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Critical Success Factors for the Adoption of School Administration and Management System in South African Schools

Mokwena Nicolas Sello
Department of Computer Science,
Tshwane university of Technology,
South Africa

ABSTRACT

School Administration and Management System (SAMS) has the potential to improve school administration and management, however there is still little research and literature on this aspect of Information and Communication Technology (ICT) in Education. In South Africa, Education Management Information Systems (EMIS),has been developed to assist with educational information needs encompassing education planning as well as implementation of relevant education policies at central government level. At school level South African (SA) SAMS is the basic standard for all school data collection to improve and standardize data collection.The aim of this study was to explore and describe the critical success factors for the adoption of SA-SAMS by school personnel in South Africa. The data collected by means of a survey conducted in 51StarSchools in Limpopo Province of South Africa was analysed by means of Structured Equation Modelling. The results indicated that social factors and facilitating condition are critical in the adoption of SA-SAMS;the training offered to teachers was not tailor-made for this specific group of rural teachers. Although teachers believed SAMS was useful they are not using it as a result of how it was implemented.

Keywords
School, Administration, Management, ICT, TAM.

1. INTRODUCTION

The use of computerized information systems for education has increased massively in industrialized countries over the past two decades, and now developing countries are also starting to utilize their potential (Bisaso et al., 2008). Developing countries are disadvantaged in the use of CISs partly due to constraints in skills, expertise, spatial barriers, finances, availability of computer equipment and other capacity related limitations (Heeks, 2002).

Research has been undertaken on the necessity of integrating Information and Communication Technologies (ICTs) into schools (Chai, Hong, Teo,

2009; Pynoo et al., 2010). But most of this research is basedon improving teaching and learning and less on school management and administration (Visscher, 1999, Demir, 2006). The introduction of ICTs for administration and management purposes in schools may contribute to improved performance and strengthened educational leadership (Telem, 1996).School Administration and Management System (SAMS) has the potential to improve school administration and management (Telem, 1996; Anderson & Dexter, 2005; Flanagan & Jacobsen, 2003).SAMS is designed to suite the structure, management tasks and special needs of schools (Telem, 2001). SAMS provides information and various reports from databases in order to facilitate decisions making in line with the aims of a school (Demir, 2006).

Information is an essential resource produced by Information Systems, and is a key constituent to the management and decision-making in any organization (Gxwati, 2011).The United Nations Educational Scientific and Cultural Organization (UNESCO) posited that information systems are integral to the management, planning and evaluation of an education system (Gxwati, 2011). This awareness has led to the creation of Education Management Information Systems development in many countries, including South Africa. The effective use of Information Systems is dependent on quality data that is complete, relevant, accurate, timely, and easily accessible.

Research conducted in various countries e.g. Turkey and America (Demir, 2006);Israel (Telem, 2005) confirms that school management information systems intensify organizational and managerial success. Efficiency in decision-making intensifies at schools where a school administration and management system (SAMS) is used. SAMS reduces the workload, makes management processes more efficient (Telem, 2005).

School personnel must know how to take advantage of ICTs to improve the administration and management of their schools (Anderson & Dexter, 2005).As leaders, school managers should learn how to use technology while fulfilling their responsibilities and this may increase the use of technology in schools.

In South Africa (SA), the national Department of Education developed SAMS known as SA-SAMS. SA-SAMS is a fully integrated computer solution that addresses all aspects of school administration and management. It is cost effective and easy to use (South Africa, 2006).SA-SAMS entails useful functionalities including the timetable module that assists in the complicated task of allocating subjects and classes to educators (South Africa. 2006). SA-SAMS was designed with non-computer literate users in mind and it uses the graphic user interface instead of a complicated menu structure.

Bialobrzeska and Cohen (Bialobrzeskand Cohen, 2005) contend that when information and communication technology (ICT) projects in the country's schools do not succeed, it is because the principals are not properly informed about what ICTs can and cannot do. This hampers their ability to manage the integration of ICTs in their schools because the presence of technology alone seldom leads to its widespread use.

