

## **The Factors Effecting the End-User Computing Satisfaction of Government Financial Management Accounting System (GFMAS)**

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### **Abstract**

The importance of computerised accounting system (CAS) is indisputable for private as well as public sector. One of the continuous efforts in the public sector can be seen through the introduction of Government Financial and Management Accounting System or GFMAS by Accountant General (AG) Department in year 2005. GFMAS is expected to enhance operational efficiency and effectiveness to enable the department to deliver value-added services. As far as researchers are concerned, no attempt has been made to examine End-User Computing Satisfaction (EUCS) towards GFMAS especially in AG Department. Thus, the purpose of this study is to determine the level of satisfaction among the end users of GFMAS at AG Department specifically in East Malaysia (Labuan and Sabah branches). Besides, this study also examines the effect of seven factors (content, accuracy, ease of use, format, timeliness, reliability of the system, speed of the system, etc) on the level of satisfaction among end users towards GFMAS. By distributing questionnaires to 140 AG staffs that using GFMAS and conducting in-depth interview with few directors and officers, empirical analyses have been drawn successfully. In general, end user satisfaction on GFMAS correlates significantly with content, accuracy, format, ease of use, timeliness, speed of the system and reliability of the system.

Keywords: End-User Computing Satisfaction, GFMAS, Public Sector

### **INTRODUCTION**

#### **1.0 Introduction**

The successful use of IT depends on the technology itself and the level of expertise of the end user using the technology (Zain, Raduan, Iskandar & Maslin, 2005). One of the measurements

in evaluating this successful system is End User Computing Satisfaction or EUCS. A number of studies have attempted to capture the overall evaluation perceived by the end users regarding the use of an information system; i.e. satisfaction, as well as the most immediate factors that form satisfaction (Doll & Torkzadeh, 1988; Doll & Torkzadeh, 1989; Doll & Torkzadeh, 1991; Henry & Stone, 1994; Torkzadeh & Doll, 1992)

However, it seems clear that previous researches have no attempt in discovering the factors affecting the satisfaction of the end users of the Computerised Accounting System (CAS) especially in the government sectors. Yet, it is essential to determine the factors that contribute to EUCS while assessing the overall evaluation of information system. This study attempts to examine the factors that contribute to the user satisfaction towards Government Financial Management Accounting System (GFMAS) at Accountant General (AG) Departments in Malaysia.

### **1.1 Government Accounting Entities**

Malaysian government is distributed into three tiers of government namely Federal Government, State Government and Local Government. The Federal Government is the highest tier, which comprises of ministries, departments and public enterprises. Second tier is State Government, which comprises of ministries, departments and public enterprises. The last tier of the government is Local Government comprises of city council, municipal council and district council. In addition, there are Statutory Bodies which are incorporated under respective acts and Government Linked Companies which are incorporated under the Companies Act 1965. Malaysia does not prepare whole of government account as each level of government is an accounting entity by itself and is subjected to different laws and regulations that are being enforced.

### **1.2 Public Sector Accounting**

The Federal and State Government have been adopting modified cash basis of accounting in the preparation of the annual financial statements where expenditures incurred in the old financial year but not yet paid will be paid in January of the new financial year and are reported as expenses for the old financial year. As for the Local Government, Statutory Bodies and Government Linked Companies, they have been adopting accrual basis of accounting in the preparation of the general purpose financial statements.

Public sector accounting practices in Malaysia comprises of three major components. First, maintenance of books and records especially vot book as a financial record that must be kept by the government agencies for recording expenditures, liabilities, and changes in budget. Second, all public sectors organisations' accounts are required to be prepared in compliance with rules and regulations set by the Federal Constitutions, Financial Procedure Act 1957, Audit Act 1957, Treasury Instructions and Treasury Circulars. The last component is preparation of reports and statements to be laid in parliament for approval.

### 1.3 Computerised Accounting System (CAS)

Since there are differences between the practices in the public and the private sectors, the application of the CAS in this organisation is also different from one to another. For instance, the private organisation utilizes the general ledger system and the accounting principles employed is based on accrual basis. However, the public organisations employ vot accounting system, which is based on cash basis. The financial management of the organisation is also related to budgeting using a code and warrant system (Statutory Bodies Act 1980 (Account and Annual Report) (Act 240)). Thus, it seems to be interesting to investigate the level of users' satisfaction in government sector, since it is different as compared to the company or business organisation.

The emergence of the computerised system gives an impact to both users regardless in the private sector as well as in the public sector. Due to the claim that there is an advantage of ICT usage and application, the government steps forward to implement the CAS in most of the government departments. Subsequently, they are able to manage the increasing volume of the financial data transactions, which seems impossible to compile them manually or using outdated system. The implementation of CAS is believed to enhance the performance and productivity, which lead to better administration of financial and accounting management. The CAS does not only provide the accounting report, but it also enables the user to evaluate the output of the system and the system itself.

