

Porter's Five Forces Model Competition as a Framework for Determining the Competitive Strategy of State University

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Abstract. This study aims to evaluate organizational performance in order to improve competitiveness. This research is a case study at Universitas Negeri Medan, Indonesia. Data collection was carried out by analyzing performance in services, organizations and human resources, finance, and infrastructure. Data was collected from the management level of universities, faculties, and bureaus. Data were analyzed using SWOT analysis, which integrated the Porter's Five Forces Model Competition. The results showed that the margin on the strength component was 1.165, weakness was - 0.069, the opportunity was 0.220, and the threat component was 0.195. It was concluded that the position of Unimed's competitiveness was in a position ready to grow and develop and support an aggressive strategy. The strategies used as alternatives to improve Unimed's competitiveness are improving the quality of human resources, improving the quality of study programs, increasing research and innovation, increase the relevance of graduates, and increase vocational education.

Keywords: Porter's five forces model of competition, Competitiveness strategy

1 Introduction

Higher education institutions in Indonesia have the main task of providing education, research, and community service. In the disruptive era, universities were required not only to have the resilience of human resources (lecturers and staff), assets, curriculum, infrastructure, and financial facilities as stipulated in the National Higher Education Standards (SNPT) but also open-oriented management and adaptability to the internal environment and external environment. Collquitt states that adaptability is part of task performance [1]. A college is required not only to perform well, which indicates strength but also must be able to adjust to its environment. Thompson, Peteraf, Gamble, Strickland states that an organization's macro environment includes economic conditions, socio-cultural forces, technological factors, environmental processes, legal/ regulatory factors, and political factors. The implications of various external factors lead to intense competition between institutions or human resources [2].

In the era of completely disruptive and competitive requires universities to have competitive advantages that are not always oriented to non-profit organizations but must also gradually be industry-oriented in managing resources and developing their organizations. Competitive advantage is the core of strategic management, which is defined as everything

that can be done much better by a company when compared to rival companies [3]. Companies in this context can also be illustrated as a college. When a company can do something that cannot be made by a rival company or has something that a rival company wants, it can represent a competitive advantage. To achieve a cooperative advantage, universities need a strategy. The strategy is the set of actions that managers take to outperform the company's competitors and achieve superior profitability. Strategy means making clear-cut choices about how to compete [2]. Another definition of strategy is stated by Markides [2], namely that strategy is all about combining choices of what to do and what not to do into a system that creates the requisite fit between what the environment needs and what the company does.

Achieving competitive advantage will explain the company's competitive position, and can also explain the company's success or failure position. A company can maintain a competitive advantage by continuously adapting to changes in trends and external activities and capabilities, competencies, and internal resources and by effectively formulating strategies that reinforce these factors. The competitive advantage growth strategy starts from the organization's value and services offered and can be obtained by consumers from higher education institutions after providing fees to obtain these services. Conceptually and implicitly, the services follow the pattern of industrial structure by the mandate and main tasks of higher education functions regulated in the organization of work procedures and statutes as basic rules. The structure of the tertiary industry structure is services in the form of academic services, research and community service, and general administration and finance by exploring factor suppliers, potential entrants, substitutes, and buyers as well as rivalry among similar service providers internally.

The concept of strategic management explains that competitive advantage that indicates a company's competitiveness starts from the declaration of the institutional normative aspects of vision and mission, conducts a self-evaluation report to describe internal strengths and weaknesses as well as external opportunities and threats, develops long-term goals, sets strategy and implementation policies [3]. Vision is a far-sighted future, where and how the company must be taken and work to remain consistent and can exist, anticipatory, innovative, and productive. Vision closely with the question, "what do we want to be?". A mission statement is a statement of purpose that clearly distinguishes one business from other similar companies. Mission related to something that must be carried out or carried out by the company according to the vision set so that organizational goals can be implemented and succeed. External opportunities and threats refer to various economic, social, cultural, demographic, environmental, political, legal, governance, technological and competitive events and events that can significantly benefit or harm an organization in the future and are outside the company's control. Strengths and weaknesses refer to the company's internal conditions in maintaining a competitive advantage. Strengths and weaknesses are controlled activities of an organization that is able to run very well or poorly. Identifying and evaluating organizational strengths and weaknesses in the functional areas of a business is an essential strategic management activity.

Mechanisms to analyze the strengths-weaknesses-opportunities-threats can be done by self-evaluation. Self Evaluation is defined as a systematic effort to collect, sort, and process valid data and information from which facts can be drawn that can be used to take managerial actions to sustain the implementation of an institution or program [4]. Self Evaluation is one of the strategic planning models that definitively is "a systematic process for managing the organizations and its future direction in relation to its environment and the demands of external stakeholders, including strategy formulation, analysis of agency strengths and

weaknesses, identification of agencies stakeholders, implementation of strategic actions, and issue management" [5]. Strategic planning is a result-oriented process to be achieved throughout 1 (one) to 5 (five) years systematically and continuously by calculating the potential, opportunity, and obstacles that exist or may arise [5].

