
DESIGN OF STRATEGY MAP TECHNOLOGY INFORMATION BASED IT BALANCE SCORECARD

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Abstract

PT Harapan Kurnia Textiles, a company engaged in the Indonesian textile industry, has implemented an information system to manage its business processes. However, this does not fully support existing business processes or refers to an integrated and comprehensive IT implementation plan. So we need an information technology strategy map that can provide added value in the form of competitive advantage in company competition. The key concepts used in John Ward and Peppard's method of creating an information technology strategic map framework include an analysis of the external business environment, internal company analysis, internal IT environment analysis, and external IT environment analysis to determine the institution's business strategy. and using the IT Balanced Scorecard approach to determine the IT management strategy. The Ward and Peppard method has PESTEL analysis, value chain, SWOT, CSF, application mapping with McFarlan Grid and IS analysis to provide information system recommendations. To facilitate the preparation of the strategy, in terms of the fields and general objectives of the IT balance scorecard, strategic information technology systems can be formulated as information technology maps and strategies in a harmonious and balanced manner. Work on improving the performance of PT Harapan Kurnia Textile Indonesia in various ways, especially in the management of information technology.

Keywords: Design, Strategy Map , SWOT Analysis, IT Balance Scorecard

Introduction

PT Harapan Kurnia Textiles, one of the textile companies in Indonesia, adopted information technology to achieve the facility's vision and business objectives, but its application has not been maximized. the user side and the benefits to the organization and society.

In order for the investment in information technology provided by the institution to be comparable and fulfill the vision and goals that can be achieved, then one of the solutions to overcome these problems is strategic planning of information systems and information technology through IT. IT strategy map design through John Ward and Pepard's framework and IT Balance scorecard perspective. To facilitate the preparation of this strategy within the scope of IT balance scorecard goals and in a general perspective, strategic information technology systems can be arranged in the form of information technology strategy maps and mapped out. If KPIs (Key Performance Indicators) are used in the description of the strategy map..

The strategy map is a diagram that shows the vision, mission and organizational strategy implemented in the daily activities of each business unit using KPI (Key Performance Indicator). The map identifies various things about the strategy to achieve organizational goals. The strategy map has at least four perspectives, viz. learning and growth perspective, internal process perspective, customer perspective, and financial perspective. Work plans (action plans) can be formed from the results of strategic map planning, which can be used as a reference for the application of IS and IT in institutions. (Kaplan & Norton, 2015). Below is an overview of the company's IT balance scorecard :

Strategy Map – Classic Kaplan/Norton

INTRAFOCUS

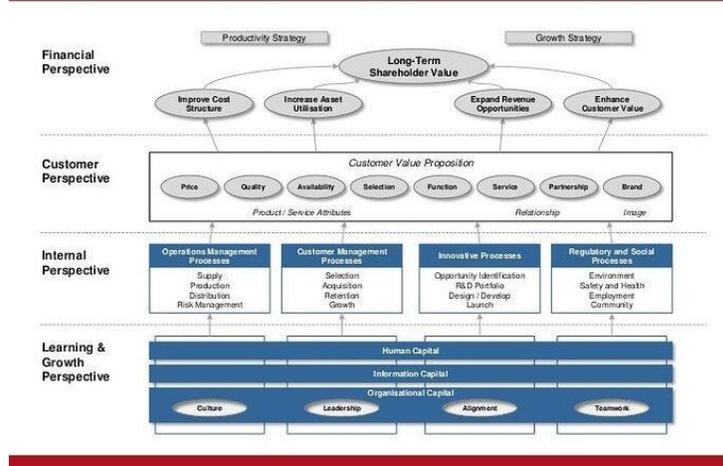


Figure 1. company strategic map

The Balanced Scorecard is a performance evaluation system that supports the continuity and sustainability of organizational growth. The Balanced Scorecard is a performance evaluation system that combines financial

aspects with other aspects that are important to the organization. The Balanced Scorecard strategy has been transformed into an integrated system which includes: Results (lagging indicators) and performance factors (key indicators) (results and performance systems), internal and external perspectives, qualitative and quantitative data and a limited number of indicators..

