

The Usage of Accounting Information System in Hotel and Restaurant Management: An Evidence from Indonesia

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Considering the benefit of Accounting Information System (AIS) for hotel and restaurant management, this paper aims to demonstrate the positive correlation between competition intensity, firm size, learning organization and the usage of AIS. In order to survive in the competition, the management of hotels and restaurants must be able to make the appropriate decisions using the help of Accounting Information System (AIS). The result of this study was preceded from 190 owners and managers which is provides a reference for academia as well as the business field.

INTRODUCTION

Competition among hotels and restaurants increases from year to year, which is reflected in the economic growth of Surabaya from 2009 – 2011. According to the Report of Gross Regional Domestic Product of Surabaya issued by the Central Statistic Bureau, the contribution of hotel and restaurant sector has grown from year to year, namely 14.11% in year 2010, and 14.19% in year 2011. Hotel and restaurant sector ranks third in the contribution list.

Many researcher (Kenney et al, 2015; Senge, 1990; Day and Wensley 1991 and Linn, 1994) states that in order to increase competition intensity, businesses need to adapt quickly to their market environment. Similarly for hotels and restaurants, in order to survive and even excel in competition, management of hotels and restaurants should be able to make the appropriate decisions (Ismail, 2009 and Dastgir et al, 2003). Appropriate decisions are based on accurate, relevant and timely information which is known as qualified information (Kharuddin et al, 2010). Qualified information can be obtained through Accounting Information System (AIS). One of the fundamental objectives of AIS is to support management decision making. AIS supplies managers with the information they need to carry out their decision making responsibilities (Hall, 2008). Moreover, information provided by AIS also helps hotels and restaurants to implement appropriate strategy in order to increase competition intensity (Bolon, 1998).

Besides competition intensity, a variable that correlates with the usage of AIS in hotel and restaurant sector is firm size. According to the Mintzberg (1992) the larger the hotel and restaurant, the greater they

need for coordination in the form of information exchange among units. This can be achieved by usage of AIS. Another variable that correlates with AIS is learning organization. Moreover, Sinkula (1994) said that the higher the learning organization ability of the hotel and restaurant, the higher the ability of the hotel and restaurant to preserve important knowledge in the information system of the management. The knowledge can be used for learning, disseminating information, and evaluating market performance, through the usage of AIS.

Based on that proposition, the problem formulation of this research is whether there are positive correlations between competition intensity in the industry, firm size, learning organization, and the usage of AIS in hotels and restaurants in Surabaya. Through this study, the hotels and restaurants will know better which variable is more influenced by the usage of AIS, whether external variable (competition intensity) or internal variable (firm size and learning organization). Since there is no research finding yet, a study on this issue in Surabaya context will be useful for hotels and restaurants in order to enhance their performance.

LITERATURE REVIEW

The Usage of Accounting Information System (AIS)

Hall (2008) define the usage of AIS is the company's ability to carry out an AIS to provide accounting information for internal and external partners. Hall also divides the degree of usage AIS into three subsystems. Firstly, Transaction Processing System (TPS) that is central to the overall function of the information system. TPS is useful for recording the financial events in order to generate the financial report (Bodnar, 2004). Secondly, Financial Reporting System (FRS) covering the input from TPS and converting into the report and communicates the information primarily to external users (Bodnar, 2004). The outcome of this system includes report for owners, creditors and also fiscal. Thirdly, Management Reporting System (MRS) provides the internal management information. The information needed to manage the business, including formulating and evaluating the business strategy (Bodnar, 2004). Typical reports produced by the MRS include operational report, variance report and accountability report. This study will focus only on the degree of accounting information usage either in external (FRS) or internal level (MRS). External level (FRS) is the basic roles of AIS, however organizations can boost the roles of AIS, by being linked into internal level in order to make an accurate decision making and also to formulate the strategic direction.

Competition Intensity

Porter (2008) derives five forces framework to determine the competition intensity: threat of new entrants, suppliers' bargaining power, customers' bargaining power, threats of substitute products, and rivalry within the industry. Threat of new entrants is the likelihood of the entry of new competitors into the industry. The easier the entry of new competitors into the industry, the greater the threat (forces) faced by the company. While suppliers' bargaining power is the extent to which suppliers are able to exert influence and affect the firm's profitability and general well-being. Customers' bargaining power is the extent to which customers are able to exert influence and affect the firm's profitability and general corporate well-being. The threat of substitute product is the extent to which other products that are similar in physical, structural and functional characteristics and that perform the same generic function are available to consumers. The intensity of rivalry is the extent to which firms in this industry frequently and vigorously engage in outwardly manifested competitive actions and reactions in their search for competitive advantage in the market place (Pecotich et al, 1999). Those five forces' Porter will be used in elaborate the variable definition of competition intensity, including the variable indicator.