To find out the competitive advantage, the organization needs performance evaluation, which must be conducted periodically and requires performance management. Armstrong [1] states that performance management focuses on five aspects, namely concern with outputs, concern with measurement and review ("If you can't measure it, you can't manage it"), concern with continuous improvement, concern with continuous development, concern with communication, concern with stakeholders and concern with fairness and transparency. Performance measurement becomes very clear of its role and function in ensuring the success of the organization.

Performance can be interpreted as output or work results or quantitative work achievement of a set of objectives. In reality, performance is not only a matter of the outcome of one's achievement of certain objectives that can be observed but also related to the process of how people achieve those goals. Thus the performance is about what is done and how to do it [6]. The interpretation that performance is a work relevant to the statement that "performance means both behavior and result. Behavior emanates from the performer and transform performance from abstraction to action. Not just the instrument of the result, behaviors are also outcomes in their right-the product of mental and physical effort applied to tasks and can be judged apart of the result. Performance can also be interpreted as the value of the set of employee behaviors that contribute, either positively or negatively, to organizational goal accomplishment. This definition of job performance includes behaviors that are within the control of employees, but it places a boundary on which behaviors are (and are not) relevant to job performance [1]. The statement implies that performance is a set of values of employee behavior, both positive and negative that will affect the achievement of organizational goals. The definition of performance includes behavior that controls the employee itself, but the behavior limits the behavior that is both relevant and not relevant to the job. Possible performance results consist of three conditions, namely lower, by or exceeding the set targets. A series of corrective actions (feedback) based on these performance results can be carried out for improvement and on the other hand targets that have been reached or exceeded can be institutionalized as a "best practice" that can be utilized in policy making in the context of "Continuous Quality Improvement" (CQI) organizations that are not can only have implications for improving organizational performance but can also increase the work satisfaction of human resources within the organization. CQI is one of the four pillars of quality consisting of serving the customers, continuous improvement, managing with facts, respect for people [7].

One analytic mechanism to maintain competitive advantage is to use The Five Forces Model of Competition and emphasizes an organization's competitive analysis to ensure organizational sustainability that emphasizes analysis suppliers, potential entrants, substitutes, and buyers [3,8]. Analysis of competition, according to Porter, when translated includes competition between competing companies in which to be able to exist and develop, the company must be able to provide a comparative and comparative advantage compared to other companies. Second, the potential entry of new competitors (potential entrants) is intended for early warning for a company due to the ease of entry of new companies in similar businesses which results in tight competition both horizontally (with companies that have long been competitors) and vertically (with new competing companies). Third, the potential development of substitute products (substitutes) is defined as a survival and development

strategy if there are producers of substitute products that are cheaper with no significant difference in quality. Fourth, the bargaining power of suppliers (suppliers), which can affect the intensity of competition in an industry in situations and conditions, there are a large number of suppliers or when the transition to other raw materials is very high. Finally, the bargaining power of consumers (buyers), which in principle, is the main force affecting the intensity of competition in an industry.

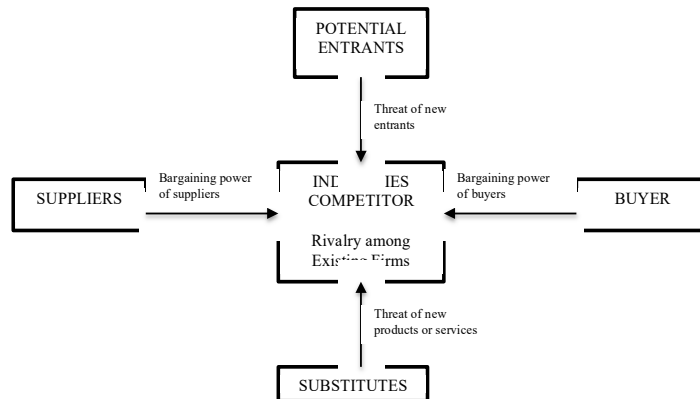


Fig .1. Forces Driving Industry Competition [8]

In the context of higher education, the five factors driving competition can be translated into factors for newcomers to both the internal and external environment. The supplier factor indicates the supply of good policies, regulations, information, skills, and knowledge obtained from institutions or individuals. Buyers are analogous to users of educational services and other services offered by tertiary institutions. The buyer's position has a bargaining position that must be carefully calculated by universities. Substitution products are substitute products with the same and different tasks and functions. Inter-competitor factors can be interpreted by private or public universities that have the same mandate and task functions as Unimed. Although The Five Forces Model of Competition is industry-oriented conceptually, it can also be applied to universities considering the formulation of competitive strategies using the principles of strategic management and strategic planning and internal and external analysis based on self-evaluation. To be more effective, then Porter's Five Forces Competition can be integrated with one management tool, namely SWOT analysis [3].

