Strategic and Entrepreneurship in Hospital Management Practice

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Abstract: *This research aims at determining the performance of hospitals by the applied entrepreneurship and hospital management strategies. It was conducted at ten hospitals as Public Service Agency which two of them owned by police and military of Indonesia namely Rumah Sakit Umum Bhayangkaraand Rumah Sakit Umum Pelamonia. Data were collected from interviews with hospital managers and several external stakeholders such as Head of 'Type B' Hospital, Head of Treatment Installation, Head of Emergency Care Unit, Head of ICU/ICCU and Operation Section, Chair of Medical Committee, Head of Finance and Planning, Head of Nursing Installation, HRD Manager, Head of Nursing Room, and Head of Polyclinic. The ten hospitals involvedwere private owners, belonging to religious groups, and state ownership of national police and military with links to Public Service Agency. Therefore, they are allowed to arrange a five-year business plan. The hospitals use their operating income to directly finance operating costs. Among the public hospitals are Rumah Sakit Awal Bros, Rumah Sakit Umum Stella Maris, Rumah Sakit Umum Ibnu Sina, Rumah Sakit Umum Faisal, Rumah Sakit Umum Akademis, Rumah Sakit Umum Siloam, Rumah Sakit Umum Grestelina, Rumah Sakit Umum Wisata UIT, Rumah Sakit Umum Bhayangkara, and Rumah Sakit Umum Pelamonia. The survey was distributed through respondents by using random sampling. From the collected samples, there were 90 individuals. The applied technique of this research is smart partial least square (PLS) with structural equation modelling. On the whole, the result of this research concludes that entrepreneurial spirit has positive effect to hospital performance. Furthermore, using strategy has positive influence which connected to hospital performance as well.*

Keywords: *Hospital performance, enterpreneurship, strategy, hospital management*

I. Introduction

The measurement of hospital performance obviously has long been the subject of intense research [1]. Among many approaches to measure performance, Balanced Scorecard (BSC) has become a common way of measuring and directing hospital performance [2]; [3]; [41]; [5]; [6]. Therefore, our research is based on the concept of income, the number of registered patients, the work space, and the development of a set of hypotheses about how the process of raised variable orientation affects the hospital performance. In particular, we have designed to test whether the relation between labor conditions and clinical quality has an effect on patient satisfaction and operational efficiency. It is based on the specific context of health sector in Makassar to make sure that hospital management in addition to humanitarian services will not also be harmed by malfunction. Moreover, the hospitals must finance the operational costs and infrastructure investment for long term. At that point, the purpose of this research is to observe the process of important orientation of the antecedents, that is financial performance. We therefore also examine the relation between the orientation process of the raised variable with the hospitals' overall performance.

Ten hospitals involved were recognized as private owners, belonging to religious groups, state ownership consisting of national police and *TNI* (Indonesian National Armed Forces) associated with Public Service Agency. Therefore, they were allowed to arrange a five-year business plan. The hospitals use their operating income to directly finance operating costs. Among the public hospitals are *Rumah Sakit Awal Bros, Rumah Sakit Umum Stella Maris, Rumah Sakit Umum Ibnu Sina, Rumah Sakit Umum Faisal, Rumah Sakit Umum Akademis, Rumah Sakit Umum Siloam, Rumah Sakit Umum Grestelina, Rumah Sakit Umum Wisata UIT, Rumah Sakit Umum Bhayangkara, and Rumah Sakit Umum Pelamonia*. They also have full authority to contract more staff to meet the requirements of a 'Type B' hospital or to build cooperation with several medical faculties to suit their needs. This means that the hospitals can expand their services and capabilities, improve revenue allocations to boost personnel competence level, and improve the quality of medical equipment. They also apply Minimum Service Standards which include several indicators of customer satisfaction management and quality control management. In general, these public hospitals have proven an improving capacity and accountability

for service delivery as a Public Service Agency (*BLUD*) to meet patient needs in a better way. Nevertheless, there are still challenges for public hospitals to handle subsidizing and policy going to patients. Related to that, in every public election (either local or national), health care has always been a "sexy" political commodity to win votes. Many politicians pledge to provide free health care for the poor, but after the election, most political leaders are reluctant to allocate sufficient budget to public health subsidized facilities.

