

Managerial Economics in Managerial Decision Making

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Abstract

A change in hospital has been realized. The fact and the hospital history show that there has been a system change based on humanity to a business institution with a social mission. In this case, hospital manager, besides being able to understand economics, recommends to apply business principles. It is important to understand the managerial economics. Managerial economics is the microeconomics application in business and managerial economics applies economic theories and methods in decision-making in the business and management. More specifically, managerial economics uses the economic analysis tool and technique to analyze and solve the managerial problems.

Keywords: managerial economics, decision making, managerial problems, business, microeconomics

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1. Introduction

Management problems that require some decisions include tariff and product set, making or buying decisions, finding the most efficient production technique, inventory, recruitment, personnel development, investment, and funding issues [1]. In a fully social hospital with the unlimited fund sources support, the managerial economics role at decision making may not be necessary [2]. However, in socio-economic hospital, there are several problems that require managerial economics, for example, the decision to determine VIP ward tariff.

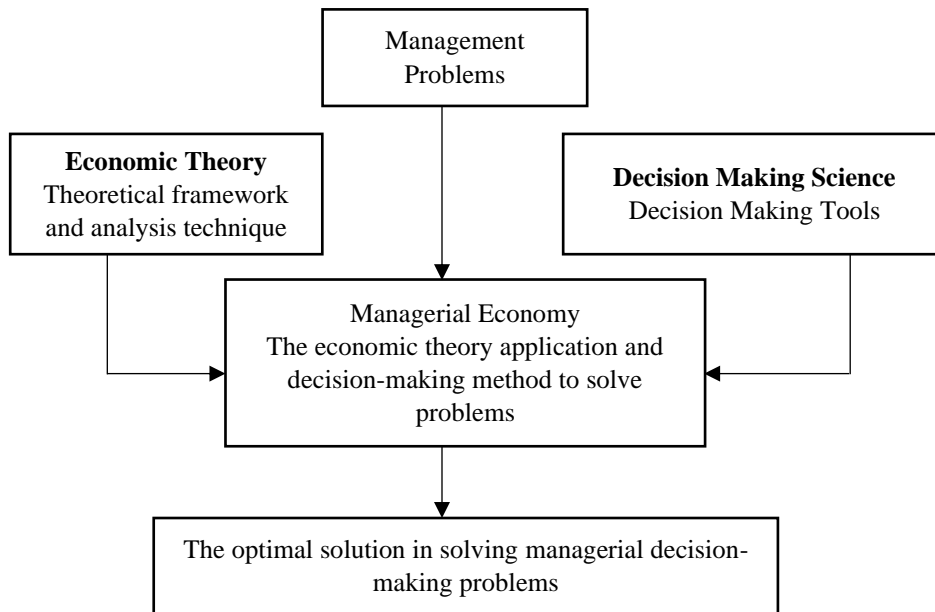


Figure 1. The managerial economics role in managerial decision making

In a socio-economic hospital, the VIP ward existence is expected to produce a Dividend (SHU) which can provide additional economic incentives for staff and develop the hospital. Thus, the VIP ward tariff should be set above the production cost (meaning no subsidies). In setting the VIP ward tariff, the managerial economic role is very large because decision makers must pay attention to various aspects such as demand for VIP wards, the competitors, Bed Occupancy Ration (BOR) projection for Break Even Point analysis and the amount of production costs.

By increasing the competition and high investment cost in hospital, the managerial economic role becomes important [3]. Microeconomics (especially) and macroeconomics will be used with the decision making science to solve management problems in hospital. Below are some cases that require managerial economics to solve management problems in hospital, such as: the medical devices purchases which are relatively expensive, the decision to increase medical services for the doctor; construction of VIP ward; and the kitchen budget leak problem.