The size and the complexity of government functions and the demand for timely and accurate information are also necessitate the use of ICT in the area of record keeping functions by increasing the number of ICT systems. Recently, the AG Department has introduced the Standard Computerised Accounting System for State Government in Malaysia. This system will help the auditors to minimise their time in doing the audit since the preparation of the State Government Financial Statement will be computerized (Buang, 2007)

Besides, AG Department has streamlined transactions towards accrual processing by considering the process of refinement to align cash accounting used by the system with accrual accounting (Pelan Strategik Jabatan Akauntan Negara Malaysia 2008-2012; 2008). Accrual accounting, previously thought to be only suitable in the private sector, has been seen to be an alternative for better reporting of government activities (Zakiah, 2007) . In fact, the accrual accounting has been adopted in the governments of several countries including Australia, New Zealand and the United Kingdom. The adoption and use of accrual accounting in Malaysia is seen feasible as the privatisation and corporation of major government projects has proven to be successful. The adoption of full accrual accounting system can show precisely the true financial position of the public sector agencies (Buang, 2007) . Thus, having a good financial or computerised accounting information system will increase the performance of an organisation. Eventually, this enables the public sector to increase productivity and efficiency while improving the service quality to their stakeholders and customers.

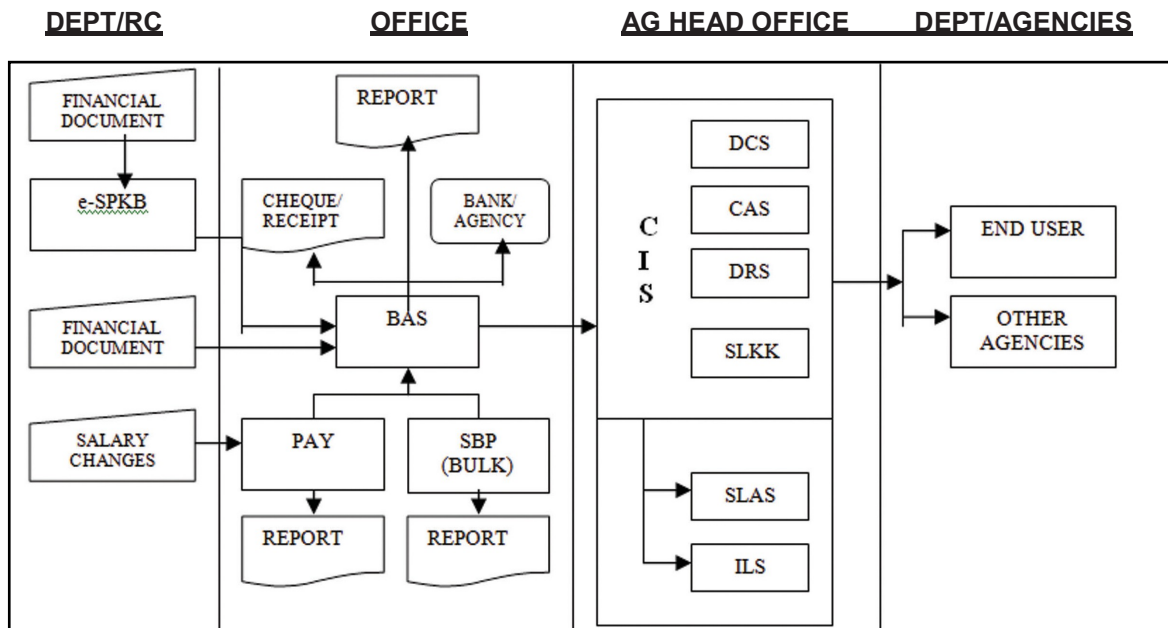
**1.4 Legacy System-Branch Accounting System (BAS) vs. GFMAS**

Prior to the launching of GFMAS, AG Department has utilized Branch Accounting System (BAS) for over 18 years. Technologically, BAS has been developed based on mainframe system. Thus, neither the system is fully integrated with the other department nor with module itself. **Figure 1** below depicts BAS Accounting System Flow.

From the workflow or work process point of view, BAS user should complete the task according to the batch. Moreover, the user performs a repetitive routine work which required manual checking process. Since there were so many manual involvements, this in turn has created high risk in erroneous and negligence. Consequently, this has resulted in shortage of career development among employees since they are constantly busy with the routine manual tasks rather than formulating the strategic planning for the department, system and also career advancement (Kok Ming, 2006).

As a comparison, GFMAS as presented in **Figure 2** below has been developed based on web-enabled system. This foundation has enabled GFMAS to overcome the problem whereby it has allowed more integrated data to fulfill demand from AG customers and stakeholders. In addition, unlike the mainframe used under BAS system which was obsolete, GFMAS has been provided by scaleable system which can be upgraded in the future.

