IT Service Management Based On Service-Dominant Logic:

Case Academic Information System State University Of Malang

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***Abstract*–In the fast-growing world, every business is required to develop a more effective strategy to keep up with the rapid changes, particularly in the area of Information Technology. Marketing strategies that collaborate with customers are important for companies to improve customer service because Information Technology businesses are now more focused on services and shifting from Goods-Dominant Logic (GDL) to Service-Dominant Logic (SDL). This paper proposes a new management strategy that can be applied in the development of Academic Information System of State University of Malang in order to solve the recurring problems.**

Keyword–academic information system; service-dominant logic; information system

I. INTRODUCTION

Organizational performance depends heavily on the effective utilization of their IT systems. Therefore, there is an urgent need to optimize the relationship between IT (s) service provider, IT management system, and the customers. Subsequently, the demand of IT service has to be continuously adjusted to meet the requirements of the business departments [1]. Faculty administrators should be able to make fact-based decisions and make plans to improve the quality of higher education [2]. This paper hence proposes a model that emphasizes the strong and integrated collaboration between IT management and customers to improve the IT service.

IT services must be managed in ways that reflect the ethos of business management [3]. The alignment between business and information technology depends on the goals of both, as well as the optimization process of each technology service provided within the management [3-4]. Theorist and practitioner of Service-Dominant Logic (SDL) see customers as the greatest resource because they play an important role in the collaborative partnership in the development of the company [5]. Essentially, customers are becoming a key element in the development of services that implement SDL [6].

SDL focuses on how, where and by whom value was created. Regarding this, SDL also implements new logic for organizations to understand and control their business offerings [6-7]. SDL introduces the concept of service ecosystem as an self-contained system of resource integrating actors that is connected by shared institutional logics and mutual value creation through service exchange [5,8]. The approach enables one to learn how actors interact with one another to get an access and integrate the resources in creating values together, which then results in the possibility of capturing today and predicting the needs for resources and IT services in the near future.

Actors are entities that work or act within specific boundaries e.g. norms, traditions, and attitudes. It is possible, by all means, to see business functions and departments as actors—simply because they are groups of people who aim for the same and specific goals [5,9]. This paper is based on the core theories of SDL that involve customers throughout the process of a product development in order to create an effective service.

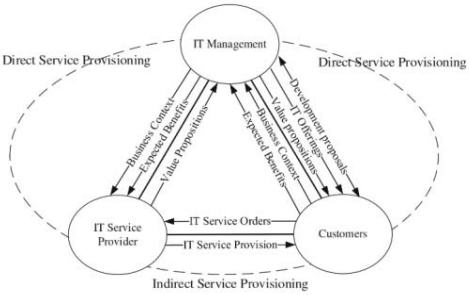

Fig. 1. Service Dominant Logic. [1]

Fig. 1, shows a model that was proposed by ITSS based on SDL. It includes IT Service Provider, the main character, IT management, customers, and information flow as well as service

provisioning between those actors. The output of the strategy was an IT service that can be applied directly and/or non-directly. In Fig. 1, it is shown that the customers are connected with IT service providers. This interconnection efficiency is crucial for the sake of customer's business because they order and accept IT service indirectly through this method. Therefore, IT management has to observe this connection to identify any diversion that could possibly happen during the process.

Previously there has been research that discusses about the analysis and design of IT service system developed with SDL[1]. The result is to emphasize the collaboration between IT management and customers through actors that are involsved in the three main sectors i.e. IT management, IT service provider, and customers. In their research discuss about the studies of architectural information system based on SDL[10]. It was revealed that the company needed a flexible approach to keep up with changes. To achieve this, companies need to provide facilities to meet the needs of companies and customers[11-12].

This research also shows that SDL can be applied in the IT service management in Lapland University of Applied Sciences. SDL was proposed to solve the problems in the IT business alignment and implementation of IT organization these days. Considering that Lapland University of Applied Science was a newly-established organization, it is undoubtedly that there is an urgency for the management and employees of Lapland University of Applied Science to develop an integrated collaboration between IT and business functions. This conclusion is based on interviews that Lapland University is still focused on basic operations due to lack of resources[13].

The main advantages of SDL are as follows: 1) it is much simpler compared to the previously developed system; 2) it helps connect developer and end user; 3) it helps identify the existing problems; 4) it helps solve the problems that the end user has[6, 14].

The writer's idea to write this paper was based on her own observation. The writer observed that there are some information systems that haven't been accommodated by the IT and Communication Center (PTIK) of State University of Malang. This causes each faculty to develop its own information system for various academic purposes. During the development phase of the system, furthermore, the developer did not involve lecturers and students. This leads to the recurring errors such as website that frequently goes down during the regular online study planning program and tuition fees payment system sessions.

To develop an ideal system that can accommodate every need of the customer, the authors hope the use of SDL in the development of Academic Information System at the State University of Malang can help identify problems and find the best solution. This is possible because in SDL, the customer is positioned as the main component of the system.

II. Management of Academic Information System in State University of Malang

Academic Information System is an online computer information system developed to provide the users an easier access to the administrative process and information such as new student admission, student information and data, student attendance, course catalogs, class scheduling, grades, and library. The system also provides help in data analysis for the university's decision-making process. The existing concept of the Academic Information System in State University of Malang is shown in Fig. 2.

