

INFORMATION TECHNOLOGY INFRASTRUCTURE OPTIMIZATION FOR ACHIEVING INNOVATION-BASED COMPANY PERFORMANCE

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ABSTRACT

Information technology (IT) infrastructure is an important aspect of human life, especially in business activities, because IT infrastructure can be used to achieve company goals which is achieving high performance. In creating firm performance, the use of IT infrastructure will produce innovations that lead to high firm performance. This research aims to explore and analyze the optimization of IT infrastructure in achieving performance-based innovation companies. This research is a case study at PT TASPEN. PT TASPEN always puts information technology as one of the important catalysts to achieve its goals, namely the Delighted Customer Services Program through simplification and simplification of the service process by paying attention to services that are more accurate, effective, efficient, fast and friendly adjusted to the rules in the Good Corporate Governance (GCG). Data Collection techniques are used in this study by the study derived from official published data annual report statement from 2014 – 2018. The research method used in this study is a qualitative interpretive research. The results of the study showed that the use of PT TASPEN IT infrastructure could produce innovations in the form of: e-dapem, authentication, Web-based Salary SIM application, Smart Card, E-SPTB, e-SPT and Service point, The innovations were successful realize high performance, namely the achievement of corporate objectives Delighted Customer Services services that are more accurate, effective, efficient, fast and friendly.

Keywords: Infrastructure, Innovation, Company Performance

INTRODUCTION

In increasingly competitive business environment, information technology (IT) infrastructure is the most important aspect of all aspects of human life, including business activities where companies are required to keep up their developments in IT so that they can improve their performance. This is following the research results of (Mithas & Rust, 2016) which stated that IT has an effect on company performance in reducing costs and increasing revenue.

The concept of IT infrastructure has two relationships even though it has different components; a technical technology information infrastructure and a human technology information infrastructure (Duncan, 1995). Investments in the same IT infrastructure in one company may result in profitable innovations, but the IT investment may be less profitable in another company due to the effectiveness of a human technology information infrastructure. This is supported by the research results conducted by Ruiz et al. (2006) which stated that individual and collaborative IT as well as individual and organizational learning show positive and significant effects on performance. It is also in line with the research results conducted by (Ong & Chen, 2013) which stated that IT capability has significant effects on company performance in the short and long term.

In addition to the ability of IT personnel, high company performance is also influenced by IT investment. This is following the research results conducted by (Ibragimov, 2015) which stated that IT investment has a strong positive correlation with company performance, in this case, that is measured by the growth of Gross Domestic Product (GDP). IT investment is often associated with a company's IT strategy, whether the company will be an innovator or satisfied to be a defender. The alignment between the IT strategy and the company's strategy, determine thus a high level of performance will be achieved. This is supported by the research results conducted by (Firman & Said, 2016) stated that IT strategy has positive and significant effects on company performance directly and by mediating the effects of technology strategy and value creation. Research conducted by (Mithas & Rust, 2016) showed that IT strategy has an impact on company performance, such as the impact on cost reduction and revenue growth, but this emphasis on performance also depends on the level of company investment (Gueymard, 2017).

Another factor affecting company performance is an innovation because it can create more diverse products, better services, and financial efficiency. This is in line with the research results conducted by (Yavarzadeh & Salamzadeh, 2015) which revealed that innovations (product, process, and administration/organization) positively and significantly affect corporate performance especially in finance, growth, consumers, and processes within the company (Bräutigam, 2000).

The innovation, besides having a direct effect on performance, can also be a variable that stands between IT infrastructure and company performance. This may happen since it can produce innovation with the optimization of IT infrastructure. Furthermore, the company can increase its competitiveness and performance with this innovation. This is supported by the research results conducted by (Turulja & Bajgoric, 2016) which stated that innovation is a abilities that are in between IT and performance (Akhmetov & Rysaeva, 2015).

PT TASPEN always tries to improve its services to participants in the Old Age Savings Program, Pension Program, and Participant Data Management. Therefore, PT TASPEN launched Service Programs in 2012 that exceed the expectations of participants and other stakeholders or called the Delighted Customer Services Program. It simplifies and makes the service process easier by

improving the quality of services to be more accurate, (based on timeliness, data accuracy, and cost accuracy), effective, efficient, fast, and friendly adjusted to the rules in Good Corporate Governance. To achieve this goal, PT TASPEN has made information technology one of the main elements as a key enabler in realizing business strategies. IT development is always improved to achieve the efficiency and effectiveness of its operations (Ogiela & Ogiela, 2012).