**ACCOUNTING**



**Figure 1: BAS Accounting System Flow (Jabatan Akauntan Negara Government Financial and Management Accounting System)**

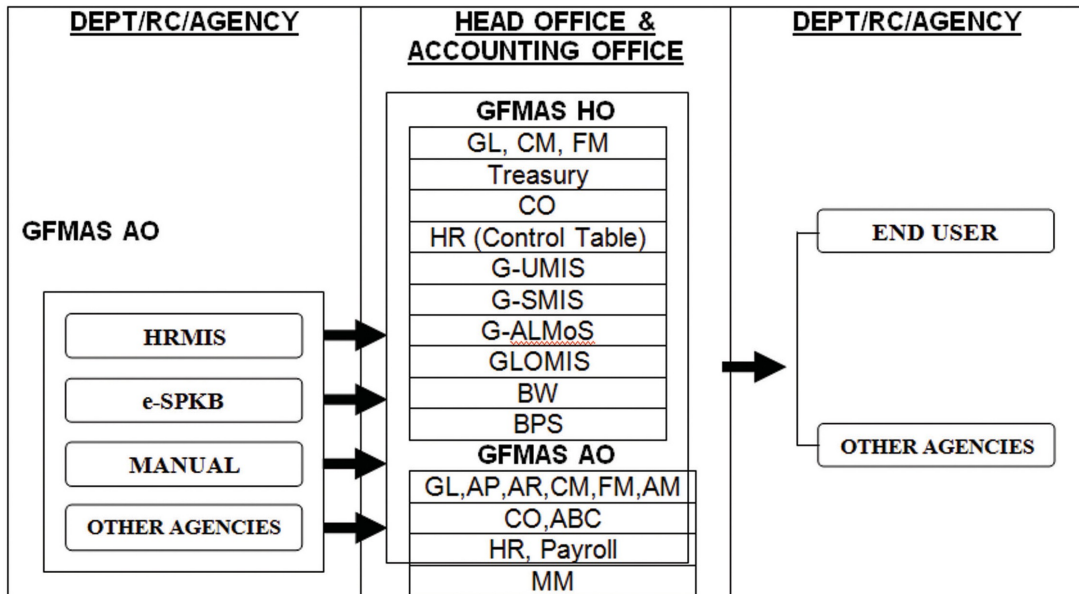


Figure 2: GFMAS Accounting System Flow  
(Jabatan Akauntan Negara Government Financial and Management Accounting System)

### 1.5 The Government Financial and Management Accounting System (GFMAS)

The Accountant General's (AG) Department has begun its operation since 1946 headed by Accountant General as Chief Accountant of Federal Government. This department is responsible to manage the Federal Government's consolidated fund and to formulate government accounting policies. In its continuous efforts towards becoming a leading organization in accounting services and fulfilling e-government requirement, the department has been re-engineering and developing its new accounting system to replace its previous system which is 18 years old.

The new application system is known as Government Financial and Management Accounting System or GFMAS was developed in year 2005 and began its operation in 2006 at 25 AG branch offices together with 10 self-accounting departments. This system will enhance operational efficiency and effectiveness to enable AG Department to deliver value-added services especially to Federal Government. This system also will be able to capture accounting transactions and prepare financial statements based on accrual basis of accounting. In order to ensure the effectiveness of the project, The GFMAS Project Management team is adopting the Accelerated System Application Program (ASAP) methodology to manage the implementation activities and deliverables of the project.

GFMAS has been developed with several objectives. First is to improve services quality of AG Department through the usage of the latest information technology application. Second,

it provides a standard mechanism to monitor all government accounting transactions. Third, due to problems arose from the legacy or existing government accounting system, GFMAS emerges to overcome these problems and setbacks. Finally, GFMAS could assist AG Department in providing value added services to government and its agencies in the accounting and financial matters (Kok Ming, 2006).

Obviously, the current move to GFMAS is viewed as an approach to enhance government payment process and accounting for the government's receipts in a fast and efficient manner. In fact, this is in line with AG's Department tagline "Excellent Accounting at Your Service". GFMAS is an integrated system which is capable of allowing acceleration in financial planning, budget control and government accounting. It combines all the accounting functions that cover payment, receipts, remuneration control, unclaimed monies, government loans, loans and advance payment to public sector personnel, investment and preparation of the Public Accounts in one integrated platform.

With this new system, a data warehouse was established called the Business Warehouse (BW). This data warehouse represents the central data repository for the public sector accounting systems managed by AG's Department. The initiative to move from older system to a new GFMAS is an attempt to improve the accounting and financial management in the public sector's departments. At the same time, this move is also seen to be an attempt to increase the quality of data produced and the performance of the accounting systems (Abd Rahman, 2008)

## **1.6 The Benefits of GFMAS to Users**

Apparently, GFMAS provides several benefits to the internal as well as external end user computing. Top management will enable in making a better decision due to reliable and real time data. This in turn will ensure the formulation of better planning and faster reporting to Ministry of Finance (MOF). In addition, as a result of more streamlined process, it has produced less errors and inefficiencies (Jabatan Akauntan Negara, 2006).

Head office will experience more efficient and effective consolidation of accounts for public accounts reporting due to in-built data synchronization and control function. Moreover, this will provides better integration of the treasury, loan and investments functionalities which enables head office to track their budgets, loan and investments made. As compared to the legacy system, GFMAS is also much faster in terms of generation of monthly, quarterly and even ad-hoc reports due to the availability of online and real time data.

Finally, as a result of workload reduced in the consolidation activities at head office, they will have a better focus on more strategic work. From accounting offices view, single-point data entries have enabled an effective and accurate procession. This will create a better internal control which may eliminate manual reconciliation and reduce errors (Jabatan Akauntan Negara, 2006).

External user's feedback and satisfaction are also important for the betterment of the system. Ministries, central agencies, responsibility centres and other beneficiaries are those who get a benefit from GFMAS system. Other than enhancing transparency in accounting operations, GFMAS also ensures faster payments and provides a better channel of access to their transactions status. The controlling officers will enable in understanding current health of organisation through timely consolidated budgets versus actual performance. Subsequently, it will reduce costs and provide a greater budget control. Last but not least, community or public at large will receive a better and more efficient service from the government departments and agencies (Jabatan Akauntan Negara, 2006).

