

Assessing the Wealth Creating factors for Labor Efficiency in Sri Lankan Tea Industry: Development of a Conceptual Framework

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Abstract. Tea plantation create the nature in wet zone to create the wealth in which tea industry plays a vital role in Sri Lankan economy. Labor productivity is one of major key concept of the tea industry. Sri Lanka has been one of the major tea producing country in the world and its contribution to the overall economy is 0.9%. (CBSL 2014). It has been the biggest provider of export earnings, government revenue and also employment opportunities. Especially tea industry is concern as a labor intensive industry. Tea industry determines Productivity is the one of the most important factor that affects overall performance of any small or medium or large scale tea industries. However it has been declined significantly because of low labor productivity. Education, training, technology, welfare facilities and labor policies are the factors that directly affect the efficiency of labor productivity, thus it is important for any organization to study and identify those factors and take an appropriate action for improving the labor efficiency. Researchers have explored the specific variables associated with labor efficiency. This study aims at proposing a conceptual model for empirical examination for assessing the wealth creating factors for improving labor efficiency in Sri Lankan tea industry. Further empirical literature has identified labor efficiency is highly correlated with the total productivity of tea. In this paper, an attempt is made to present a simple conceptual model by the application of which the overall efficiency of Production-workers can be measured and actions can be initiated to improve the same towards desired output level.

Keywords: Sri Lankan tea industry, labor efficiency, wealth creating factors, conceptual model

Introduction

For more than a century, the tea industry has been the biggest provider of employment, export earnings and government revenue (Jayasuriya, 1998b). The government of Sri Lanka privatized the management of state owned plantations in 1992 by clustering the estates into twenty three Regional Plantation Companies in order to overcome the prevailing inefficiencies in production and labor management. Although, the Regional Privatized Factories were fully privatized in 1995, the labor problem of the sector remained unresolved (Wickramasinghe and Cameron, 2003).

Directly and indirectly, over one million Sri Lankans are employed in the tea industry. A large proportion of the workforce is young women and the minimum working age is twelve. As tea plantations grew in Sri Lanka and demanded extensive labor, finding an abundant workforce was a problem for planters. This causes to reduce the competitiveness of our tea industry comparing with other countries. The level of motivation, skills, knowledge, training and health are the main contributory factors in determining the level of efficiency of the workforce. Therefore, it is firmly believed that labor policies and practices of organizations do matter and are important in improving labor productivity of those organizations (Dishanka and Amaratunge, 2011; Koch and McGrath, 1996). Moreover, these policies and practices should be designed, focusing on the organizational objectives such as employee satisfaction and motivation, cost efficiency and profitability.

Tea industry determines Productivity is the one of the most important factor that affects overall performance of any small or medium or large tea industries. There are number of factors that directly affect the productivity of labor, thus it is important for any organization to study

and identify those factors and take an appropriate action for improving the labor efficiency. In efficiencies of labor causes to increase the cost of production and various reports have highlighted that the cost of production of the tea in Sri Lanka is the highest among all other tea growing countries. At the micro level, if we improved productivity, especially labor ultimately it reduces or decreases the unit cost of the tea production and generates profits. Thus the effective use and proper management regarding labor is very important in tea production process without which those activities may not be possible. According to literatures, factors that influence for labor efficiency can be categorized in to two ways which are individual factors and internal factors. Individual factors mean education, training, age, gender and etc. Internal factors mean technology, welfare, labor policies and some environmental factors.

Objective of the Study

There is no doubt that the labor is the most important factor, which affects the productivity of tea plantation. Therefore, the productivity of labor is highly correlated with the total productivity of tea plantation. However, labor productivity recorded in tea plantations is low when compared with competitive labor markets both domestic and foreign. It has been declining significantly over the past few decades. The labor problems increased, because of inefficiencies of production and management practices. The purpose of this paper is to propose a theoretical framework so that a future study can explore the affecting factors for labor efficiency in Sri Lankan tea industry.

