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Determination of Information Technology on Business Strategy and The Influence of the Quality of Accounting Information Systems

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***Abstract*— The purpose of this Study is examine the level of influence of TI on accounting information systems and how much influence information technology supports in higler education business strategies. In the tight development of the business world, business strategy must provide principles in determining methods and tactics. Business strategies must be similar with the vision and mission of the University's, development of a university's business strategy will affect university management systems such as accounting information systems. The business strategy carried out by the company must be supported by information technology. The information technology to in this research is hard ware, software and brain ware. The development of tecnologi information will determine the achievement of goal failure of business strategies and improve the accounting information systems quality. The analysis unit for this research was carried out by higher education institutions in Indonesia that operate in retail and have branches. Researchers used research data using two techniques, namely questionnaires and field surveys, where to test the influence of Information Technology on the quality of Accounting Information systems, it was carried out using quantitative methods and measurements of information technology in supporting business strategies were carried out qualitatively by visiting universities. Data analysis used SEM PLS, with a total of 30 respondents.The research results show that business strategy influences accounting information systems and information technology to support the process of implementing business strategies in higher education.**

Keywords— ***Business strategy; Accounting Information Systems; Information Technology and Higher Education***

I. INTRODUCTION

The Importance of adopting and utilizing digital technology in carrying out its operations effectively, in an effort to maintain competitiveness and relevance in the digital age which includes digital infrastructure investment, digital skills development, and changes in organizational culture to encourage innovation and adaptation. Digital readiness is needed for various element of life, including the world of Higher Education which includes learning, research, and administration models in universities and other aspects.

The Instional education must have a roadmap or strategic plan for the development of Information Technology, divided into many various term plans. In the first term instution can focuses on the development of Information Systems on the operational and finaly we can build integratiaon information system for the institution to support institutional activities in providing services to students and the entire academic community as well as improving administrative efficiency. Adiwinata (2024)

On the other hand, effective business strategies in the college context are strongly influenced by the institution's ability to utilize it to support its vision and mission. Proper utilization of it can create a competitive advantage through resource optimization, increased operational efficiency, and improved quality of service to students, faculty, and other related parties.

In addition, business processes in higher education must also adapt to technological developments. The manual processes that previously dominated have now been replaced by faster, more transparent and efficient IT-based systems.

However, the adoption of Information Technology also presents challenges, such as resistance to change, competency gaps, as well as the need for significant investment.

The purposes of this this study is explore the extent to which the determination of IT can affect the Information Systems quality, business strategies, and business processes in universities. With a deep understanding, it is expected that universities can optimize the use of information technology to support the sustainability and progress of institutions in the future.

Ewelina says that the role and function of the controller has evolved, many factors can driven it such as changes in the environment of bussines and management methods and the introduction practice of new management accounting, but also due to the availability of new intergrated system, (Ewelina Zarycka, 2012). Business operations are greatly influenced by the company's external environment such as sociological, technological, economic, political, competitors, consumers and suppliers. (Haque, 2003: 39). Research conducted by Kholeif shows that the application of information technology such as ERP (enterprise resource planning) is changing management accounting practices (Kholief: 2011). Management accounting is experiencing a turning point, because computers are becoming popular in operations and technology research. Computers are increasingly developing in management accounting (Bahiyan, 2013). Based on the research of the experts above, it can be interpreted that the application of IT has an influence on of the pactise management accounting quality system.

Even though building an integrated information system requires high costs, uniercity ans other higher education must prepare to build an integrated information system gradually. By preparing to build an information system early, universities have prepared themselves to face the dynamics of rapid change in distrubtion era. In this study we want to ensure that our previous hypothesis that IT influences business processes, business policies and the quality of information systems in all fields, including in the world of education, especially higher education.

I. METHOD

Sekaran & Bougie (2013: 198) state that research objectives include people, business units, companies, countries, etc. Cooper & Schindelr (2014:248) objects are the concept of ordinary experience. The research objectives are information technology, business strategy, business processes and information system quality. Research methods are methods used by researchers while conducting research (Research methods can be understood as all methods/techniques used to carry out research (Kothari, 2004: 8).