Thus there is a need to provide support for principals and other senior managers in managing the integration of computers and related resources in schools. This view is further captured in the White Paper on e-Education South Africa(2006): "Education leaders do not yet fully appreciate the benefits of e-Administration for institutions… It is important that educational leaders at all levels of the system are provided with the necessary support to enable them to manage the introduction of ICTs and the related change process".

Inequalities reflected in South African society are manifested in ICT integration in schools (South Africa, 2004). Prior to 1994 South Africa had several racially and ethnically separated education departments and each had its own methods and systems of data collection and processing (South Africa, 2007). After 1994 there was a need to develop one uniform National Education Information System. Education Management Information Systems(EMIS) is the information system which was implemented in South African education to bring about improvement in information discrepancies which existed before 1994 (Gxwati, 2011).

EMIS was developed to address the national education information needs (South Africa, 2007). EMIS is an integrated education information system for the management of education in South Africa. EMIS objectives include, amongst others, promoting the development and operation of education and training management information systems for accountability, planning and monitoring to achieve quality and ensure effective service delivery within the national education system. The output from EMIS assists provincial and national departments to plan effectively and make informed decisions(Van Wyk, 2006).EMIS is meant to assist with educational information needs encompassing education planning, decision-making, financial allocation, accounting, monitoring and evaluation as well as implementation of relevant education policies(South Africa, 2007).In a complex post-apartheid South Africa there are greater demands to do well within fiscal constraints. The utilization of Information Systems is fundamental to managing strategically and to deploy resources optimally. The National Department of Education (South Africa, 2007) also recognized this need and has implemented the Education Information Policy to enhance and encourage information use in the Education System. This policy

provides guidelines to establish EMIS in all provincial education departments of South Africa (Gxwati, 2011).

South Africa consists of nine provinces and each province is responsible for national policy implementation. One of the greatest challenges has been the coordination of EMIS with provincial Education Departments (South Africa, 2007). "EMIS as a national system is dependent on the implementation of the Information Systems in the provinces. EMIS nationally can only move as fast as the slowest province"(South Africa, 2007). If provinces lack the necessary resources or accurate schedules, full implementation of EMIS will be impossible.

The National Education Policy Act of South Africa requires the Minister of Education to determine national policy for the management information systems, including the provision of data in accordance with the international obligations of the government, to monitor and evaluate standards of education provision, delivery and performance through the use of national education statistics provided by EMIS (South Africa, 1996).

At school level, South African School Administration and Management System (SA-SAMS) is the basic standard for all school data collection to improve and standardize data collection at school level (South Africa, 1996).SA-SAMS is a customized computer application specifically designed to meet the management, administrative and governance needs of SA schools (South Africa, 2006).

SA-SAMS provides the standards for all school data and school administration systems at ground level(South Africa, 2011).SA-SAMS has proved to be a robust computer application specifically designed to meet the management, administrative and governance needs of public schools in South Africa (South Africa, 2006). SA-SAMS contains information about learner data, parent data, class list information, fee information, school budget, curriculum, maps, and timetabling and human resource modules. SA-SAMS is the first step in building a national education unit of education information collection system (South Africa, 2007).

The SA national Department of Basic Education (DBE) has provided schools with SA-SAMS, which is a cost effective, easy to use and fully integrated computer solution encompassing all aspects of school administration and management requirements (South Africa, 2006). The DBE has provided SA-SAMS to the country's nine provinces for implementation, and each Province chooses its own strategy for SA-SAMS implementation in its schools. The provincial education departments are responsible for the user support and training of SA-SAMS (South Africa, 2001).

Limpopo Province where this research was conducted Mokwena (2010)decided to implement SA-SAMS in the 'Dinaledi' schools. Dinaledi is a Sotho word for 'Stars'.

Thus, the question this paper sought to answer was: What are the critical success factors which will lead to the adoption of SA-SAMS by South African school personnel in view of the advantages offered by SA-SAMS and the effort of the Department of Education in developing and making the SA-SAMS freely available to schools.

