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THE IMPACT OF AIS IN DECISION MAKING PROCESS IN GOVERNMENT DEPARTMENTS

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ABSTRACT

In this study the effectiveness of accounting information systems of government departments in decision making process in Sri Lanka was evaluated. The questionnaire distributed to various government department in Ampara and Baticola district in Eastern part of Sri lanka. After the statistical analysis of the questionnaire, appeared several key findings most important of which are that the government departments use the methods of accounting information system in decision making processes. The results indicated that implementation of accounting information systems at these departments caused the improvement of administrative officers' decision-making process, and facilitated the process of the department's transactions.

KEYWORDS: *Accounting Information System, Decision Making, Information Technology*

1.INTRODUCTION

Nowadays firms have changed through the rapid changes in information technology, as part of the change is an AIS which is producing information, this information will be useful to make the right decision. AIS is the most important system to all organizations (Wilkinson et al., 2000).Accounting information (AI) is a vital role player in all business operation, which is important to understand the real financial position of an organization and applied as the basis of making any decisions by all decision makers in any organization. Hence, Effective AI plays a vital role in decision making (Trimisiu Tunji, 2012). According to (Royaee et al., 2012) AI is the most important information widely used in the managerial decisions and influenced on organization performance.

Decision making is the process of selecting an alternative action using evaluation processes. Making an effective decision is necessary when there is no clear action to follow. AISs can be a tool to produce effective information which can be used for decision making. The term of decision making has been explained or interpreted differently by different scholars. Harris (2009) stated that decision making involves an act of identifying and ably selecting among an array of alternatives based on the inclination. A manager in an organization is suitable and capable of making effective decisions. It is all about the right choice of an alternative course of action (Chabbra, 2005; Jones & George, 2006). Managers are strategically involved more hands and more talents in approaching organizational functions and objectives (Weddle, 2011).

Bodnar et al (2010) They argued that various factors involved in financial control over AISs. And described the nature of management decisions, elaborated on the types of decisions that managers make, described various reports used for management decision. Indeed different type of people within and outside the organization uses AIS for decision making (Rahman and Halladay, 1988, Renau and Grabski, 1987).

In this regard, the availability of AISs that operates effectively and efficiently, in order to rationalize the administrative decisions in business operation, to assist management in solving problems faced by, as well as providing useful information for related decision-makers, which have a positive role in supporting the continuity of the operation of the government organization.

Huber(1990) argues that, integration of accounting information systems leads to coordination in organization which, in turn, increases the quality of the decisions. Some researches in accounting show that the effectiveness of accounting information systems depend upon the quality of the output of the information system that can satisfy the users' needs (Cameron, 1986; Delone and Mclean,1992; kim1989;Lewin,1986; Quinn, 1986).

Hence, Public sector needs to apply the AIS by improving the quality of services by making different decisions by administrative executives, so that new technology became plays an important role to cover a wide range through the impact of AIS in decision making Processes in the public sector.

GOVERNMENT ACCOUNTING INFORMATION SYSTEM IN SRI LANKA

Computerized Integrated Government Accounting System (CIGAS) is the comprehensive, integrated Accounting System Software package for Government Accounting of Sri Lanka. It automates all critical accounting processes of a Government Accounting Unit generally requires, transmits and consolidates the accounts from the grassroots level up to the Treasury at the top level.This system is continuously used for the last ten years in many thousands of the Accounting department, Units, in Central and Provincial Governments of Sri Lanka

RECENT DEVELOPMENT MADE TO CIGAS

The CIGAS development team has again made significant developments to this software package at the request of the user accounting units and some of the main developments done are;

- Capability to select the relevant part of the national budget to unit (Head) electronically from the full budget included and re-appropriate to subunits, Generate re-appropriated budget on diskette and read in facility to the subunits.
- Auto fixed Asset Reporting Features integrated for Appropriation Account reporting and for detail recording.
- Facility to work with any type of currency, i.e. Us Dollar, Sterling Pound, Kuwait Dinar etc. any number of currencies concurrently with automatic conversation capability to SL Rupees on-line.
- Appropriation Account as required by the latest format of the Department of State Accounts generated on-line.
- Capability to do a Bank Reconciliation in a separate computer with electrically read in transaction records from many CIGAS accounts computers.
- To increase and decrease limits of Advance Accounts and Assets Liability Accounts with easy to use standard menu items.