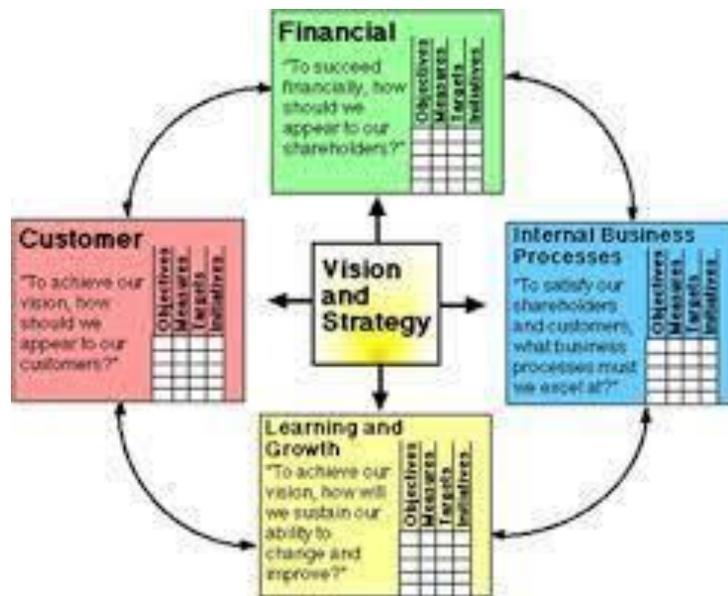


Figure 2. Framework BSC

The Balanced Scorecard (BSC) must have the following functions: As a business tool to measure whether the adopted vision and mission have been achieved, as a measure of your company's competitive advantage, as a strategic guide for managing the business. the effectiveness of the strategy used by the tool., provides a company overview of the

SWOT used, as a company's main performance indicator, as feedback to company shareholders and as a communication tool, as an information and analysis system for company learning(Rangkuti, 2013).

Arini Permatasari explained in a study on the analysis of strategic planning concepts that strategic planning is forward planning that considers strategic environmental and technological aspects both now and in the future. With strategic planning, the existence of the organization is maintained by increasing the quality of productivity or performance and work results so that it is possible to increase competitive advantage between each business unit. (Permatasari, 2017). However, HennI IndrayanI study regarding the application of information technology to increase the efficiency, effectiveness and productivity of a company found that the role of information technology in large and small companies requires an information system that can integrate information to support it. company productivity. The application of information technology in companies must be supported by reliable human resources and modern technology, therefore to increase the effectiveness, efficiency and productivity of companies can be done by conducting employee training or recruiting new employees who can carry out their duties.(Indrayani, 2012)

Methods

a. Literature Review

IS/IT strategic planning

IS/IT strategic planning is the process of identifying a portfolio of computer IS applications that will support an organization in implementing its business plans and achieving business goals. IS/IT strategic planning examines the impact of IS/IT on business performance and its contribution to the organization during the selection of strategic phases. In addition, IS/IT strategic plan describes various tools, techniques, and frameworks for management to align IS/IT strategy with business strategy, seeking new opportunities through the implementation of innovative technologies. (Ikhwan & Hendri, 2020)

In the final stage, IS and IT strategic planning documents are prepared. The initial stages consist of:

1. Business IS Strategy, which includes how each business unit/function uses IS/IT to achieve its business goals, application portfolio, and description of information architecture.
2. IT Strategy, which includes IS/IT technology and HR policies and strategies.
3. IS/IT management strategy that includes elements that will be implemented throughout the organization to ensure the required IS/IT policy consistency.

b. Research Stages

The research was conducted using a qualitative method with observations of PT Harapan Kurnia Textiles operating in the field through direct observation and interviews with the owner of PT Harapan Kurnia Textiles, so that field data in the form of a complete profile of PT. Harapan Kurnia Textiles, PT Harapan Kurnia Textiles Vision and Mission, Goals, Product Targets and Management. Based on the interviews conducted, the authors became the subject of emerging problems that had to be resolved using the Ward and Peppard framework methods.