2. CONCEPTUAL MODEL AND RESEARCH HYPOTHESIS DEVELOPMENT

Technology Acceptance Model(TAM) is considered the most influential, powerful, and parsimonious and commonly employed theory for describing an individual's acceptance of information systems(Lee, 2004). TAM is considered one of Information Systems (IS) fields' own theory (Lee, 2004). Other user acceptance theories include Theory of Reasoned Action (TRA), Model of PC Utilization (MPCU), Innovation Diffusion Theory (IDT)and Unified Theory of Acceptance Use of Technology (UTAUT). This study employed Technology Acceptance Model (TAM) as an underpinning theory. Even critics of TAM like Bagozzi (2007) acknowledge that the strength of TAM is its parsimony. TAM takes the view that the intention to accept and use technology is determined by the individual's perception of the ease of use and usefulness of the technology(Davis, 1989).TAM has been applied successfully in the business environment Davis (1986, 1989) and Davis and Venkatesh (1995) and in higher education settings to predict user intention to use technology. TAM makes a provision to add external factors. This study added facilitating conditions and Social Factors as external factors.

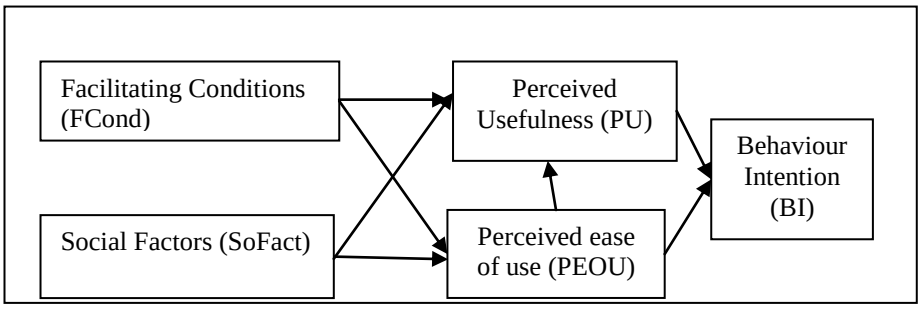

Figure 1: Research Model

2.1 Tam Constructs

The two specific beliefs that TAM uses to predict acceptance and actual system usage are perceived usefulness and perceived ease of use as depicted in Figure 1. Perceived ease of use is defined as "the degree to which a person believes that using a technology would be free of effort" (Venkatesh & Davis, 2000). Perceived usefulness is defined as "the degree to which a person believes that using a particular technology would enhance his or her job performance". Perceived usefulness is also influenced by perceived ease of use (Venkatesh & Davis, 2000) Users are often willing to cope with some difficulty of use if the system provides critically needed functionality (Davis, 1989).

TAM posits that the actual technology use is directly caused by behavioural intentions. Behavioural intention is a measure of the strength of one's intentions to perform a specific behaviour. Intention can be measured well in advance of actual use.

The relative advantage attribute found in Innovation Diffusion Theory(IDT) is often considered to be the Perceived Usefulness construct in TAM, and the complexity attribute is similar to Perceived Ease of Use concept in TAM. This suggests that TAM and IDT reaffirm and often complement each other.

The Social Cognitive Theory (SCT) stemmed from the Social Learning Theory (SLT). Although there are several versions of SLT, they all share the assumption that response consequence such as reward, or punishment influences an individual's behaviour. This is the same idea found in TAM that the perception of ease of use and usefulness influences people to accept or reject a technology.

Usefulness — usage relationship is relatively stronger than the ease-of-use – – usage relationship (Venkatesh & Bala, 2008). This is because users are inclined primarily to accept an application for its functionality, and secondly for its ease of use. Users are often willing to cope with some difficulty of use if the system provides critically needed functionality Davis, 1989. Perceived usefulness is also influenced by perceived ease of use (Venkatesh & Davis, 2000) because if the users find the system too difficult to use they may not be able to overcome this hurdle in its acceptance and use, and therefore they may never discover the usefulness of the system. If users find the system easy to use they may quickly accept and start using it and therefore discover its usefulness. We therefore hypothesis that:

H1 Perceived Usefulness of SA-SAMS has a significant positive relationship with intention to use

H2 Perceived Ease of Use of SA-SAMS has a significant positive relationship with intention to use

H3 Perceived Ease of Use of SA-SAMS has a significant positive relationship with Perceived Usefulness

2.2 Facilitating Conditions

Behaviour cannot occur if objective conditions in the environment prevent it. Facilitating conditions are defined as "objective factors,' out there in the environment, that several judges or observers can agree make an act easy to do". Venkatesh and Bala (2008), define facilitating conditions as, "the degree to which an individual believes organizational and technical infrastructure exists to support the use of the system. This construct encompasses training, support, infrastructure and knowledge (Pynoo et al., 2010).

