formulation of Empirical Model

Based on the conceptual framework developed as shown in Figure 3.1, the following empirical model is developed.

$$Y_{ij} = f(W_{ij}, X_{ij}, Z_{ij}) \dots \dots \dots (1)$$

Where: Y stands for employee performance and vectors W_i , X_i , Y_i , stand respectively for factors of formal education (W_i), factors of informal education ($X_{1..2}$) and employee demography ($Z_{1..3}$). While factors of formal education (W_i) and factors of informal education (X_i) indicate the endogenous variables, employee demography (Z_i) is shown as the exogenous variable as below in the Table1 (i & j indicate 'of a person' & 'of an organization' respectively).

3.4 Operationalization

Table 1: Data and variables are developed according to the conceptual framework as shown in Figure 2 and the empirical model is as shown in the section 3.3.

Table 1: Variables and Indicators

Variable	Indicators	Measurement Scales
W_1 : Education	Education level of the employee 1= Primary Edu. 2= Secondary Edu.	Nominal
X_1 : Age	Maturity is broadened with Informal education which comes with age Linear and non-linear experience in the job and off the job	Ranges of years of age Nominal
X_2 : Experience	Periods of training and development	Range of years of experience Nominal
X_3 : Training and Development	Human Capacity of employee depends on the sex	Years/months of training Continuous
Z_1 : Sex	Human Capacity of employee varies with urban and rural divide	1=Male, 0=Otherwise Nominal
Z_2 : Urban/Rural	Human capacity is different with marital status	1=Urban, 0=Otherwise Nominal
Z_3 : Marital Status	Number of output produced within last year/Hours of work	1= Married 0=Single Nominal
Y =Employee Productivity		Output per hour Continuous

Source : Developed by Author (2015)

3.5 Sample Profile

Since the study focused on medium scale apparel industry in Sri Lanka, the sample element of the study is employees; sample unit in the study is the production lines; sample frame is the list of employees. Due to practical difficulty in investigating all the elements in the population, a representative sample of 10 garment factories were selected through convenient sampling technique. 100 operators from there

were selected using simple random sampling method. This is consistent with the sample number and the method of selection done by Dassanayake (2014).

3.6 Data Collection Tool

Primary data was considered to be the key input for the analytical process of the current study. Hence, primary data was gathered by using semi-structured questionnaires and interviews. This is consistent with Dassanayake (2014).

3.7 Data Analytical Tool

The reliability test was conducted with Cronbach Alpha which is an in-built feature of SPSS (ver 22). Researcher used the SPSS AMOS (ver. 21) in order to analyse the model fit of this research. Goodness of Fit Index (GFI), Parsimony Goodness of Fit index (PGFI), and the Root Mean Square Error of Approximation (RMSEA) have been used. GFI should be preferably less than one to indicate a close model fit. If GFI is equal to one, then it indicates a perfect fit. Statistical estimation tool is SPSS AMOS (21). Structural Equation Method was used as the estimation model.

4 DATA ANALYSIS

Under this section estimation of the empirical model was statistically tested to see the impact of human capital on employee productivity in medium scale apparel sector in Sri Lanka.

4.1 Model Fit and Reliability

According to the analysis, it shows that GFI is equal to 0.521 which indicates a close fit. In addition, the PGFI is shown as 0.208. RMSEA is 0.0727 which is acceptable as the norm is less than 0.08. Therefore, the model fit is assured from the indexes as shown above. Further, in order to make sure the reliability, statistical test was done with the aid of SPSS (21). 62 percent composite reliability was made sure based on the Cronbach Alpha.

4.2 Coefficient and Correlations

The factors affecting on human capital are Age, Sex, Marital Status, Education, Training and Experience, and they are the variables associating with human capital as recognized by Schultz (1993) and Rajapaksha (2014). The correlations and significance are shown in the Table 2 Further, the second objective of the research is to see the impact of the factors affecting on human capital on employee performance. The necessary data for the objective were analysed as per data and variables recognized in the Table 1 : Data and Indicators.

