

Public Sector Productivity: The case of Management Assistant Service of Ministry of Public Administration and Home Affairs in Sri Lanka

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Abstract: Poor productivity of the workforce creates a greater impact on organizational performance in the Public sector. Although, there is no commonly agreed criterion to measure both workforce productivity and organizational productivity in the public sector, this study intends to examine the workforce productivity of the public sector in Sri Lanka. Many public sector enterprises in Sri Lanka make losses due to lower productivity. The main objective of this study is to identify the factors affecting the workforce productivity of the public sector with special reference to Public Management Assistant Service of the Ministry of Public Administration and Home Affairs in Sri Lanka. The Public management Assistant service has been selected in this study as they are the facilitators to the tasks of officers in executive levels of the public institutions. A convenient sample of hundred management assistants among 400 officials was selected in the Ministry which is the Centre of Civil Administration facilitates and coordinates services related to the Public Administration, District Administration, Divisional Administration, Village Administration, Civil Registration and Employees' Welfare. A structured questionnaire was distributed during January and February 2015. The reliability of the data was ensured by undertaking a pilot study and Cronbach's alpha coefficient. Spearman's correlation with simple multiple regression analysis was used to examine the factors affecting the workforce productivity. The test results indicate that the individual characteristics ($p < 0.05$), Job characteristics ($p < 0.05$), Supervision ($p < 0.01$), Communication, ($p < 0.05$), Training ($p < 0.05$) and Work environment ($p < 0.05$) were significantly associated with the public servants' productivity. These six factors explain 80.5% of variance of the productivity of the public sector. Based on the findings, policy measures are suggested for improving the employee productivity of the public sector in Sri Lanka.

Keywords: Public sector, Productivity, Ministry of Public Administration, Management Assistants service.

I. INTRODUCTION

As a term, productivity is a perennial topic of debate within the public sector and the industry that most would describe as improved efficiency and effectiveness of an activity (New approaches for how the public sector improves the productivity, 2013). Simply, productivity can be described as the relationship between output and its inputs (Amaradasa, 2012). As it is difficult to measure productivity in qualitative things, it requires to use some advanced measurement to measure the term. Public sector is a part of the economy concerned with providing various government services. Public sector organizations can take several forms and it is main service provider of the country. Therefore, it is very important to measure productivity in the public sector. Measuring productivity in the public sector is a difficult task

because it consists of complicated services. On the other hand, measuring the output is extremely difficult comparing with the private sector. During the past twenty years in response to economic, institutional and ideological changes as well as criticisms of inefficient and costly public sectors, public sector reforms have become an international phenomenon (Hughes, 1998). As the productivity is more often discussed in private sector, the importance of this concept can be identified. Even though the measurement is difficult, the validity of this concept remains constant to the public sector. Measuring output in units is very difficult in public sector. Therefore, efficiency and productivity are used together for this study. In general terms, “productivity” is a measure of efficiency (Amaradasa, 2012). He further describes that productivity as how well resources have been used to accomplish the work, that is higher the volume of the work produced with a given set of resources, the higher the productivity. Thus, productivity is usually defined as output per unit of resource input. Public sector productivity focuses on the efficiency of governmental (that is publicly authorized and funded) agencies and their sub-units.

Productivity is very low in Sri Lankan Public sector organizations. During the period 2006 to 2010, the operational losses of the **Ceylon Electricity Board** were of Rs. 109,855 million, a massive amount. During the period 2006 to 2010, the net operational losses of **Ceylon Petroleum Corporation (CPC)** were Rs. 12,052 million. During the period, 2006 to 2012, the **Sri Lanka Transport Board (SLTB)** has incurred losses amounting to Rs. 21,766 million. The SLTB has around 7900 buses but operates only around 4400 though the numbers of employees were more than 35000. During the period 2006 to 2012, the **Sri Lanka Railways** has incurred losses amounting to Rs. 28,633 million (Guruge, 2013).