Facilitating conditions are the environmental factors that make behaviour easy or difficult. Users with sufficient skills and ability will find a new application easy to use. Therefore, aside from objective factors such as the availability of resources, implicit factors like the confidence of users in their use of a technology are considered as facilitating conditions. In the context of SAMS, the provision of hardware, the availability of SAMS, characteristics of SAMS and technical support as well as training of school personnel are seen as facilitating conditions that may influence SAMS acceptance, successful implementation and use. The support of school administrators and the department of Education are also important as enablers of the acceptance of SAMS (Pynoo et al., 2010). We therefore hypothesis that:

H4 Facilitating conditions have a significant positive relationship with Perceived Usefulness of SA-SAMS

H5 Facilitating conditions have a significant positive relationship with Perceived Ease of Use of SA-SAMS

2.3 Social Factors

Behaviour is influenced by social norms, which depend on messages received from others and reflect what individuals think they should do. Social factors, are "the individual's internalization of the reference group's subjective culture, and specific interpersonal agreements that the individual has made with others, in specific social situations". In addition to influencing intentions, social factors are themselves dependent on the social situation, and on the individual's perception of subjective cultural variables. Affect relate to the individual's feelings of joy, elation, or pleasure

Social factors refer to an individual user's perception of opinions or suggestions of the significant referents about his/her behaviour. This determines the degree to which an individual perceives the demands of others on that individual's behaviour.

Social factors are a strong determinant of behaviour intention and a wide range of social behaviours. Social factors have been tested empirically and had significant direct effect on behaviour. We therefore hypothesize that:

H6 Social Factors have a significant positive relationship with Perceived Usefulness of SAMS.

H7 Social Factors have significant positive relationship with the Perceived Ease of Use of SAMS

3. METHODOLOGY

The data collection instrument was developed by the researcheron the basis of previous research (Davis, 1989; Davis & Venkatesh 1995; Venkatesh & Davis, 2000; Venkatesh & Bala, 2008), with the aim of finding out the critical success factor for the adoption of SA-SAMS by School personnel in Limpopo Province. The questionnaire modified and applied the scales of Ease-of-Use, Usefulness and Behavior Intention previously developed and tested by Davis (1986,1989).A five-point Likert scale was used throughout the questionnaire for statements that required scaling. The codes for strongly agree (SA), agree (A), uncertain (U), disagree (D), and strongly disagree (SD) were used throughout the questionnaire where statements required respondents to choose one of these options. The demographic information was requested at the end of the questionnaire to allow the respondents to concentrate on the main survey questions first, as can be seen in Appendix A.

3.1 Data Collection

Limpopo Province has implemented SA-SAMS in Dinaledi schools. This study was based on these schools where the SA-SAMS was implemented. The appropriate sampling method in this situation was the purposive/judgmental sampling because sometimes it is appropriate to select a sample on the basis of the knowledge of a population its elements and the purpose of the study. The respondents in this study were all school personnel including principals, teachers as well as clerks/secretaries.

The questionnaire was designed in two stages pre-pilot and pilot study. The questionnaire was pre-tested in full two times. The Pretest survey was conducted with Tshwane University of Technology statistical services and with three colleagues with PhDs and with 15 academics. Based on the two pretests surveys above it was concluded that the measurement scales in the draft questionnaire had acceptable level content face validity. The

questionnaire was then piloted with school personnel in the three Dinaledi Schools in the Capricorn District of Limpopo Province.

A total of 1020 final questionnaires was distributed to school personnel of all the 51 Dinaledi schools in Limpopo Province. The questionnaires were hand delivered and collected by the researcher. Of the 513 responses received 418 were usable for analysis.

