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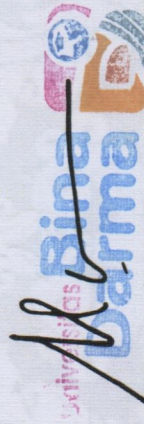
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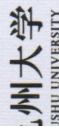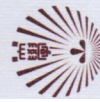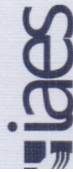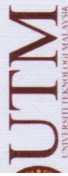2016 in Palembang, South Sumatera

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Prof. Ir. H. Bochari Rachman, M.Sc

Rector Bina Darma University

Implementing IT Balanced Scorecard in Measuring System Performance : PT. Indah Logistic Cargo

Mardiana[1], Lin Yan Syah[1], Yesi Novaria Kunang[1],
[1] Concentration Chief Information Officer, Informatics Studies Program S-2
Universitas Bina Darma, Jalan Jenderal Ahmad Yani No. 12 Palembang
Email: mardiana.rohim13@gmail.com

Abstract. Technological developments are increasing rapidly followed by the development of technology-based information system that makes the fulfillment of information systems for all types of companies is very important. Use of information technology has reached a wide range of our lives, one of the service area. System performance at PT. Indah Logistic Cargo needs to be measured by applying IT Balanced Scorecard which is evaluated from four perspectives, Corporate Contribution, Customer Orientation, Operational Excellence and Future Orientation to determine the factors that affect each perspective in an effort to improve performance. Factors that affect each perspective after the calculation of the weighting with SPSS 15.0 then showed that all variables are valid and reliable.

1 Introduction

Technological developments are increasing rapidly followed by the development of technology-based information system that make the fulfillment of information system for all types of companies is very important. The role of information system for all business aspects can be accepted because as a technology that emphasizes the structuring of information system with the use of computers, information system can fulfill the information needs of business quickly, timely, relevant, and accurate (Wilkinson and Cerullo, 1997).

The way of business organization is able to confront its competitors by using the information system, many business organizations spend big fund to invest their income for information system. Information technology is the fourth resources after human resources, money resources, and machine resources are used by manager to establish the company (Rockart, 1995). Use of IT/IS has reached a wide range for our lives, one of the service area.

PT. Indah Logistic Cargo is a service company in delivering goods which is always trying to provide the best service to all customers in order to achieve an integrity and good quality. PT. Indah Logistic Cargo has tried to improve management of information system. In order to know the benefits of information system, we need to

hold the implementation of IT Balanced Scorecard in measuring the performance of information system.

IT Balanced Scorecard method is triggered by Grembergen and Bruggen (1998) is a derivative of Balanced Scorecard proposed by Kaplan and Norton (1992). IT Balanced Scorecard also has four perspectives, Corporate Contribution, Customer Orientation, Operational Excellence and Future Orientation. By using the implementation of IT Balanced Scorecard, company performance is not only measuredby financial benefits, but also consider internal processes, satisfaction, and performance improvement for all staffs. Thus it can be ensured that a good performance not only in the present but also in the future.

2 Research Methodology

The data collection methods used in completing this research are: 1) literature review from handbooks, 2) interview with administration staf and head of administration, and 3) questionnaires distributed to respondents.

2.1 IT Balanced Scorecard

IT Balanced Scorecard method by Gold (1992) and Willcock (1994) is a derivative of Balanced Scorecard method used to evaluate the success of the strategy of a company/organization. IT Balanced Scorecard concept at company was developed by (Van Grembergen, 2000) and launced a book IT Balanced Scorecard in 1995.
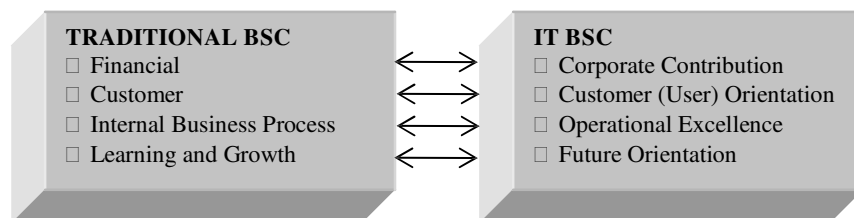
Fig. 1. Alignment of perspectives Traditional BSC and IT BSC (Grembergen, 2001).

Analysis begins with translating the vision, mission and goals of the organization and analyze the external and internal environment, then measure the performance of the information system by implementing four perspectives of IT Balanced Scorecard.

Table 1. Variable of question by four perspectives IT Balanced Scorecard.

