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# Combination of e-readiness models to assess based on system approaches at cooperatives in Indonesia

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**Abstract.** The 4.0 industrial revolution, on the one hand, will open opportunities for the domestic product market to compete internationally and vice versa. Business competition is so tight, the existence of free markets and advances in information technology, robotics, artificial intelligence, transportation, and communication are rapid, giving changes quick on the economy. The way to adapt to the outlook and the ability to project change in the environment and be able to determine the right strategy for this change is a must for organizations that are committed to survival as in Cooperatives in Indonesia. Regarding this problem, there are several e-readiness models that have been developed to test readiness or ability to provide platforms, comparisons, and estimates including TRAM (Technology Readiness and Acceptance Model) and several variables namely business content and institutional contexts that influence the model. The results show that the TRAM 2.0 model and E readiness are related to each other. The E-readiness model has 2 success factors for The McLeod and MacDonell's projects as attributes used for readiness input. From the correlation process, added a new factor, called Business Content, Institutional Context so that the E-readiness model has 8 factors.

## 1. Introduction

Economic globalization requires the elimination of all restrictions and obstacles to the flow of capital, goods, and services. When economic globalization occurs, the boundaries of a country will become blurred and the relationship between the national economy and the international economy will be increasingly stringent. Economic globalization, on the one hand, will open opportunities for the domestic product market to be competitive internationally, on the other hand, it also opens opportunities for the entry of global products into the domestic market. So the relevance of globalization to the economy of a country becomes very complex and significant to the state of society of a nation. This shows that in era the industrial revolution 4.0 competition between individuals and individuals or between groups and groups.

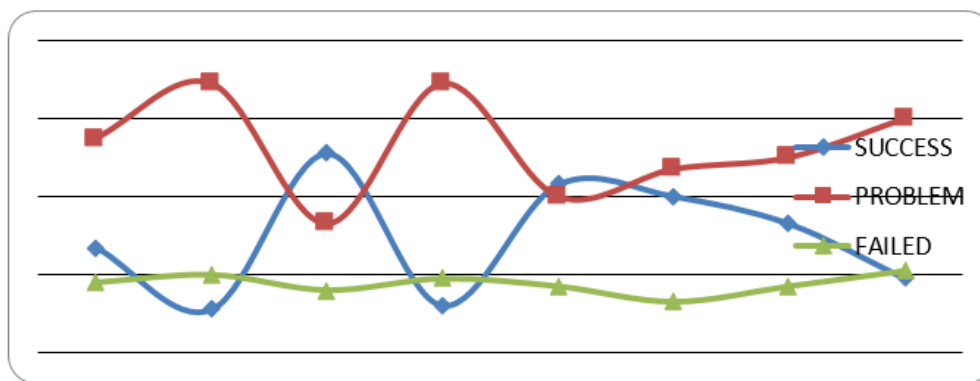
The things that can be done by cooperatives are: First, managing the organization professionally in a broad sense, namely choosing Cooperative people who are responsible, moral, ethical, dignified and have expertise in the management of cooperatives and businesses. Second, Utilizing IT in running a



cooperative business. Third, understanding the needs and desires of customers (cooperative members). Fourth, run cooperatives in accordance with the principles and values of cooperatives.

From several things that can be done by the Cooperative organization, the utilization of IT / SI will be very influential for the progress of the organization in the era of industrial revolution 4.0. However, in terms of e-readiness to utilize TI / SI there are still many failures [1]. The increasing number of IT / IS failures over the past four decades has motivated researchers to find ways to reduce them. Many SI projects have failed in several countries, many large and small companies, commercial, non-profit, and government organizations. Where some examples of large companies in the world have suffered losses due to failure in the implementation of information systems projects.

Previous research conducted on surveys of failure rates and the success of SI projects has been carried out in several countries. In Indonesia, research on the failure rate and success of SI projects has never been done. The use and use of information technology in developing countries are different from developed countries because it is influenced by the cultural dimension [2].



