

ANALYSIS OF MATURITY LEVEL CONCERNING ALIGNMENT OF INFORMATION TECHNOLOGY STRATEGY AND BUSINESS STRATEGY USING LUFTMAN MODEL

Junidar¹, Kikye Martiwi Sukiakhy², Dwi Mardiana³

Department of Informatics, Universitas Syiah Kuala, Indonesia^{1,2}

Faculty of Economics, UIN Raden Fatah, Indonesia³

Email: junidar678@usk.ac.id, kikye.martiwi.sukiakhy@usk.ac.id,
dwimardiana_uin@radenfatah.ac.id

ABSTRACT

Alignment of business strategy and IT organization is the key to realizing IT benefits for businesses. The gap between the IT strategy and the business strategy will have an impact on the organization's business performance, especially if the organization relies on IT in its business operations or makes IT one of its selling points. Raden Fatah Palembang State Islamic University as one of the institutions of college sees IT as a mandatory requirement to build competence and capability in the framework of competition in its area. Based on these requirements, the alignment of business and IT strategy is aligned with Raden Fatah Palembang State Islamic University using the Luftman SAMM (Strategic Alignment Maturity Model) model. Currently Raden Fatah Palembang State Islamic University has a value of alignment strategy that is in level 4 (Initial), where at that level, the alignment strategy is still missing or not implemented.

KEYWORDS *Luftman's SAMM; strategic alignment maturity model; alignment strategy*



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INTRODUCTION

Utilization of information technology properly in a tertiary institution is an opportunity that can be utilized by a tertiary institution to gain a competitive advantage compared to other tertiary institutions (Sihite & Saleh, 2019). However, good IT performance should be able to improve university performance so that

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company goals and objectives can be achieved. To see the suitability between IT and a university's business strategy, IT performance must be assessed from a business perspective (Maulana et al., 2017).

Raden Fatah State Islamic University Palembang is one of the universities which in its journey has gone through various kinds of challenges both from within and from outside, this has led to demands to change the way of operations and strategic planning in order to survive in competition between universities. Seeing the important role of IT in corporate business, UIN Raden Fatah Palembang views IT investment as a strategic investment (Atika, 2018). The problem is that the management (rectorate) wants to know and ensure whether the IT initiatives that have been, are being implemented or will be implemented are in accordance with the organization's strategy (Suggestion, 2019). Information on the level of alignment does not only serve as a tool for management, but also becomes the basis for making new policy priorities in order to increase and improve performance. Information on the level of alignment, furthermore, is also an asset for management.

Measuring the level of alignment (maturity) between IT Strategy and Business Using Luftman so that it can help the University know its position in the maturity level and can make improvements to increase maturity to the expected level. Prior to efforts to maximize the use of information technology, it is necessary to align business and use of IT that has been implemented at UIN Raden Fatah Palembang.

Strategic alignment between business and IT strategy is shown through a mutually supportive two-way relationship. Alignment between business and IT strategy will direct the organization to be able to realize the benefits of IT investment in order to create a sustainable business competitive advantage (Luftman, 2003). As a note, in the context of this research, related to the topic of alignment of business and IT strategies, the terms IS (Information System) and IT (Information Technology) will be considered the same, even though they are basically different.

SAMM (Strategic Alignment Maturity Model) was introduced by Luftman, the SAMM model (shown in figure 1) was created based on the development of 12 components in the Henderson and Venkatraman SAM model and the results of Luftman's research which identified the factors that were the enablers and inhibitors on alignment between business and IT (table 1) (Luftman, 2000, 2003, 2003).