Literature Review

Labor Efficiency

According to the International Labour Organization (2002), worker productivity and efficiency in tea plantations are crucial in the determination of output per worker per day, cost of production, profitability, quality of tea, and volume of production. Economic variables such as investment in new technology and innovation alone do not fully explain differences in the levels of productivity (Sharpe, 2004) pointing out that education, health and social divergence as social determinants of productivity. Ability of getting these satisfied would probably motivate any kind of worker and thus improve his or her productive capacity (Khan, Shaw and Hussain, 1991; Gopaldas and Gujral, 2002). Therefore, the firm's investment on developing employees' skills and welfare is essential as it enhances their abilities and satisfaction level and creates a productive workforce (Koch and McGrath, 1996; Patterson, Warr and West, 2004). The number of able-bodied men being more or less fixed, the supply of labour mainly depends on the efficiency of labour. The contribution of labour to production depends not only upon the number of production but also upon the efficiency of labour itself. The more efficient is the labour the larger will be the amount of the supply of labour and vice versa.

Vroom's theory consists of three variables: instrumentality, expectancy, and valence. Vroom explained that the instrumentality variable is the certainty that the worker will receive a reward if the worker meets the performance expectations. Vroom added that the expectancy variable is the worker's effort that will lead to increase the productivity. Finally, Vroom explained that the valence variable is the possible sentimental orientation towards the outcome, what he called the attractiveness of the outcomes. Vroom explained that various issues affect employees' performance, including skills, personality, knowledge, ability, and experience. Efficiency labor input is fundamental for labor-intensive firms to generate an efficient and value-driven output (Jarkas, 2012).

Kotler's framework explains about the key component in determining the effect of worker productivity toward the farming and industry. According to Kotler's (1997) framework, it has often been questioned in industrialization efforts just what manufacturing subsectors or

industries are appropriate to be developed. It identifies the determining factors, where those determining factors are composed of the industry attractiveness type factors and competition type factors. These attractiveness factors are made up of: (1) high added value per worker (productivity), (2) related industries, (3) future competitiveness, (4) industry specialization, (5) export potential, and (6) domestic demand prospects. The competition factors include among others: (1) industrial ability evaluation and (2) industrial ability development. Those that are included in contributing factors to industrial attractiveness can be grouped into four types. (1) Market factors, (2) competition factors, (3) financial and economic factors, and (4) technological factors. Further, competitive superiority or potential ones, in determining industrial ability, depends on competitiveness of its factors, which are the relative strength of production factors, which includes physical resources, human and technological resources, and the competitiveness or relative strengths of companies in that area.

Influencing Factors for Labor Efficiency

Education. Education is one of major element that affect to the efficiency of labors. The level of education and received by a worker will go a long way towards increasing the efficiency of labor. Since education is considered as a human resource. Human capital such as science, knowledge, migration, experience, ability, health, abilities and regularity and discipline that is stored by education and health workforce and is to increase work efficiency in production. The concept of human capital specially consider about education to enhance labors efficiency. Today, skilled workforce is as one of the most important sources of economic growth, therefore, efficiency of labor can be explained using education of workers. It is one of dynamic key factor to measure the efficiency of labor force. Especially (1) Educated workers are doing more work at the same time and their work has a higher value in addition to have high efficiency increase the efficiency of the group. 2) Educated workers lead to increase the final factor in the productivity of capital and in particular, production equipment and facilities and increasing the national production provide areas to achieve economic growth in the community. (3) Educated workers will find lead to suspend the law of diminishing returns, in practice. Also cause the increased levels of technology manufacturing enterprises. (4) Educated workers on equal terms, able to carry out the invention, exploration and innovation more this also, increases the productivity quickly. (5) Educated workers can create major developments at industrial countries with the optimal allocation scarce resources, and with savings due scale they contribute to more economic growth (Balasubramanian, Bell and Sombilla, 1998). Karunadasa and Garforth (1997) find out poor extension services smallholders lack up to-date knowledge related to tea production. Therefore education level of labors positively impact on efficiency of labor force.