By looking at the phenomenon and previous studies, this research aims to explore the optimization of the IT infrastructure in achieving the innovation-based company PT TASPEN performance at PT TASPEN from 2014-2018.

RESEARCH METHOD

The research method used in this study is a qualitative interpretive research. This research aims to explore and analyze the optimization of IT infrastructure in achieving innovation-based company performance case study at PT TASPEN in 2014-2018. Data Collection techniques are used in this study by the study derived from official published data annual report statement from 2014 – 2018. This study shows its significances in the leadership of PT TASPEN by using IT infrastructure variables and innovation capabilities. Also, this study can be used as additional insight into the optimization of IT infrastructure to achieve innovation-based company performance for the development of science (Hirata, 2010).

LITERATURE REVIEW

1. Information Technology Infrastructure

Information technology infrastructure as the basic foundation of information technology capabilities which includes internal techniques (among others: equipment, software and cabling as well as human expertise) that are needed to provide reliable services. According to (Mauerhoefer et al., 2017) IT infrastructure refers to IT technology hardware, communication and data networks as well as IT employees who are needed to support the distribution of IT tools. In this research, the IT infrastructure in the form of IT Capabilities, IT investment and IT strategy in PT TASPEN. In this research, the IT infrastructure consists of:

a. IT Capability

Cepeda & Arias-Pérez (2019) state that IT capability is an organization's ability to find, implement and developing IT resource and reconfigure IT resources in order to achieve competitive advantage. IT capability is a corporate's ability in managing IT resources, where IT capabilities are an important aspect in to achieve business value, business strategies and improving work processes (Cai, 2016). The IT capabilities in this research are the abilities of IT employees in obtaining, implementing IT resources to achieve company performance.

b. IT investment

IT investment can include projects or activities to the development, modernization, enhancement, or maintenance of an IT assets in accordance with their functions and operation as well as with production environment (The IT Law Wiki, 2020). In this research, the IT investment includes all the costs are incurred PT TASPEN for procurement, development, maintenance of IT assets and IT employee.

c. IT strategy

According to Sibanda, & Ramrathan (2017) IT strategy is the actualization of planning, which consists of tactics, principles and goals related to the use of IT in organizations. Alignment of IT strategy with business strategy is essential in achieving performance. In this research, the IT strategy is the actualization of planning in the use of IT that is aligned with PT TASPEN business strategy to achieve company's performance.

2. Innovation

Basically, innovation means change and renewal. Change can be seen in two forms: in the thing (product/service) which is organizations offered and change in the way organizations to create and deliver their products / services. Innovation is the process of creating ideas and developing those ideas, operating way, goods/services and process which are helping to reduce environmental's load or achieve sustainable's goal. Innovation is the skill to do things differently, the skill of creating something new the produces value and is a tool that can give companies the ability to respond changes in business environment (Naidoo & Hoque, 2018). There are various kinds of innovations, but this research limits to product innovation and process innovation. Product innovation can be found the form of completely new product discoveries, improving the quality and technical specifications into a product, by adding ingredients/components or renewing functions so as to add value to the product, those are includes of the improving goods and services or developing new categories (Suhag. et. al , 2006). In the research, an innovation is new service products that have been successfully made by PT TASPEN and innovation of service's process that have been successfully carried out by PT TASPEN.

3. Company performance

Organizational performance is the comparison between the productivity achieved by the company with the planned productivity. The definition of organizational performance is the company's ability to achieve its goals and target with the help of talented administrators, good governance and constant rededication to achieve business's goal. Organizational performance is the company's ability to make efficient use of resources to achieve company goals and its user (Taouab & Issor, 2019). The way people understands the corporate performance is different, it depends on the people involves in those company performance assessment.

In the research, the company's performance is the ability of PT TASPEN to achieve company's goal and target by utilizing IT infrastructure.

4. Performance-based innovation companies

Performance-based innovation of company is intended (company's performance) to be both product innovation and processes which are produced as the company's goal. This is suitable with the 2015 annual theme PT TASPEN "Continuous Improvement Through Innovations" which is developed for the next years by enhancing capability in IT.