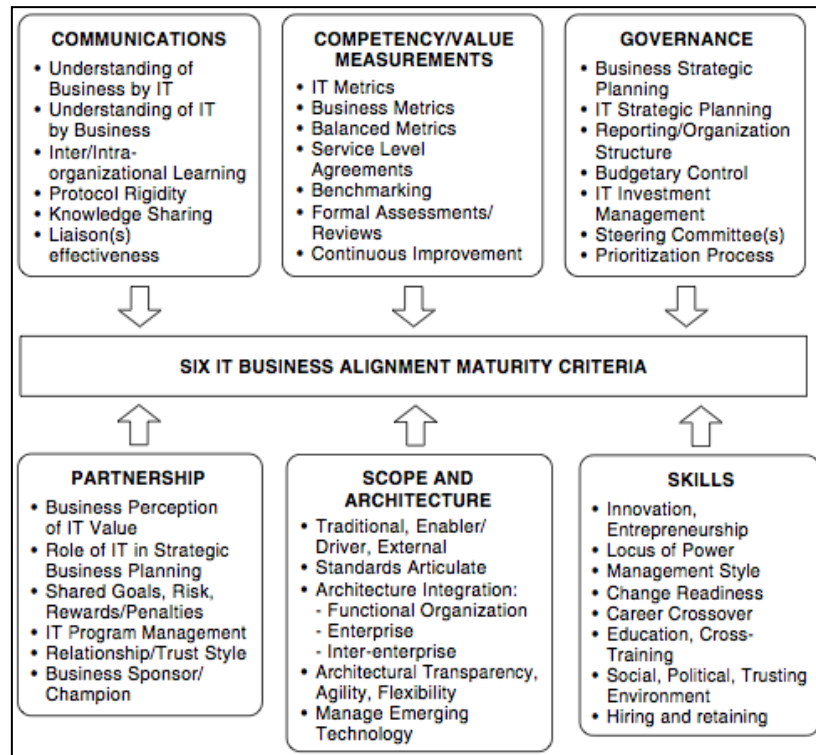


Figure 1. The SAMM Model (Strategic Alignment Maturity Model)

Table 1. Factors Triggering and Inhibiting Business and IT Alignment

ENABLERS	INHIBITORS
Senior executive support for IT	IT/business lack close relationship
IT involved in strategy development	IT does not prioritize well
IT understands the business	IT Fails to meet its commitments
Business – IT partnership	IT does not understand business
Well-prioritized IT project	Senior executives do not support IT
IT demonstrates leadership	IT management lacks leadership

Luftman said the process of measuring alignment maturity levels can provide information to organizations about the current state of their strategic alignment and identify what needs to be done to improve existing conditions (Luftman, 2003). With reference to the six components in the SAMM model (J. Luftman & Kempaiah, 2007; JN Luftman, 2003), measuring the maturity level of the alignment of business and IT strategies is expected to meet the following needs:

- 1) A method for organizations to determine the maturity level of business and IT alignment based on current conditions.
- 2) By knowing the level of maturity, the organization can determine what things need to be improved or improved.
- 3) By measuring the level of maturity, organizations can find out their progress in achieving predetermined targets.

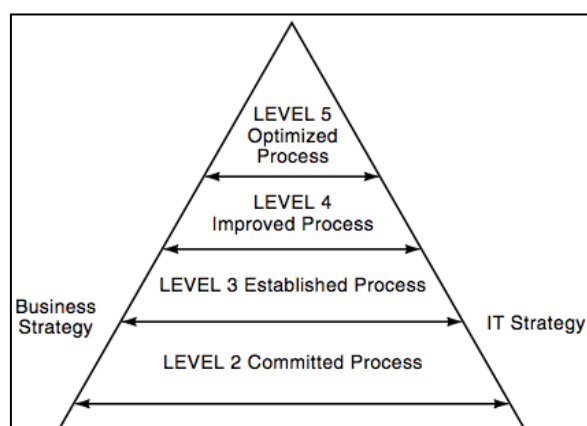


Figure 2. Gaps between Business Strategy and IT at each Maturity Level

RESEARCH METHOD

Data collection in the context of research was carried out by means of discussions, interviews with the PUSTIPD section, the planning and finance section of UIN Raden Fatah Palembang, followed by filling out alignment questionnaires, a total of 5 respondents (qualitative). The literature study was carried out in order to obtain conceptual information and references in making recommendations related to the alignment of business and IT strategies based on Luftman's 6-dimensional SAMM framework model.