In recent years, total public expenditure has been about 22/23% of GDP, while revenue has been 14/15% of GDP (Pathfinder Foundation, 2014). It shows some evidence about productivity of Sri Lankan public sector. An economist (Coomaraswamy, 2015) has also recently stated that productivity in the government sector has been low and the low productivity erodes Sri Lanka’s competitiveness in international markets, which may be visible, for all to see, when one considers the retardation in the island’s export growth. In this context, this study is an attempt to identify factors affecting to the individual productivity of the public sector in Sri Lanka.

In this context, the main objectives of this study are to;

- Identify factors affecting to employee productivity in public sector organizations in Sri Lanka.
- Propose policy measures to improve employee productivity in the public sector organizations in Sri Lanka.

II. LITERATURE REVIEW

Productivity in the context of public services

It is very important to study and measure the productivity in the public sector. There are three main reasons that justify why the public sector productivity is crucial (Paula Linna, 2014). As per the author, Public sector is the major employer, the major provider of services and the consumer of tax resources. Accordingly, the term productivity is not simply an output. It is the value received from public services in return for the utilization of public funds. (Paula Linna, 2014) also identifies three categories that define productivity. 1) Productivity as an efficiency measurement. 2) Productivity as a combination of efficiency and effectiveness and 3) Contains everything that makes an organization function better. Public Service productivity is closely related to economy, efficiency, outputs and inputs, which are components of public service performance models. It also encompasses some aspects of outcomes and effectiveness (Aki Jaaskelainen and Antti Connqvist, 2011).

Individual productivity and organizational productivity

The programming productivity of individuals employed in an organization is affected by a number of factors. Large teams are likely to have a mix of abilities and experience so will have ‘average’ productivity. In small teams, however, overall productivity is mostly dependent on individual aptitudes and abilities (Erikson, 1968). Organization productivity is determined by a broad range of factors and some of them can be evaluated quantitatively, while others demand a qualitative and an analytical approach. When assessing productivity, it is important to fully understand each of the key drivers that impact on productivity. In addition to the evaluation of the each driver individually, it is necessary to determine how well these drivers work together and function as a whole. Changes to one driver might (and probably will) have an effect on others. Effective assessment involves understanding how each driver contributes to overall productivity

(Hampe, 1990). According to the available literature, individual productivity and organizational productivity are major dimensions of productivity. The focus of this study is the individual level productivity.

Measuring productivity of the public sector

Fonseka (2009) explains a way to measure productivity in a novel perspective. It introduces the fact that productivity is a fundamental source of national development and corporate survival. As the standard of living is determined by the productivity of a country's economy, it is measured by the value of goods and services produced per unit of national resources (human, capital and physical). In other words, productivity of an organization is defined as the ratio of outputs produced by the organization and the resources consumed in the process.

According to the author, the output here refers to the quantity of goods and services produced by the company, and inputs to the quantities of resources such as capital, labor, material, physical facilities and energy used for production and the productivity is used to assess the extent to which certain outputs are extracted from a given input. Productivity is then measured for a single input resource; manpower used, or for multiple resources. This suggests that different types of productivity measurements depend on the type of resources in focus (Fonseka, 2009).

Factors affecting public sector productivity.

Even though productivity is an important measure, it is difficult to study it. Since the government sector is not profit oriented, it is difficult to have a direct measure on it. It has been identified that there are various factors affecting to public sector productivity. James, perry, & Porter (1982) have identified several factors that are affecting public sector productivity. As another factor, Individual characteristic can effect on productivity (the attitude of the employee for example).

They bring into notice that, the government middle managers have higher needs for achievement and lower needs for affiliation than their business counterparts, but needs for power remains the same. Job characteristics are another important factor according to their study. They have identified major set of variables that can be changed or modified so as to effect on productivity in relation to what a person does at work- that is, the nature of the job or the collection of tasks that comprise the job. Another research revealed that Interaction of job characteristics and individual characteristics are related to organizationally desirable outcomes (Loher, Noe, Moeller, & Fitzgerald, 1985).

In a study of James, perry, & Porter (1982), Work environment is another factor affecting productivity. They further describe that the variables dealing with the work environment characteristics that change or modify the impact of motivation are placed under two sub categories: immediate work environment characteristics (such as peer groups) and organizational actions (such as provision of individual rewards). A study done by Corley (2005) identifies the effect of work environment on productivity. It shows the relationship between individual career strategies and perceptions of scientific work environments within university-based science centers relate to the productivity of academic scientists who participate in these centers (Corley, 2005).