Entrepreneurship in public hospitals requires an internal management to stimulate the increasing cash flow or incomes. There are many ways to create a source of income, such as developing a partnership system between health support services of insurance companies. In addition, it can also increase the very basic of physical health services. That is why we need to make this research becomes a proving basis which measures the performance quality of health services to be applicable to some health care providers including health advocates such as health insurance. The measurement of health services quality begins with clinical service research that is linked to the process, structure, or performance of improving patient's health. As revealed by some researches which have found that immediate care services to patients with heart attack may reduce the risk of death. Furthermore, this service is supported by some evidences collected from respondents in different hospitals which then developed into a practical guide in clinical services. This research is inseparable from practical and clinical guide such as diagnostic or clinical treatment of any type of disease. Also, certain conditions of patients as an effort for entrepreneurial service. The involvement of private and public health business services also becomes an indication of entrepreneurship, such as pharmaceutical services, medical device developers, academic research, the existence of foundation, and advocacy organization as legal protector which is also the pragmatic evidence of this research.

II. Literature Review

Entrepreneurship

The research of entrepreneurs as individuals by analyzing variables describe their performance as entrepreneurs covering personal characteristics, psychological profiles (need for achievement, ability to control, tolerance of ambiguity, and tendency of risk-taking) or non-psychological variables (education, network, family, etc.). Entrepreneurship is often discussed by taking topics on entrepreneurial factors, entrepreneurial functions, entrepreneurial initiatives, and entrepreneurial behavior where these are even called as entrepreneurs. Entrepreneurial factors are new things in production and health services in contrast to the common classical ideas, such as job availability and capital adequacy which then proven by the ability to compensate or remunerate employees through income. Despite some weaknesses of an entrepreneur's ability. In line with that, a considerate indicator as an entrepreneur refers to the discovery and the use of opportunities or business field creation. Equally important, entrepreneurial behavior is seen as a successful behavior that combines innovation, risk-taking and reactivity [7]. In other words, entrepreneurship combines the innovative enterpreneur classic theory of Schumpeter (1934, 1942), that an entrepreneur doing enterpreneurship who occupies the position of uncertainty as proposed by [8], and an entrepreneur with initiative and imagination that are able to create new opportunities. Several signs of entrepreneurial initiatives are anticipating market imperfections and being able to innovate or create "a new combination".

Strategic Management

Discussing about strategic management practice, it greatly affects health care in hospital management which has been investigated by [9], [10], [11], and [12]. Generally, they handle strategic management practice in hospitals that are high-class and center-based. [13] argues that strategies should be limited within the framework of plans, tactics, patterns, positions, and perspectives. For that reason, the strategic plan determines regular actions later. Furthermore, it is developed with a general or specific purpose as a tactic which aims at outwitting other competitors for reducing threat. As a pattern, a strategy emerges from the flow of action over time. It means to position an organization in its environment. While as a perspective, it marks an organization with its own identity. The essence of the strategy is to choose the right step to executedifferent activities from other competitors. [13] also adds that a strategy other than creating benefits should also lead to the destruction of opponent's superiority. [14] The advantage of this competitiveness in some countries perfectly state that "the heart of a position is a competitive advantage" - or position a company product as market demand [15]. However, he further states that it is relatively long-term done to companies that outperform other competitors,with sustainable competitive advantage and in the form of lower cost and differentiation.

Performance

The main approach used to encourage the achievement of hospital performance is the process orientation of hospitalincluding patient-focused care services [16], clinical services line [17], and application of quality management approachby Lean and Six Sigma [18] which also - from a technological perspective –covers the application of a comprehensive workflow and health care analysis system [19]. From a management perspective, hospital performance is often regarded as a valuable contribution to achieving goals as an organization. Some contributions to hospital performance may be endeavored by individuals or groups of

employees as well as external groups related to hospital service activities. By using this perspective, [20] defines hospital performance management as a series of activities to (i) plan value creation, (ii) take action to control value creation, (iii) measure value contribution, and ultimately (iv) award the value contribution. Some performances in the health context are often not clearly defined and valued as they are difficult to implement. Performance management literatures tend to use three matters such as economics, efficiency, and effectiveness as the performance determiners of non-profit institutions [21]. Therefore, hospital performance is considered as a multidimensional phenomenon, in which the financial (economic) perspective is only one dimension of the whole measuring dimensions. It is also useful to consider the patient-related and procedural aspect, knowledge aspect, and efficiency aspect in hospital services.