The cohort of 418 respondents consisted of 224 (54%) men and 194 (46%) women. Their modal age group was from 36 to 45 (48%), followed by the age group from 46 to 55 (26%). The majority176 (42%)of the respondents held teaching diplomas and 122 (29%) held bachelor degrees. Only 86 (20%) of respondents held postgraduate degrees. Their reported positions indicated that 33 (8%) of the respondents occupied management positions (principals and deputy principals); 143 (31%) were heads of departments; the majority, 226 (54%), were teachers as expected, and 16(4%) were clerks/secretaries.

3.2 Statistical Procedure

Descriptive statistical analysis was implemented using SPSS 18.0. In order to test the hypotheses by structural equation modeling (SEM), AMOS 18 was employed. Structural equation modeling (SEM) generally consists of a measurement model and a structural model. The measurement model specifies the rules governing how the latent variables are measured in terms of observed variables; the measurement model relates the measured variables to the indicators. The measurement model is sometimes referred to as confirmatory factor analysis.

The structural equation model is a flexible comprehensive model that specifies the pattern of relationships among independent and dependent variables. Hypothesized relationships among the constructs (latent variables) are called the structural model. The structural portion of the SEM model refers to the direct and indirect effects among latent variables (constructs) and observed variables (factors).

3.3 Analysis of the Measurement Model

In the measurement model both convergent and discriminant validity were checked. Convergent validity implies the degrees to which indicators of a factor that are theoretically related should correlate highly. All factor loading (lambda χ and γ lambda) exceeded0.70. Discriminant validity was confirmed by examining correlations among the constructs. A correlation of 0.85 or higher indicates poor discriminant validity in SEM. The results of this study suggest adequate discriminant validity. The correlation matrix is shown in appendix B.

In order to secure accuracy and consistency, reliability tests were carried out using Cronbach's alpha (α) for each construct. Table 1 shows the Cronbach's alpha (α) for each of the three constructs. Each construct suggested that the value of α was above 0.70.

Table 1: Reliability Coefficients of Scales (Cranach's Alpha)

Variable	No. of Items	Cronbach's Alpha
Perceived Usefulness (PU)	5	0.95
Perceived Ease of Use (PEOU)	6	0.92
Facilitating Conditions (FCond)	4	0.88
Social Factors (SoFact)	5	0.92
Behaviour Intention (BI)	3	0.91
(N = 418, Scale = 5-point Likert scale).		

3.4 Goodness of Fit Measures

There is a number of goodness of fit indices (GFIs) to assess the overall fit of the hypothesized model. Goodness of fit, measures the extent to which the actual or observed covariance input matrix correspondence with (or departs from) that predicted from the hypothesized model. Fit indices provide a global examination of how well the collected data fits the hypothesized model.

Table 2 summarizes the overall model fit measures. Except for χ^2 and RMSEA, all absolute measures were significant and considered acceptable. $\chi^2$is sensitive to large samples such as those in this study.

Table 2. Measures of fitness

Fit measures	Value	Recommended Value
χ^2	461.7 (p=000)	p>.05
RMSEA	.112	<.05
GFI	.917	>.90
NFI	.903	>.90
IFI	.917	>.90

The general structural model was used to test the bivariate relationships between the constructs in the model. Hypothesis testing was conducted within the context of SEM. The relationship between two constructs could be examined while holding other constructs in the model constant. Hypotheses were examined by confirming the presence of a statistically significant relationship in the predicted direction as shown in Table 3.

SA-SAMS ease of use (PEOU) was found to be non-significant in predicting behavior intention (BI) to use SA-SAMS. Usefulness of SA-SAMS (U)was significant in predicting BI and accounted for a 45% variance.Social Factors and Facilitating Conditions are insignificant in determining ease of use of SAMS. The two external factors only facilitating conditions were identified to be significant. PU and PEOU are both significant in relation to BI.