The last year of the implementation of the Strategic Plan of Universitas Negeri Medan 2015-2019, Indonesia (abbreviated as Unimed) has produced various performance achievements that indicate the realization of the vision and implementation of Unimed's mission [9]. Some of the outstanding performances obtained by Unimed are the ranks of Unimed Higher Education Institution Accreditation including superior rank (Score A), Study Programs have been accredited with A as many as 33 study programs (52.38%), rank 25 ranking of Indonesian Universities in 2018 from 4,200 public and private tertiary institutions, Unimed Digital Library accredited A, Research Institute Performance is ranked First, Second best in public services in 2019 and on November 20 this Unimed will also receive an award as an institution with public information service disclosure in the category of Informative Enough . Even though some achievements have been obtained, if it is associated with the 2019

Key Performance Indicator (KPI) targets, there are still several performance indicators that have not been achieved [10].

Performance evaluation related to the ranking of universities by the Indonesian Ministry of Education and Culture published in the second quarter of 2019. Unimed was ranked 50th of 4,200 universities. The position is far below the target set in the 2019 Performance Agreement, which is ranked 22. Student performance is also not in the top 100. The ranking results require intensive study related to how the strategy so that the image and reputation and achievements of Unimed can be further improved so that the expected status A accreditation for the institutional level can be maintained, so that Unimed's performance can contribute to the achievement of the performance targets of the Indonesian Ministry of Education and Culture in the period 2020-2024.

Unimed resource management requires budget allocations whose acquisition should ideally be able to optimize all potential assets. The status of the Public Service Agency provided to Unimed since 2018 provides flexibility in the management of human, financial, and asset resources. The implication is the opportunity to increase revenue to improve services, not only from Single Tuition but from other efforts in the context of income generation. Many efforts are needed to arrive at the increased income position, one of which is the determination of service rates, both academic and academic support. The service tariffs in order to be competitive must be compared with rates from other universities so that they are by the purchasing power of the community.

The new aspect in determining the tariff components certainly requires another strategy in making tariff policies at Unimed that must consider equality, people's purchasing power, and the principle of justice. The tariff policy requires an accurate analysis of the tariff contestation of education providers of other institutions. The alternative can use The Five Forces Model of Competition [8], which considers threats from suppliers, buyers, product substitutes, new entrants, and rivalry between similar service providers with an industrial structure approach. There is a concept fit between Porter's model and the essence of a Business Services-oriented Public Service Agency, even for non-profit organizations such as universities that still have to prioritize social responsibility. Rates that have implications for the rise and fall of Unimed's budget are not everything, but even the concept of strategic planning has shifted its paradigm from input-based to activity-based and even outcome-based, but it turns out that it still positions the input budget for program and activity implementation.

Unimed performance measurement is carried out every year by compiling a Performance Report based on the Minister of Technology and Higher Education Regulation No. 51/2016 [11] The analysis of the 2018 Performance Report shows that in-depth analysis has not been done related to the internal and external environment that can affect competitive advantage as a parameter of competitiveness. The year-end report is limited to analyzing the comparison of targets versus the realization of the Key Performance Indicator (KPI) that has been set and the budget absorption in the year concerned. Considering Unimed's performance position, which still needs improvement, especially in entering the Fourth National Medium-Term Development Plan (2020-2024), a strategy is needed to maintain Unimed's competitive advantage.

Analysis of the 2018 Unimed Performance Report which has not yet described in depth the strengths and weaknesses of the internal environment as well as various opportunities and threats from the external environment must be immediately revised by conducting a deeper self-evaluation, followed by using one of the management tools namely SWOT [3,12]. Due to the financial management status of Unimed, which has changed to become a public service agency, the SWOT analysis can be integrated with the Five Forces Model of Competition [8].

Based on identification related to Unimed's performance, this study aims to provide an alternative measurement of performance of the Universitas Negeri Medan (Unimed) using The Five Forces Model Competition combined with SWOT analysis on aspects of company strengths and weaknesses, personal values of key implementation, industry opportunities and breathing, broader social expectations and an emphasis on analysis suppliers, potential entrants, substitutes and buyers [8] integrated with Unimed's business process as a university that is a Public Service Agency. The results of this study are expected to be used as an alternative in the preparation of the 2020-2024 Unimed Strategic Plan, especially in setting strategic goals, Key Performance Indicators, policy directions, strategies, and priority outputs in order to maintain competitiveness.

2 Research Method

This research is a case study at Universitas Negeri Medan (Unimed), Indonesia. Data collection was carried out by analyzing performance in services, organizations and human resources, finance, and infrastructure. Data was collected from the management level of universities, faculties, and bureaus. The data obtained includes performance in academics and student affairs, research and community service, resources: human, curriculum, assets, finance, governance organizations, and management of the Unimed Public Service Board. Data is described and analyzed using the principle of Self Evaluation Report [5], which is one of the strategic management mechanisms [3]. The next stage of data analysis is to use the Porter's Five Forces Model Competition (focus on the analysis of supplier components, potential entrants, substitutes, and buyers) and proceed with a SWOT analysis [8,12]. The results of the SWOT analysis are then used to design policies, priority programs, and Key Performance Indicators [13]. It is expected that all research results will be able to contribute to the process of preparing the Strategic Plan of Universitas Negeri Medan for the period 2020-2024.