III. Method

The study was conducted at two hospitals of Public Service Agency (*BLU*) owned byIndonesian national police and army namely *Rumah Sakit Umum Bhayangkara* and *Rumah Sakit Umum Pelamonia*. It also includes other public hospitals, religious organization's hospitals, and private hospitals. The data were collected from interviews with hospital managers and some external stakeholders, such as Head of 'Type B' Hospital, Head of Treatment Installation, Head of Emergency Care Unit, Head of ICU/ICCU and Operation Section, Chair of Medical Committee, Head of Finance and Planning, Head of Nursing Installation, HRD Manager, Head of Nursing Room, and Head of Polyclinic. According to Minister of Health Regulation No. 340/2010, with an assumption that Hospital 'Type B'has a higher competency than Hospital 'Type C' including: the availability of a full-time medical rehabilitation specialist; 1-12 types of medical services specialist other than core types (pediatric, internal medicine, general surgeon, and gynecological obstetrics); 1-4 subspecialty medical services; over than nine general practitioners; over than two dentists [22]. The survey was distributed through respondents by random sampling in Makassar to obtain the required data from their opinions on the most important factors affecting hospital performance and its best measurement. Then, the data is transformed into a measurable number to aid in examining the research objectives.Data samples are collected from 90 individuals. The applied technique of this research is smart partial least square with structural equation modelling.

Research Hypotheses

After reviewing several literatures covering hospital performance topics, the researchers developed the following hypotheses that were established to achieve the research objectives:

H1: Entrepreneurship affects hospital performance.

H2: The strategies applied affect hospital performance

Procedure of Data Analysis

This research applies a number of statistical techniques and procedures that help investigate the research hypothesis. They include reliability and validity test, frequency analysis, independent sample of t test, descriptive statistics, correlation matrix, linear regression, and simple regression. All statistical procedures are estimated using path analysis with SmartPLS that is implemented appropriately.

Model

The categorical characteristic of the dependent variable leads to an inefficient estimate of OLS parameter due to heteroscedasticity on the residual value of OLS [23]. Therefore, we examined the relation between the presentation of financial statements and the indirect measurement of hospital performance by using multivariate regression. A model showed in Figure 1 below is estimated using the presented samples of all available observations. This methodology is consistent which used in [24] and avoids several problems of non-randomized and random samples for rare occurrences and described in [25] and [26].
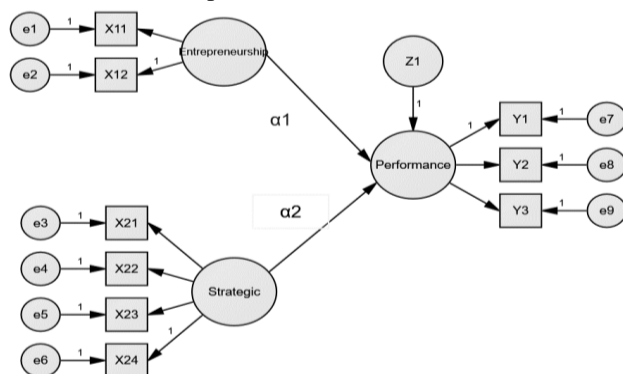

Figure 1. Conceptual Framework based on Research Model of Structural Equation

The research model is estimated directly to hospital performance.$_1$or hospital performance as $\eta_1 = \Phi_1\xi_1 + \Phi_2\xi_2 + \zeta$ or = hospital performance = ω_1 ENTRE. + ω_2STRA+ ζ1. Partial parameter square,parameter estimation, least parameter, and structural equation modeling with partial least square approach obtained through a three-stage iteration process and at each stage of the approximate result. The first stage generates estimation weights in two ways, namely mode A and mode B. Mode A is designed to get an estimation of reflective indicator, while mode B is designed to get an estimation of formative indicator.