The following are the stages of the research conducted :

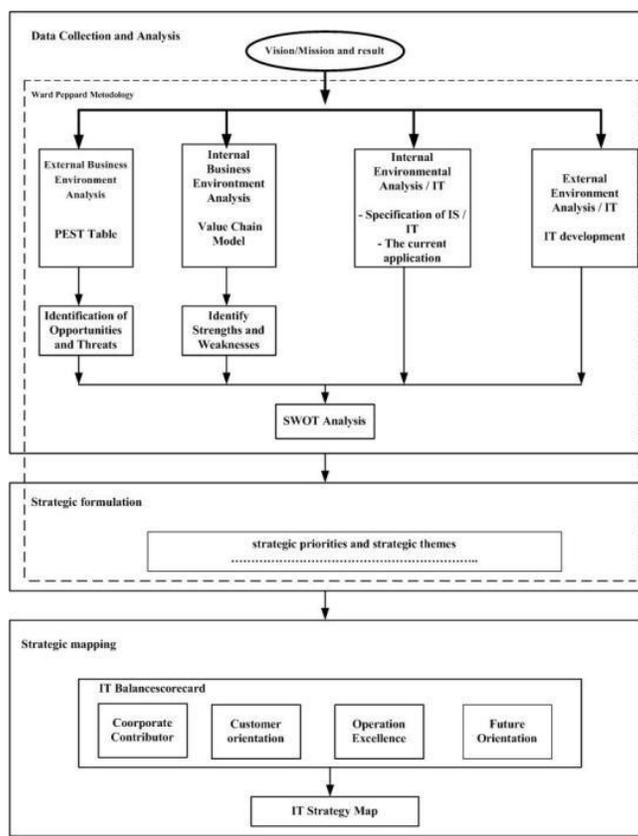


Figure 3. Research Stages

Results and Discussion

This section discusses three stages according to the research methodology:

Data Collection and Analysis

This section analyzes the external business environment, internal IS/IT environment analysis, IS/IT external environment analysis followed by a SWOT analysis. (Suwartika K et al., 2015)

External Business Environment Analysis

The tool used in this step is PEST (Political, Economic, Social, Technological) analysis. PEST analysis is obtained by identifying and evaluating external opportunities and threats, so that companies can develop a vision and mission that form the basis of the right strategy to achieve long-term goals

Internal Business Environment Analysis

In this stage an analysis of the company's internal factors (effect) is carried out using the value chain analysis model. Value chain analysis of the entire process in a work organization into two activity categories, core activities and supporting activities.