FINDING AND DISCUSSION

1. Information Technology Infrastructure and Company Performance

Information technology infrastructure as the basic foundation of IT capabilities which includes equipment, software, and cabling as well as human expertise which is useful for realizing a reliable level of services. This capability is also important aspect of creating business value through IT investment as a support for the company's process and company strategies (Ogiela & Ogiela, 2012).

Delighted Customer Services Program is the PT TASPEN means to always improve its services to participants. To achieve these goals, PT TASPEN always places IT as one of the important driving tools and continues to build IT infrastructure according to international-scaled standards and practices. (Tutunea, 2014). PT TASPEN authorizes the Information Technology Division as part of its responsibility for implementing IT functions. The Regulation of the Board of Directors of PT TASPEN Number PD-13/DIR/2015 is a the IT governance policy of PT TASPEN is the basis for improving services and developing new services/products and that information technology as a business driver, which includes 1) Organizing IT governance structures, resources, and services; 2) IT Planning and Investment Management; 3) governance in IT Development, Acquisition, and Implementation; 4) governance in IT Operations and Support Management; 5) governance in IT Monitoring and Evaluation; and 6) IT Policy Implementation.

Control Objective for Information and Related Technology (COBIT) is approach to assessing the maturity level of governance effectiveness IT. COBIT focuses on controlling the alignment of IT strategy with corporate strategy, risk control management, contribution, performance management, and resource management. Practically, between COBIT and the Plan-Do-Check-Act (PDCA) is not much different because it uses the sama rule (Virgil et al., 2015).

2. IT Capabilities and Company Performance

Cepeda and J Arias-Pérez (2018), stated that IT capability is an organization's ability to find, implement and developing IT resource and reconfigure IT resources in order to achieve competitive advantage.. This level of IT capability will affect the company's performance level. It is following the research results conducted by Josefa Ruiz et al. (2006), stating that individual and collaborative IT and individual and organizational learning show positive and significant effects on company performance. It is in line with the research results conducted by Ong and Chen (2013), stating that IT capability has significant effects on company performance both in the short and long term.(Calinoiu et al., 2018)

PT TASPEN realized that ability is a IT human resources (HR) that greatly affects company performance. Therefore, PT TASPEN always develops and improves its capabilities, knowledge, skills (soft skills and hard skills), and fulfill a minimum course of 16 hours in a year for each employee on the development of Technology and Information by involving the HR at the IT Division in several activities as follows:(Bright & Engerer, 2019) (Bräutigam, 2000)

- a. Educations, such as graphic design course, COBIT course and certification, WEB or Java Script course, Shortcut Administration Education, Network Administrator Security Education;
- b. Training, such as Indonesian Language Training, Public Speaking Training, New Edapem, Active Directory Training, Active Directory Training, Information System Management Training;
- c. Seminars, such as Open Source Int Cloud and Cyber Security Service (Symantec Connect).
- d. Workshops, such as Behavioral Transformation, HPE Synergy Administration, Dynamic Archives Information System, Quality Management, Technical Guidance Gratification South Korean Social Insurance, Knowledge Management, Risk-based RKAP, SAP Treasury, and Taxation.

3. Investment and Company Performance

IT investment can include projects or activities to the development, modernization, enhancement, or maintenance of an IT assets in accordance with their functions and operation as well as with production environment (The IT Law Wiki, 2020). IT spending is carried out to ensure the availability of IT infrastructure that can help, simplify, and accelerate HR to carry out their work with better results. Thus, the number of IT investment will determine the level of HR performance (individual). This statement is supported by the research results conducted by Lee, et al (2016) which stated that IT investment makes a significant contribution to business growth (company performance). A similar opinion was also conveyed by (Kihara et al., 2016) from the research results, it was found that there was a significant influence between IT investment and increased ability in decisions making, improving administration, operational processes and increasing financial performance (Ajide, 2017).