The important question in this case is how the management makes the decision in the past? Do they use the model above? Or is it the instinctive decision or to go to a shaman? or with your own beliefs? Instinctively, humans can decide or use other people's approaches to help making a decision in business [4]. At one time, Indonesia experienced various cigarette brands, for example Cap Pompa, Sukun, Kerbau, Jarum, and Bentoel. The trade naming actually requires a decision-making process based on microeconomics, including an analysis of smoker preferences. However, at that time it seemed that the cigarette names were

determined based on an approach that was not based on science. However, currently cigarette brands are being decided with various considerations including market research. Today's Bentoel and Jarum give the brand Mild or LA Light which refers to market preferences.

2. Decision Making

In Figure 1, the decision making science role is part of managerial economics. Decision making is defined as determining a series of activities to achieve the desired results. Types of decision making can be divided into two groups, there are: (1) division based on whether the decision was programmed or not and (2) based on the condition of the information available when making the decision [5]. This section will discuss the division of decisions based on the existing information conditions [6]. Based on the information available when making the decision, there are three types of decisions:

- a. Decision Making with certainty
- b. Decision Making with risk
- c. Decision making with uncertainty

The difference of risk and uncertainty is the presence or absence of probability's information as a guide to estimate the final outcome of decision choices. Decision making with risk means that the results of the decisions taken can be determined and the probability of each event is known [7]. Decision making with uncertainty means that the results of the decisions taken can be determined and the probability of each event is unknown.

In relation to risk, there are three groups of people, namely: (1) risk averse; (2) risk taker; and (3) neutral. Risk-averse is a group of people who do not like the future uncertainty. The risk tends to choose things that are certain. On the other hand, risk lovers are a group of people who prefer uncertainty (even under certain conditions gambling) to certainty. Gamblers are a group that is classified as risk-lover, or those who enjoy extreme sports such as skydiving, rafting, or mountain climbing.

In business, there must be an uncertainty. Therefore, one of the entrepreneur's characteristic is the courage to take risks in making management decisions [8]. For example, the management decision to increase the VIP ward tariff in a class C government hospital, the current bed occupancy tariff (BOR) is 75%. In calculating the Break Even Point analysis, the BOR projection is very important. In simple terms, the possibilities are as follows: The first option is to increase the VIP ward tariff and the second option is not to increase the VIP ward tariff.

In the first choice, there are two possible consequences of the consumer behavior impact in the VIP ward. The first possibility, even though the tariff is increased, some consumers still choose the VIP hospital ward so that the BOR remains 75%. Within a year, the VIP ward will generate additional money of IDR 400 million compared to stabilizing the tariff? The second possibility, because it was increased, some consumers did not want to use the VIP ward. Some consumers will choose to go to a cheaper ward, or use another hospital with a cheaper VIP ward (with the doctor's permission). As a result, BOR decreased to 60%. After calculating, within a year, the VIP ward will reduce its revenue by IDR 250 million compared to stabilizing the tariff. If the tariff is not increased, there is a loss possibility. The loss was in two ways. If the economic situation is worsen and the rupiah continues weaken, the loss will be IDR 200 million a year. If the rupiah is rather strong, then the loss is Rp. 50 million.

The question is, will the hospital director increase the tariff (choice 1) or not (choice 2)? This decision will be risk-based if the each possible probability in choice 1 is known. For example, the probability of a successful tariff increase is 0.8, while the failure probability is 0.2. Understanding this decision-making process could understand a decision tree concept. The decision tree is a graphical representation of a decision choice problem that shows the possible results and their relation to the actions taken [9]. In the decision tree, there is a decision point, such it is when someone faces a decision that has branches representing the choices. Figure 2 shows the hospital director choice, increasing the tariff or stabilizing the tariff. The decision point is represented by squares.

For example, a director chooses a decision to set a tariff, then the choice will be successful if the BOR indicator does not decrease and the income increases. However, at this point, there is also a possibility that the decision to increase the tariff will be failed, so that the income from the VIP ward will decrease. In this case, there is an opportunity point which is represented by a circle. At this point, the probability of decision failure or success will be described.