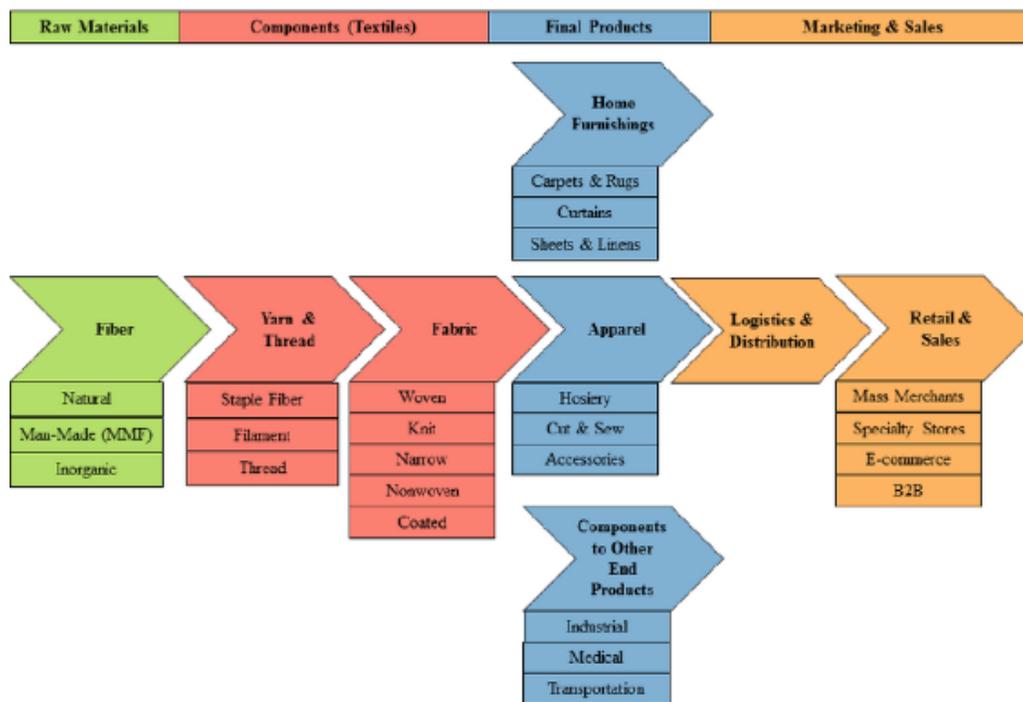


Figure 4. Value Chain Analysis
(<https://www.researchgate.net/publication/290435588>)

Environmental Analysis Internal / IT

Analysis of the internal IS/IT environment discusses hardware and software specifications as well as PT Harapan Kurnia Textiles' network infrastructure.

a. Hardware

Computer device with the following specifications:

1. Computer device with a spec P4-up
2. LAN networks and the Internet

b. Software

Software that is used as follows

1. Operating System: Windows
2. Data processing applications: Office 2019
3. Data processing applications: employment application, financial application, IT applications
4. Applications that have been implemented:
 - a. Website PT Harapan Kurnia Textiles: a web of company that presents data on the scope.
 - b. Network Infrastructure
Network infrastructure that is used PT Harapan Kurnia Textiles using the Network Configuration LAN using star topology.

External IT Environment Analysis

Analysis of the IS external environment tries to determine the direction of development of information system applications, hardware and computer networks.

Identification of External Factors and Internal Factors

Based on the analysis in the previous step, this section discusses the identification of external factors and internal factors, where the result of this identification is the position of the institution and is used in the SWOT analysis stage.

1. Identify external factors

In this phase, external factors (external factors) are analyzed in relation to their impact on the company's business strategy, as well as opportunities and threats to the company. (Textiles), n.d.)

Opportunity

- Buyer interest in Asian market
- International buyers can use transparent cost accounting
- Government and NGOs provide educational programs.
- Buyer productivity initiatives

Threat

- High production costs and low profit margins.
- Shipping costs on board
- challenges arising from political and environmental crises
- New innovations in textile production: AirDrobe clothing and Fiber Spray

2. Identification of Internal Environment

By analyzing the results obtained from survey respondents and the value chain model, strengths and weaknesses can be identified (Textile), n.d.)

Strength:

- Flexibility in the labor market.
- Global demand
- Increasing industry participation
- There is an economic zone

Weakness

- Inadequate modern machines
- Unsatisfactory prognosis
- Not being able to go with the flow
- Dependence on potential buyers

Identifikasi eksternal dan internal kemudian didasarkan pada matriks SWOT. Prioritas strategis kemudian ditentukan berdasarkan jumlah frekuensi strategis yang dihasilkan matriks SWOT.