Assessment of Strategic Alignment with the SAMM Model (40 Attributes)

Assessment of the alignment of business and IT strategies uses the Luftman SAMM (Strategic Alignment Maturity Model) model which consists of 6 domain areas, with a total of 40 attributes which are then converted in the form of 40 questionnaire questions. The basis for choosing the SAMM model as an assessment model was determined by comparing the Luftman SAMM model with the other two models (SAM and IT BSC) and referring to the conditions/problems of UIN Raden Fatah Palembang which were the subject of the research and the literature study activities that had been carried out.

Identification and Grouping of Alignment Inhibiting Factors

The value/congruence obtained for each attribute provides an overview/characteristic of the alignment condition for each attribute. Combined with the conditions represented by each alignment attribute which is a questionnaire question and an understanding of Luftman's alignment theory, the authors can identify the inhibiting factors for each alignment attribute. Furthermore, the inhibiting factors that have been identified for each attribute are grouped, so that 36 inhibiting factors are obtained as the output of this process. The grouping process is carried out by eliminating the inhibiting factors that have the same problem.

Identification and Grouping of Alignment Inhibiting Factors

In this process, the authors formulate recommendations and factors that become references for measuring success for each inhibiting factor that has been identified in the previous process. In the framework of formulating recommendations, the author first determines the keywords for each inhibiting

factor, the determination of keywords is based on the issues that are raised / become the focus of each inhibiting factor (based on the author's understanding related to the results of discussions with respondents during the filling process questionnaire was conducted).

The keywords that have been obtained are connected / searched for their relational relationship with the inhibiting factors of Luftman's research results. Furthermore, based on the previously related Luftman inhibiting factors, the authors also determine the relational relationship with the inhibiting factors (Wibowo & Yuwono, 2008).

As a complement, the ten issues of IT in higher education institutions in 2012 were the result of research by Grajek and Pirani (2012) also connected the keywords of each inhibiting factor and the inhibiting factors of the research results (Wibowo & Yuwono, 2008) which has been previously identified. The relational relationship that is made directs the author to be able to provide recommendations that are specific and in accordance with the latest trends related to the application, use of IT in the area of higher education institutions. The relationship between the keywords of each inhibiting factor with the inhibiting factors of Luftman's research results, the inhibiting factors of the research results of Wibowo and Yuwono (2008) and 10 IT issues in higher education institutions as a result of research by Grajek and Pirani (2012) shown in figure 3.

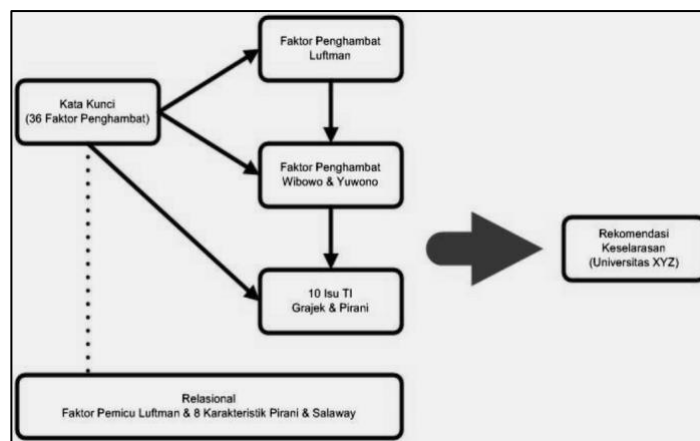


Figure 3. Recommendation Making Process

Furthermore, the relational relationship between the triggering factors of Luftman's research results and the 8 characteristics of higher education institutions that have achieved alignment helps guide the authors indirectly in formulating recommendations that lead to an even better level of strategic alignment. To limit the scope of recommendations, the formulation of recommendations also refers to the author's understanding of the current conditions (based on the results of discussions with respondents when filling out the questionnaire), so that the recommendations given are realistic. The output of this process is alignment recommendations for the University.