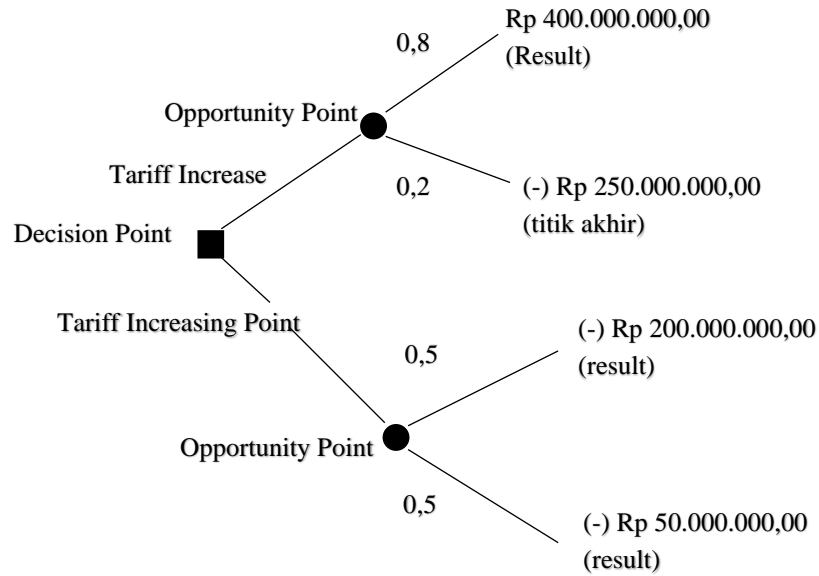


Figure 2. Decision Making Diagram

By this information, the final results for each branch can be calculated. At the branch, by increasing tariff, the final result is $(0.8 \times \text{IDR } 400,000,000.00) + (0.2 \times - \text{IDR } 250,000,000.00) = \text{IDR } 320,000,000.00 + (- \text{IDR } 50,000,000,00) = \text{IDR } 270,000,000.00$. With this successful probability, the branch to increase the tariff will give the possibility to get an additional income of IDR 270,000,000.00. If the branch does not increase the tariff, the result is $(0.5 \times - \text{IDR } 200,000,000.00) + (0.5 \times - \text{IDR } 50,000,000.00) = - \text{IDR } 125,000,000.00$. Thus, the director of the hospital will rationally determine the decision to increase the tariff.

In this case, the probability value will determine the decision final result. In the above calculations, it should be noted that the success probability in increasing the tariff is very high (0.8), close to 1. If this probability tariff is low, for example 0.1, the final result will be different. With this new probability, the final result for each branch can be calculated. At increasing tariff branch, the final result is $(0.1 \times \text{IDR } 400,000,000.00) + (0.9 \times - \text{IDR } 250,000,000.00) = \text{IDR } 40,000,000.00 + \text{IDR } 225,000,000.00) = - \text{IDR } 185,000,000.00$. With this failure probability, the tariff increasing branch will give a possible loss of Rp. 185,000,000.00. Meanwhile, for the branch does not increase the tariff, the result is stable (because there is no change in the probability figure), it is IDR 125,000,000.00. Mathematically, the tariff increasing theoretically (at the decision point) will give more losses (minus IDR 60,000,000.00) than stabling the tariff.

This risk-based decision-making approach and the decision tree model can theoretically explain the role of economics and decision making in solving management problems [10]. However, the important question is that is this risk-based decision making

model a common thing or it is not in the Indonesian hospital? A further question is how to determine the probability value?

Culturally, the Indonesian does not recognize the risk concept. This can be studied that there is no Indonesian word for a risk. The risk understanding contains the probability and the final result. In the hospital sector, especially government-owned and religious hospital, risk-based decision making [11], which is the basic concept of business decisions, is a new knowledge. This can be seen for example in cases of religious hospital delay investing in new developments. Based on an observation, some government-owned and religious hospital executives are more based on orders or instructions from superiors, or it is limited by a bureaucratic system that recognizes a risk. With an unrecognized system of risk concept, it is not common to assess the probability values on a business. Various new developments were carried out on the government project or foreign loan consideration that had to be undertaken. If the value of the probability of activity success is determined, the method used is more on presumption, it is not through a feasibility study that takes into account the development risk factor.