2.PROBLEM STATEMENT

In order to avoid financial crisis through wrong and inefficient financial management and ineffective decisions, there are many AIS tools available, which can be used to support the decision making process. Hence, the government department in Sri Lanka has adopted its own tools and techniques which are commonly used by all departments called CIGAS. At present, the government organization is operation quite successfully adopted. Hence, it can be assumed that without making the right decisions this adoption would hardly be possible. As an Accounting special software applied in government departments might have contributed to some extent to these beneficial decisions.

The purpose of this study is to find the relationship between AIS and Decision making in government departments, AIS is required by the officers at all levels has to make short term and long term decisions. The officers at various levels are in need of a certain type of AIS. And the question that mentions here is how the AIS impact in decision making in the government departments. The accounting information is not likely to be useful for every decision problem, because it has specific advantages and disadvantages. Officers often consider the output, which is produced by the system that is provided as not very useful for decision-making and they would like to have better information (Karmarkar et al., 1990; Sullivan and Smith, 1993).

RESEARCH QUESTION

How does the government organization use AIS in the decision-making process?

3. OBJECTIVE

The purpose of our paper is to find out the impact AIS on the decision making process in government organizations. This allows for drawing conclusions that

will be shown in the final section. In addition to the following:-

To find there is a relationship between the Accounting Information System and Decision making in government organizations.

4. LITERATURE REVIEW

Accounting Information System is a subsystem of Management Information System (MIS) and accounting is part of the information system of an entity. Hence AISs could be used to record the financial transactions of an organization. The AIS consist of methodologies, controls and accounting techniques with the IT to track transactions provide internal reporting data, external reporting data, financial statements, and trend analysis capabilities to effect on organizational performance (Grande et al., 2011).

Effectiveness of AIS mainly contributes to the decision makers on the usefulness of information generated by the system to satisfy informational needs for operation processes, managerial reports, budgeting and control within the organization. Many research indicated that the effectiveness of AISs depends on the product quality of information that satisfy the users (Quinn and Rohrbaugh, 1983; Cameron, 1986; Lewin and Minton, 1986; Kim, 1989; and Delone and McLean, 1992). Existing literature also provides the evidence of the relationship between AIS and performance; this consistency of the study conducted by Elena (2010) shows that a positive relationship between AIS design and organizational strategy and performance. Hence, the effective implementation of AIS in an organization could improve the financial wealth and save time. Zulkarnain Muhamad Sori, (2009) stated that the information generated by the AIS will assist the shareholder in making investment decisions.

Rajiv et al., (2002) conducted a study on the title. "Impact of Information Technology on Public Accounting Firm Productivity", the research focused on five offices of an international public accounting firm that very recently made large IT investments in audit software and knowledge-sharing applications. The study focused on both qualitative and quantitative data applied to find the change in productivity of the implementation of IT. The results from both regression analysis and Data Envelopment Analysis (DEA) indicated that significant productivity gains from the IT implementation, documenting the value impact of IT in a public accounting firm.

Eva et al., (2008) study made under the title. "The Role of Accounting Information in Decision-Making Processes in a German Dairy Cooperative", this research has significant implications for the international application of management accounting procedures and practices in decision-making processes. Multinational enterprises, governments and researcher would benefit from such insights into the utilization of accounting information in various national contexts. Buknya (2014) researched on "the quality of AI on financial performance of Uganda's public sector", which showed that there is a significant relationship between quality AI and financial performance in public sector.

Dastgir et al., (2003) examined the effect of AIS characteristics of improving managers' decision-making (Bahman car manufacturing group), which showed that AIS influences managers' decision-making. Results showed that the current status of AIS in this company suggested that the system has not provided managers with their required information. In general, results indicated a significant difference between current and desirable status of AIS in this company. Ad (2000) studied how information system characteristics affect users' decision fairness. Results revealed that AISs provide required primary data for decision-making. Vassan (2002) explained that the accounting information use in the field of decision making identified the following as measures such as resource allocation, procurement, addition or disposal of the product line and pricing decision.

According to sajady et al., (2008) studied on evaluation of the effectiveness of accounting information systems. They categorized the AIS on three bases: 1) information scope, 2) timeliness, 3) aggregation. Information scope is considered as financial and non-financial information, internal and external information that is useful in prediction of future events. Timeliness quality is related to the ability of AIS to satisfy information needs by providing systematic reports to the user. Aggregation of information is considered as means of collecting and summarizing information within a given time period. Hence, the AIS depends on the perception of decision-makers on the usefulness of information generated by the system to satisfy informational needs for operation processes, managerial reports, budgeting and control within organization.

5. RESEARCH METHODOLOGY

Data Collection:-

In this research, Primary data have been collected through the questionnaire issued to collect data from administrative staff who are attached in the financial or accounting department of government organization. Secondary data that have been used in this research are from annual reports and accounts of Books, Journals, Periodicals and computer database.