3 Result and Discussion

The first stage of using the Porter's Five Forces Model Competition is to identify various parties and aspects, both internal and external, which can be used as indicators that are suspected to affect the competitiveness of a university. Indicators analyzed are related to input, process, output, and outcome. Porter [8] has defined five components that must be identified, which consist of suppliers, potential entrants, substitutes, rivalries, and buyers. The indicators and descriptors then determine the five components. The results of the indicator-descriptor analysis are then used as a framework for the self-evaluation report. Francis and Martin [6] have adopted the Porter industry structure and created a threat paradigm in the organization of higher education. In the Suppliers component, the analysis is emphasized on faculty, administrators, and part-time faculty. The buyer component analysis includes students, parents, industry. In the potential components entrants, the analysis includes new institutions, international institutions, duplicates from existing players. In the substitute component analysis includes online degrees universities, new for-profit offering, corporate training and seminars, corporate universities and distance, open and e-learning. And on the rivalry components among competing sellers or between competitors, the analysis is emphasized on rivalry among higher education institutions

New entrant, according to Porter [8], is a new competitor industry with similar products to the incumbent industry and entering the market share that has been made the incumbent industry target. Bargaining position, as well as threats to the Potential Entrant component (newcomers), arise and can affect the existence of the incumbent college. The new comers are both public and private colleges from within and outside the country. Anand in Francis and Martin [14] mentions the ease of regulation from the government that drives these situations and conditions. King in Francis and Martin [14] The reputation of the incumbent higher education, especially those with state tertiary status, is relatively difficult to compete with, because there is consistent financial support from the government, also due to the "protection" of accreditation status as an indicator of the quality of accreditation bodies.

The potential entry of new competitors to existing university depends on two factors, namely investment or capital and economic factors, especially related to the ability of higher education organizations to increase productivity and the ability to reduce the average cost of production more efficiently by maximizing the use of resources. Although investment factors that require large capital, due to the development of technological advancements, including information technology, allow the capital barriers to be reduced, an example is an innovation that utilizes information technology for distance learning so that a replica of the learning experience can be presented to students at a relatively low cost.

The resistance of prospective students as buyers of new tertiary institutions is also an inhibiting factor for new tertiary institutions to compete with incumbent tertiary institutions that have relatively reputable ones. The good side is that with the presence of new tertiary institutions, the number of education service providers is growing, and competition is increasing. The competition will have an impact on efficiency, better service quality, more innovation, and more choices for consumers. Pringle and Huisman, 2011 in Francis and Martin [14] said that competition between universities could also have implications for reducing service rates. Although there are many choices, prospective students generally prefer to get an academic degree from a reputable college, because it tends to increase opportunities for employment.

Supplier component, according to Porter [8], is an organization or individual that provides knowledge, information, or materials so that the production process can be carried out, and the product is produced according to market demand. In higher education, the intended supplier/supplier is human resources, both lecturers and employees with the level of education they have said Pringle and Huisman, 2011 in Francis and Martin [14]. Institutions or universities that have graduated human resources are included in the supplier category. Due to the necessity to improve their competence and skills, the institution or university which is used as a place to attend training/ non-degree training is also included in the supplier category. Supply of information from the internet or other sources, such as libraries, reputable national and international journals, and various sources of information from government or non-government institutions, both domestic and foreign, also include the supplier category. Facilitation from the government in the form of regulations, policies, banking institutions that can improve the quality and quantity of management can be categorized as suppliers [15].

The buyer component, according to Porter [8], is the consumer buyer of industrial products. The bargaining position of buyers increases due to the increased sensitivity to the price offered by a product. The bargaining position of buyers can be influenced by the quality of standardized products or not, and the existence of clarity of information about products that include quality and price [2]. Industry structure Porters related to buyers in tertiary institutions

are prospective students and their parents and users of graduates such as business and industry. The quality of service and reputation of higher education institutions informed to the public can increase the strength of prospective students in choosing higher education institutions because they have comparative information said Pringle and Huisman, 2011 in Francis and Martin [14]. Rondonuwu [15] states that the buyer will consider the contribution of higher education to the user environment. This is measured by several criteria, for example, how universities can produce lecturers who can not only contribute to their study programs but also at the faculty, university, or another institution level, both government and private, as long as they do not interfere with their main tasks.