Table 3. Hypotheses test

HYPOTEHEIS	Regression Weight	Indirect Effect.	Direct Effect.	p-Value	Hypothesis Results
PEOU <--- FCond (**H5)**	.164	.000	.495	***	Supported
PEOU<--- SoFact (**H7)**	.028	.000	.102	.039	Not Supported
PU<--- PEOU (**H3)**	.494	.002	.000	***	Supported
PU<--- FCond (**H4)**	-.034	. 279	.118	.026	Not Supported
PU<--- SoFact	.012	.058	.50	.232	Not

HYPOTEHEIS	Regression Weight	Indirect Effect.	Direct Effect.	p-Value	Hypothesis Results
(**H6**)					Supported
BI<--- PU (**H1**)	.490	.000	.449	***	Supported
BI<--- PEOU (**H2**)	.156	.253	.163	.010	Supported

4. RESULTS

The results of the survey indicated that respondents with less than five years computer experience numbered 125 (54%). The age bracket 36-45 indicated that the levels of computer literacy were very low, compared to the level of education recorded as99.8% tertiary education qualification. More than half of the respondents, 230 (55%) had never used the SA-SAMS even though it has been already five years since SA-SAMS was implemented in the Dinaledi schools. Only 16 (4%) of the respondents classified themselves as expert frequent users and 227 (73%) regarded themselves as non-users. Out of those 27% who used the SA-SAMS, 162 (58%) used it only once a month, and 48 (17%) used it more than four times a week. This indicated low levels of use of SA-SAMS.

School personnel in Limpopo Province are not using SA-SAMS The results indicated that school personnel rejected SA-SAMS on the basis of social factors which included the fact that SAMS was introduced to help the department at the expense of the teachers who had to do the training at their own time and travel to the training venues at their own expense. In addition the teachers indicated that they did not find SA-SAMS easy to use, due to their low level of computer literacy. The teachers have also indicated that the training they received was not relevant to them, as they were not consulted in designing the training program and implementation of SA-SAMS. The training was not targeted to the address the needs of the teachers. Teachers indicated that they believed SA-SAMS would help them with how they keep their register and improve their marks processing. The perception of SAMS being difficult to use seems to be discouraging the school personnel from using SA-SAMS with the result that they are not experiencing it advantages. This study has shown that the implementation of SA-SAMS in Limpopo province was a total failure, which refers to an initiative never implemented or a case where a system is implemented and immediately abandoned. The South African school environment is highly unionized. In the press release of the African National Congress, the ruling party in South Africa, in October 2009 entitled “ANC appalled by SADTU strike threat in Soweto” the ANC indicate that it was appalled by the

conduct of SADTU by threatening strike action set to disrupt examinations in Soweto and further deplore that week`s irresponsible act by hundreds of Soweto teachers who abandoned lessons to discuss deductions on their salaries.

Naidu reported in the Star newspaper that the South African Democratic Teachers' Union (SADTU) say they are ready to challenge the KwaZulu-Natal Education Department after it issued them with a court order preventing them from continuing their strike action. This is a clear indication that social factors have a great bearing on the South African school personnel.

5. CONCLUSION

To manage well, one needs a strategic plan, which will guide all the actions of the organization. This strategic plan for implementing a new system should include a change management plan. Without change-management a system may be rejected despite its technical superiority because of people's natural inclination to resist change. Management support has proven to be an important factor for promoting the acceptance of a new innovation. Lack of visible support from the Limpopo Department of Education has resulted in the failure of SA-SAM implementation in the provincial schools. The junior staff members that were given the responsibility to spearhead the implementation of the SA-SAM employed the trail-and-error strategy, which has led to the rejection of SA-SAMS by school personnel. The roll out of the implementation of SA-SAMS was done without a project management tool or system. The training of school personnel should be targeted to the needs of the teachers and not general, based on the needs of officials tasked to implement the system. According to the teachers the training was supposed to include in-depth training in Windows as well as application programs such as word processing and spreadsheets. The teachers felt that they were treated as junior partners and therefore not respected.

The human factor in the implementation of new systems is sometimes more important than the technical factors as it has shown in the case of Limpopo province implementation of SA-SAMS.