According to Bougie (2013: 104) the unit of analysis is the level of aggregation of data that the researcher will collect over a certain period of time which can be individuals, groups, organizations and countries. This research analysis Unit of universities in Indonesia, the number of 30 samples. This research Variable is Information Technology, Business Process, business strategy and Information System Quality. Dimension variables that researchers use as follows:

1. Information technology is a combination of hardware and software and network in computer technology, hardware, software, and networks, that are used to organize alla element of proces such as input element , process element data storage that becomes an output can used by all user const of a. Functionality Of Information Technology b. Reliability of Information Technology Infrastructure c. Effectiveness Of Information Technology Products/Services
2. Business process, from the definitions that have been proposed by several experts (Bodnar and Hopwood, 2010:8; Haag et al, 2008:19; Whitten and Bentley, 2007: 21; Weske,2007: 17-20; Alter, 2012: 94-95; Hoque,2003: 109-110), the definition of a business process in this study is a series of activities/procedures in completing tasks/business activities in achieving corporate goals. Business processes in this study were measured by the following dimensions and indicators :
   a) Primary activity consists of : - Activities reception, storage dadistribution of input materials used by the organization to produce products/services produced. - The activity of informing customers about the products/services that the company produces (Hoque, 2003: 109-110; Romney & Steinbart, 2012: 14; Laudon & Laudon, 2012)
   b) Supporting activities consist of : - Daily operational activities (accounting, finance, law and General Administration) (Hoque,2003: 109-110; Romney & steinbart, 2012: 14; Laudon & Laudon, 2006). - Activities related to employees (recruitment, contracting, training and compensation) (Hoque, 2003: 109-110; Romney & steinbart,2012: 14; Laudon & Laudon, 2006)
3. Business strategy,, from the definitions that have been put forward by several experts (; Weihrich and Koontz, 2005:100; Weetman, 2008: 638; Wheelen & Hunger, 2004:115; David, 2003; Aaker, 2004), the definition of business strategy in question in this study is the way in which the organization in achieving corporate goals that have been set before The measurements used for the concept of business strategy are
   a) Dimensions of diversification strategy, with indicators are market expansion and product expansion (Aaker, 2004; Pearce &Robinson,2008).
   b) Dimensions of competitive advantage strategy, with indicators are cost leadership, differentiation and focus (Aaker, 2004; David, 2006; Pearce & Robinson, 2008).
4. Quality information system is an information system that has a character that meets the needs of users of the system, the system quality criteria include : Relevant, Realibility, Compability , Undertandbility

II. RESULTS AND DISCUSSION

The results of SEM-PLS Calculation, obtained a model of all the X Varible on Y variable are follows.

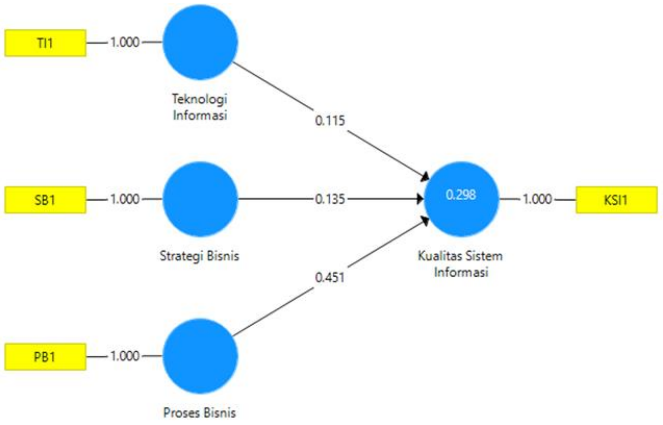

Figure I. Influence of Information Technology, business strategy, and business processes on the quality of Information Systems

The variables from the model above were then tested in the calculation of the Ave table (average variance extracted) and in the reliability analysis, the results of Cronch Bach Alpha, composite reliability and average variance extracted or AVE were each obtained at 1.00, as well as for other variables such as business processes, strategic business variables and information technology variables, each obtained at 1.00, which means that if the relationship between the variables studied is above the indicator, namely 0.7, it means that these variables have a good relationship. And if the AVE value is above the indicator, namely 0.5, it means it has good validity and this research can be categorized as reliable. Here is the AVE and Reliability calculation table as follows:

Tabel I. Ave and reliability test

	Cronbach's Alpha	Composite Reliability	Average Variance Extracted (AVE)
Information System Quality	1,000	1,000	1,000
Bussiness Process	1,000	1,000	1,000
Bussines Strategy	1,000	1,000	1,000
Information Tecnology	1,000	1,000	1,000

from the table above it is known that all variables have an ave value above 0.5 (> 0.5) meaning that all variables that are the object of research meet the requirements to be categorized as having a high correlation between the variables studied in this study.

based on the calculation of cronbach alpha all above the standard indicator> 0.7, all variables studied have a value of 1 or above 0.7 the research model has a good level of reliability.