No.	Perspective	Variable
1	User Orientation	The application choice
		The operation choice
		Cooperation with users
		User satisfaction

2	Corporate Contribution	IS cost control
		The business new project
		The business function of IS
3	Operational Excellence	Application development effeciency
		Computer operating efficiency
		Acquisition PC and software PC
		Management problems
		Training users
		IS staff management
		Use communication software
4	Future Orientation	IS staff training regulary
		IS staff expertise
		Research of IS development
		Age application

2.2 Likert Scale

Likert scale used to measure attitudes, opinions and perceptions of a person or a group of social phenomenon (Sugiono, 2012). The instruments on likert scale measurement is devided into two statements, positive and negative statements. Positive statement is a statement that instrument items compiled by providing answers in the form of positive to negative. While the negative statement is a statement that the instrument items prepared by providing answers in the form of negative to positive in this study use positive statements. The answers positive statement in words as follows:

Positive Statement

Strongly Agree = 5
Agree = 4
Neutral = 3
Disagree = 2
Strongly Disagree = 1

The results of questionnaire will be calculated by the value or score of each question IT Balanced Scorecard perspective factors using the average formula:

$$\bar{X} = \frac{\sum X}{n}$$

Note : $\sum$ = amount of data all respondents
 n = number of respondents

3 Results and Discussion

3.1 Testing Instrument Validity

Table 2. Instruments Validity Corporate Contribution.

No	Indikator	Value	Kriteria
1	CC1	0,393	Valid
2	CC2	0,489	Valid
3	CC5	0,664	Valid
4	CC6	0,749	Valid
5	CC7	0,720	Valid
6	CC8	0,449	Valid
7	CC9	0,809	Valid

From table 2 above can be concluded that a valid instrument because the correlation value of each instrument (CC1-CC9) > 0,3.

Table 3. Instruments Validity Operational Excellence.

No	Indikator	Value	Kriteria
1	OE4	0,638	Valid
2	OE5	0,605	Valid
3	OE6	0,637	Valid
4	OE7	0,617	Valid
5	OE8	0,537	Valid
6	OE9	0,562	Valid
7	OE11	0,571	Valid
8	OE12	0,835	Valid
9	OE13	0,785	Valid
10	OE14	0,628	Valid
11	OE15	0,445	Valid
12	OE17	0,468	Valid
13	OE18	0,703	Valid
14	OE19	0,815	Valid
15	OE20	0,771	Valid
16	OE21	0,600	Valid

From table 3 above can be concluded that a valid instrument because the correlation value of each instrument (OE4-OE21) > 0,3.

Table 4. Instruments Validity Future Orientation.

No	Indikator	Value	Kriteria
1	FO3	0,412	Valid
2	FO4	0,401	Valid
3	FO5	0,617	Valid
4	FO6	0,731	Valid
5	FO7	0,629	Valid
6	FO8	0,802	Valid
7	FO9	0,596	Valid
8	FO10	0,703	Valid
9	FO11	0,723	Valid
10	FO12	0,384	Valid

From table 4 above can be concluded that a valid instrument because the correlation value of each instrument (FO3-FO12) > 0,3.

Table 5. Instruments Validity Customer Orientation.

No	Indikator	Value	Kriteria
1	CO1	0,461	Valid
2	CO2	0,449	Valid
3	CO3	0,587	Valid
4	CO4	0,857	Valid
5	CO6	0,854	Valid
6	CO7	0,888	Valid
7	CO8	0,846	Valid
8	CO9	0,679	Valid
9	CO11	0,343	Valid
10	CO12	0,814	Valid
11	CO13	0,664	Valid
12	CO14	0,426	Valid
13	CO15	0,814	Valid
14	CO16	0,884	Valid
15	CO17	0,792	Valid
16	CO18	0,659	Valid
17	CO19	0,958	Valid
18	CO20	0,812	Valid

From table 5 above can be concluded that a valid instrument because the correlation value of each instrument (CO1-CO20) > 0,3.

3.2 Testing Instrument Reliability

Testing instrument is reliable if its value of reliability coefficient (Cronbach's Alpha and Cronbach's Alpha Based on Standardized Items) > 0,6. (Uma, 2003:311).

Table 6. Result of Testing Instrument Reliability.

Variable	Cronbach's A	Cronbach's A Based	Criteria
Corporate Contribution (CC)	0,844	0,849	Reliable
Operational Excellence (OE)	0,926	0,926	Reliable
Future Orientation (FO)	0,869	0,877	Reliable
Customer Orientation (CO)	0,946	0,945	Reliable

From table 6 above can be concluded that variable CC, OE, FO and CO have Cronbach's Alpha and Cronbach's Alpha Based on Standardized > 0,6.

4 Conclusion

IT Balanced Scorecard method is a good measuring instrument of system performance by using four perspective, Corporate Contribution, Operational Excellence, Future Orientation, and Customer Orientation.

The company can develop IT Balanced Scorecard method in measuring the system performance and help companies to develop the process of system performance based on technology. By using SPSS 15.0, it can be known that all indicators are valid with a value of > 0.3, and all variables are reliable with a value of > 0,7.

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