3. Managerial Economic Application Prospect in the Hospital Sector

The decision to change the VIP ward tariff is only one managerial economic application in the hospital management. The managerial economic use is closely related to the ability and decision-making authority possessed by hospital management, which is led by its director. Without an authority, the decision atmosphere will tend to be bureaucratic.

The managerial economic application in hospital has various basic concepts and issues that influence it. The important key word in the economic application and hospital managerial economy is the "profit" position in the hospital goal. Traditionally, as a social normative organization, profit is not commonly found in hospital management, especially the government hospital.

The question continuously discussed in this book is the changing of socio-economic entity, is profit should stay away from the hospital? In this chapter, it has been emphasized that in the economic characteristic entity, the profit position is very important. Economists generally define profit as the excess revenue over the costs used in the business. In the hospital management context, this excess payment can be used for various things such to develop the hospital and increase the incentive to work. If profit is something that must be avoided, then a large subsidy capacity is needed for the hospital service. In this case, the mixed concept between business and social entity needs to be considered [12].

In the future, the economic concept use will be more relevant due to the hospital sector tendency to experience: (1) a limited subsidy for the hospital; (2) an increasingly competitive hospital market structure; and (3) a decentralization policy of health service and hospital autonomy.

The limited subsidy for hospital service is predicted to be increasingly intense. In this case, the hospital service, compared to infectious diseases service, is more private-goods. This means that the government subsidy should be more focused on programs to eradicate infectious diseases or health services by more public goods. By this understanding, a further question is; is the hospital service a right owned by the community? or is it a trading commodity? History will prove later. Part V discusses this issue in more depth. It should be noted that currently there are many hospitals that have firmly placed hospital services as a trading commodity [13].

The second trend that triggers the use of economics in the health sector is the hospital market structure. A recent development indicates that the Indonesian government adheres to an understanding to encourages the market principle application on the health service. This understanding is in line with the situation that occurs in the economics. The socialism or the "welfare state" understanding is increasingly getting out of place due to government budget limitation. The economic development history has shown it. Countries with a governing state concept, one by one, leave the concept and use the market system. By referring to the market, it is expected that there will be competition between hospitals which will result efficiency. Various efforts that can increase "efficiency" in the competitive atmosphere are:

1. Profit is the main goal, so the hospital strives to keep production costs as small as possible [14]. However, it must be remembered that the small production costs may not count the social cost.
2. There are no regulations preventing foreign capital in entering and operating hospitals.
3. The hospital service consumers are increasingly informed the services received. Thus, they can choose the best based on the choice.

This understanding is debatable. Could the intense competition produce "efficiency"? What is the definition of efficiency? This efficiency discussion will be carried out more depth at Part V. However, there is a tendency that the hospital market is more opened, including for foreign investment. The result is an increasingly competitive hospital market.

The third triggering factor is the decentralization policy of financial decision making and hospital autonomy. Based on Indonesian Corruption Watch (ICW) regulations, the financial management of government hospitals in Indonesia is centralized. By this nature, the

use of economic resource decision is based on the economic consideration [15]. There has been a vicious cycle of "stagnation" at the government-owned hospital development. By hospital autonomy leading to decentralization of financial decision making, it can be concluded that the managerial economic application in the hospital sector will be increasingly relevant. However, currently various government policies strive to change the ICW policy, by the Central General Hospital (RSUP) agreement existence and the Regional Technical Institution development for RSD which refers to the principle of autonomy.

4. Conclusion

It can be concluded that the managerial economic prospect and economic applications will be stronger for the hospital sector in Indonesia. The hospital manager is expected to realize that their management decisions always require analysis from an economic perspective. By using economic tools and concepts, including managerial economics, the decision making can be more optimal considering the limited resource. It is noted that the concepts of economy and managerial economics are not limited to the for-profit health entity. The economic concept and managerial economy are relevant to be used by hospital, Public Health Service (Puskesmas), and the Health Office. As a final note, economics is a broad science, so the discussion in Part II is not sufficient to understand it in depth. This reading is only an introduction to read the economics book. To understand microeconomics and managerial economics more deeply, it is advisable to read various textbooks on managerial economics and economics.

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