In carrying out this research work, The primary source of data was the questionnaire, which was carefully framed and administered to a sample of 100 respondents in the government organizations selected in Ampara and Baticola Districts in Sri lanka. The questionnaire are straight forward and close ended questions. Hence, responses from the questionnaire were on the five point Likert-type questions (agreed, strongly agreed, disagreed, strongly disagreed and neutral). The questionnaire consisted of twenty questions, which were carefully designed to collect relevant data. The research instrument was pilot studied, by expert panel including faculty members. The revised instrument and a cover letter were mailed to the specific individuals who were accounting staff as the accountant, assistant accountant, accounting officers of the organizations sampled. A reminder was sent and non-respondents were followed up with two additional mailings. During the first questionnaire launching, 34 questionnaires were completed and returned. In the second and third mailings, a total of 16 more completed questionnaires were returned. Altogether 50 questionnaires were available for data analysis.

Hypotheses of the Study:-

H1: There is a relationship between the Accounting Information System and Decision making in Government organization.

6. DATA ANALYSES

In this research, the Statistical Package for the Social Sciences (SPSS) was used for data Analysis. Descriptive statistics were used to summarize respondent characteristics, including demographic information, Such as qualification and experience about the participating organization's profile. Furthermore, inferential statistics were used to test hypotheses to determine the relationship between variables. In particular, Pearson Correlation was used to verify the association of interval level to the construct. Moreover, the Cronbach coefficient alpha was used for reliability tests. Lastly, the variable analysis tool, analysis of variance (ANOVA), was used to determine the Impact of Accounting Information System in Decision-Making Processes in government organization in the Ampara and Baticola Districts in Sri Lanka.

Qualification of respondent:-

Table 1 shows the number of questionnaires collected from the sample distribution based on education qualification of respondent

Table 1 Qualification of respondent

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	Diploma	22	44.0	44.0	44.0
	Degree	19	38.0	38.0	82.0
	Masters	9	18.0	18.0	100.0
	Total	50	100.0	100.0	

(Source: Primary Data)

Table 1 shows clearly shows that detail of qualification of respondent which most of the respondent's educational qualification 44% are Diploma, 38% are degree, 18% are masters.

Work Experience

This following table shows the distribution by work experience of respondent

Table 2 Work Experience

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	Less than 1 year	9	18.0	18.0	18.0
	1-4 years	16	32.0	32.0	50.0
	4-10 years	19	38.0	38.0	88.0
	10 and above	6	12.0	12.0	100.0
	Total	50	100.0	100.0	

(Source: Primary Data)

Table 2 shows the most of the respondents 38% have a job experience of between 4-10 years,32% have 1-4 year ,18% respondents have worked less than one year and 12 % of respondent worked 10 years at the organization.

Reliability of Dimensions:-

To get most accurate answers, it is ensure that the measurement of gathered data were more reliable. To identify the reliability of dimensions, the Cronbach s Alpha was calculated by using SPSS. The Cronbach s Alpha is greater than 0.6 (>0.6), it shows that the dimensions

were reliable. The summarizes the reliability analysis for each item (information scope, timeliness, aggregation and Decision making were 0.861,0.754,0.719 and 0.895 respectively . Each item show above 0.6.It seems that this study provides more reliable instruments.

CORRELATION BETWEEN ACCOUNTING INFORMATION SYSTEM AND DECISION MAKING

Table 3 Correlation between Budgetary control and Performance

		Information scope	Timeliness	Aggregation	Decision making
Information scope	Pearson Correlation	1	.812**	.013	.610**
	Sig. (2-tailed)		.000	.930	.000
	N	50	50	50	50
Timeliness	Pearson Correlation	.812**	1	.072	.661**
	Sig. (2-tailed)	.000		.617	.000
	N	50	50	50	50
Aggregation	Pearson Correlation	.013	.072	1	.340*
	Sig. (2-tailed)	.930	.617		.016
	N	50	50	50	50
Decision making	Pearson Correlation	.610**	.661**	.340*	1
	Sig. (2-tailed)	.000	.000	.016	
	N	50	50	50	50

Table 4 Model Summary

Model	R	R Square	Adjusted R Square	Std. Error of the Estimate	Change Statistics				
					R Square Change	F Change	df1	df2	Sig. F Change
1	.738[a]	.545	.515	23.73626	.545	18.344	3	46	.000

(Source: Primary Data)

a. Predictors: (Constant), information scope, timelines , aggregation

Based on the analysis of Table 4 a regression analysis, determination (the percentage variation in the Decision Making being explained by the changes in the AIS) predicting Decision making from AIS is statistically significant. R square, equals 0.545, (R^2=0.545), AIS strongly effect the decision making process. 54.5% of observed change in decision making process measured. The balance 45.5% of other variables impact on decision making process. The P- value of 0.000 (Less than 0.01) implies that the regression model is significant at the 1% significance level.