Substitute components, according to Porter [8], are substitute products that perform the same function in different ways. The tendency of consumers will turn to substitute products if they can see the comparability, especially in terms of quality, performance, lower prices, and other relevant attributes, such as availability and attractive prices [2]. In higher education, the potential threat of substitute components includes online degrees universities, new for-profit offers, corporate training and seminars, corporate universities and distance, open and e-learning [14]. The threat of substitutes can be viewed from three attributes, such as time, criteria, and application, with time being the most important product that makes students look for a substitute product. To improve the actuality and existence of education, the university's policy of giving autonomy to faculties to open new study programs, organizing seminars, training is in the substitute category because it provides alternative products besides its regular products, such as producing diplomas, scholars, masters or doctors. Various technical service unit functions, namely language center, counseling, library, archives, career and entrepreneurship center, as well as the role of research and community service institutions or quality assurance institutions that produce a variety of services and superior products are also included in the category of substitute because it complements regular university products, namely graduates. Various works of lecturers that contribute to personal, community, government, the world of science, the world of industry, and students are also included in the substitute category based on the perspective of the Porter industry structure [15].

The last component of Porter [8] is rivalry among competing sellers. Some of the factors driving rivalry that can increase and be stronger are: (a) if buyer demand is slow-growing, (b) similar inter-industry products do not show the difference, (c) rivals have more diversified, strategic and original goals [2]. Competition among competitors can also be caused by price discounts, new product introductions, advertisements, and increased service quality [8,14]. The rivalry between sellers in the structure of the industry in the context of higher education [6] translates to the rivalry which can be categorized into two, namely personal, and this occurs between students, lecturers and employees, and institutions, namely between universities high. The indicator of competition by the Ministry of Research and Technology since 2016 is realized in the ranking of universities. Other university competition is ranking performance both in the fields of student affairs, finance, assets, and bureaucratic reform. Competition indicators can also be analyzed from accreditation both at the institutional level and study programs issued by the National Board of Accreditation. Based on the analysis of self-evaluation related to the external environment, opportunities, and threats that have the potential to affect Unimed's competitive advantage and competitiveness can be identified. Conclusions of the external environment analysis are presented in table 1.

Table 1. Analysis of External Environment

Opportunities	Threats
<p>a. Service: (1) Regulations on career development concerning teachers and lecturers, (2) Regulations on Teacher Professional Education, (3) Regulations on Public Service Agencies that provide flexible and dynamic financial management opportunities, (4) Regional autonomy policies provide opportunities for cooperation with various (5) Industrial revolution 4.0, (6) Regulations on cooperation with foreign universities</p> <p>b. Finance: (1) Unimed has the status of a Public Service Agency, (2) There are regulations to increase income generation</p> <p>c. Organization and Human Resources: (1) Opportunities for conducting business based on expertise, (2) Partnership with local governments to improve the quality of human resources</p> <p>d. Facilities and infrastructure: (1) Unimed has land and building assets, (2) Availability of funding from the government</p>	<p>a. Services: (1) The dynamics and integration of regulations in the fields of academic, research and community service, accreditation, finance, integrated planning of the Ministry of Education and Culture requires fast response (2) Free-market policies that enable foreign workers to compete in the labor market in Indonesia (3) Industry Revolution 4.0 which requires fast response and adaptation from all elements of the leadership, education staff, lecturers and students to be adaptive to changes (4) Competition of graduates to work as teachers (5) Limitations of teacher recruitment due to zero growth policies.</p> <p>b. Finance (1) Operational costs of education and research are likely to increase (2) Remuneration allocation of 40% of Unimed's revenue, (3) competition in service tariffs with other universities</p> <p>c. Organization and human resources: Lecturer recruitment is limited due to the policy of zero growth.</p> <p>d. Facilities and infrastructure (1) The development of equipment technology for supporting learning is very fast in the era of RI 4.0 (2) Competition in facilities and infrastructure with other universities -</p>

Table 2. Analysis of Internal Environment

Strengths	Weaknesses
<p>a. Service (1) Has a legal basis for the organization of governance and statutes (2) Have a regulation of Minimum Service Standards (3) Higher education accreditation A (4) Has 74 study programs with Diploma, Diploma, Masters and Doctoral levels. (5) Research funds have been available for 15% of Unimed income/year (6) Has an academic and student management information system (7) Has 32 national accredited online journals (8) Applying Single Tuition (UKT) which has the principles of justice, equality, proportionality and people's purchasing power (9) Monitoring and evaluation of learning is done periodically (10) Has a Student Activity Unit (UKM) in the areas of interest, talent and reasoning (11) Public</p>	<p>a. Service (1) The number of study programs that have been accredited A is still not on target (2) the lack of academic service SOPs (3) Management Information System for academic data has not been optimally integrated (4) Tracer study data is not yet available about the number of graduates who have worked (5) Lack of numbers of scientific articles published in reputable international journals (7) Lack of number of Industrial prototypes produced by lecturers (8) Lack of innovation products (9) There is still a lack of competent and professional certified students</p> <p>b. Finance (1) Financial SOP is incomplete (2) Need to improve Financial Management Modernization</p> <p>c. Organization and Human Resources (1)</p>