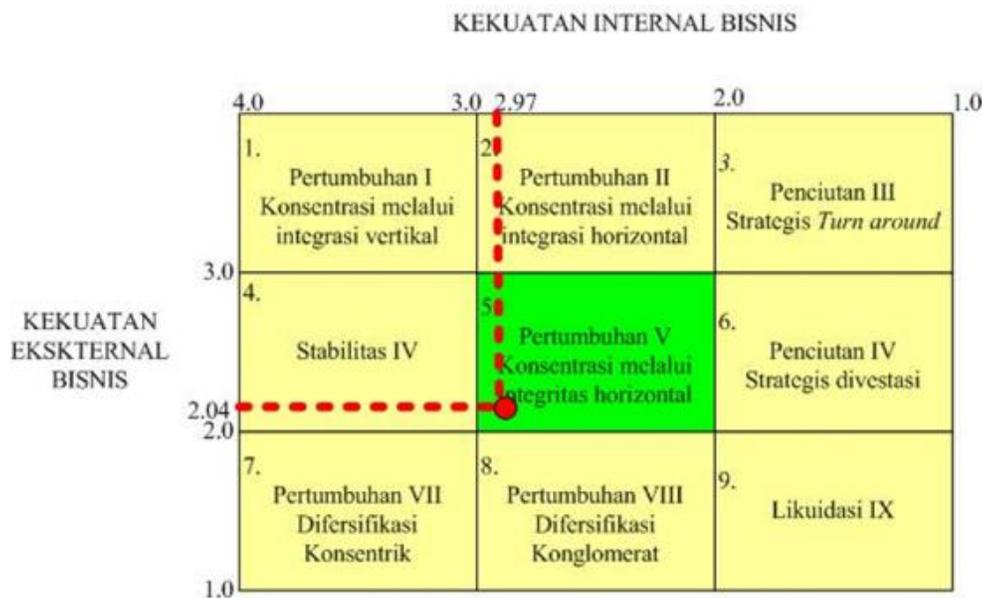


Figure 5. Matrik Internal-Eksternal

Strategic Formulation

The priority strategy is one of the strategic topics that emerge from the SWOT matrix which shows the priority of this strategy, what strategies are considered important to implement.

Table 4 Strategic Priorities of PT Harapan Kurnia Textiles

Priority Group	PT Harapan Kurnia Textile Strategy
I	<ol style="list-style-type: none"> 1. Increasing the utilization of information technology services in the company's operational activities. 2. Improve operational reliability. 3. Creating strategic alternatives for operational financing and dividing business risks 4. Improving the Quality of Human Resources. 5. Increasing cooperation with various parties (bilateral and multilateral, as well as between autonomous regional agencies).
II	<ol style="list-style-type: none"> 1. Improving data management coordination both internally and externally in an integrated manner. 2. Develop and implement implementation of performance standards/criteria (SOP) 3. Improve planning of research programs and investigations. 4. Improving monitoring and evaluation of program activities and organizational performance.

Strategic Mapping

At this stage, strategic priority ratios were discussed using the IT Balancescorecard method and strategy maps were prepared according to the needs of each educational institution..

Analysis IT Balanced Scorecard

This analysis includes a Balancescorecard analysis of IT strategic objectives, with a scorecard for each perspective.

Table 5 . IT perspective strategic goal balance scorecard

Perspective	Strategic Objectives	Strategic Strategies
Contribution Organization	Management executive shareholder	Creating strategic financing alternatives and share the risk of business operations
User Orientation	Customer value	Enhance Customer value cooperation with various parties (bilateral and multilateral, inter-agency and autonomous regions).
Operational Excellence	Operations management, customer management, innovation management	1. Increase the utilization of information technology services to the company's operations. 2. Improve operational reliability.
Future Orientation	Human capital, information capital, organizational capital	To Improve Quality of Human Resources.

IT scorecard balance scorecard

1. Contribution Organization Perspective

Table 6 IT BSC approach in the perspective of the organization's contribution

Strategi (objective)	Creating alternative financing strategies and share the risk of operational research effort		
Organizational Contribution score card			
Aim	Benchmark	Target	Initiatives
Creating alternative financing strategies and share the risk of operational research effort	The ratio between the operational budget with the costs that used to affect the risk-sharing and the work done to support the implementation of the State Budget Allocation sound, credible and Sustainable	100%	a. Encourage cost control system b. Responsibility for the realization of transparent management and distribution of the estimated cost of business risk

User Orientation perspective (User Orientation)