### 1.7 GFMAS Modules

AG DEPARTMENT has developed GFMAS using Systems, Applications, and Product in data Processing (SAP) platform. The application system comprises of eight (8) integrated modules. The modules are Financial & Controlling Module (FICO), Human Resource Payroll (HRPY), Logistics (LO), New Dimension Products (NDP), Government Loans Management Information System (G-LoMIS), Government Unclaimed Moneys Management Integrated System (G-UMIS), Government Advance Loans Monitoring System (G-ALMoS) and Government Securities Management Integrated System (G-SMIS) (Jabatan Akauntan Negara, 2006). The function of each module is depicted in **Table 1** below.

**Table 1: Function of Each Module in GFMAS**

No	Financial & Controlling Module (FICO)	Function
1	General Ledger (GL)	Managing and maintaining Government's general ledger.
2	Accounts Payable (AP)	Managing and records all payments to suppliers, contractors, service providers, government department and agencies including government personnel
3	Accounts Receivable (AR)	Records and maintains all revenues received by the Federal Government
4	Cash Management (CM)	Manages the bank reconciliations process in consideration of all government payments and receipts for the Federal Government
5	Funds Management (FM)	Administers and monitors budgets allocated to the department / RC's
6	Controlling (CO)	Provides reporting of financial transactions for all ministries
7	Asset Management (AM)	Records and manages financial aspects of assets within AG DEPARTMENT
8	Activity Based Costing (ABC)	Allocation of quantity and value based on resource and process drivers

9	Treasury Management (TR)	Records and maintains the Federal Governments long and short term investment
	Human Resource Payroll Module (HRPY)	Function
10	Personnel Administration (PA)	Managing personnel salary data of Federal Governments and agencies
11	Payroll (PY)	Acts as an employee payroll service center for all personnel of the Federal Government of Malaysia
	New Dimension Products Module (NDP)	Function
12	Business Warehouse (BW)	Assists users to quickly and effectively evaluate data for reporting and analysis purposes
13	Business Planning Simulation (BPS)	Assisting in preparation multi perspective strategic budget to enhance organization efficiency and management process
	Customised Module	Function
14	Government Advance Loans Monitoring System (G-ALMoS)	Administer the registration and processing of loans and advances for Federal Government personnel
15	Government Securities Management Integrated System (G-SMIS)	Processes and administers selling, buying and distribution of securities
16	Government Unclaimed Moneys Management Integrated System (G-UMIS)	Managing unclaimed moneys activities received from entities as well as processing of payments to the beneficial owners
17	Government Loans Management Information System (G-LoMIS)	Manages the registrations, disbursements, payments and collections of all (domestic and foreign) loans given and loans taken by the Federal Government and account memorandum
	Logistics Module (LO)	Function
18	Material Management (MM)	Captures all data relating to Purchase Order (PO) and updates budget for commitment accounting

*(Jabatan Akauntan Negara Government Financial and Management Accounting System)*

## 1.8 GFMAS Capabilities

As compared to the previous financial and accounting system employed by AG Department, GFMAS offers some capabilities to their users. Some of the GFMAS capabilities are shown in **figure 3** below:



Figure 3: GFMAS Capabilities (Jabatan Akauntan Negara Government Financial and Management Accounting System)

As shown in figure 3, GFMAS has the ability to provide an online single-point entry, increase security, real time data, and completeness of budget records. It also has the capability to be use for cash basis accounting as well as accrual based accounting. It is also able to interface with external systems and created its own data mart. This is where data mining technologies, on request for access to data, can then play a roles in analysing, interrogate, or mining the data for the decision making processes (Abd Rahman, 2008). Data mining has many potential uses in accounting in the public sector, it can assist in dealing with the government's payment to suppliers, and government expenditures on assets for example in monitoring and detecting any unauthorized payments on assets. It would increase a department's efficiencies and effectiveness in their operations and enhance their accountability.

## 1.9 Purpose of the Study

The purposes of this study are as follows:

- i) To determine the level of satisfaction among end users of GFMAS in AGDepartment.
- ii) To examine the effect of seven factors (content, accuracy, ease of use, format, timeliness, reliability of the system, speed of the system, etc) on the level of satisfaction among the end users of GFMAS.

### 1.10 Significance of the Study

It seems clear that there is a lack of study has been conducted in the area of EUCS among government sectors, particularly in AG Department. Thus, this study aims to contribute to the existing body of knowledge in the area of information technology. Furthermore, this study provides and constructs in measuring and evaluating EUCS among the government sectors in Malaysia. Theoretically, this study measures and validates the instrument of Doll and Torkzadeh (1988)'s EUCS (with some additional dimensions) amongst government sectors. Therefore, this instrument is very useful in practice, not only for public sector but also for private sector. Indeed, this is an exploratory study in the public sector towards the achievement of the excellent and better performance of accounting system.

The remainder of this paper is organized as follows. A review of related literature on information technology and accounting and end-users computing satisfaction is discussed. Next, the methodology employed in this study, research instruments used and data analysis method involved are described. Finally, the empirical results and discussion of the study are drawn

## LITERATURE REVIEW

### 2.0 Information Technology and Accounting

Over the last decade, the force of information technology (IT) has transformed the business environment. We are in the midst of a paradigm shift from the industrial paradigm of wealth creation to the information paradigm of wealth creation; and technology is the driving force behind these changes (Elliot, 1992). During this same period of time, the field of accounting has undergone an extraordinary transformation relative to its use of IT. IT has increased our ability to capture, store, analyze, and process tremendous amounts of data, increased our ability to change business processes, and has significantly impacted the control process. As a consequence, employers are demanding that their accounting and audit staff possess adequate backgrounds in IT (Strong, Portz & Busta, 2006).