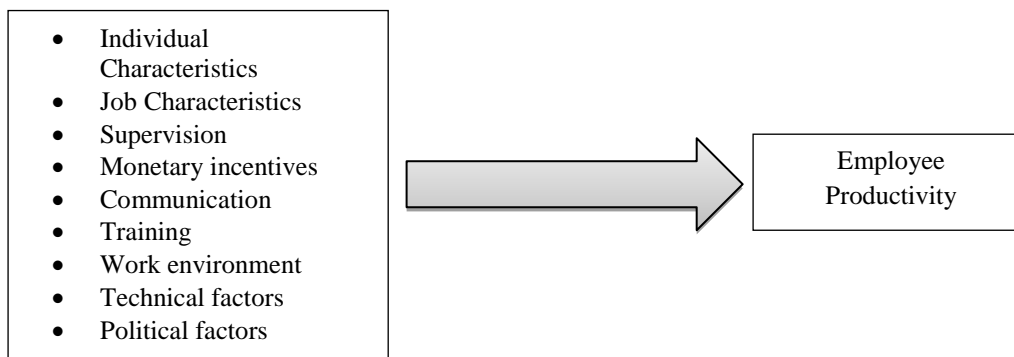
External Environmental characteristics and monetary incentives are another two factors affecting the productivity (James, perry, & Porter, 1982). It is changes or anticipation of changes in the external environment that may have powerful impacts on the behavior of an individual in work organizations (such as political changes). They conclude that the monetary incentives are also a significant factor affecting performance improvements.

Victor R. Fuchs (1976) have identified several important factors affecting on productivity. They have conducted a research in this regard using both private and public sector employees. According to their study, productivity largely depends on technology and the technical factors are the most important ones. These include proper location, layout and size of the plant and machinery, correct design of machines and equipment, research and development, automation and computerization, etc. If the organization uses the latest technology, its productivity will be high.

As per the authors, organizational factor is also affecting productivity which requires a simple type of organization, authority and responsibility of every individual and department for a neat definition. They further explain that the line and staff relationships should also be clearly defined and in this way, conflicts between the line and the staff should be avoided. There should be a division of labour and specialization to a great extent that will lead to productivity of an organization.

Conceptual Framework

Based on the literature, the below is the conceptual framework to explain employee productivity in the public sector.



Source: Derived from the Literature Review

Figure 1: The Conceptual Framework explaining Factors affecting Employee Productivity in the Public Sector .

Hypotheses

- H₁ : Individual ability significantly affects on the employee productivity in the public sector .
- H₂ : Job characteristics significantly affects on the employee productivity in the public sector .
- H₃ : Supervision significantly affects on the employee productivity in the public sector .
- H₄ : Monetary incentives significantly affects on the employee productivity in the public sector .
- H₅ : Communication significantly affects on the employee productivity in the public sector .
- H₆ : Training significantly affects on the employee productivity in the public sector .
- H₇ : Work environment significantly affects on employee productivity in the public sector .
- H₈ : Technical factors significantly affects on the employee productivity in the public sector .
- H₉ : Political factors significantly affects on the employee productivity in the public sector .

III. METHODOLOGY OF THE RESEARCH

The selected organization for the data collection was the Ministry of Public Administration and Home Affairs. Population is all the Management Assistant Service officials in the Ministry. The Ministry of Public Administration and Home Affairs, the Centre of Civil Administration facilitates and coordinates services related to Public Administration, District Administration, Divisional Administration, Village Administration, Civil Registration and Employees' Welfare. It deals with a number of functional areas such as Public Policy Making on Organizational Excellence, Human Resource Management, Institutional Development, Electronic Government and Good Governance targeting Social and Economic Development along with the National Priorities of the Government.