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APPENDIX A: The Questionnaire

A. COMPUTER AND SA-SAMS EXPERIENCE

1 ***Your Experience with Computers***

How many **years** have you personally been using computers? *(Please tick one)*

None	1 – 4	5 — 14	9-10	15 or Over

2 ***Your Experience with SA-SAMS***

How many **years** have you personally been using *SA-SAMS*? *(Please tick one)*

None	1 – 2	3 – 4;	5 – 6	7 or Over

3 ***Your Ability to use SA-SAMS***

In which class of ***SA-SAMS*** users would you place yourself? *(Please tick one)*

Non-user	
Novice casual (intermittent) User	
Novice frequent user	
Expert (knowledgeable) casual User	
Expert (knowledgeable) frequent User	

4 ***Your Frequency of using SA -SAMS***

On average, how often do you use SA-SAMS? *(Please tick one)*

Once a month	
Twice a month	
Three times a month	
Four times a month	
More than four times a month	

B PERCEIVED USEFULNESS

I believe my use of SA-SAMS will have the following results:

		Strongly Agree	Agree	Uncertain	Disagree	Strongly Disagree
U1	SA-SAMS will improve how I keep the class register	SA	A	U	D	SD
U2	SA-SAMS will facilitate the drawing of the school timetable	SA	A	U	D	SD
U3	SA-SAMS will enable me to process student marks quickly	SA	A	U	D	SD
U4	SA-SAMS will improve the process of	SA	A	U	D	SD

	publishing marks					
U5	Overall SA-SAMS will be very useful	SA	A	U	D	SD

C PERCEIVED EASE OF USE

Based on my knowledge of SA-SAMS

E1	Learning to operate SA-SAMS is easy for me	SA	A	U	D	SD
E2	It is easy to do the school timetables with SA-SAMS	SA	A	U	D	SD
E3	SA-SAMS makes processing marks easy	SA	A	U	D	SD
E4	It is easy to publish student marks with SA-SAMS	SA	A	U	D	SD
E5	It is easy to learn the different aspects of SA-SAMS	SA	A	U	D	SD
E6	My interaction with SA-SAMS is clear and understandable	SA	A	U	D	SD

D. INTENTION TO USE SA-SAMS

My intention towards using SA-SAMS

		SA	A	U	D	SD
BI1	I intend to use SA-SAMS	SA	A	U	D	SD
BI2	I anticipate to use SA-SAMS	SA	A	U	D	SD
B13	I don't think I will ever use SA-SAMS	SA	A	U	D	SD

E SOCIAL FACTORS

		Strongly Agree	Agree	Uncertain	Disagree	Strongly Disagree
E1	My colleagues	SA	A	U	D	SD
E2	The school management	SA	A	U	D	SD
E3	Head Office SAMS staff	SA	A	U	D	SD
E4	My subordinates	SA	A	U	D	SD

F PERSONAL INFORMATION

*We are requesting the following personal information about you to help us in the data analysis. You will not be identified with any information provided. Please **tick** the appropriate box for your response.*

1 Gender

Male		Female	

2. Age

18 - 25		26 - 35		36 - 45		46-55		Over 56	

3 Highest educational level attained:

Matric		Certificate		Diploma		Bachelor Degree		Postgraduate Degree	

4. Current position in the school

Principal		Educator		Head of Department		Clerk	
Deputy Principal							

Other *(please specify)*

_____

APPENDIX B: Correlation Matrix

	U1	U2	U3	U4	U5	E1	E2	E3	E4	E5	E6	BI1	BI2
U2	.721												
U3	.677	**.777**											
U4	.636	**.773**	.878										
U5	.639	**.756**	.785	.788									
E1	.416	.405	.367	.378	.399								
E2	.420	.592	.551	.544	.554	.566							
E3	.398	.517	.621	.557	.543	.495	.777						
E4	.382	.534	.610	.642	.616	.502	.758	.842					
E5	.391	.483	.464	.471	.483	.610	.642	.630	.690				
E6	.378	.439	.428	.420	.443	.704	.644	.551	.584	.738			
BI1	.397	.437	.460	.431	.477	.358	.411	.375	.444	.395	.390		
BI2	.374	.402	.440	.424	.438	.290	.391	.354	.397	.336	.369	.720	
BI3	.325	.395	.406	.407	.377	.227	.366	.340	.383	.289	.304	.643	.751