The IT investment of PT TASPEN aims to respond to the availability of information technology systems that are high level of security, high speed, of the reliable system, and in accordance with the needs of business. PT TASPEN always strengthens IT infrastructure in terms of applications, infrastructure devices, communication networks, and information security by making additions and/or changes therein. (Akhmetov & Rysaeva, 2015)

PT TASPEN incurs costs for IT investments that vary every year to support continuous IT optimization. The amount of IT investment at PT TASPEN follows the company's goals as stated in the following annual theme, such as Road Map to Strengthen the Existence of TASPEN (Anonymous, 2014) , Continuous Improvement to Innovate and Improve Company Performance (Anonymous, 2015), Strengthening Sustainable Growth to Lead Social Security for State Civil Servants (Anonymous, 2016). Acceleration of Service and Business Improvement to Guarantee the Welfare of State Civil Servants (Anonymous, 2017), and Creating Sustainable Value Building Trust (Anonymous, 2018). The author observed the IT investment of PT TASPEN from 2014-2018. The expenditures was IDR 27,547,094,370 in 2014, IDR 50,706,551,580 in 2015, IDR 9,911,686,378 in 2016, IDR13.12 billion in 2017, and IDR 26,478,071,240, in 2018 (Annual Report PT TASPEN from 2014 – 2018).

4. IT Strategy and Company Performance

IT strategy is the actualization of planning which consists of tactics, principles, and goals related to the use of IT in organization (Sibanda, & Ramathan, 2017). An IT strategy, that is aligned with business processes, is essential for survival. This is in line with research results conducted by Trusova & Plotnikov (2015) which stated that when IT strategy is aligned with a performance contract, the organizational structure can improve organizational performance.

The IT strategy of PT TASPEN is aligned with its business strategy or corporate strategy. PT TASPEN its business process and IT targets are directed at how to optimally manage the relationship between the three parties: a) Internal TASPEN; b) Relationship with partners and external parties; and c) Relationship with participants. To achieve the goals, IT development is directed to have capabilities that are in line with IT implications (including alignment of IT with business and agile to business changes, then consideration of technology trends, infrastructure development, reliability, and security, and is supported by improved quality of human resources). The IT strategy aligns with the stakeholder strategy includes 1) The stakeholder strategy is that PT TASPEN information technology must be upfront and able to create new businesses and new products so that PT TASPEN has competitiveness and excellence, then the IT strategy is the alignment of IT with business and agile to business change; 2) The need for stakeholder strategy in IT as an enabler, supporting other functions or units, then the IT implication is the alignment of IT development with business vision, mission, goals, and strategies; 3) The need of stakeholder strategy is that IT must be able to adapt to changing service needs and keep evolving it, including the changes in technology. Therefore, the implication of IT is an IT development by looking at technological developments as well as IT development that is aligned and agile with business changes. In addition to aligning IT strategy with stakeholder strategy, IT strategy is also aligned with operational strategies, such as 1) Operational strategy, the principle that IT services must be fast, accurate, and secure. Then the IT strategy is Supporting Application Development in terms of Monitoring and Decision Making for Leadership Executive Information System), 2) The operational strategy is related to public services and it is crucial to think about the linkage with other agencies as a source of data, such as NPWP data related to taxation, Family Identification Number (NIK) data that is connected to population data, Indonesian Police Certificate of Good Conduct (SKCK) that is connected to police, Citizenship Identification Number that is connected to the National Civil Service Agency (BKN). The implications of IT strategy is to develop applications that can be connected to that of owned by other agencies as the providers of related data, such Tax Identification Number (Directorate General of Tax), NIK (Population), SKCK (Police), Citizenship Identification Number (BKN), and 3) Operational strategies are IT strategic role that must be an enabler for the company, so its IT strategy is alignment of IT with the vision, mission, goals, and business strategy for an IT enabler.(Saadat & Saadat, 2016)

By implementing IT utilization and development programs, PT TASPEN always refers to IT governance, which is stated in the Information Technology Master Plan (MPTI). PT TASPEN's IT utilization and development program is aimed at ensuring that its IT applications are useful, where these benefits can be measured and targeted. The Regulation of the Minister of State-Owned Enterprises Number PER-02/MBU/2013 dated 18 February 2013 to compile the 2015-2019 MPTI, as a Guidelines for the Compilation of Information Technology Management for State-Owned Enterprises. (Trusova & Plotnikov, 2015)

5. Innovation and Company Performance

The company environment always changes rapidly, so it must respond to changes, one of which is by innovating. Innovation is the company's ability to make changes or updates in terms of products and business processes. This innovation will also have an impact on improving company performance, as revealed by Yavarzadeh, et al. (2015) through their research results, stating that there is a positive and significant influence between innovation product, innovation process, innovation in administrative or organizational innovation on organizational performance which includes finance, growth, customers, and internal processes (Lee, H., Choi, H., Lee, J., Min, J., Lee, 2016).