There are four hundred Management Assistant Service officers in the Ministry. Hundred public officers were selected for the data collection as the sample which is 25% of population. Convenience sampling was used for the data collection. This is a non-probabilistic sample selection method. Both primary and secondary data collection methods were used for this study. As the primary data collection method, questioners with interviews were used. As the secondary data collection methods, Ministries Annual Reports and News Paper Articles and etc., were used. Microsoft Excel and SPSS packages were used for the data analysis. Frequency analysis was used to describe the background of the sample. For the Reliability test, Cronbranch's alpha was used to calculating Alpha value. Spearman's correlation coefficient was calculated to identify the relationship between productivity and the factors affecting the productivity. Regression analysis was carried out to identify the impact of the hypothesized factors on productivity.

IV. ANALYSIS AND DISCUSSION

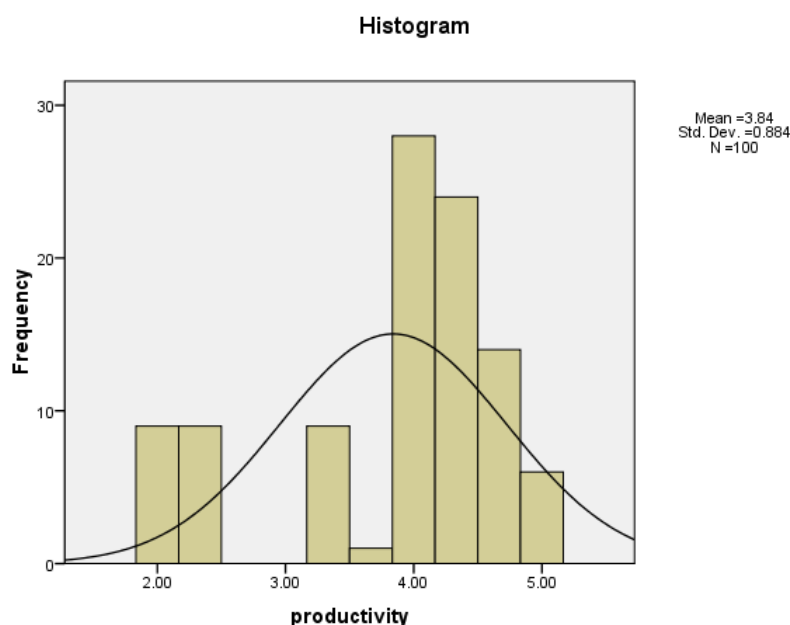
The analysis indicated that, most of the management assistants in the sample were 30 years old (17%). Majority of public management assistants were between 25 to 30 years (67%). The majority of the sample were female officials consisting of 81% of the sample and 19% is the male representation -slightly below that of the female. The majority of the sample were Sinhalese -95% and the Tamil and Muslims were lesser than that, that is 3% and 2% of the sample respectively. Most of the Management Assistants were from Colombo District (40%). In the sample, 85% of Management Assistants were in class III. There were 13% and 2% Management Assistants from class II and class I in sequence. It shows that 78% of Management Assistants in the sample were with work experience of about 01 to 05 years. There were 13% of Management Assistants' work experience is more than 10 years. Only 7% and 2% Management Assistants were present with 06 to 09 years of work experience and below 01 year.

Validity and Reliability

Validity refers to how well a test measures what it is purported to measure (Julie wren and Colin Phelan, 2006). There are many types of validity. Two important types of validity are face validity and content Validity. Face validity ascertains that the measures appears to be assessing the intended construct under study. Stakeholders can easily assess face validity. (Julie wren and Colin Phelan, 2006). All the definition used in this research is based on available literature to ensure face validity and content validity. Further, several interviews were held with the SLAS officers to confirm the face validity of the dependent variable.

Reliability is the degree to which an assessment tool produces stable and consistent results (Julie wren and Colin Phelan, 2006). The reliability of questions used for this research ensures calculating Cronbach's Alpha value. This being a test using SPSS package, questions with the alpha value of more than seven were selected for the study. The further analyses of the three independent variables were ignored as those variables indicated the Cronbach's Alpha value below seven. They were individual characteristics, Technical factors and Political factors.

Distribution of dependent variable



Source: Survey Data

Figure 2: Summary of Dependent variable

The above histogram and normal curve shows the way of productivity level of Management Assistants. It is the compute variable of three dimensions used to measure productivity in this research. According to the graph, The level productivity among most management assistants is high. Most of the answers are in line with *agree* and *strongly agree*.