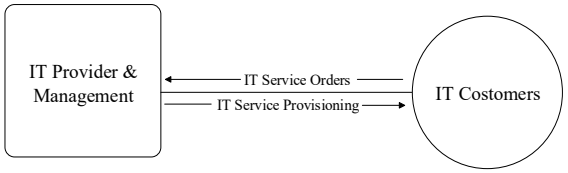

Fig. 2. Existing Concept.

This system is engineered and run by IT and PTIK of State University of Malang. The developer team of Academic Information System consists of a leader and five members. In general, Academic Information System is internally organized without any interferences by third-party such as lecturers or students as end users. In the development phase, the developers only involve the academic department of the university to process and list codes of courses required and several banks who are tasked to deal with the students' financial administrative process.

The developers, furthermore, are responsible for maintenance before and after the regular study planning program, as well as for other irregular program e.g. internship. The maintenance aims to prevent any errors when accessing the web during study program planning. In fact, however, the web still frequently goes down especially when many users access the web simultaneously during the KRS. Therefore, we need to propose a new method to solve the problem.

III. Academic Information System Based on Service-Dominant Logic

In the development phase, the developer team did not give a proposal to the customers regarding new features in the system. The only ones involved in the development of the academic information system are the Rector, Vice Rector, Dean, Vice Dean, and Head of Department. In this case, it is important to know that the IT customers are the said persons in authority instead of the users of the academic information system i.e. lecturers and students.

TABLE I. LATTICE OF RESEARCH INSTRUMENT

Variable	Sub Variable	Indicator	Predictor
Service-Dominant Logic	Development proposals	Student can apply proposal	Student request additional features
		Lecturer can apply proposal	Lecturer request additional features
		Development team can apply proposal	• Notification of new features • Development team socializes new features
	IT Offerings	Offerings gained	• Feature offerings • Profit offerings • Offering easy access
	Value Propositions	Profit plan further development	• Excess of the features developed • Advantages of advice given
	Business Context	Business deal between the customer and development team	• Adding new features • Upgrade features • Maintenance • Upgrade subject
		Customer pays some money to the development team	• When payment occured • The amount of costs incurred
	Expected Benefits	Expectations of benefit received by customer	• Benefit gained by lecturer • Benefit gained by student • Benefit gained by development team
	IT Service Order	Services provided	• IT service to student • IT service to lecturer • IT service to university leader • IT service to university management
	IT Service Provisioning	Terms of service submission	• Complaint submission • Additional feature requirements

Table I shows lattice of the instrument used to obtain information about the implementation of SDL on Academic Information System in State University of Malang. The lecturers can make complaints about the problems that occur when accessing the academic information system, but not in the form of proposal. They can make the complaints during the regular meetings between the developer team and the board of directors. Through the system, the lecturers can also check the number of active students and their teaching hours in a semester. The developer team does not get any money from the customers in return, and there is no business deal made off the profit from the customers. It can be implied that the system is only a tool made to give an easy access to the university's administrative process and information.

In the development of the academic information system, the developer team has already included the customers in the process, but it is unfortunately limited to the abovementioned persons in authority. The developer team can also respond to the customers' complaints when accessing the system, but, again, the complaints will be brought up during the regular meetings attended only by the board of directors, not the lecturers and students. From the data collected, the writer found out that each student can see the list of who take the same courses. They, however, cannot ask for more extra seats in case the course has been filled to capacity because the only one authorized to do so is the Head of Department.

Because of this limited access to the system, particularly to the frequent users of the system such as lecturers and students, the system cannot fully accommodate the need of users. There are many information systems developed in a smaller scale such as in each department in response to this limitation. The department, for instance, has developed its own information system that help inform the students about thesis course and internship program. Another example is the Postgraduate Department that has developed an information system, covering information about journal publishing as well as thesis and dissertation plagiarism. Furthermore, lecturers can also see the list of students who are currently taking their courses. However, academic advisors can't see the list of students who have already registered and add the capacity of any class.

IV. DISCUSSION

In short, applying Service-Dominant Logic to identify the problems and find out the best solutions to the problems has proven to be significantly better compared to using Goods-Dominant Logic. This justifies the statement that Service-Dominant Logic can create a relatively flexible system that accommodates actors and the system in an integrated system.

The approach enables one to learn how actors interact with one another to get an access and integrate the resources in creating values together, which then results in the possibility of capturing today and predicting the needs for resources and IT services in the near future. The client also holds an important role in the business development. As the end user, they can give some

feedback, both complaints and suggestions, to the developer team through the help of IT customers in order to fix and improve the Academic Information System of State University of Malang.

To apply the logic in order to improve the quality of IT service of the Academic Information System of State University of Malang, the developer team has to actively involve customers as they play an important role in the implementation of SDL. However, it is important to note that the customers are not only limited to the governing board but also have to include lecturers, students, and administrative staffs in the further development of the academic information system. This has to be done in order to give a better response to the feedback provided by the customers and to optimize the service of the academic information system.

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