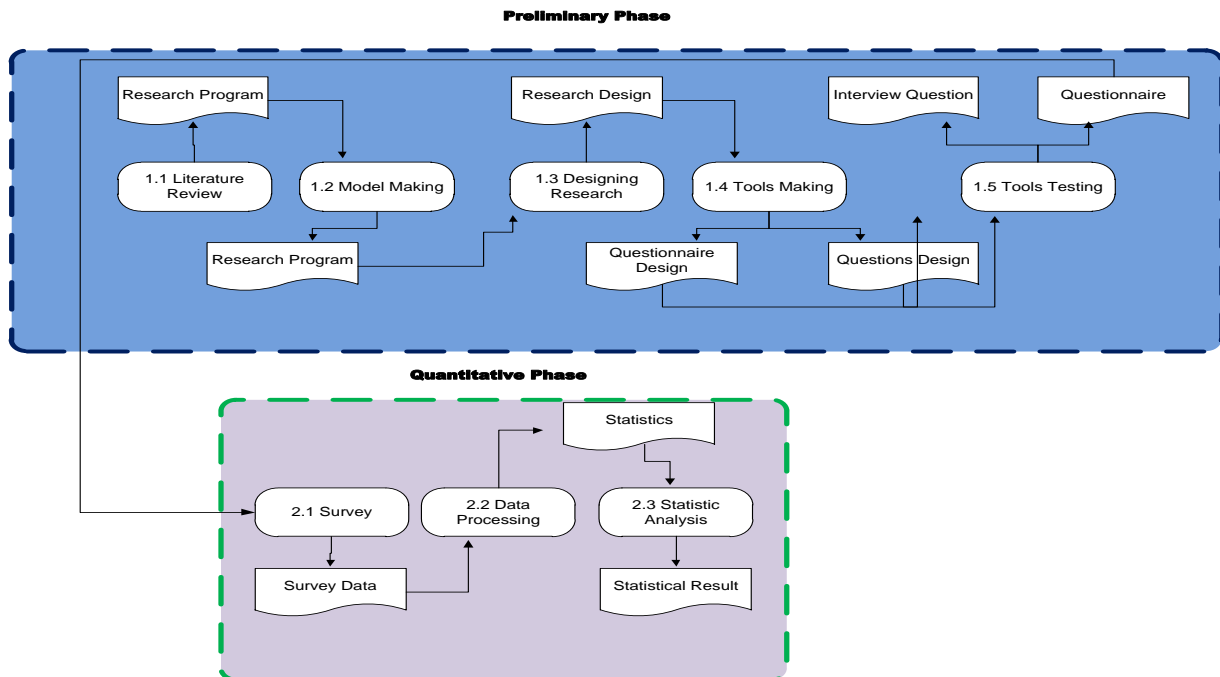
**Figure 1.** Results of the failure rate of the SI project [3].

Can be seen in Figure 1 the condition of the project, in general, has the highest percentage of problematic project status of 55%, followed by successful project status of 27% and failed project status of 18%. The failure rate of the SI project in this study has the same configuration as a similar study conducted by Standish Group found that many projects have the highest percentage of problems, followed by the status of the project that was successful and the last project status that failed [3]. People, as a source of competitive advantage, are fundamental elements in every organization and can determine whether IT/IS implementation is successful or failed. The need to emphasize aspects of people in implementing IT/IS to increase success rates [4,5]. So with the existence of this problem, a good readiness in the application of IT/IS is needed.

In addition to the uncertainty phenomenon mentioned above, most of the performance of the development of IT / SI is only done formally by those who depend on individual developers. Thus, findings tend to expose unclear and invalid results. On the other hand, the development of IT / IS is a high risk related to their nature [6]. Early literature studies revealed seven theoretical gaps around the field of success in research [7]. So, this field is still in an immature stage, despite the fact, researchers and practitioners have studied this field for years [8,9]. In addition, a similar trend is also shown in the methodological aspects of the IT / IS research field [10]. However, this methodological diversity has been popular with IT / IS researchers for many years, but the scarcity of mixed work methods still has to be indicated. This is a gap that can be done for research, especially since there are not many studies that measure the level of readiness for the application of IT / IS by looking at the individual's perspective by considering the organizational factors in which they are located.