Firm Size

Mintzberg (1992) points out that the larger the organization, the more specialized its tasks are. Likewise, with a greater division of labor, the units can be more extensively differentiated. In other words, increased size gives greater homogeneity of work within units but greater diversity of work

between units (Richard et al, 2004). Moreover, Kalkan et al (2011) and Kouser et al (2011) find in their study that as the size of the whole organization increases, so does the average of its units. Moreover, Mintzberg (1992) also states that the larger the organization, the more formalized its behavior is. The larger the organization, the more often those behaviors repeat themselves; and consequently, the more predictable they become; and so the greater the propensity to formalize them (Moon-Gi, 2007). According to Galbraith (2012), with greater specializations, more unit differentiations, greater need for coordination, more elaborate administrative hierarchies, it follows that the larger organizations will be more regulated by rules and procedures, and will make greater use of formal communication. Those Mintzberg and Litterer concept will be used in elaborate the variable definition of firm size, including the variable indicator.

Learning Organization

According to Senge (2006), learning organization is the term given to a company that facilitates the learning of its members and continuously transforms itself. Moreover, Slater and Narver (1995) said that organizational learning is a three stage process that includes information acquisition, information dissemination, and shared interpretation. Firstly, information acquisition. Information may be acquired from direct experience, the experiences of others, or organizational memory (Garvin, 1993; Hamel and Prahalad 1991). Organization requires the presence of an organizational memory through the information system. If it were not for organizational memory, learning would have a relatively short half-life because of personnel turnover and the passage of time (Levitt and March, 1988; Sinkula, 1994).

Secondly, information dissemination. Organizational learning is distinguishable from personal learning by information dissemination and accomplishing a shared interpretation of the information. Effective dissemination increases information value when each piece of information can be seen in its broader context by all organization players who might use or be affected by it and who are able to feedback questions that provide new insights to the sender (Glazer, 1991; Quinn, 1992). Thirdly, shared interpretation. For organizational learning, there must be a consensus on the meaning of information and its implications for that business (Day, 1994). Conflict may arise from relatively high level of disagreement in assessing the relative importance of company objectives (Clark and Collins, 2002; Eisenhardt, 1989). However, Garvin (1993) expects that learning organization can reach beyond the learning boundary for information or new ways of interpreting information. As the conclusion, those Senge and Slater concept will be used in elaborate the variable definition of learning organization, including the variable indicator.

The Correlation Between Competition Intensity and the Usage of AIS

The higher the competition intensity in the industry, the greater the usage of AIS by the company. The information provided by AIS can help the company in planning and implementing strategy to face competition (Mia and Clarke, 1999). Porter (2008) believes that to survive and succeed in the competitive market, the company must watch and monitor the threats of potential competitors, the threats of substitute products or services, the characteristics and intensity of competition within the industry, and the bargaining power of suppliers and customers.

AIS provides benchmarking and monitoring information which helps the company to identify, evaluate, and implement the appropriate strategy and to improve performance (Bromwich, 1990). Benchmarking is the company's effort to compare its internal condition to that of its competitors' (Ikhsan, 2005). The information provided by AIS can also be used for monitoring the company against its competitors, which includes maintaining the stability of consumers' need, and maintaining product quality. In applying this competitive strategy, each company is challenged to reside within the competition space, to build and preserve its market with distinctive market segment and product (Kaplan, 2001). The hypothesis that shows the correlation between competition intensity and the usage of AIS is as follows:

H1: Competition intensity has a positive and significant correlation with the usage of AIS in hotel and restaurant sector in Surabaya.