Strengths	Weaknesses
<p>service standards have been applied</p> <p>b. Finance (1) Unimed still receives funds from the government (2) Unimed has the status of a Public Service Agency (3) Unimed has the source of BLU PNPB funds (4) Has a service rate (5) Income generation regulations are available (6) Has integrated planning, reporting and monitoring management</p> <p>c. Organization and human resources (1) Having 916 Lecturers consisting of Doctors (27.18%) and Masters (72.82%) (2) Have 394 employees</p> <p>d. Facilities and infrastructure (1) Unimed has assets consisting of management buildings, libraries, lectures, laboratory and workshops, auditoriums and very complete sports facilities (2) Unimed has a Digital Library (3) Has a Student Dormitory (4) Unimed campus location is easy to reach (5) Unimed has been given the authority to manage asset flexibility.</p>	<p>Implementation of remuneration requires accuracy in managing performance data (2) The number of lecturers based on the competencies required in lectures still lacks (3) Lecturer ratio: students are still categorized quite well (ideal target "Good") (4) The number of lecturers who have certificates as LSP assessors still lacks (6) Utilization of Human Resources assets is not optimal</p> <p>d. Facilities and infrastructure (1) Laboratory/workshop facilities are still lacking (3) Maintenance of theoretical and practical learning facilities is still lacking (4) Maintenance of buildings and buildings is still lacking</p>

Based on an analysis of external factors that produce opportunity and threat data as well as an analysis of the internal environment that produces information about the strengths and weaknesses of Unimed, a SWOT analysis is carried out on aspects of services, finance, organization, and human resources, and infrastructure. The results of the SWOT analysis are presented in Table 3.

Table 3. SWOT Analysis which integrated the Porter's Five Forces Model of Competition

Description	Strengths	Weaknesses	Opportunities	Threats
Services Management	1,310	1,103	1,490	1,260
Finance Management	1,85	0,800	1,250	1,025
Organization and Human Resource	0,920	0,680	0,800	0,800
Infrastructure	0,860	0,600	0,950	0,600
Total	4,940	3,183	4,490	3,685

Note : Strengths – Weaknesses = 1, 1,76 and Opportunities – Threats = 0,805

Based on Table 3, if the total strength results are reduced by weaknesses and the total opportunities reduced by threats, and the results are mapped on the Cartesian axis divided into four quadrants (I to IV), the coordinates are in quadrant I (one) and indicate that Unimed is in a position ready to grow and developing or position in favor of aggressive strategies. If the results of SWOT analysis of the Unimed's Strategic Plan 2015-2019 [9] are compared with the results of the SWOT analysis of this study (table 3), then Unimed's position will be known in the year of 2019 (Fig. 1)

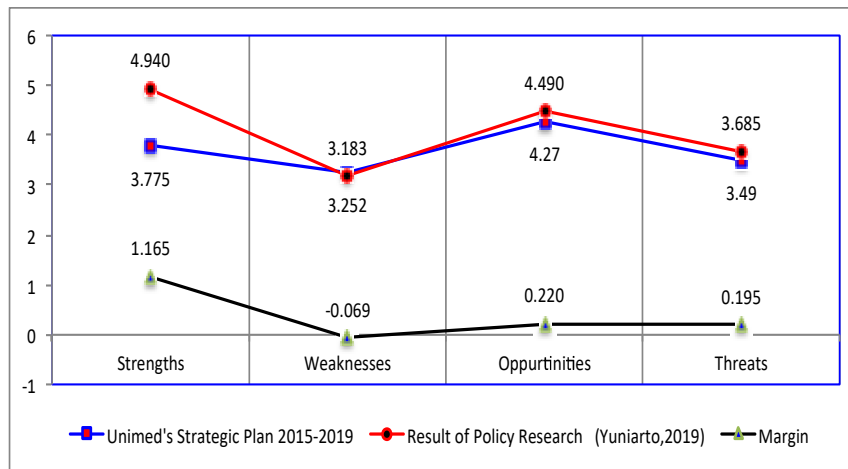


Fig. 2. Comparison of SWOT Analysis between Unimed's Strategic Plan 2015-2019 and Research Results [16]

The comparative SWOT analysis data in Figure 1 shows that Unimed's performance from 2015 to 2019 tends to increase. The margin for the Strength component has increased by $4.940 - 3.375 = 1.165$. With Unimed's strengths in 2019, the weakness aspect can be reduced by $-0,069$ from $3,252$ in 2015. Unimed's current position (2019) also opens opportunities for performance improvement that indicates Unimed's competitive advantage. Opportunities for the results of the SWOT analysis show an increase from 2015 of 0.220 . It is considering the five forces model, Porter [8], the threat from the external environment increased by 0.195 . Potential threats can come from potential entrants consisting of new educational institutions engaged in the provision of similar education, international institutions, or services from other educational institutions that duplicate the types of Unimed services.