Information technology has been utilized by organisations to enhance productivities and achieve efficiencies. When more information is generated by the accounting software, computerized systems and centralized techniques to store information become more popular, such as databases and data warehouses. However, this has resulted in organisations becoming increasingly more dependent upon their databases to support business processes and decision making (Lin & Edwards, 1996). Therefore, the number of errors in stored information and the organisational impact of these errors are likely to increase (Klein, 1998). Inaccurate and incomplete information may adversely affect the competitive success of an organisation (Redman, 1992). From a business perspective, for example, a financial company absorbed a net loss totaling more than \$250 million when interest rates changed dramatically, and the company was caught unawares (Huang, Yang, Jin & Chiu, 2004)

In particular, there are consequences of poor information quality in accounting information

systems. For example, errors in an inventory database may cause managers to make decisions that generate over-stock or under-stock conditions (Bowen, 1993). One minor information entry error, such as the unit of product/service price, could go through an organisation's accounting information system (AIS) without appropriate information quality checks and cause losses to an organisation and/or harm its reputation. Therefore, there is a need for an understanding of the key issues that affecting accounting information quality.

## **2.1 End User Computing Satisfaction (EUCS)**

Many researchers defined end user computing based on their own objectives and setting of the study. Ives, Olson and Baroudi (1983) defines User Information Satisfaction (UIS) is one such evaluation mechanism as an extent to which users believe the information system available to them meets their information requirements. Chin and Lee (2000) defined end-user satisfaction with an information system as an overall affective evaluation and end-users are related with his or her experience in the information system. They stated that the term "experience" could be made more specific to focus into different aspects related to the information system such as computing or training.

End-user computing (EUC) refers to direct interaction with application software by managerial, professional, and operating level personnel in user department (Doll & Torkzadeh, 1989). Meanwhile, EUCS is the affective attitude towards a specific computer application by someone who interacts with the application directly. End-user satisfaction can be evaluated in terms of both the primary (application) and secondary user's roles (inquiry and decision support application). This study deployed Doll and Torkzadeh definition of the end user computing and EUCS. The end user computing in this study is the people who interact and use GFMAS such as accountant, financial officer, information system officer, data processing operator, account clerk and etc. Those end users should be able to interpret the report as in needed by the organisation. In general, they were asked to reflect their satisfaction or perception towards GFMAS in their own organisation.

The scope of the discussion is related to EUCS; the previous factors that contribute to the EUCS, (Doll & Torkzadeh, 1989); i.e., content, accuracy, format, ease of use, and timeliness and the modification made by Chin and Lee (2000), i.e. satisfaction with system speed, and system reliability (self developed). This model will become a fundamental guideline to examine factors contributing to EUCS generally in government sector and specifically at AG Department.

## **2.2 Theoretical Framework of EUCS Towards GFMAS**

The Dependent Variable (DV) for this study is overall EUCS. The items, which represent whole EUCS, are combined from every EUCS dimensions. Doll and Torkzadeh (1988) previously used this method in their initial study of EUCS. The seven factors of End User Computing Satisfaction (EUCS) consist of content, accuracy, format, ease of use, timeliness, speed of the system and reliability of the system.

## 2.3 Research Hypotheses

Several hypotheses have been developed to illustrate whether there are significant effect between the seven factors and end-users satisfaction towards GFMAS. Those hypotheses are as follows:

H1: There is a significant effect between content and end-users' satisfaction towards GFMAS.
H2: There is a significant effect between accuracy and end-users' satisfaction towards GFMAS.
H3: There is a significant effect between format and end-users' satisfaction towards GFMAS.
H4: There is a significant effect between ease of use and end-users' satisfaction towards GFMAS.
H5: There is a significant effect between timeliness and end-users' satisfaction towards GFMAS.
H6: There is a significant effect between system speed and end-users' satisfaction towards GFMAS.
H7: There is a significant effect between system reliability and end-users' satisfaction towards GFMAS.

## RESEARCH METHODOLOGY

This study applies multi method data collection with the combination of qualitative and quantitative approach. Both methods are used in this study to gather comprehensive view about satisfaction and perception of end users towards GFMAS that eventually would generate a holistic data in order to produce all inclusive results.

### 3.0 Research Respondents

The research respondents for this study consist of two groups namely executive and non-executive of AG Department staffs in Federal Territory of Labuan, Kota Kinabalu, Keningau, Tawau and Sandakan. This study employs convenient sampling because staffs in each branch have been determined based on their experience of GFMAS usage. Initially, we expect to distribute approximately 167 respondents. However, we received 140 respondents only which represent 84% of the total sample.