The Correlation Between Firm Size and the Usage of AIS

Larger companies have better resources in the form of financial resources and human resources. Mintzberg (1992) points out that the larger the organization, the more elaborate its structure, the more specialized its tasks, and the more differentiated its units. Increased size gives greater homogeneity of work within units but greater diversity of work between units. Consequently, interaction is less dispersed and information is less easily obtained (Reinking, 2012). Therefore, the larger the organization, the more emphasis it must place on coordination. Coordination involves organizing and exchanging information about processes, products, customers, suppliers, and more complex information about management planning, strategy, policy, and system (Raymond, 1995; Powell, 1992). AIS may assist coordination by providing information of the various functional units within the company (Ismail and King, 2007). The AIS can serve as a powerful coordinative device, particularly if the degree of organizational differentiation is quite high (Gordon, 1992). The hypothesis that shows the correlation between firm size and the usage of AIS is as follows:

H2: Firm size has a positive and significant correlation with the usage of AIS in hotel and restaurant sector in Surabaya.

The Correlation Between Learning Organization and the Usage of AIS

The higher the learning organization of a company, the greater the company's ability to preserve and access the organization memory, through greater AIS usage (Gordon and Miller, 1992). Moreover, they states that organization memory is an important factor for a company in carrying out learning organization. Organization memory contains the knowledge of the company about the company's practices; information about customers, competitors and business environment; procedures; and the company's routines which direct the company's activities and attitudes (Slater and Narver, 1995).

Moreover, Sinkula (1994) said that the company's ability to preserve and access its past experiences will determine the company's ability to maintain an effective course in establishing learning organization at present and in the future. The company needs to preserve important knowledge and information in AIS, which will then be used in carrying out learning organization, disseminating information, making innovations, evaluating market performance, interpreting the organization; and as organization memory (Sinkula et al, 1997). Romney and Steinbart (2009) believe that AIS can facilitate the process of sharing knowledge and expertise, which will improve operational processes and give competitive advantage to the company. AIS plays a central role in organizational learning, prompting claims that "the aim of the design of AIS is quite simply to improve organizational learning" (Ouksel et al, 1997; Emmanuel et al, 1990). The hypothesis that shows the correlation between learning organization and the usage of AIS is as follows:

H3: Learning organization has a positive and significant correlation with the usage of AIS in hotel and restaurant sector in Surabaya

Study on Previous Researches

The research of Ikhsan and Rasdianto (2005) shows that the increase of the competition in the market requires the manager to use information from accounting information system. Accounting information becomes potentially valuable because it contributes directly to various alternative action plans which can become considerations for planning, controlling, and decision making; it also improves the manager's ability to understand the business environment, and is useful for identifying relevant activities. The similarity of their research with this research is in the variables employed, and the technique of data collection which is through survey by questionnaires. The difference between these two researches lies in

the respondents. Ikhsan's and Radianto's respondents are production managers of manufacturing industry, while our respondents are owners or managers of hotels and restaurants.

While the research of Hajiha and Azizi (2011) proves the hypothesis that larger companies have greater AIS usage. The similarity of their research with ours is that both examine the variables that have correlation with the usage of AIS. The difference lies in the fact that the variables used by the Hajiha and Azizi include the manager's knowledge about accounting and information technology, external experts, internal experts, and firm size. While the variables we use include competition intensity, firm size, and learning organization.

The learning organization variable is added in this research because the competition among hotels and restaurants nowadays is highlighted with quick changes and uncertainties. In such a situation, the company must find out its competitive advantage in order to improve its market performance, where one influential factor is organizational learning (Sinkula and Noordewier, 1997), and it is hoped that the company will become a learning organization. Moreover, according to Sinkula, the company needs to record and preserve important knowledge in AIS

RESEARCH METHOD

The purpose of this study is to investigate the correlation between competition intensity, firm size, learning organization, and the usage of AIS. The operational definition of each variable according to previous literature review elaboration is as follows:

- Competition intensity (X1)

Competition intensity means the competition faced by hotels and restaurants which includes 5 empirical indicators: threats of new entrants (X1.1), suppliers' bargaining power (X1.2), customers' bargaining power (X1.3), threats of substitute products (X1.4), rivalry within the industry (X1.5).

- Firm size (X2)

Firm size comprises the complexity of the organization's structure, with five empirical indicators: task specialization (X2.1), unit differentiation (X2.2), unit size (X2.3), hierarchy level (X2.4), behavior formalization (X2.5).

- Learning organization (X3)

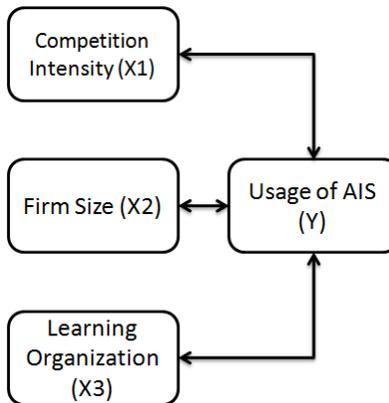
Learning organization is the process of developing capacity and skill of each employee within the company, individually or collectively. Its five empirical indicators include information acquisition (X3.1), information dissemination (X3.2), appreciative attitude (X3.3), problem solution alternatives (X3.4), change of work method (X3.5).

