

Does Adoption of CAIS Differentiate the SMEs Performance: Evidence in Malaysia

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Abstract: The objective of this study was to examine whether the adoption of Computerized Accounting Information Systems (CAIS) provides higher overall firm performance to the adopter firms as compared to their non-adopters counterparts. This study used a data set of 382 SMEs in Malaysia to test the hypothesis. The analyses of this study were performed using the Smart PLS 2.0 and SPSS version 21.0 on 230 CAIS adopters and 152 non-adopters. The result shows that the overall performance of the CAIS adopter's firm was higher than the non-adopter's firm thus supported the central premise of Resource-Based View Theory. For the positive impact of CAIS on the firm's performance, it is hoped that the findings of this study would help the non-adopters to consider using CAIS in the future.

Key words: Computerised Accounting Information Systems • Firm Performance • Resource-based view • Small-and-medium Enterprises

INTRODUCTION

Competition is common in the business world. However, compared to large companies, SMEs have limited resources and little influence on the market. Their survival depends on their capability to take full advantage of the resources available and promptly find and amend to a market niche [1]. As SMEs have simpler, more centralized decision-making structures and rely more heavily on short-term planning than larger firms [2], wise decision-making is very crucial to the success of the firms [3].

Theoretically, computers and software programs are business tools, which could be used to reduce production and labour costs, innovate and facilitate niche marketing, increase productivity and effectiveness, increase efficiency of internal business operations become more innovative and even to gain competitive advantage [4]. Computer technology increases the use of information due to its capability of analyzing massive amounts of data and in producing accurate and timely reports. These unique features of computer capability has led to the introduction of various

information systems such as Accounting Information System (AIS), Manufacturing Resource Planning System (MRP), Decision Support System (DSS) and Human Resource System (HRM).

Wan Ismail (2014) cited that AIS could be in the form of manual or computerised. Computerised Accounting Information System (CAIS) refers to an accounting system that relies on computer technology for capturing and processing financial data in organizations. It may be developed in-house by organizations using it, purchased from a third party, or a combination of a third party application software package with local modifications.

Regarding the choice of whether to use the manual AIS or CAIS, many researchers have echoed the advantages of using CAIS instead of manual system [3, 5-8]. CAIS performs the same functions as manual AIS but the advantages are the speed and the possibility of coping with a large volume of data. With CAIS, real time processing occurs because when a transaction is entered into the system, all journals and reports are instantaneously updated [9].

From the above discussion, IT in accounting can be a strategic weapon to support the organization's objectives and to gain competitive advantage. Therefore, Proudlock *et al.* [10] suggested that in evaluating IT users against their uncomputerized counterparts, significant differences in perceived performance could be used as evidence.

For investigating the CAIS adoption and firm's performance, Resource-based View Theory (RBV) is the major theory that has been adopted by prior researchers to interpret the relationship between IT and firm's performance [4, 11]. RBV is a theory that links the performance of organizations to resources and capabilities. Firms differ from each other as each firm has its own resources is the central premise of RBV theory.

Chong *et al.* [12] believed that firms that do focus on innovation would lead to better organizational performance. Study by Hamilton and Asundi [13] in Puerto-Rico found that firms that invested in IT tend to grow more than those not investing in IT. Several other studies have also shown that IT may indeed contribute to the improvement of organizational performance [7, 14-17].

The results of previous studies also have shown some support for the idea that CAIS could help SMEs to gain business efficiency and firm's performance [7, 18-20]. Although there is little CAIS research towards adoption in SMEs, these studies have struggled to show a direct impact of CAIS on performance. For the benefits CAIS could provide in enhancing SME's performance, this study hypothesized that:

H_1 : There is a significant difference in firm's overall performance between the adopters and non-adopters of CAIS.

MATERIALS AND METHODS

In an effort to examine the CAIS adoption and the firm's performance issues, a questionnaire was designed to be used as a survey instrument. The questionnaire consists of profile of the CAIS and the firms overall performance. Firm overall performance was measured in term of financial and non-financial performance.

The study was conducted on 382 SMEs in Malaysia. The sample was derived using proportional stratified random sampling basis based on SMEs population in SMEs Annual Report 2015. There are two groups involved in this study; CAIS adopters refer to the firms that rely on computer technology for processing their transactions, accounting entries and financial data while non-adopters refer to the firm that uses manual system (non-computerized) for processing their transactions, accounting entries and financial data.

The data collected was analyzed using the SmartPLS 2.0 and Statistical Package for Social Science (SPSS) Software version 21. The SmartPLS 2.0 was used for the purpose of construct validity. The result from the analysis showed all the conditions required for construct validity were fulfilled. The SPSS was used to conduct the Descriptive Analysis and Mann-Whitney U test. Descriptive analysis was used to gain better insight regarding the respondent's profile while Mann-Whitney U Test was performed to gain the result of the hypothesis. In SPSS, the Mann-Whitney U Test is a non-parametric test uses to test differences between two independent samples [21]. Hollander and Wolfe [22] highlighted that the Mann-Whitney test should be applied over the T-test when two conditions appeared; first, when the data are not normally distributed and second, when all samples from both groups are independent of each other. Since the data met both criteria, the Mann-Whitney U test was the choice in this study.