**Table 2: Respondents**

AG Department (Branch)	Number of staffs for each branch	Number of respondents
Tawau	20	14
Sandakan	25	23
Kota Kinabalu	80	73
Federal Territory of Labuan	22	20
Keningau	20	10
<b>Total</b>	167	140

### 3.1 Research Questionnaire

The questionnaire is divided into two sections. The first section consists of the dimension of EUCS. Meanwhile, the second section captures personal information of respondent. For the first section, it is divided into seven parts namely: (1) Part A -Content, (2) Part B - Accuracy, (3) Part C - Format, (4) Part D - Ease of Use, (5) Part E - Timeliness, (6) Part F - System Speed and (7) Part G – System Reliability. The second section is about the personal information of the respondent. These include their gender, education background, position, year of service (tenure), attending computerised accounting course and computerised accounting skills.

### 3.2 In-Depth Interviews

In-depth interviews have been conducted among executives (i.e. branch director) of AG Departments to identify issues of satisfaction towards GFMAS application. This qualitative method is needed because some issues could not be addressed, captured and measured by the quantitative method. Thus, the combination of two methods probably would generate a holistic data to produce sound findings and results.

### 3.3 Analysis of Data

In analyzing the data, this study employs SPSS (Statistical Package for Social Science) software for windows namely Descriptive Statistics, Correlation and Regression Analysis. The study also tests reliability of the instrument so that it enables to produce a robust result.

## FINDINGS AND RESULTS

### 4.0 Respondent Profiles

A total of 33.6 percent are male respondents. More than half of the respondent (55.8 percent) work as Administrative Assistant and Accountant Assistant, followed by Senior Accountant Assistant (10.7 percent). 74.3 percent of them have been working with the organization for 15 years and below. Meanwhile, only 8.9 percent of them have been working between 25 to 35 years.

The survey also shows that 48.6 percent of the respondents are SPM/STPM holders and 32.1 percent are Diploma holders. More than 50 percent of the respondents have attended computerised accounting course and 56 percent had additional computerised accounting skill such as LOTUS 123 and UBS (**Table 3**).

**Table 3: Socio-demographic Profiles of Respondents**

Profile		Frequency	Percent
Gender	Male	47	33.6
	Female	93	66.4
Education Level	Degree	27	19.3
	Diploma	45	32.1
	SPM / STPM	68	48.6
Position	Director	2	1.4
	Deputy Director	1	.7
	Chief of Assistant Director	1	.7
	Assistant Director	4	2.9
	Accountant	3	2.1
	Chief of Administrative Assistant	1	.7
	Finance Assistant Officer	1	.7
	Senior Accountant Assistant	15	10.7
	Information System Officer	1	.7
	Information Technology Assistant Officer	4	2.9
	Data Processing Operator	12	8.6
	Data Processing Assistant Operator	2	1.4
	Administrative Officer	1	.7
	Administrative Assistant	39	27.9
	Accountant Assistant	39	27.9
	Account Clerk	4	2.9
Year of Service With the Organization	less than 3 years	44	31.4
	3-15 years	60	42.9
	15-25 years	24	17.1
	25-35 years	12	8.6
Attending Computerised Accounting Course	Yes	81	57.9
	No	59	42.1
Additional Computerised Accounting Skill	UBS	61	43.6
	LOTUS 123	18	12.9
	MrAccounting	5	3.6
	QuickBook	1	.7
	Others	55	39.3

#### 4.1 Descriptive Analysis

Descriptive statistics such as minimum, maximum means and standard deviations are obtained for the interval-scaled factors and dependent variable. The results of the descriptive analysis are shown in **Table 4**

**Table 4: Descriptive Analysis**

Variable	N	Minimum	Maximum	Mean	Std. Deviation
Content	140	1.67	5.00	4.0064	.63373
Accuracy	140	2.43	5.00	3.9582	.56432
Format	140	1.86	5.00	4.0061	.63954
Ease of Use	140	1.86	5.00	3.9551	.64004
Timeliness	140	2.50	5.00	3.5381	.56132
System Speed	140	1.00	5.00	3.7738	.63726
System Reliability	140	1.00	5.00	3.8684	.60562
Overall Satisfaction	140	2.00	5.00	4.0520	.65212

From the results, mean of the satisfaction with the content is 4.0064 on seven-point scale, while mean of the satisfaction with format is 4.0061. The other five factors and overall satisfaction's mean are somewhat enriched (accuracy = 3.9582, ease of use = 3.9551, timeliness = 3.5381, system speed = 3.7738, system reliability = 3.8684 and overall satisfaction is 4.0520). These results indicate that even though users are still in the process of learning and interacting with GFMAS, the level of satisfaction is relatively high.

#### 4.2 Reliability Analysis

A reliability analysis is carried out to check for the underlying dimension of the EUCS variables. A rule of thumb suggests that the acceptance Cronbach alpha value should exceed 0.5 (Hair, Anderson, Tatham & Black, 1998). **Table 5** depicts a summary of the Cronbach's alpha values. All factors exhibit a Cronbach's alpha coefficient of at least 0.587 indicates that the questionnaire has attained rather high level of reliability. Hence, all variables are retained. Among the factors, format factor has the highest ranking of Cronbach alpha of 0.936, followed by the content factor with 0.933. The timeliness factor has the lowest ranking with 0.587.