Table 7. IT BSC approach in the perspective of the User Orientation perspective

Strategi (objective)	Enhancing cooperation with various parties (bilateral and multilateral, inter-agency and autonomous regions).		
User Orientation score card			
Aim	Benchmark	Target	Initiatives
Increase cooperation with various parties (bilateral and multilateral, inter-agency and autonomous regions).	Determine the level of compliance data and application by conducting a survey on the availability of data and applications needed by the customer	100%	<ol style="list-style-type: none"> 1. Identify the need for the type of data and applications needed by the customer. 2. Develop an integrated information system that integrates services and cooperation to the various parties in the field of geological resources

Operational Excellence perspective (Operational Excellence)

Table 8. Approach in the perspective of BSC IT Operational Excellence

Strategi (objective)	<ol style="list-style-type: none"> 1. Increase the utilization of information technology services to the company's operations. 2. Improve operational reliability. 		
Operational Excellence score cards			
Aim	Benchmark	Target	Initiatives
Increase the utilization of information technology services to the company's operations and Improving operational reliability.	<ol style="list-style-type: none"> a. Knowing the level of ease of system use, by surveying the ease of use of the application b. Analyze whether the system has been fully integrated for all operational activities through COBIT audit 	100%	<ol style="list-style-type: none"> a. Making the system easier to use the system. b. Developing information technology-based systems

Orientation Perspective future (Future Orientation)

Table 9. IT BSC approach in the Future Orientation perspective

Strategi (objective)	Improving the Quality of Human Resources.		
Future Orientation score card			
Aim	Benchmark	Target	Initiatives
Improving the Quality of Human Resources.	a. Determine the level of mastery of technology systems and applications used to conduct a survey to employees and does the integration of IS / IT b. An increase in the competence of human resources through training in IT	100%	a. Improve the competence of human resources through training fields related fields b. Propose a system of self-evaluation c. Utilization of information systems and technology to enhance and facilitate operations

Cause and Effect Relationship Analysis

At this stage is to evaluate the causal relationship of the various strategic objectives and benchmarks that have been.

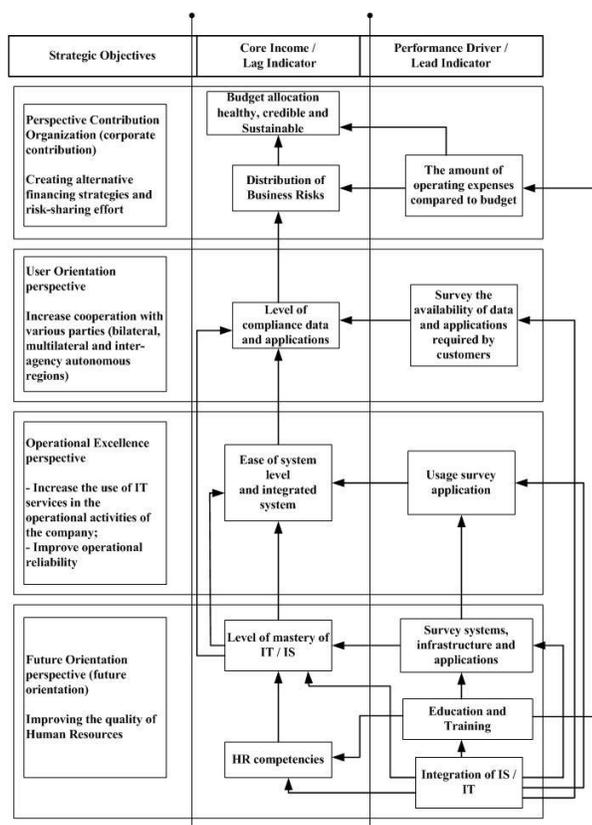


Figure 6. Cause and Effect Diagram

IT Strategy Maps at PT Harapan Kurnia Textile

At this stage the preparation of a strategy map is carried out, where the strategy map is a diagram showing the vision, mission, organizational strategy applied in the daily activities of each business unit, grouped into four BSC perspectives related to the company. strategic priority. priority group I added a Human Resources (HR) strategy to improve resource quality, a strategy to improve operational reliability, a strategy to increase the use of IT services in operations, a strategy to increase collaboration and a strategic alternative financial strategy to Create and share business risks. . This strategy map of PT Harapan Kurnia Textile can be used as a tool to communicate the strategy to all employees in the form of performance indicators.