After testing the outer model, the next step is testing the inner model consisting of the R-Square Model, F-square Model, Q-Square as follows:

Tabel II. Chart of R Square

Variable	R Square
Information Information Quality	0,289

From table 2 above, the R-square of the quality of the information system is obtained at 0.298, which means that the variables of information technology, business strategy and business process variables are able to explain the quality of the information system by 0.298 or 29.8% and the remaining 70.2% are other factors that were not researched in this study. The F-Square value of information technology, business strategy and business processes on the quality of the information system each obtained a value of 0.023 and 0.246 where the influence can be categorized as small and medium, then the Q-Square calculation was carried out and the following values were obtained: The F-square value of Information Technology, business strategy, and business processes on the quality of the Information System were each 0.018, 0.023 and 0.246 where the influence was included in the small and medium categories. Furthermore, the Q-square value was obtained as follows:

Tabel III. Chart of Q Square

	SSO	SSE	Q^2 (=1-SSE/SSO)
Information System Quality	34,000	26,841	0,2111
Bussiness Process	34,000	34,000	
Bussines Strategy	34,000	34,000	
Information Tecnology	34,000	34,000	

Q square from the table above has a number greater than 0, this means that the variables of the model that are the object of the research above have been reconstructed well, the Q square value is 0.211 above 0, this indicates that the model is in accordance with the indicators can be categorized as good. so it is worthy of being continued as a study. then a hypothesis test is carried out, the number 1.96 is obtained in the t table, the following is the hypothesis test table as follows:

Tabel IV. Hypothesis Testing Results

	Original Sample (O)	Sample Mean (M)	Standard Deviation (STDEV)	T Statistics (|O/STDEV|)	P Values	Result
Teknologi Informasi -> Kualitas Sistem Informasi	0,115	0,085	0,155	0,742	0,459	H_0 Accepted
Strategi Bisnis -> Kualitas Sistem Informasi	0,135	0,16	0,159	0,848	0,397	H_0 Accepted
Proses Bisnis -> Kualitas Sistem Informasi	0,451 ***	0,464	0,111	4,051	0,000	H_0 Rejected

***signifikan pada 1%
**signifikan pada 5%
*signifikan pada 10%

From results of hypothesis known that one hypothesis is accepted and two hypotheses are rejected. The description of testing the three hypotheses is as follows.

- Information technology has a positive but the effect on the quality of information systems not sigificant, where the value of p-value greater than alpha is 0.459 > 0.05 which indicates that H0 is accepted. The coefficient of IT path to the quality of Information Systems at 0.115 indicates there are have a positive relationship between Information Technology and the quality of Information Systems. This means that the better the information technology, the tendency will lead to the better quality of Information Systems.

The relationship of business strategy on the quality of information systems have a positive correlation but its not significant, in the result of the testing that show the p-value is greater than alpha is 0.397 > 0.05 its indicates that H0 is accepted. Coefficient of business strategy path to the quality of information systems of 0.135 its mean that we can a positive relationship between business strategy and the quality of information systems. This means that the better the business strategy, the tendency will lead to the better Information Systems. Quality.

- The relationship of business processes to Sisterm information quality are significant and have positive effect on information system quaity, in the resul of the testing above show the value of p-value is smaller than alpha is 0.000 < 0.05 its mean the indicates H0 is rejected. Coefficient of Business Process path to the quality of information systems of 0.451 indicates that there hava a positive relationship between of them. Its can interprete that the better the business process, the tendency will lead to the better quality of Information Systems.

The influence of TI on business processes in higher education:
1. Academic Collaboration and Communication Tools
   - The role of platforms like Microsoft Teams, Slack, and Zoom in fostering collaboration among faculty, staff, and students & The impact of IT tools on virtual faculty meetings and cross-departmental collaborations.
   2 Resource Management
   - How IT enables efficient use of campus resources (e.g., classroom scheduling, lab usage, and library management systems) & Systems for managing and maintaining facilities, such as smart campus initiatives.
3. Online and Hybrid Learning Models
   - The growth of online programs and how IT supports their operations & Business implications of adopting hybrid models (e.g., scalability, faculty training, and student support).
4. Digital Credentialing and Blockchain
   - The use of blockchain for issuing secure digital diplomas and transcripts & Implications for reducing fraud and improving trust in academic credentials.
4. Cybersecurity and Privacy
   - Challenges and strategies for safeguarding student and institutional data & Compliance with regulations like GDPR, FERPA, or other local data protection laws.
6. Financial Processes
   - Automation of budgeting, tuition payments, and grant management & Use of IT to optimize fundraising and alumni engagement.
7. AI and Machine Learning Applications
   - Predictive analytics for student success (e.g., retention and performance prediction) & Chatbots and virtual assistants for administrative tasks like enrollment and IT support.