Relationship between productivity and factors that affects on the productivity of management assistants

The correlation is used to measure statistical dependence between two variables. Spearman's rho is a non – parametric measure of statistical dependence between two variables (Armstrong, 2012).

Table 2: Correlation among factors affecting productivity and productivity of management assistants

| Variable Code | PV | IA | JC | SV | CM | TR | WE |
|---------------|--------|--------|--------|-------|--------|-------|-------|
| PV | 1.000 | | | | | | |
| IA | .475** | 1.000 | | | | | |
| JC | .365** | .366** | 1.000 | | | | |
| SV | .497** | .304** | .290** | 1.00 | | | |
| CM | .488** | .412** | .301** | .236* | 1.000 | | |
| TR | .412** | .415** | .378** | .469* | .343** | 1.00 | |
| WE | .455** | .330** | .264** | .441* | .450** | .338* | 1.000 |

** . Correlation is significant at the 0.01 level, *Correlation is significant at the 0.05level.

PV = Productivity, IA = Individual Characteristics, JC = Job characteristics, SV = Supervision, CM = Communication, TR = Training, WE = Work environment.

Source : Survey Data

The above table shows the correlation coefficient among the research variables. It further indicates that the productivity of the Management Assistants are significantly and positively correlated with Individual Characteristics, Job characteristics, Supervision, Communication, Training and Work environment.

Test Results

The regression analysis is in great support to understand how the typical value of the dependent variables vary, while the other independent variables are constant (Armstrong, 2012). Below is the summary of regression analysis.

Table 3: Regression Results of the employee productivity of the public sector.

| Predictor | Standardized Regression Coefficient | T – Value | Significance |
|----------------------------|-------------------------------------|-----------|--------------|
| (Constant) | | | .028 |
| Individual Characteristics | .355 | 3.102 | .003 |
| Job characteristics | .265 | 2.315 | .023 |
| Supervision | .480 | 5.462 | .000 |
| Communication | .308 | 1.953 | .044 |
| Training | .383 | 2.493 | .014 |
| Work environment | .265 | 2.716 | .008 |
| R | .907 ^a | | |
| R ² | .823 | | |
| Adjusted R ² | .805 | | |
| F | 46.339 | | |

Source: Survey Data

The above table shows the Adjusted R Square value of .805. Hence, independent variables: Communication, Supervision, Work environment, Job characteristics, Individual Characteristics and Training are with a significant and positive effect on the employee productivity of the public sector. These six variables explain 80.5% of variance of the employee productivity of the public sector. According to the Regression Table, all variables are significant at 0.05 level.

Individual Characteristics is a significant factor that affect on the employee productivity. The beta coefficient of the variable is .355 at .05 significance level. James and L. Perry & Lyman W. Porter (1982) also have highlighted that individual characteristics affect on the productivity of the work force. They have specially mentioned about the attitude of the employees. Job characteristics also has a significant impact of .394 at 0.05 significance level. According to James and L. Perry & Lyman W. Porter (1982), what person does at work; the nature of the job or the collection of tasks that comprise the job, is an important factor affecting workforce productivity. A research done by Loher, Noe, Moeller, & Fitzgerald, 1985 also revealed that iinteraction of job characteristics and individual characteristics are related to organizationally desirable outcomes.

The B coefficient value of supervision is .523 and it is evident that, under the significance level of 0.01 there is a significant impact on productivity. George B. Frisvold (2002) identifies the effect of supervision on hired labor. Results have indicated that supervision is required to increase hired labor productivity. G.Clampitt (1993) also noted that the supervisory communication factors had a greater impact in their productivity. Further, kyvic & Smeby (1994) noted that productivity of graduate students has a big effect from supervision.

Communication also another significant factors affecting the employee productivity. Its B value denotes .316 at 0.05 significance level. (Jerry P. Haenisch (2012) also has concluded that it is very important to communicate organizational goals to low level employees and in the absence of communication, it will be difficult to control the behavior of the members in the organization.