- The usage of AIS (Y)

The usage of AIS is the company's ability to carry out an AIS to provide accounting information for internal and external partners, with 6 empirical indicators which include financial report for owners (Y1), financial report for creditors (Y2), fiscal report (Y3), operational activities report (Y4), variance report (Y5), accountability report (Y6). The analytical model used in this research is as shown in Figure 1.

To test the validity of research instrument, we use the Pearson Product Moment Correlation. The test for research instrument validity with Pearson Product Moment Correlation is carried out by correlating item score with total item score. If the r value is positive and r calculated t -table, the item is valid (Malhotra, 2012). To test the reliability of the whole research instrument, researcher use Alpha (α) Cronbach formula. The questionnaire instrument is reliable if its Alpha Cronbach value is larger than 0,6 (Malhotra, 2012). To find out the correlation between the variables competition intensity (X1), firm size (X2), learning organization (X3), and the usage of AIS we use the Pearson Product Moment Correlation. According to Malhotra (2012), the test criterion is: if the significance value is $< 0,05$, H_0 is rejected, which means the research hypothesis is valid.

FIGURE 1
MODEL ANALYSIS



This research employs a population, namely hotel and restaurant owners or managers in Surabaya. Sample calculation is at least determined by multiplying the items of questions about researched variables 4 or 5 times, in accordance with Malhotra (2012). This research has 21 question items, and employs 190 persons as a valid samples: 100 persons from hotels and 90 persons from restaurants. One company is represented by maximally three owners/managers. Samples are selected by purposive sampling method. This study employs the five point likert scale. The data resource of this research is the primary data that is obtained through questionnaires that are distributed to owners or managers of hotels and restaurants in Surabaya.

RESEARCH RESULT AND DISCUSSION

The Hypothesis of this research is tested with the Pearson Product Moment Correlation. The data is obtained from samples which include owners or managers of hotels and restaurants in Surabaya. The questionnaire is previously put through validity and reliability test to see whether it is appropriate for collecting the data required for this research. The following table shows the result of all question item indicators.

TABLE 1
VALIDITY RESULT OF PEARSON PRODUCT MOMENT CORRELATION

Item	r calculated	r table	Conclusion
X1.1	0,633	0,142	Valid
X1.2	0,560	0,142	Valid
X1.3	0,607	0,142	Valid
X1.4	0,721	0,142	Valid
X1.5	0,674	0,142	Valid
X2.1	0,685	0,142	Valid
X2.2	0,809	0,142	Valid
X2.3	0,749	0,142	Valid
X2.4	0,644	0,142	Valid
X2.5	0,648	0,142	Valid
X3.1	0,678	0,142	Valid
X3.2	0,752	0,142	Valid
X3.3	0,735	0,142	Valid
X3.4	0,700	0,142	Valid
X3.5	0,562	0,142	Valid
Y1	0,508	0,142	Valid
Y2	0,662	0,142	Valid
Y3	0,501	0,142	Valid
Y4	0,655	0,142	Valid
Y5	0,797	0,142	Valid
Y6	0,807	0,142	Valid

Table 2 shown the statistical descriptive data for respondent profile in this research.

TABLE 2
DESCRIPTION OF RESPONDENTS' POSITION

Position	Frequency	Percentage
Owner	11	6%
Manager	179	94%
Total	190	100%

The table shows that the majority of respondents in this research are hotel and restaurant managers. The description of respondents' answers is made by calculating the mean of respondents' answers to each question and as a whole. To categorize the mean of respondents' answers, we use class interval which is obtained by the following formula = (Highest Score - Lowest Score) : Total Classes = (5-1) : 5 = 0,8. With class interval of 0,8, we determine the criterion for the mean of respondents' answers which can be categorized and described as shown in table 3.