The next step is the implementation of the strategy in the development of a strategic management system that includes existing indicators. It is better if the implementation is continuously and periodically evaluated and changes are made if there are changes or conditions that are not in accordance with the pattern of influence from internal and external parties.

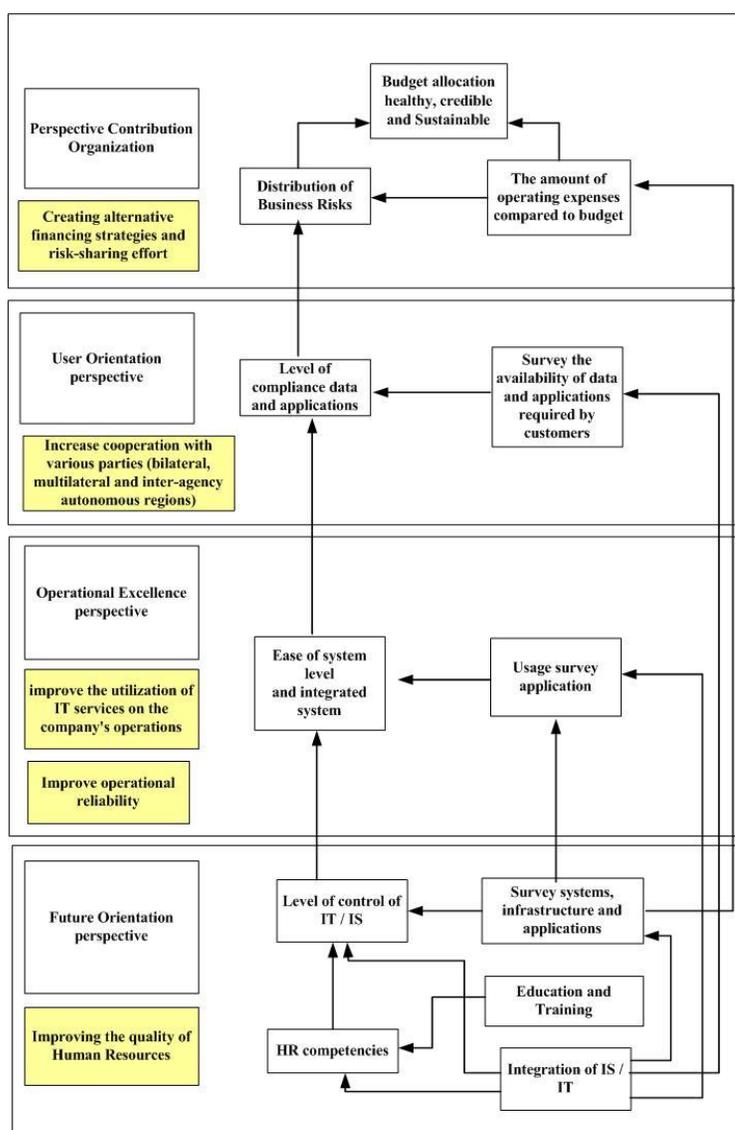


Figure 7. IT Strategy Map at PT Harapan Kurnia Textile

Conclusions

From this study it can be concluded that the IT balance scorecard method can be used to map business goals, benchmarks, targets and initiatives that can be implemented, the strategy of PT Harapan Kurnia Textile Resources which is designed to map can be summarized in four perspectives related to BSC. IT priorities, including strategic strategies for improving the quality of human resources (HR), strategies for increasing reliability, strategies for increasing the use of IT services in operations, strategies for increasing collaboration and alternative strategic financial strategies Creating and sharing business risks. The strategy map is also assumed to be an overview of the development, integration and optimization of information technology and is used as a work plan (action plan) to achieve business goals at PT Harapan Kurnia Textile.

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