**Table 5: Reliability Analysis**

Variable	Cronbach's Alpha	N of Items
Content	.933	9
Accuracy	.889	7
Format	.936	7
Ease Of Use	.915	7
Timeliness	.587	6
Speed	.808	6
Reliable	.826	7

### 4.3 Correlation Analysis

In this paper, correlations between the seven selected factors (content, accuracy, format, ease of use, timeliness, system speed, system reliability) and overall satisfaction on GFMAS have been tested and measured. Relatively, high correlations were found between the seven factors and overall satisfaction towards GFMAS. The correlation matrix is displayed in **Table 6**. As can be seen, satisfaction on GFMAS correlates positively with content, accuracy, format, ease of use, timeliness, system speed and system reliability. Specifically, the relationships between these variables were found to be critical as it influence satisfactory level among the end users toward the GFMAS.

**Table 6: Correlation among Variables**

	Mean	SD	Overall Satisfaction	Content	Accuracy	Format	Ease Of Use	Timeliness	Speed	Reliable
Overall Satisfaction	4.0520	.65212	1.000							
Content	4.0063	.63371	.664	1.000						
Accuracy	3.9582	.56432	.566	.660	1.000					
Format	4.0061	.63954	.692	.649	.617	1.000				
Ease Of Use	3.9551	.64004	.652	.571	.574	.685	1.000			
Timeliness	3.5381	.56132	.339	.312	.278	.337	.373	1.000		
Speed	3.7738	.63726	.655	.446	.425	.487	.566	.478	1.000	
Reliable	3.8684	.60562	.486	.466	.360	.387	.379	.322	.498	1.000

### 4.4 Regression Analysis

Regression analysis is performed to reveal how seven factors (content, accuracy, format, ease of use, timeliness, system speed, system reliability) influence satisfactory level among end users toward the GFMAS. The results of this analysis are presented in Table 4.6 below. The overall explanation power of the seven factors reached a sufficient level as almost 70 percent ( $R^2=0.670$ ) of the variances in the end-users' satisfaction towards GFMAS could be predicted through the factors (refer **Table 7 and Table 9**).

**Table 7: Model Summary**

Model	R	R Square	Adjusted R Square	Std. Error of the Estimate
1	.819 <sup>a</sup>	.670	.653	.38421

**Table 8: Coefficients**

Model	Unstandardized Coefficients		Standardized Coefficients	t	Sig.
	B	Std. Error	Beta		
(Constant)	.039	.295		.133	.895
Content	.253	.078	.245	3.229	.002
Accuracy	.020	.083	.017	.240	.811
Format	.273	.080	.268	3.434	.001
Ease of use	.131	.077	.128	1.687	.094
Timeliness	-.069	.067	-.059	-1.026	.307
Speed	.337	.070	.329	4.794	.000
Reliability	.073	.066	.068	1.113	.268

Evidently, **content** significantly influences or affects end-user satisfaction towards GFMAS ( $t=3.229$ ,  $p=0.002$ ). The system does provide good information as end-user is able to print reports that meet the information processing needs. Besides, unlike the legacy system, GFMAS is able to integrate all relevant information from the other database system (Jabatan Akauntan Negara Government Financial and Management Accounting System, Bahagian Pengurusan Operasi Cawangan, Kota Kinabalu, Sabah, 2006). **Table 8** also shows that **format** ( $t=3.434$ ,  $p=0.001$ ) significantly affects end-user satisfaction towards GFMAS. In the other words, the output is produced and presented by GFMAS in a clear manner with proper standard and user-friendly format. In addition, **Table 8** also infers that **system speed** is proved to have a significant effect on end-user satisfaction towards GFMAS ( $t=4.794$ ,  $p=0.000$ ). In other words, it indicates that speed of the computerised accounting system is important in ensuring end-user satisfaction towards GFMAS as the system is able to process a huge number of reports faster as compared to BAS system.

However, **accuracy** ( $t=0.240$ ,  $p=0.811$ ), **ease of use** ( $t=1.687$ ,  $p=0.094$ ), **timeliness** ( $t=-1.026$ ,  $p=0.307$ ) and **system reliability** ( $t=1.113$ ,  $p=0.268$ ) were found to have no significant effect on end-user satisfaction towards GFMAS. This indicates that accuracy, ease of use, timeliness and system reliability are weak predictors in explaining end-user satisfaction towards GFMAS. It has been noticeable that the computerised accounting system is inevitable from error such as inconvenient downtime while extracting information and reports. In addition, as explained before, this system is relatively new and can be considered at an infant stage. Thus, technical error and mistake cannot be avoided easily. Therefore, based on the regression analysis (**Table 8**) *H1*, *H3* and *H6* were supported while *H2*, *H4*, *H5* and *H7* were rejected.

**Table 9: Result Analysis**

Hypothesis	Result
H1: There is significant effect between content and end-users' satisfaction towards GFMAS.	Supported
H2: There is significant effect between accuracy and end-users' satisfaction towards GFMAS.	Rejected
H3: There is significant effect between format and end-users' satisfaction towards GFMAS.	Supported
H4: There is significant effect between ease of use and end-users' satisfaction towards GFMAS.	Rejected
H5: There is significant effect between timeliness and end-users' satisfaction towards GFMAS.	Rejected
H6: There is significant effect between system speed and end-users' satisfaction towards GFMAS.	Supported
H7: There is significant effect between system reliability and end-users' satisfaction towards GFMAS.	Rejected

#### 4.5 Feedback from Interviewees

The satisfaction on accuracy of information in CAS depends on how far CAS can provide accurate information and may satisfy the user. The accuracy might be achieved if system developer creates the accounting system based on organisation requirements. For example, the outputs that are going to be produced by GFMAS must fulfill the needs of AG Departments requirement. According to the discussion with senior assistant director of AG on 23rd of January 2009, the accuracy of information is still in the progress of improvement because the failure of providing the right and accurate information is still occurred. Beside that, the system has produced inaccurate reports because system developers always change GFMAS module once problem occurred. When developers' team always change the module while at the same time they are not really understand the operation and requirement of GFMAS, this has lead to incorrect report been produced and eventually it does not fulfill user's need.