TABLE 3
CATEGORY AND DESCRIPTION OF RESPONDENTS' ANSWER

Interval	Category	Description
4,20 < a =< 5,00	Completely Agree	Very High
3,40 < a =< 4,20	Agree	High
2,60 < a =< 3,40	Neutral	Average
1,80 < a =< 2,60	Disagree	Low
1,00 < a =< 1,80	Completely Disagree	Very Low

Following is the description of respondents' answers about their perception of each variable:

TABLE 4
DESCRIPTION OF THE MEAN OF THE WHOLE RESPONDENTS' ANSWER IN EACH VARIABLE

Variable	Mean	Category	Description
Competition Intensity (X ₁)	3,80	Agree	High
Firm Size (X ₂)	3,70	Agree	Large
Learning Organization (X ₃)	3,89	Agree	High
The usage of AIS (Y)	3,94	Agree	High

In the table 4 shows that the whole respondents' answers concerning Competition Intensity is in category Agree. This means that the competition within hotel and restaurant sector is high. According to the empirical indicator, X1.2 (supplier forces) has the lowest mean. This shows that although the competition intensity within hotel and restaurant sector is high, it is not caused by a force from the suppliers. The suppliers have a low bargaining power towards hotels and restaurants. The statement "Many new companies enter the hotel and restaurant sector" (X1.1) has the highest value, which indicates the high force that comes from new entrants in the industry.

The whole respondents' answers for firm size variable is in category Agree. This shows that the complexity of the organization structure in respondents' companies tend to be high. The respondents' companies tend to be large companies. All empirical indicators have relatively similar mean values, there is no mean value that is too low or too high. The statement "There is an increase in regulations or formal procedures that regulate employees behavior in your company every year" (X2.5) has the highest value. This indicates that formalization within the company is high. The larger the hotels and restaurants, the more formalized its behaviors are (Mintzberg, 1992).

For learning organization variable, the whole respondents' answer is in category Agree. So we can conclude also that the process of the development of personal ability and capacity of each employee in hotels and restaurants, individually or collectively, is high. All empirical indicators have relatively similar

mean values, there is no mean value that is too low or too high. The statement “Every employee appreciates the idea or concept of other employees” (X3.3) has the highest value. The majority of hotel and restaurant employees continuously carry out the learning organization process fairly well, especially in information dissemination. Effective dissemination increases information value when each piece of information can be seen in its broader context by all organization players who might use or be affected by it and who are able to feedback questions that provide new insights to the sender (Slater and Narver, 1995).

The whole respondents’ answers concerning the usage of AIS variable is in category Agree. It means the ability of most hotels and restaurants in carrying out AIS to provide accounting information for internal and external partners is high. The empirical indicators Y1 and Y3 have higher mean values than the average mean value. This indicates that the majority of hotels and restaurants are more concerned with General Ledger/Financial Reporting System aspect, especially in providing financial report for owners and fiscal report for the government. Most hotels and restaurants use AIS to support the stewardship function of management that refers to management’s responsibility to properly manage the resources of the firm (Hall, 2008), which is confirmed by the statements “Periodically, AIS in your company can provide fiscal report” and “Periodically, AIS in your company can provide financial report for the owners” which have higher value than the other statements.

TABLE 5
DESCRIPTION OF THE MEAN OF THE WHOLE RESPONDENTS’ PERCEPTION OF SEVERAL STATEMENTS

Statement	Mean	Category
AIS can help you achieve excellent performance	4,28	Completely Agree
AIS can improve your company’s performance	4,53	Completely Agree

Table 5 shows that as a whole, hotel and restaurant owners or managers agree completely that AIS can help them achieve excellent performance. They also agree completely that AIS can improve hotels’ and restaurants’ performance.

TABLE 6
THE RESULT OF HYPOTHESIS TEST

	R Value	Interpretation of the Strength of the Correlation	Significance Value	Conclusion
H ₁	+0,508	Average	0,000	Valid
H ₂	+0,676	Strong	0,000	Valid
H ₃	+0,621	Strong	0,000	Valid

Table 6 shows the result of the correlation test of the first hypothesis, which gives the significance value of $0,000 < 0,05$, which means that H_1 is rejected. H_1 is valid since there is a significant correlation between competition intensity and the usage of AIS. The correlation coefficient value is +0,508, which means that there is a positive correlation with average correlation strength. This result corresponds with the previous research carried out by Ikhsan and Rasdianto (2005) which proves that there is a positive correlation between market competition intensity and the usage of AIS. Thus, accounting information has

a potential value because the information contributes directly to various alternative action plans that can be used as considerations in planning, controlling, and decision making. The information provided by AIS will also improve the manager's ability to understand the real situation of the company's environment, and to identify relevant activities (Ikhsan and Rasdianto, 2005). When owners or managers find that more new hotels and restaurants enter the industry, the suppliers' and the customers' bargaining power heighten, more substitute products exist in the market, and competition becomes more intensive, they will use AIS to provide information which can help make the company's operational more efficient. They can also utilize AIS to provide report for external and internal partners, which will help them make identification and evaluation, and implement the appropriate strategy; and also improve performance (Bromwich, 1990).