Training is also another significant factors and its B value is .433 at 0.05 significant level. Jerry P. Haenisch (2012) has concluded that imparting with proper knowledge about the job within a reasonable time period will essentially affect the productivity of the individual. Bishop (1994) revealed that since trained workers are paid more than untrained workers, these employers are saying that the wage premium is smaller than extra productivity net of the cost of training the workers.

Work environment too shows a significant impact on productivity. Its B value shows .236 at 0.05 significance level. James and L. Perry & Lyman W. Porter (1982) describes that variables dealing with work environment characteristics liable to change or modify the impact motivation, are in two sub categories: immediate work environment characteristics (peer groups) and organizational actions. (provision of individual rewards). Similarly, Corley (2005) also revealed the effect of work environment on productivity and shows the relationship between individual career strategies and perceptions of scientific work environments within university-based science centers relate to the productivity of academic scientists who participate in these centers.

As such, the hypotheses H₁, H₂, H₃, H₅, H₆ and H₇ are readily accepted here, because there is a positive and significant relationship and a significant impact on the productivity of management assistants from Individual ability, Job characteristics, Supervision, Communication, Training and Work environment. H₁, H₂, H₅, H₆ and H₇ are accepted under the 0.05 significant level, and H₃ under 0.01 significant level. Other three hypotheses were not accepted.

V. CONCLUSION

There is no doubt that the government sector varies from that of the private sector organizations in many aspects. Therefore, it is challenging to measure the productivity in public sector organizations, despite there exists a greater importance to measure in terms of the enhancement of the productivity in the public sector. There are many factors that affect the individual productivity of government sector workers. Hence, this research was carried out with a view to identify factors that affecting to the individual productivity in public sector. Available literature was extensively reviewed in this regard and the factors thus identified are Individual Characteristics, Job characteristics, Supervision, Monetary incentives, Communication, Training, work environment, Technical factors and Political factors.

The primary objective of this research is to identify the factors affecting to individual productivity of management assistants. According to the findings, those factors are Individual characteristics, Job characteristics, Supervision, Communication, Training and Work environment. All these factors have a positive effect on the productivity of management assistants of the Ministry of Public Administration and Home Affairs. In summary, nine hypotheses were used in research implementation and, six were accepted and three were rejected.

Therefore, it is noteworthy that the employee productivity of Management Assistants mainly depends on Individual characteristics, Job characteristics, Supervision, Communication, Training and Work environment. Out of them, Training has been the most significant relationship with the productivity of management assistants and next, Communication, Work environment, Individual Characteristics, Supervision and Job characteristics have also shown significant causal relationships respectively.

VI. RECOMMENDATION

Productivity is an important concept and without which progression is doubtful in any human activity. The identification of the factors that affect on productivity is much more important to improve the productivity. The nature of this in Public sector is in greater complexity. But the role of the public sector of a country is indispensable. Therefore, what is meant by improving productivity of public sector employees is the improving the productivity of the public sector.

The Management Assistants in the Ministry of Public Administration and Home Affairs were taken into consideration in this regard, It was able to judge that their productivity depends on various factors. Those factors are Individual Characteristics, Job characteristics, Supervision, Communication, Training and Work environment.

As the second objective of this research, it is intended to give policy recommendations regarding productivity of Management Assistants as it is important to change Individual Characteristics to improve productivity of the ministry. There it was found that the work independency with self-respect, having respect from others, satisfaction on works accomplished, and the number of years of work are very much important to improve productivity of the Public Management Assistants.

In addition to that, it was noted that the job characteristics are also important to improve the productivity of the management assistants. Productivity Improvement is realistic when simple and non-monotonous job are allocated to the employees.

Supervision is also a crucial factor to improve productivity of management assistants and it is seen that an effective supervision enhances the productivity of management assistants. The level of communication is also an exception in this regard. Therefore, it is important to maintain better communicative links.

Training too contributes the concept of productivity and training is the widely accepted measurement in this regard and Training programs should properly planned in advance. Simply, providing training will not bring expected results as it may create a wrong picture regarding one's duties. The work environment is also in support of improving their productivity. Therefore, it is essential to create a better and friendly working environment.

In conclusion, this study emphasizes that the productivity of the management assistants can be improved by providing them the above mentioned Individual characteristics, Job characteristics, Supervision, Communication, Training and Work environment.

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