Recommended Mapping for Level Up 40 Alignment Attributes

Related to the relationship of the recommendations that have been produced for each inhibiting factor with the process/efforts to increase the level for each alignment attribute (40 attributes), the authors also mapped the recommendations for each alignment attribute in order to increase the alignment level. Determination of suitable recommendations for each attribute is based on the next level increase for each attribute. Each alignment level has certain characteristics, the recommendations given for each attribute refer to the characteristics of the next level to be achieved based on the current level conditions.

RESULT AND DISCUSSION

The results of the study discuss the value and level of alignment of business and IT strategies based on the results of the assessment that has been carried out along with general recommendations.

Value and Level of Business and IT Strategy Alignment

- 1) The results of an assessment of the alignment of business and IT strategies at UIN Raden Fatah Palembang show that it is at level 1 (Initial / ad-hoc), where at level 1 the institution is said to not yet have or implement strategic alignment. It is characterized by the following characteristics (Based on 6 domain areas of the SAMM model): Business communication with IT: little or no understanding between each other (business and IT).
- 2) Measurement of value - benefits and IT competence: measurement of benefits is still limited to a number of technical factors.
- 3) IT governance: there is no formal process, IT is still a source of expenditure for business, the prioritization of IT initiatives is still reactive.
- 4) Business partnership with IT: the quality of the partnership is minimal so it has the potential for conflict, IT is still seen as an expense in running a business.
- 5) IT scope and architecture: traditional (Ex: email, accounting, office).
- 6) IT human resource expertise: IT still bears most of the risk with little incentive, the focus of IT human resource training focuses only on technical factors.

Table 2 shows the values and levels for each of the six domain areas according to the Luftman SAMM model. While tables 3, 4, 5, 6, 7 and 8 show details per attribute for each dimension.

Table 2. Values and levels for each area refer to the SAMM model

No	Areas	Label	Mark	Levels
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1	Business communication with IT	COM	1.80	1
2	Measurement of IT values - benefits and competencies	CVM	1.40	1
3	IT governance	GOV	1.49	1
4	Business partnership with IT	PNP	1.73	1
5	IT scope and architecture	SAR	1.97	1
6	IT human resource skills	SKL	1.80	1
Organizational IT and Business Strategy Maturity Value/Level			1.70	1

Table 3. Attributes of Measurement in the Communication Area

No	Attribute	Label	Mark	Levels
1	IT understands business	COM0 1	2.20	2
2	Business understands IT	COM0 2	2.40	2
3	Learning within and across organizations	COM0 3	1.40	1
4	Rigidity/dexterity of the procedure	COM0 4	1.60	1
5	sharing knowledge	COM0 5	1.40	1
6	Effectiveness/dep th of the liaison role	COM0 6	1.80	1
Value / Level of Communication Area			1.80	1

Table 4. Measurement Attributes in the Value Measurement Area - Benefits and Competence

No	Attribute	Label	Mark	Levels
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1	IT benefit measurement instrument	CVM0 1	1.60	1
2	Business performance measurement instrument	CVM0 2	1.40	1
3	Balanced benefit measurement	CVM0 3	1.60	1
4	Service quality level agreement	CVM0 4	1.20	1
5	Measurement in order of comparison	CVM0 5	1.20	1
6	Formal evaluation	CVM0 6	1.40	1
7	Continuous improvement	CVM0 7	1.40	1
Value / Level Measurement Area Value - Benefits and Competency			1.40	1

Table 5. Attributes of Measurement in the Governance Area

No	Attribute	Label	Mark	Levels
1	Business strategy planning	GOV01	1.20	1
2	IT strategy planning	GOV02	1.00	1
3	Organizational structure and reporting	GOV03	1.80	1
4	Budget control	GOV04	2.00	2
5	IT investment management	GOV05	1.80	1
6	steering committee	GOV06	1.20	1
7	Prioritization process	GOV07	1.40	1
Governance Area Value/Level			1.49	1

Table 6. Attributes of Measurement in the Partnership Area

No	Attribute	Label	Mark	Levels
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1	The role of IT in planning business strategy	PNP02	1.20	1
2	Common goals, risk sharing & bonuses	PNP03	1.80	1
3	Management of IT-business relationships/relationships	PNP04	1.80	1
4	Relationships and trust	PNP05	1.80	1
5	Business sponsors	PNP06	2.20	2
Partnership Area Value/Level			1.73	1