Table 6 also shows the result of the correlation test of the second hypothesis, which gives the significance value of $0,000 < 0,05$, which means that H_20 is rejected (Trihendradi, 2012). H_2 is valid because there is a significant correlation between firm size and the usage of AIS. The correlation coefficient value is $+0,676$, which means that there is a positive correlation with high correlation strength. Similar result is also obtained by Hajiha and Azizi (2011) who prove that there is a positive correlation between firm size and the usage of AIS. Larger companies have more resources to facilitate AIS alignment. The larger the hotel or restaurant, the more emphasis it must place on coordination (Powell, 1992). Information exchange takes place in a more complex and more structured form, namely through AIS usage.

From Table 6 researcher also obtain the result of the correlation test of the third hypothesis, which gives the significance value of $0,000 < 0,05$, which means that H_30 is rejected (Trihendradi, 2012). H_3 is valid because there is a significant correlation between learning organization and the usage of AIS. The correlation coefficient value is $+0,621$, which means that there is a positive correlation with high correlation strength. Previous research of Gordon and Miller (1992) also shows that there is a positive correlation between learning organization and the usage of AIS. This research finds out that hotels and restaurants that continuously carry out learning organization increase their ability to preserve and access organization memory through AIS usage. AIS plays a central role in organizational learning at hotels and restaurants, prompting claims that the aim of the design of AIS is quite simply to improve organizational learning (Sinkula, 1997). AIS can facilitate the process of sharing knowledge and expertise, which can improve the hotels' and restaurants' operational, and even give competitive advantage to the hotels and restaurants (Romney and Steinbart, 2009).

CONCLUSION

This research proves that there is a positive and significant correlation between competition intensity and the usage of AIS in hotels and restaurants in Surabaya. There is also a positive and significant correlation between firm size and the usage of AIS in hotels and restaurants in Surabaya. Another fact proved by this research is that there is a positive and significant correlation between learning organization and the usage of AIS in hotels and restaurants in Surabaya.

The results of data processing show that the biggest correlation coefficient value comes from firm size variable, which shows that AIS usage in hotels and restaurants is primarily related to the size of the company. When hotels and restaurants realize that their firm sizes enlarge and their business scales expand, the complexity of the hotels' and restaurants' activities will also increase. Then, hotels and restaurants will be aware of the importance of AIS usage which can help to coordinate their activities that have become more complex, so that the activities can be performed more effectively and efficiently.

The second order regarding coefficient correlation is variable learning organization. Therefore, the variables which have stronger correlation with the usage of AIS in hotels and restaurants come from within the company (firm size and learning organization), not from outside the company (competition intensity among hotels and restaurants).

The managerial implication of this study shows that the degree of AIS usage will be more influenced by internal variable (firm size and learning organization) than by external variable (competition intensity).

Therefore, it is better for the hotels and restaurants to evaluate their degree of AIS usage based on their internal growth rather than external changing. Hotels and restaurants need to be more proactive rather than “being driven” by competitor actions.

Research Limitations

This research has several limitations, namely the use of population and samples which is limited to the formulation of the amount of samples that is suited to the availability of time and fund. Besides that, this research employs limited population and samples that are located in the city of Surabaya, therefore there is a possibility of different research results if the population and samples are taken from outside Surabaya

Suggestions

The suggestions from this research for hotels and restaurants, specifically in Surabaya, relate to the low empirical indicator in AIS usage variable concerning variance report and accountability report on performance, which shows that the majority of hotels and restaurants neglect the Management Reporting System aspect of the company. Hotels and restaurants should be more aware of the importance of optimal AIS usage in making reports for internal partners within the company so that the information that has been collected can be of greater benefit in implementing strategy and evaluating performance. For future researches we suggest to find out other variables which may have correlations with the usage of AIS. This research has proved that there are correlations, therefore future researches can formulate whether there are influences (regression analysis) between the variables. Furthermore, the intervening impact of current independent variable (competition intensity, firm size and learning organization) also possible as the future valuable research.

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