PT TASPEN always develops its IT by following the company's strategy. The IT development of PT TASPEN has resulted in many product and process innovations in services to its participants. The innovations are listed as follows:

a. e-Dapem

Electronic Dapem or known as e-Dapem (Payment List) is a Dapem delivery system using electronic media which is used as a means of payment by the payment office and means of control, as well as payment supervision by PT TASPEN. There are three

types of Dapem, namely 1) Dapem Main is Dapem containing the names of participants who receive pension and money. It is made every month as a means of paying pension, 2) Special Dapem is a list of payments containing the names of pension recipients made by the branch office of PT TASPEN in the terms of implementing specific government policies (13th pension or back pay due to an increase or change in principal pension), and 3) Supplementary Dapem is a list of payments made for pension recipients that are not included in the Main Dapem. e-Dapem is developed with an Escrow Account transaction.

b. Authentication

is a service facility related to the assurance of participant personal data through the use of fingerprints, retina scans, and voice.

c. Web-based Salary SIM Application

Data processing is a system of data collectability and mandatory of Civil Servant contributions, that was initially used manually with a hardcopy of payroll. It is done in batches using softcopy data. The Sim Saw application is developed on a web basis to avoid differences in Citizenship Identification Number editions and duplications between local governments and facilitating data collection.

d. Smart Card

It refers to an identity card for participants that has been made electronically and functions as a means of monthly pension payments via ATM (payment orders from PT TASPEN (Persero) accounts to the participants or retiree accounts). The supporting technology for smart card infrastructure is Hardware 2U Chasis & 4 Nodes, Software Single SKU bundle, and that of in collaboration with PT Telkom.

e. Electronic Letter of Self Ratification (e-SPTB)

e-SPTB functions as a system to facilitate pension recipients in filling out and sending SPTB that can be sent back to PT TASPEN. To obtain SPTB through e-SPTB media, the recipients can download it on the PT TASPEN website at the branch offices, pension recipients, and paying offices.

f. Electronic Annual Notification Letter (e-SPT)

e-SPT functions as a system to facilitate pension recipients in obtaining data regarding tax deductions or pension income in the form of SPT that can be downloaded through the PT TASPEN website at the branch offices, pension recipients, and paying offices.

g. Service Point

Service point is a service provided by PT TASPEN to participants to simplify, speed up, and bring the services closer, including mobile customer service and office channeling.

6. Performance

Organizational performance refers to the company's ability to achieve its goals have been set using all the resources owned by the company. The goal owned by PT TASPEN is to achieve the Delighted Customer Services Program by simplifying and making the service processes easier by paying attention to improving more accurate service quality (based on time, data accuracy, and cost), effective, efficient, fast, and friendly by following Good Corporate Principles Governance. IT plays a crucial role in maintaining the smooth running of its business processes, including business process automation. It can improve PT TASPEN connectivity with partners, stakeholders, and clients. The actualization of this increased connectivity is the integration of PT TASPEN IT with its IT partners and/or stakeholders. Other IT capabilities to support the achievement of the goal are also manifested in the IT capability to manage and present data in real-time so that the company can achieve the increase in quality and accuracy of data based on time, data accuracy, and cost.

The optimal use of IT has succeeded in supporting the company to achieve its performance (improving the quality and accuracy of data based on time, data accuracy, and cost). It is reflected in each type of innovation as follows:

1. e-Dapem

Before the implementation of e-Dapem, all pension payment lists were initially done manually, not using an integrated electronic system as it is today, which includes recapitulation per payment partner, recapitulation per pay office, recapitulation per pension type, and recapitulation per individual in hardcopy by the branch offices, then it is sent and distributed to the payment partners. Accountability for pension payments is also carried out manually from the paying partners to PT TASPEN.

Current conditions with e-Dapem Branch Offices validate and ensure the correctness of pension payment lists at branches, then the pension payment data is withdrawn by the head office to be distributed to all paying partner head offices. By using this system, the advantages of data are more centralized, that is the distribution of funds from both the PT Taspem head office and the head office of paying partners, so the distribution of funds and accountability will be more accurate and fast (efficient).