Mahamid (2013) observed that the lack of experienced workers or the lack of workers with specific skill sets affect labor productivity. El-Gohary and Aziz (2014) agreed with Mahamid's conclusion that labor skills and experience are among the important issues that affected labor productivity. Skilled and experienced workers tend to perform efficiently (El-Gohary and Aziz, 2014). Researchers have cited unskilled and inexperienced workers as causes of poor productivity (El-Gohary and Aziz, 2014).

Training. Training and practices given by the labor for tea factories are highly affected to efficiency of labors. The concept of 'white belt' in training Six Sigma tools and techniques has been introduced by for employees of small and medium enterprises that have limitations of sources to train their workforce. Majority of the tea smallholders had little knowledge about simple measures that can improve the productivity of their land and ultimately provide them with better income. Many tea smallholders were unable to provide clear responses to questions on cost of production, income; monthly labor cost and other data that help ascertain total productivity of their tea gardens. According to literatures low levels of knowledge, skills,

practice and training in key areas of tea cultivation such as pruning, plucking, soil management, use of fertilizer and crop protection techniques and also secondary processing sectors. Although Tea Smallholder are expected to avail themselves with services provided by the TSHDA and the Sri Lanka Federation of Tea Smallholder Development, the study reveals that only a small segment of society members benefit from these resources. Researchers showed that labor productivity is 10% higher for workers who have had adequate training (Colombo and Stanca, 2014). Workers need to adapt to the frequent changes in their working environments, which require continuous development of skills and knowledge (Colombo and Stanca, 2014). Workers who possess skills and knowledge become vital for organizational performance and competitiveness (Colombo and Stanca, 2014).

Several studies have examined the relationship between employee training and labour productivity, therefore this relationship will also be taken into account in this study. Because of some overlap with the theoretical arguments which are discussed in the previous paragraphs, this relationship will be discussed shortly. As mentioned before, training employees is a high performance human resource management practice (Huselid, 1995; Pfeffer, 1998) which is likely to result in higher levels of productivity (Becker et al., 1997). Furthermore, any training that improves work-related skills should have a positive effect on productivity (Koch and McGrath, 1996). This effect will be strengthened by the extent to which specific skills provide an additional increase to labour productivity in a given organisation (Koch and McGrath, 1996). Based on this literature it can be concluded that training employees has a positive effect on labour productivity.

Technology. Managers of the company should consider about use of technologies, mastery of technologies, and appropriateness of technology use of the workers of the factory. Therefore technologies used by workers cause to increase the productivity of the tea factory. Most of small scale tea industries use traditional techniques for their secondary processing of the tea industries. It causes to reduce the quality of tea in Sri Lanka comparing with other countries. In Sri Lanka majority of the tea factories are still working with old machineries. Only a few have modernized to a notable degree. Modernization to some extent has reduced the labor requirements for processing. Since the factory labor component is less than 10% of the total labor requirements per acre, even a total automation of the factory operations would not have a marked adverse effect on total employment in the tea industry (Kodithuwakku and Priyanath, 2007). According to Mahaliyanaarachchi (1995), low adoption of improved technologies by small holdings is responsible for the sub-optimal production levels. Access to information is thus a potential avenue for improving tea yield among small holder farmers (Owuor et al., 2001). Putting effective information on tea production in place could play a significant role in increasing tea production.

Welfare facilities. Welfare facilities given by the workers are highly effect to enhance the labor productivity. Especially concern about their transport services, health benefits and others are important. And also it cause to job motivation. Apart from the wages and other fringe benefits the social and welfare facilities provided to the employers also directly influence to improve the worker efficiency and the productivity. Housing, Health, Transport, Shelter, Market, Water, Day Care Centers and Other Infrastructure Facilities can be identified as social welfare facilities. But the most of these facilities are directly provided or controlled by the central government and most of the above facilities are provided at a considerably satisfactory level. Housing, Health, Electricity and Water facilities are totally provided by the central government. The companies provide 45% of the transport facilities and remaining is provided by the central government (Kodithuwakku and Priyanath, 2007).