In the Substitute component, potential threats can come from online degree universities, new for-profit offerings, training and seminar companies, corporate universities, and distance, open and e-learning [14]. Potential threats from the Industry competitors component among higher education are from other university graduates who have the mandate to produce teacher graduates. The potential threat from the buyer's component is mainly related to capacity compared to the interest of the people entering Unimed. The second factor is limited employment from the business world or the industrial world.

The ratio of Unimed lecturers and students is categorized as sufficient and therefore requires the addition of lecturers so that the categories increase to good categories. The addition of new lecturers with Master's qualifications and minimum competencies is very urgent. Moreover, the new lecturers must then be encouraged to continue their studies to doctoral level. Another alternative to increase the ratio of lecturers: students are to bring in guest lecturers with better qualifications, competencies, and experience to teach according to curriculum requirements. Although contributing to increasing the ratio of lecturers: students, the potential internal threat from the addition of lecturers is to influence contestation in the selection of structural officials, filling committee positions, and the use of financial resources for academic activities, research, and community service due to increased human resources.

Another aspect that needs to be anticipated is the opening of new study programs, which are a response to the demands of the community and the business/industry world or due to the

mandate of the Ministry of Education and Culture of the Republic of Indonesia, which will increase the operational management budget. The existence of a private university that organizes the education of education staff with relatively lower tuition rates from Unimed is also another potential threat. Although the socialization and dissemination of information related to Unimed Single Tuition (UKT) have been carried out massively and continuously, there are still many people who do not understand the UKT concept. These conditions must be responded to properly. High school graduates benefit from the many options to continue their studies, and this will affect the interest in entering Unimed. Although the number of applicants to Unimed is always increasing every year, it needs to be examined whether these applicants are among the best graduates in their schools.

Regulation that changes dynamically is also a potential threat that requires a fast and measurable response. Various regulations in the fields of academics, research and community service, staffing, accreditation, finance, planning, monitoring and evaluation, reporting are always updated periodically and integrated online with various ministries. This condition requires a fast response from lecturers, staff, and all Unimed leaders. A quick response is needed in understanding, describing in Unimed's policy, and disseminating it to the entire academic community and implementing the regulation. A slow response to the dynamics of regulation will have an impact on the performance of individuals, groups, and organizations.

The next stage of SWOT analysis is to describe and analyze the strengths, weaknesses, opportunities, and threats components that have been identified through IFAS and EFAS using the Tows or SWOT matrix [12]. The correlational combination of IFAS and EFAS will produce 4 combinations consisting of: (a) SO Strategy: creating strategies that use strengths to take advantage of opportunities, (b) WO Strategy: creating strategies that minimize weaknesses to take advantage of opportunities, (c) ST Strategy: creating strategies that use strengths to overcome threats, and (d) WT strategies: create strategies that minimize weaknesses and avoid threats. The results of the SWOT analysis are then used to design policies, priority programs, and Key Performance Indicators [3,13]. Policy Directions, Strategies, and Priority Outputs for 2020-2024 resulting from the SWOT Matrix are described in Table 4.

Table 4. Policy Direction, Strategy, Priority Output 2020-2024

Policy Direction	Strategy	Priority Output
Increasing access and equity continue to study to Unimed	1. Increasing availability	<ol style="list-style-type: none"> 1. New and existing study programs that match the needs of external stakeholders 2. Lecturers, technicians and laboratory assistants with qualifications and competencies that support the achievement of graduate competencies 3. Infrastructure facilities that support increased capacity and improve the quality of learning
	2. Increasing affordability	<ol style="list-style-type: none"> 1. Bidik Misi Scholarships and other sources, especially CSR from business/industry, and scholarships from local governments and the North Sumatra Provincial Government

Policy Direction	Strategy	Priority Output
Improving the quality of resources and institutions	1. Improving Human Resources: lecturers, technicians/laboratory assistants, and education staff	2. Percentage of UKT categories lowest $\geq 5\%$ 1. S3 scholarships for lecturers 2. Competent lecturers and technicians / laboratory assistants 3. Allocation of $\geq 15\%$ of funds for research and community service 4. Intellectual Property Rights and online journals are accredited with sufficient funding allocation
	2. Improving the quality of Unimed	1. Accreditation of superior study programs (A) 2. Higher education accreditation (A)
	3. Improving the quality of study programs	1. Study programs that apply internal and external quality service standards 2. KKNi curriculum
Increasing the relevance of research and development	1. Increasing research and innovation	1. Business startup and business incubator 2. Business Management Agency that manages business innovation based on expertise
	2. Increasing the relevance of graduates	1. Student skills, character, and entrepreneurial skills
	3. Improving vocational education	2. Revitalization of vocational education: curriculum, human resources, assets and infrastructure, Professional Certification Institute

The Strategic Plan for 2015-2019 of Unimed will end in December 2019. The year 2020 is the beginning of the 4th period of the Indonesian Mid-Term Development Plan (2020-2024). Based on the Minister of Research and Technology and Higher Education Regulation no. 51/ 2016 on the Accountability System of Government Agencies, all universities are required to draw up a Strategic Plan for the period 2020-2024. The policy directions, strategies, and priority outputs will be reported to the Rector of Universitas Negeri Medan (Unimed), Indonesia, and can be used as an alternative in preparing the Unimed Strategic Plan for the 2020-204 period.