8. Research Support Systems
    - Platforms for managing research projects, grant applications, and compliance reporting & IT systems to support inter-university collaborations and data sharing.
9. Sustainability
    - The role of IT in promoting green practices (e.g., reducing paper use, energy-efficient data centers) & Use of IoT for sustainable campus operations (e.g., smart lighting and HVAC systems).
10. Institutional Agility
    - How IT enables institutions to quickly adapt to external challenges like pandemics, regulatory changes, or economic shifts & Cloud computing as a tool for scaling IT resources based on demand.
11. Stakeholder Engagement and Feedback
    - Leveraging IT to gather and analyze feedback from students, faculty, and staff &Tools for engaging alumni and fostering lifelong learning opportunities.
12. Globalization
    - The role of IT in connecting higher education institutions globally for exchange programs, joint degrees, and international student recruitment &Virtual exchange and global classrooms.
13. Digital Infrastructure and Cloud Computing
    - How institutions are leveraging cloud technologies for scalable storage, virtual labs, and IT systems & The cost-benefit analysis of on-premises versus cloud-based IT infrastructures.
14. Student Lifecycle Management
    - End-to-end digitalization of the student lifecycle, from application to graduation & Use of CRM (Customer Relationship Management) systems tailored for higher education, such as Salesforce Education Cloud.
15. Emerging Technologies in Education
    - Technology can give a new learning experiences & Integration of wearables and IoT for student health and campus safety.
16. Ethical Implications of Technology
    - Addressing biases in AI-driven decisions (e.g., admissions, grading, or resource allocation) & Balancing innovation with inclusivity and equity.
17. Digital Divide and Access
    - Challenges in ensuring equitable access to IT resources among students from diverse socioeconomic backgrounds & Programs to mitigate disparities in access to technology and internet connectivity.
18. E-Governance in Higher Education
    - Streamlining governance through IT systems for policy management, audits, and compliance & Tools for transparent decision-making and stakeholder accountability.
19. Performance Metrics and KPIs
    - How IT systems support performance tracking for faculty, staff, and academic programs & Dashboard tools for visualizing institutional goals and outcomes.
20. Crisis Management and IT
    - The role of IT in managing disruptions, such as transitioning to remote learning during emergencies. & Development of disaster recovery plans and business continuity strategies with IT at the core.
21. Personalized Learning and Adaptive Technologies
    - IT-driven personalized learning pathways, including AI-based course recommendations & Gamification and adaptive learning platforms to engage students and improve outcomes.
22. IT and Accreditation
    - How institutions use IT systems to manage accreditation processes and compliance reporting. & Tools to track academic quality and continuous improvement efforts.
23. Interdisciplinary Collaboration
    - IT's role in fostering interdisciplinary research and teaching initiatives & Platforms to manage complex collaborations across multiple academic fields.
24. Impact on Faculty Development
    - Training faculty to use new IT systems effectively. & Encouraging adoption of educational technologies for better student engagement.
25. IT for Alumni Relations and Development
    - How IT supports alumni tracking, engagement, and fundraising efforts & Use of social media analytics and other tools to understand alumni sentiments and interests.
26. Open Educational Resources (OER)
    - The impact of IT in creating, distributing, and managing OER to lower costs for students & Platforms for faculty to share and collaborate on open courseware.
27. Competitive Advantage
    - The strategic use of IT to differentiate institutions in attracting students and faculty & Benchmarking IT initiatives against peer institutions.
28. Cultural and Organizational Change
    - The influence of IT on reshaping institutional culture and workflows & Strategies to manage resistance to technological change.
29. IT Budgeting and Resource Allocation
    - Effective planning for IT investments aligned with institutional goals & Assessing return on investment (ROI) for major IT projects.
30. Future Trends and Innovations
    - The potential impact of quantum computing, 6G technology, and AI advancements on higher education &Preparing for the evolution of IT in education over the next decade.

III. CONCLUSIONS

Information technology has insignificant effect on the information systems quality but have a positive corelation, the magnitude of the effect is 0.115, its mean information technology is beter , the tendency of its impact will cause the quality of information systems to improve. Likewise, business strategy has a positive but insignificant effect on the quality of information systems, the magnitude of the effect is 0.135 indicating the relationship between business strategy have a positif relationship and the quality of information systems, this indicates that the better the business strategy, the better the quality of accounting information systems. The business process accounting information systems quality is positif an sigrnificant of 0.451 indicating a positive relationship between business processes and the quality of information systems, where the better the business process, the better the quality of information systems. This study also has limitations where the number of samples is 33 and is conducted at one university, for further research the number of samples can be increased and the research object can be expanded.the impact of information technology on business processes in higher education.

Automation of Administrative Processes. Exploring how IT systems streamline admissions, finance, human resources, and student services. Learning Management Systems (LMS). Evaluating tools like Moodle, Canvas, or Blackboard in enhancing academic processes. Data-Driven Decision Making. Analyzing how data analytics and AI improve decision-making for institutions. Digital Transformation Strategies, Investigating how higher education institutions adapt to technological advancements. Student and Faculty Experience. Assessing the influence of technology on the experience and satisfaction of stakeholders. IT Governance and Policy, understanding the role of governance in ensuring effective and ethical use of IT.

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