Labor policies. Tea industry provides about 11 percent of direct and indirect employment for the work force of the country (Jayasuiya, 1998). Most of the tea estates employ resident labor force specially in mid and high grown area while small holders highly depends

on family labor. Government policy on labor has more focused on wages and income though many other aspects too have been considered. Plantation workers are paid daily wage consisted of basic minimum wage and various allowances from time to time to protect the workers from rising income. Basic minimum wage was determined by means of negotiations at the Wage Board which consist of government representative, employers and the trade unions of the industry until recently. But in the recent past, wage rates have been fixed by direct government intervention induced by trade unions activities (Sinnathamby, 1993). A law has been passed in 1974 to assure the minimum number of working days since monthly earnings depends on the daily wage as well as the number of days they worked. Estate workers are entitled to receive additional incentive payments in addition to the daily wage and allowances. Further, there are different welfare programs for the estate workers and their families that government or estate bears the cost. For example, free housing and health care are being continuing for long time in the estate sector.

Methodology

This study involves a development of conceptual framework for empirical exploration of a phenomenon. Therefore, it reviews the existing literature for identifying concepts and relationships relating to the phenomenon. Basically 100 abstracts of articles were scrutinized to check their relevance to the phenomena under consideration. Finally, 60 articles were selected and reviewed for identifying the concepts and relationships involved.

Development of the Conceptual Framework

The proposed theoretical framework was developed based on the identified variables and relations through the literature review pertaining to the research problem of the study. The proposed theoretical framework was designed by taking into the influencing factors of the tea industry. Individual factors which are education and training are concern as key factors that affects to efficiency of labors force of tea industry. And the internal factors such as technology, welfare facilities given by the tea industry for labors, and labor policies implemented by the factories for labors are concern as major factors for enhance the efficiency of labors. Considering these factors conceptual model can be developed as following.