2. Authentication

The system, before doing an authentication by smartphone for pension payments, can still be represented (by using a power of attorney valid for up to three months), so it requires tighter supervision. By using the authentication in a system, it provides: 1) The certainty of pension payments to persons entitled to receive that is guaranteed because it cannot be manipulated, 2) The accountability for pension payments to the state is more accurate (there is no leakage in the accountability of state finances), and 3) The convenience for pension recipients due to withdrawal of money retirement can be done via ATM at any bank and any time.

It differs from the pre-authentication system where the pensioner must collect it at a certain pay office via a queue system with a certain time limit. The performance authentication provides an efficient time, energy for participants and PT TASPEN as well as effective, that the accurate pension payments and accountability reports for pension payments to the state will be more accurate

3. Salary SIM Application or Civil Servant Data Processing

Prior to the Salary SIM system, the PT TASPEN Branch Office requests a list of monthly civil servant salary payments from local agencies in the form of hard copies, and the data is then updated manually to maintain the validity and accuracy of participant data (the Civil Servants). Based on this condition, it must be done manually if there is a change in the data.

Having provided with the salary SIM application provided by PT TASPEN currently, the local government can still make a salary list and even mutate or change data, both family data and financial data, directly through the system and integrated into TASPEN data. Therefore, the performance obtained from the Salary SIM application is effectiveness and efficiency, which is useful for TASPEN to get valid and accurate data, so the participant contribution data the PT TASPEN entitled to can be received more quickly and more optimally.

4. Smart card

Before using the smart card, the participant's used a participant ID card Retirement Card (KARIP) in the form of a sheet resembling a certificate. A smart card is one product in the form of a KARIP replacement card that is a co-branding between PT TASPEN and its pension paying partners. This card functions as the participant's identity as well as an ATM card for monthly pension withdrawals. The smart card is more attractive, easy to bring, and saves the participant's data more safely. The performance obtained from the existence of the smart card is efficient in time, effort, and cost because the participants can take pension money easier by using an ATM, so they can take it anytime and anywhere PT TASPEN.

5. e-SPTB

Before getting the e-SPTB, the participants must take and return the SPTB approved, at least, by the head of village to PT TASPEN office or by paying the partners directly. By using the e-SPTB, the participants can download the SPTB form and submit it to PT TASPEN through the PT TASPEN website, so there is time, effort, and cost efficiency for participants.

6. e-SPT

Before the enactment of e-SPT, the participants must come to the PT TASPEN office to get the SPT. However, the participants can now get the SPT (e-SPT) by downloading it from the PT TASPEN website. Accordingly, by using e-SPT, the participants will get the benefits of time savings, labor, and cost.

7. Service point

The purpose of the service point is to get closer to the participants. PT TASPEN provides TASPEN-related services, such as information, requirement form, documents submission for their claims, and another data submission (SPTB, office transfer payment, missing document reports, or duplicate requests) that can be served at the Regional Civil Service Agency (BKD) at the Regional Government at TASPEN branch office. The service is available on Mobile Customer Service located in the mobile TASPEN service car and office channeling through the cooperation with paying partners. Therefore, the participants will get service convenience and efficiency in time, cost, and energy because they will no longer have to come to the PT TASPEN Branch Office to get the services. PT TASPEN

CONCLUSION

PT TASPEN always strives to improve its service to the participants in the Old Age Savings Program, Pension Program, and Participant Data Management It has already been started in the Service Program that Exceeds the Expectations of Participants and other stakeholders by simplifying and making it easier by taking into account the quality of services that continues to increase, more accurate (based on timeliness, data accuracy, and cost accuracy), effective, efficient, fast, and friendly according to the principles of GCG. IT infrastructure is highly needed to achieve this goal. IT infrastructure plays an important role in creating innovations, such as e-Dapem, authentication, Web-based SIM Salary application, Smart Card, e-SPTB, e-SPT, and Service Points, that lead to achieving company performance. Besides, IT plays a crucial role in maintaining the smooth running of its business processes, including process automation, the capability to improve TASPEN connectivity with partners, stakeholders, and clients. The increased connectivity is the integration of PT TASPEN's IT system with that of owned by partners and/or stakeholders. Other

IT capabilities are manifested in the IT capability to manage and present data in real-time to improve the quality and accuracy of data based on timeliness, data accuracy, and cost accuracy. Therefore, optimizing the use of IT infrastructure can produce innovations to achieve company performance.

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