Table 7. Attributes of Measurement on Scope and Architecture

No	Attribute	Label	Mark	Levels
1	main system	SAR01	2.20	2
2	Implementation /compliance with standards	SAR02	1.80	1
3	Architecture integration	SAR03	1.80	1
4	Architectural transparency	SAR04	1.80	1
5	Architectural flexibility	SAR05	2.00	2
6	Ability to adopt new technology	SAR06	2.20	2
Scope and Architecture Area Value/Level			1.97	1

Table 8. Attributes of Measurement in Expertise Area

No	Attribute	Label	Mark	Levels
1	Innovation and entrepreneurship	SKL01	2.00	2
2	The role/authority of power	SKL02	1.60	1
3	Management approach	SKL03	1.80	1
4	Readiness for change	SKL04	2.00	2

No	Attribute	Label	Mark	Levels
5	Cross-functional career moves	SKL05	1.60	1
6	Cross functional training	SKL06	1.60	1
7	The social environment, politics and beliefs	SKL07	1.80	1
8	Recruitment and retention process	SKL08	2.00	2
Value / Level of Expertise Area			1.80	1

Alignment Recommendations for (Based on General Theory of Alignment of Business and IT Strategy)

Following are some additional recommendations in order to align business and IT strategies at UIN Raden Fatah Palembang:

- 1) Achieving better strategic alignment values is a process, organizations should not be fixated on values alone (only pursuing values), but make the process a learning process to build capabilities.
- 2) It should also be remembered that the alignment of IT strategy with business strategy can be achieved if the business in this case has a consistent and clear (not ambiguous) strategy. One of causes of misalignment arise when IT attempts to align its strategy with inconsistent organizational business strategies (Chan & Reich, 2007; Hitt & Hartman, 2010). It is the main task of the business to ensure that the strategy is focused, clear and consistent so that it can be understood by all levels of management in the organization (Faraón & Antonio, 2009)
- 3) That a good understanding of business in the framework of alignment is not only a must for the IT unit but also the business unit itself. Before managers / unit heads can use IT as a solution to the business issues / problems they face, managers / unit heads must also understand business in a broader context, not only internal business processes (Chan & Reich, 2007).
- 4) Strategic alignment is not a final condition, because the business environment conditions are constantly changing, as well as technological developments and competition (copying each other's capabilities) make the process of achieving strategic alignment a continuous process without stopping (Chan & Reich, 2007; Yunus, 2016).
- 5) Strategic alignment includes internal and external alignment. Internal alignment is achieved through alignment between organizational processes - infrastructure and IT infrastructure processes, while external alignment is achieved through alignment of organizational IT - business strategy with industrial strength - technology. The entities involved include internal

organizations and partners, consumers (Chan & Reich, 2007; Morooney, 2010).

CONCLUSION

The following are conclusions that can be drawn based on the research that has been done, are; (1) the maturity level of the alignment of business and IT strategies is at level 1 (average value 1.70). Luftman stated that an organization that is at level 1 (Initial / ad-hoc) means that it still does not have / apply alignment of business and IT strategies at all, (2) out of six alignment areas assessed (referring to the Luftman model), the IT value-benefit and competence measurement area (Label: CVM) obtained the smallest score of 1.40; while the IT scope and architecture area (Label: SAR) received the highest score of 1.97, (3) there is a tendency that the utilization of IT depends on the capabilities of each business unit, while IT units are more inclined to technical maintenance activities, (4) it still do not have a strategy on how IT can be managed to provide benefits to the business. need to make IS/IT strategic planning, and (5) recommendations for UIN Raden Fatah Palembang refer to 6 areas of alignment of Luftman, generally covering: better business communication with IT, measurement of IT benefits and competencies that are more integrated with business, implementation of effective IT governance, business partnerships with IT that are more managed, standardized and integrated IT scope and architecture planning, as well as competent IT human resources.

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