## 2. Research methods

The overall methodology for this study consists of five stages as shown in Figure 2 and briefly discussed as follows:



**Figure 2.** Design research methodology.

In Preliminary Phase there are Literature Review, Model Making, Designing Research, Tools Making and, Testing Tools. Whereas in Quantitative Phase there are Survey, Data Processing and, Statistical Analysis. Briefly, it is clear that the research design was developed to guide the sequential research implementation [10], beginning with the preliminary stage, the quantitative and qualitative studies, the confirmed interpretation and its report writing. Besides the sequential implementation, the second highlighted point of the design was the nested strategy, which focused more on the quantitative part rather than the qualitative one.

### 3. Conceptual framework

Based on some of the above, in this research model, researchers used 8 variables consisting of 6 variables adopted from the TRI 2.0 model that had been redeveloped by Parasuraman [11], 2 variables adopted from the success model of the SI project, and 1 Output. These eight variables consist of a Content system (CS), Context Organization (CO), Optimism (OPT), Innovativeness (INN), Discomfort (DIS), and Insecurity (INS). Variable Content system (CS), Context Organization (CO) acts as a variable in the input dimension [12,13], within the framework of Optimism (OPT) [14], Innovativeness (INN), Discomfort (DIS), Insecurity (INS), Perceived Use of Use (PUF), Perceived Ease of Use (PEU) variables act as variables in the process dimension and TRI variables act as output dimensions according to logic models [12,13].

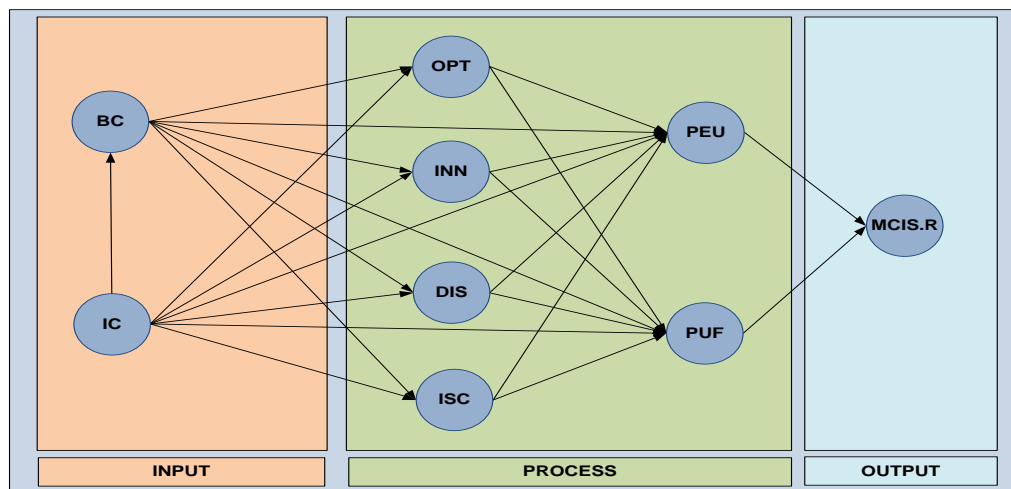


Figure 3. Readiness research development model.

#### 4. Conclusion

This study shows how to understand the relationship between readiness and construction use factors in terms of use of IS and how to combine models of readiness and usability in terms of system usage. The cooperative currently use IT / SI, but it does not run optimally and is considered a problem by some researchers. The impact will affect the operational performance of the cooperative. This study aims to measure the effect of readiness of user acceptance on the application of IT / SI within the scope of cooperatives. The researcher proposes a combination model by integrating six preparedness model variables and two successful model variables in terms of the assessment of IS use. In addition to the process of developing clarity, a coherent relationship between models, variables, indicators, and questions of each indicator is also presented in this study. That the implementation of this research has been carried out quantitatively using survey techniques. The sample of respondents in this study were administrators and employees of Cooperatives in Indonesia. Regarding the limitations of the study around the author's understanding, assumptions and perspective problems; In addition to the limitations, it is recommended to be a consideration point for future work, the proposed model, and the recommended instrument to proceed to the inspection phase.

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