As Table 2 shows, the factors such as Age: between 15 to 20 years, Age: between 21 to 25 years, Age: between 26 to 30 years, Sex: Female, Marital Status: Married, Education: Primary Level, Education: Secondary Level, Training, Rural/Urban: Urban, Experience: between 1 to 5 years, Experience: between 6 to 10 years and Experience: between 11 to 15 years have shown a positive coefficient on employee productivity.

Further, among the variables showing positive influence, the variables such as Education: Secondary Level, Education: Primary Level, Age: between 21 to 25 years, Age: between 15 to 20 years, Sex: Female, Rural/Urban: Urban and Experience: between 6 to 10 yearsshow a significant impact on employee productivity. Further the variables such as Education: Primary Level and Age: between 21 to 25 yearsh as a high level of significance. However, the factors such as Age: between 31 to 35 years, Sex : Male, Marital Status : Single, Rural/Urban : Rural, Experience: less than 1 year, Experience: greater than 16 years are the factors which show negative influence on employee productivity. Out of the factors affecting on employee productivity negatively, the factors such as those who come from rural sector, Experience greater than 15 years, Sex: Male, Age between 30 to 35 years show a significant impact on employee productivity negatively.

Table 2: Impact of Human Capital on Employee Productivity

Variables	Standardized		Significance
	Total	Error	
Age: between 15 to 20 years	0.133	0.064	0.020
Age: between 21 to 25 years	0.189	0.059	0.010
Age: between 26 to 30 years	0.021	0.111	0.136
Age: between 31 to 35 years	-0.048	0.185	0.033
Sex : Male	-0.052	0.026	0.041
Sex : Female	0.121	0.056	0.028
Marital Status : Single	-0.033	0.034	0.065
Marital Status: Married	0.041	0.075	0.079
Education: Primary Level	0.768	0.052	0.006
Education: Secondary Level	0.461	0.065	0.030
Training	0.059	0.091	0.059
Rural/Urban : Rural	-0.162	0.026	0.009
Rural/Urban : Urban	0.109	0.056	0.033
Experience: less than 1 year	-0.024	0.163	0.255
Experience: between 1 to 5 years	0.048	0.051	0.067
Experience: between 6 to 10 years	0.077	0.045	0.041
Experience: between 11 to 15 years	0.042	0.055	0.074
Experience: greater than 16 years	-0.114	0.109	0.007

Dependent Variable: Employee Productivity

5. DISCUSSION AND CONCLUSION

As the Table 2 shows, the standardized total impact of employees aged between 15 to 20 years, 21 to 25 years, 26 to 30 years and 31 to 35 years on employee productivity are 0.133, 0.189, 0.021 and (0.048) respectively. This indicates those who are in the age group between 21 to 25 years are holding higher productivity than others and stand in a peak. After the age of 31, employee productivity starts to

decline. The behavior of productivity with the age distribution is shown below in Figure 3.

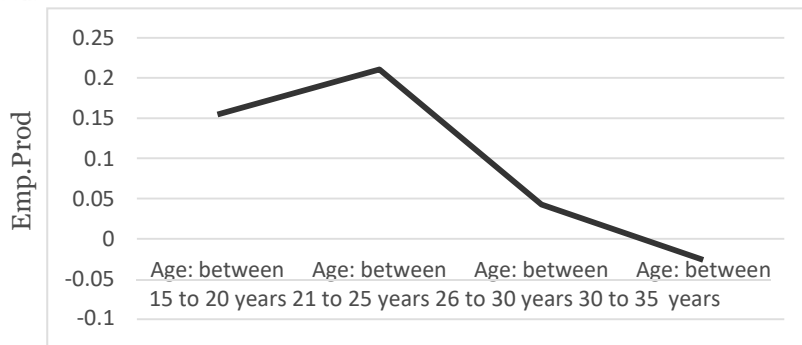


Figure 3: Behavior of Productivity with the Change of Age
Source: Survey Data (2015)

As per the Figure 3, it is clear when employees pass the age of 25 and onwards productivity starts to decline. Once an employee reaches the age group between 31 to 35 years, the employee productivity becomes negative. Then question arises whether the employees after 31 years to be employed as operators or do they need to be promoted to senior positions where they can contribute in decision making rather than doing the normal operating work. This situation is consistent with the principle laid in the scientific management introduced by FW Taylor.