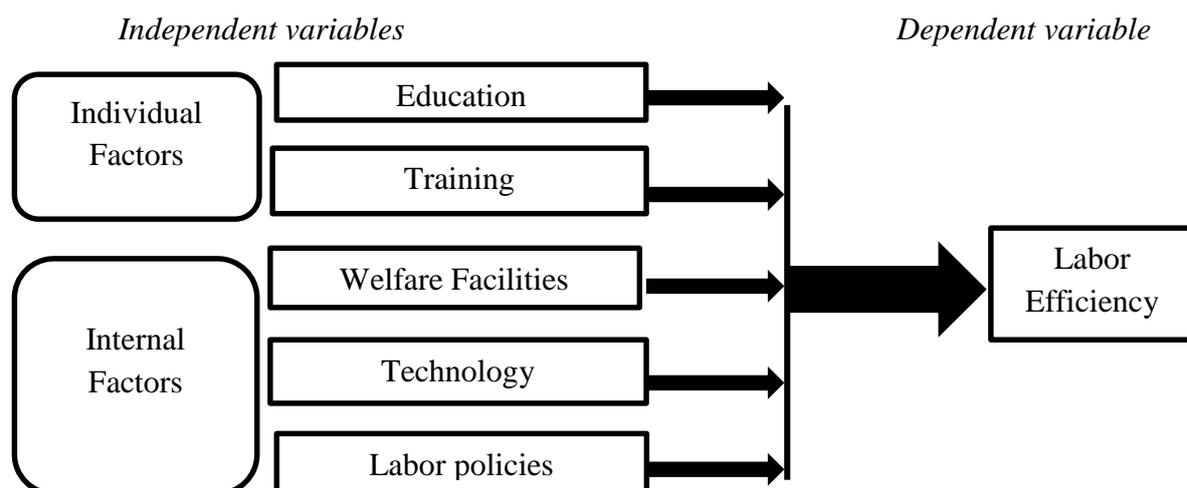


Figure 1. Proposed Conceptual Framework

Concluding Remarks and Implications

This paper proposes a theoretical framework for enhance labor efficiency in which relevant internal, individual and internal factors of a factory. Even though the proposed framework is yet to be tested empirically, the description of the interactions between variables will add significant value to the body of knowledge on marketing literature. First, this paper has offered an extension of the body of knowledge on factors that affects to labor efficiency in Sri Lankan tea industry. This paper addresses the knowledge gap of Efficiency of labor force in Sri Lankan tea industry. This has not been explored previously. This paper points out this knowledge gap and stress the importance of addressing it empirically. Therefore, proposed theoretical framework of this paper will set a new direction for future research related to labor efficiency of any organizational factories.

References

- Attar, A.A., Gupta, A.K. & Desai, D.B. (2015). A study of various factors affecting labor productivity and methods to improve it. *IOSR Journal of Mechanical and Civil Engineering (IOSR-JMCE)*, 1(3), 11-14.
- Bhattacharya, M. & Narayan, P.K. (2013). *Output and Labor Market in Organised Manufacturing: A Panel Cointegration Analysis for India*. Monash Economics Working Papers 61-13, Monash University, Department of Economics. Retrieved from <https://ideas.repec.org/p/mos/moswps/2013-61.html>
- Chandrabose, A.S. (2015). *Outgoing labor and its impact on the Tea Plantation sector in Sri Lanka*. Paper presented at the 5th International Symposium 2015 – IntSym 2015, SEUSL.
- Ganewatta, G. & Edwards, G.W. (2000). *The Sri Lanka Tea Industry: Economic Issues and Government Policies*. Paper presented at the 44th Annual Conference of Australian Agricultural and Resources Economics Society, University of Sydney, Australia, 23–25.
- Gupta, R. & Dey, S. K. (2010). Development of a productivity measurement model for tea industry. *ARNP Journal of Engineering and Applied Sciences*, 5(12), 16-18.
- Heshmati, A. & Rashidghalam, M. (2016). *Labour productivity in Kenyan manufacturing and service industries*. IZA Discussion Paper No. 9923.
- Khan, A.A. & Ajmal, S. (2015). Role of management in motivating labor to improve labor productivity. *Journal of Advanced Management Science*, 3(3), 179-185.
- Kodithuwakku, S. & Priyanath, H.M.S. (2007). Reasons for the improvement of labor productivity in tea plantations after privatization with special reference to the estate laborers in the Ratnapura district. *Sabaragamuwa University Journal*, 7(1), 37-47.
- Nadiri, M.I. & Bitros, G.C. (1980). Research and development expenditures and labor productivity at the firm level: A dynamic model. In *New Developments in Productivity Measurement* (pp. 387-418). University of Chicago Press.
- Pereraea, P. (November 2014). Tea smallholders in Sri Lanka: Issues and challenges in remote areas. *International Journal of Business and Social Science*, 5(12), 107-117.
- Report from a multi-stakeholder project (2013) “Understanding Wage Issues in the Tea Industry”.
- Shyamalie, H.W. (2015). *An Economic Analysis of Sri Lankan Tea Industry*. Agricultural Economics Division, Tea Research Institute of Sri Lanka, Talawakelle.
- Sivaram, B. (2015). Productivity Improvement and Labour Relations in the Tea Industry in South Asia. Working Paper, Industrial Activities Branch.
- Stocker, A., Gerold, S., Hinterberger, F., Berwald, A., Soleille, S., Morgan, V.A. & Zoupa, E. (2015). *The Interaction of Resource and Labor Productivity*. Sustainable Europe Research Institute (SERI) bio by Deloitte.
- Thushara, S.C. (2015). *Sri Lankan Tea Industry: Prospects and Challenges*. Conference Paper.

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- Usubamatov, R., Hussain, S., Nean, H. Y., Mohd, F.H. & Abdul, I.R. (2018). *Labor and industrial productivity in improving economic development*, Article.
- Vijaybhai, K.B. (2014). *Analysis on Indian Tea Industry*. Management Research Project – 1.