Table 5 Analysis of Variance (ANOVA)

ANOVA[b]						
Model		Sum of Squares	df	Mean Square	F	Sig.
1	Regression	31005.573	3	10335.191	18.344	.000[a]
	Residual	25916.860	46	563.410		
	Total	56922.433	49			

(Source: Primary Data)

a. Predictors: (Constant), information scope, Timelines , aggregation

b. Dependent Variable: Decision making

ANOVA findings (P- value of 0.00) in table show that there is significant relationship between the predictors variables (information scope, Timelines, aggregation) and response variable (Decision making)

Table 6 Coefficients of Regression Equation

Coefficients[a]						
Model		Unstandardized Coefficients		Standardized Coefficients	t	Sig.
		B	Std. Error	Beta		
1	(Constant)	13.387	3.771		3.550	.001
	Information scope	.166	.111	.257	1.502	.040
	Timeliness	.293	.117	.430	2.505	.016
	Aggregation	.217	.071	.306	3.053	.004

(Source: Primary Data)

a.Dependent Variable: Decision Making

The established multiple linear regression equation becomes:

$$Y = \beta o + \beta 1x1 + \beta 2X2 + e$$

Y = Decision Making X1 = Information Scope

X2 = Timeliness X3=Aggregation

βo = Intercept β = Coefficient of independent variables= the standard error

$$Y = 13.387 + 0.166X1 + 0.293X2 + 0.217X3$$

Constant = 13.387 shows that if all the independent variables (Information Scope, Timeliness , and Aggregation) are rated as zero, all the independent variables are contributes in Decision making at 13.38 %. The level of confidence for the analysis was set at 95%. Therefore, the P- value less than 0.05 imply that the independent variable is significant. The regression results show that Decision making process influenced by information scope(p=0.040), timeliness (p=0.016), Aggregation (p=0.004)

The independent variables in the regression model with positive coefficient have a direct relationship with the dependent variable. Therefore, decision making process increases proportionately with more inclusive information scope, timelines and aggregation. The magnitude of the coefficients of the independent variables denoted the strength of the influence that they have on the dependent variable (decision making process). The results indicate that decision making process is strongly influenced by information scope (coefficient 0.166), timeliness (Coefficient 0.293) and aggregation (Coefficient 0.217).

The results of the regression of AIS explaining the ($p=0.000$<0.05)the null hypothesis (H0) should be rejected and alternative hypothesis (H1) should be accepted.

The hypothesis:

H_1: There is Positive relationship between AIS and Decision making process.

7.DISCUSSION, LIMITATIONS AND CONCLUSIONS

This study examined the impact of AIS on decision making process. The findings of the research indicated that implementation of accounting information systems could lead to better decision-making by administrative staff in government organization. Then correlation tool was used to find whether there is a relationship between overall AIS connection with measure of information scope, timeliness and aggregation which were considered as the AIS effectiveness in this research. By comparing every feature that researcher used, a positive relationship was able to see among those factors and overall decision making process. According to this study's conclusion is when organization applying the AIS very effectively it will contribute for the better decision which can be taken by the administrative officers when the system called CIGAS produces information from reports such as monthly summary, bank reconciliation, impressed reconciliation, monthly expenses reports , monthly revenue reports, noncurrent assets reports and deposit reconciliation reports etc.

The implementation of AIS would not improve decision making capacity in government institutions. Like all empirical studies, the present research also has its own limitations due to the methodology employed. Use of questionnaire to collect data always has also its own limitations, since responses could be biased because of the common method used for the collection of all data.

From generalization of the results point of view, measuring research questions based on the opinion of the respondents would limit our generalization of the findings. Despite the above limitations, this research has provided useful results in paving the way for future research in this area. Since in Sri Lanka, only recently increasing demand for AIS, as an effective tool in managing the organizations, has prevailed, this research could provide a supportive evidence for the implementation of AIS. Avenues for future research could be: Analysis of the effectiveness of AIS with corporation of AIS designer and software vendors companies, Study of the extent to which

factors such as administrative support, human resource accounting etc. would be taken into account when designing an AIS, and The effects of user participation on the design of AIS.

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