Further, as the Table 2 depicts, the employees with the experience of less than 1 year, 1 to 5 year/s, 6 to 10 years, 11 to 15 years and over 16 years show the standardized total effect of employee productivity as (0.024), 0.048, 0.077, 0.042, (0.114) respectively. This indicates that the employee productivity increases up to 10 years and then it starts to decline. This means those who have completed around 10 years of experience show a higher productivity. Again the issue is whether to keep the employees who are more than 10 years experienced as operators or not. The behavior of productivity with experience is shown as below in the Figure 4.

The Figure 4 indicates when employees reach more than ten years of service, the employee productivity goes down. The factory managers need to see whether they keep the employees in the capacity of operators after their experience reaches beyond ten years. The best alternative is to introduce a job enrichment Programme where employees get additional responsibilities than tasks. This is a new forms of job redesign techniques.

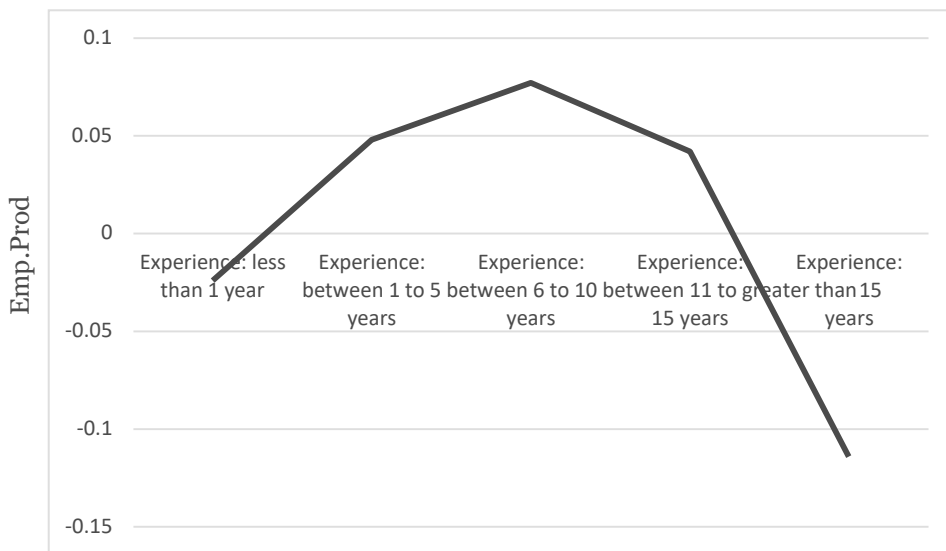


Figure 4: Behaviour of Productivity with the Change of Experience
 Source : Survey Data (2015)

As per the Table 2, the employees with primary Level education show a standardized total effect of productivity of 0.768 while those who have completed education up to secondary level show a standardized total effect of productivity with 0.461. Taking age, experience and education together, it is evident that those whose age is between 21 to 25, females with primary education and experience between 6 to 10 years show a better productivity than others do. Further those who are over 31 years with more than 16 years of experience are not productive based on the results of statistical analysis.

In the final analysis, the current study has found that human capital has a considerable impact on organisational performance. Based on the sample obtained from the organizations, it was able to identify that age, sex, marital status, education and experience are important parts of human capital that influence on organizational performance through employee productivity through their contribution on creativity, cost reduction, customer satisfaction and quality management. The study concludes that being in the categories identified as young stage, rural sector, unmarried, females, experience in between 5 to 10 years and education up to primary level influence on human performance considerably. Finally while females contribute more on human performance through employee

productivity than males who contribute more on organizational performance by their decision making capacity as per the interview details. Then the young aged employees contribute more on human performance while older employees contribute more on organizational performance according to their declaration made in the interview. Further rural employees do not support much on employee performance while urban employees contribute more on both organizational performance and employee performance.

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