End users employ and use GFMAS by entirely following the instructor manual provided by system developer. It means that each staff can still use GFMAS if they follow all the requirements and procedures. However, most of the staffs reported that they need to contact solution manager if any problem occurs while using and conducting transaction through this computerized accounting system. Most of staffs reported that they are not satisfied with the system manual when they need to refer should they meet any difficulty using GFMAS.

Then, interviewees also perceived that the solution manager took some time to overcome and solve the problem. Furthermore, in terms of ease of use of GFMAS application, they are not really satisfied with user interface in processing the report at the end of each month. The process of producing the report will take a long time. They also perceived that GFMAS is not user-friendly because they need to refer to the account code when they need to key in data and access it.

Even though end users at AG Department admit that GFMAS operates much faster as compared to BAS, they are not really satisfied with GFMAS in terms of producing up-to-date information. Accordingly, the information produced by GFMAS is too old to be used for the

decision making purpose. This is because GFMAS is still at infant stage and definitely a gradual improvement is needed to enable GFMAS to produce up-to-date information. Apart from that, they need to ensure that the system is able to operate and process data timely and accurately.

The reliability of GFMAS is also one of the factors that did not influence user satisfaction because end users are not able to measure the effectiveness and efficiency of the system. AG departments still need to improve the capability and competency of staffs in using the system effectively and efficiently. Moreover, some interviewees are not really satisfied in terms of reliability and security because GFMAS can be accessed by any staff in the department. Those who want to use the system only needs to provide authorization letter from the department. Noticeably, this procedure is quite risky due to sacrificing the security and reliability of the system when every body can access it easily.

Overall, end users perceived that GFMAS is better than BAS because the process of payable and receivable are much faster, users can detect the defection, the information can be accessed easily and the report can be produced and printed timely. Beside that, the overload of task for human resources can be reduced because the processing of task is short as compared to BAS.

## CONCLUSION

### 5.0 Conclusion

This study attempts to determine the level of satisfaction among 140 end users of GFMAS at AG Department specifically in East Malaysia (Labuan and Sabah branches). Besides, this study also examines the effect of seven factors (content, accuracy, ease of use, format, timeliness, system reliability, system speed, etc) on the end users satisfaction towards GFMAS. In addition, this paper also tests any difference of satisfaction among demographic variables (gender, education background, position, year of service (tenure), attending computerised accounting course and additional skills) of GFMAS users.

Overall, this study is able to evaluate strong relationship between seven EUCS factors and satisfaction towards GFMAS. Satisfaction on GFMAS correlates significantly with content, accuracy, format, ease of use, timeliness, speed of the system and reliability of the system. Specifically, the relationships between these variables were found to be crucial as it influence satisfactory level among the end users towards GFMAS.

However, regression analysis reveals that only content, format and speed factors have a significant effect on end users satisfaction towards GFMAS. In contrary, the other four factors namely accuracy, ease of use, timeliness and reliability have no significant effect on end users satisfaction towards GFMAS. This indicates that the latter factors are weak predictors in explaining end-user satisfaction towards GFMAS. These weak predictors might also been

contributed by the nature of GFMAS itself because it is still new for the department as well as end users themselves.

### **5.1 Managerial Implications**

The suggested model has a number of implications for research and practice. However, this study extended Doll and Torkzadeh (1988) and Chin and Lee (2000) works by considering the additional dimension in EUCS model. The study demonstrates the EUCS factors in the government sectors specifically AG department. The study also suggests that content, accuracy, format, ease of use, timeliness, speed of the system and reliability of the system must be emphasized to the efficiency and effectiveness of GFMAS. Thus, system developers must address a rich system feature that is able to ensure the content and format of the report, powerful system speed and functionality as important objectives when developing systems.

Even though the finding of this study might be identical to other AG Departments, it could not be generalized to the other AG departments especially in Peninsula Malaysia. This is due to the different geographical location whereby AG departments in Peninsula Malaysia are close to AG headquarters thus those departments and their staffs are expected to receive more information and expertise pertaining to GFMAS.

### **5.2 Limitations**

The number of the sample is relatively small. The small sample size is limited only 140 end-users of GFMAS. This small sample size may be jeopardizing the population of the end user among the AG departments. The aspect of time also affected the data collection method; i.e., by using questionnaire. A respondent who is not particularly interested in answering the questionnaire is more likely interspersed to answer the question. This is because some of them are very busy with their tasks and duties. As a result, they did not answer the questionnaire genuinely.

### **5.3 Future Research**

The future study can be expanded to other AG department particularly in Peninsular Malaysia. This might also increase the sample size because a larger sample size would be required to ensure that the generalization ability of research. In addition, the consideration of whole branches of AG department would ensure the overall perceptions and views of GFMAS users. For further action, researchers need to overcome the problem that might be happened in each department to improve the complexity of departments' transaction and operation and for the betterment of all AG stakeholders.

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