Confirmation of the effectiveness of using The Five Forces Model of Competition was also stated by [17] by combining SWOT and The Five Forces Model in formulating marketing strategies to increase corporate profits. Miguel and Elena [18] used Porter's five forces to analyze the effectiveness of innovation, whether as an aspect of motivation or a hindrance to small industries to achieve competitive advantage. The conclusion of this research is that small industries must intensify innovation in facing competition with similar businesses. In different conditions, in semi-commercial organizations, Ichsan has also formulated management strategies using the five forces model to maximize the potential of zakat in society [19]. The Five Forces Model of Competition [8] is devoted to analyzing the strategic position and competitive advantage of the company; however, with the modification, the model is also relevant to be used for the same purpose for a college organization. Concluded that rivalry between similar businesses as a component of Porter's five forces model five

components, and substitute products are factors that can threaten the existence of a company engaged in telecommunications [20]. Francis and Martin [14] in their research related to the university's response strategy to the dynamics of changes in government policy, reforms at universities, pressure from stakeholders concluded that universities need to change strategic management that is responsive to change by considering the results of the Porter's five forces model analysis combined with other analytical instruments in order to guarantee the sustainability of higher education institutions.

Organizations of universities in facing global competition must carry out self-evaluation on an ongoing basis. The aim is not only to find out the strengths and weaknesses of the internal organization but also to identify opportunities and threats from the external environment. It is incumbent upon every university to identify the external environment consisting of economic conditions, sociocultural factors, technological factors, environmental forces, legal/regulatory forces, and political factors [2]. Political factors include government political policies, including in the economic field. Economic conditions include the general economic climate and specific factors such as interest rates, exchange rates, the inflation rate, the unemployment rate, the economic growth rate, trade deficits or surpluses, saving rates and per-capita domestic product. Sociocultural factors include social values, attitudes, social influences, and lifestyles that influence the need for service quality of an organization, company, and government agency. Technological factors include changing trends, changes, and technological development. Environmental forces include environmental and ecological factors such as temperature, climate, climate change, and other factors such as water availability. Legal and regulatory factors, in this case, are regulations and laws that must be obeyed by a company, industry, or an organization and workers.

4 Conclusion

The conclusions of this study are: (1) the mechanism and design of the Porter's five forces model have been integrated in the SWOT analysis with the supply of data from the Self Evaluation Report of Universitas Negeri Medan's performance during the 2015-2019 period; (2) The results of a comparative between SWOT analysis of this research with the SWOT analysis from the Unimed's Strategic Plan 2015-2019 conclude that Unimed is in a position ready to grow and develop or a position supporting an aggressive strategy. The results of the analysis indicate that one of Unimed's missions to organize a healthy organization has been achieved. Nevertheless, Unimed must still have a fast response to deal with the dynamics of opportunities and threats through strategic efforts to reduce aspects of organizational weakness. Although in fact the margin of weakness has been reduced compared to the condition in early 2015, Unimed must continue to make systematic, measured and ongoing efforts to address various internal problems in (a) academic and student services, research and community service, and administrative services, (b) financial management, (c) organization and human resources, and (d) infrastructure (3) Strategic targets to support the preparation of the Unimed's Strategic Plan (2020-2024) can be formulated as follows (a) Improving the quality of learning and scholarship, (b) Increasing the relevance, quality and quantity of human resources, (c) Increasing the relevance and productivity of research and development, (d) Increasing the quality of institutions and collaboration, (e) Increasing quality assurance and internal supervision, (f) Effective, efficient and accountable financial management performance; (4) Based on the formulation of the Strategic Targets and KPIs, the direction of

policies, strategies and priority outputs can be formulated. In the policy direction, an alternative policy direction is given consisting of (a) Increasing access and equitable distribution of public education to Unimed, (b) Improving the quality of resources and institutions, (c) Increasing the relevance of research and development activities;(5) Proposed strategies for preparing Unimed's Strategic Plan 2020-204 are: (a) Increasing availability, (b) Increasing affordability, (c) Increasing Human Resources; Lecturers, staff, laboratory assistants / technicians (d) Improve the quality of Unimed, (e) Improve the quality of study programs, (f) Increase research and innovation, (g) Improve the relevance of graduates, and (h) Increase vocational education.

It is recommended that the SWOT analysis mechanism that integrates the Porter's five forces model be used as best practice in preparing Strategic Plans at 2020-2024 period at the university, faculty, and study program levels.

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