RESULTS AND DISCUSSIONS

Table 1 shows the profile of a typical company's accounting information system in Malaysian SMEs. Regarding the adoption of CAIS by Malaysian SMEs, it was a surprise that the number of SMEs that have adopted CAIS was higher than non-adopters. This is in contrast with many previous studies of IT adoption in SMEs [19, 23]. The results show that out of 382 valid data, 230 or 60% of SMEs were CAIS adopters and only 152 SMEs or 40% were non-adopters. This contributes to a new important source for SME profiles in Malaysia regarding CAIS adoption as currently more than half of Malaysian SMEs are increasingly using it.

Regarding the type or brand of CAIS, Table 1 shows that most of CAIS adopters used off-the-shelf software

Table 1: Profile of Company's Accounting Information System

Profile	Frequency	Percentage (%)
Types of record		
Not record	0	0
Manual (Non-adopters)	152	39.8
Using computers (Adopters)	230	60.2
Type/brand of CAIS		
Modified Microsoft Excel	101	43.9
EZ Accounting	26	11.3
MYOB	8	3.5
UBS	46	20.0
Mr. Accounting	16	7.0
Others	32	13.9
Missing	1	0.4

Table 2: Results of Mann-Whitney U test on the firm's overall performance

	Mean Rank	U	p-value ^a
Non-Adopters	174.07	1485.00	0.009 ***
Adopters	203.93		

Note: *** indicates significant difference at $p < 0.01$ level, ** indicates significant difference at $p < 0.05$ level, * indicates significant difference at $p < 0.1$ level

(56%) for multiple brands. For the type and brand of software used, the results revealed that the majority of respondents (44%) were satisfied with Modified Microsoft Excel as their CAIS tool. However, among off-the-shelf CAIS, the data showed that UBS (20%) was the choice of the majority of SMEs, followed by EZ Accounting (11%), Mr. Accounting (7%), MYOB (4%) and others (14%). One respondent (0.4%) did not state this information.

The main analysis of this study is to examine whether there is a significant difference in firm's overall performance between CAIS adopters and non-adopters.

Table 2 reveals that the mean rank of the firm's overall performance for the CAIS non-adopters was lower than the mean rank of the adopters. The mean rank for non-adopters was 174.07 while the mean rank for adopters was 203.93. With the p-value of 0.009, this difference was significant at 0.01 levels. This result suggests that there is a difference in the firm's overall performance between adopters and non-adopters of CAIS. Thus, hypothesis of this study is accepted.

The result from this study corresponds to the study by Breen *et al.* [24] on 221 SMEs in Australia. Their study indicated that CAIS users had higher sales performance compared to non-adopters. This finding also supports previous findings by Guterrez *et al.* [23], Breen *et al.* [26], Sian & Roberts [20], Davis *et al.* [27],

Kharuddin *et al.* [7] and Grande *et al.* [8] which suggested that the adoption of IT in the accounting process contributes to SMEs success. This significant result thereby lends support to previous literature of RBV Theory [15, 17, 28] that at least investing in innovation technology could enhance performance of the firm as compared to those without these technologies. The reason might be that the CAIS adopters used more financial information for performance assessment and decision-making purposes compared to those that used manual AIS. This is in line with Davis *et al.* [27] study on record keeping practices in US SMEs which indicated that more CAIS adopters used their financial statements for performance assessment (84.3%), compared to manual AIS users (68.0%). More CAIS adopters also used financial information for decision-making purposes (58.8%) compared to non-CAIS adopters (34.9%). Therefore the results from this study and Davis *et al.*'s [27] attempt to offer an explanation as to why firm need to adopt CAIS. A key finding of this study is that CAIS adoption had helped Malaysian SMEs to improve their firm's overall performance by helping their recording systems and financial management more efficiently. Hence, this result also supports the resource-based view of IT, which suggests that firms can and do differentiate themselves on the basis of their IT resources and capabilities. Considering the important role that CAIS could play in improving the financial management, SMEs are urged to take the opportunity of switching their manual AIS to CAIS.

CONCLUSION

To compete in global markets, SMEs need to develop new business strategies and employ new technologies. Many studies have revealed the significant effects of IT investments on the firm's performance. However, some SMEs are less prepared and less able to change. This study had explored the impact of using CAIS on the overall firm's performance and found a significant result. By demonstrating that the CAIS adopters had higher firm's overall performance compared to the non-adopters. For the role by CAIS in increasing the firm performance, it is hoped that the result of this study would provide practitioners and related parties some guidance toward helping non-adopters to consider using CAIS in the future.

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