Inner Model Estimation

By following *PLS* algorithm of [27] and that has been corrected by [28], the inner estimation of $Z_j$model from the latent variable standard is defined as $(\xi_j - m_j)$, with the limitation of $Z_j \propto \sum_{i;\xi_i}$associated with ξ_j $e_{ji}Y_i$where the inner weight of model e_{ji}can be selected via three schemes as follows:

Path Scheme

The latent variable connected with $\xi_j$is divided into two groups . The latent variableexplainsξ_j, j,and followed by the variableof ξ_j. If explained by e_{ji} , then s multiple linear regression coefficient between$Y_i$and$^f Y_j$and from the connected latent variabel for$\xi_j$which is divided into two groups of each variable. The latent variable describes ξ_j and followed by variableξ_j.

$$e_{ji} = \begin{Bmatrix} multiple\ linear\ regression\ coefficient\ on Y_i from Y_j\ ,if \xi_j measured\ by \xi_i \\ correlation(Y_iY_j)\ ,\ \xi_j measured\ by \xi_i \end{Bmatrix}$$

Centroid Scheme

The inner weight of e_{ji} model is a symbol of correlation between Y_i andY_j , which can be also written as:e_{ji} =significance on$[correlation(Y_iY_j)]$. The factor scheme in the inner model with the weight of 1 e_{ji} is the correlation symbol betweenY_i andY_j, which written as: e_{ji} =$correlation(Y_iY_j)$.

Estimation of Outer Model

The estimation of outer model is $Y_j$from the standardization of the latent variable$(\xi_j - m_j)$with mean=0;standard deviation=1 which obtained by a combination of several variables followed by the equation $Y_j \propto \pm \left[\sum_{h=1}^{J} w_{jh}(X_{jh} - \bar{X}_{jh})\right]$. It shows that symbol α means as a left variable of^e. It has also described a right variable where every variable tested has been standardized. The ^{standar}dized latent^{variablecan} be written as the following equation: $Y_j = X_{jh} + e_j$ with$X_{jh} = w_{jh}Z_j + e_j$ and$Z_j = X_{jh} - \bar{X}_{jh}$ so$\hat{Y}_j = \sum_{h=1}^{J} \widetilde{w}_{jh}(X_{jh} - \bar{X}_{jh})$. The coefficient ofw_{jh} and$\widetilde{w}_{jh}$are both measurable outer models. The third stage produces the average estimates and the parameters are constant. At this stage, the estimation procedure is based on the main matrix, weight estimation, and the second phase coefficient, to calculate the mean and constant values of each parameter.

IV. Results

Descriptive Statistics

Based on the following table, we can see the observation result. The number of observations (respondents) for each variable is 90 which reflects that the respondents have answered all questions about the research variables. The average of hospital performance was 86.4%, indicating that the respondents agree to a fact that hospital performance in Makassar is relatively high. The average value of the independent variables ranged from 72% to 82%, which means the respondents assume that hospital performance is strongly influenced by these variables. Standard deviation for all variables are relatively low, indicating that respondents' answers are 'consistent and related.'

Table 1. Cross Loading

	Rata-rata	Std. Deviasi	N
Cost Leadership	4.767	0,520	90
Focus	4.656	0,621	90
Diffe rentiation	4.356	0,878	90
Inovation	4.556	0,766	90

Proactive	3.722	1,307	90
Risk-taker	4.589	0,777	90
Income	4.700	0,461	90
Number of patient enrollments	4.344	0,673	90
Room Occupants	4.422	0,497	90

Source: Test Output of SmartPLS usingBootstrapping

Model Evaluation

The following section highlights several concepts of statistical procedures used in this research. Test of validity and reliability are also conducted on each latent variable including entrepreneurship variable and strategy toward hospital performance variable using statistical software of SmartPLS. The individual reflective test is measured and stated as valid if it has a loading factor value (λ) with a latent variable measured ≥ 0.5. If one indicator has a loading value (λ) <0.5, then it should be discarded, as it will show incapability to measure the latent variable appropriately. Next section discusses the result of structural equation of output path diagram on PLS using SmartPLS software. Pearson's correlation coefficient is presented in Table 2. All significant correlations between variables in the model, indicating that multicolinearity is unlikely to be a problem except with those variables.

Table 2. Cross Loading

	Enterpreneurship	Performance	Strategy
Proactive	0,979	0,672	0,340
Risk-taker	(0,056)	0.136	(0.114)
Income	0,246	0,727	0,805
Number of patient enrollments	0,831	0,809	0,303
Room Occupants	0,109	0.117	0,027
Cost Leadership	(0,052)	0.144	0.221
Focus	0,216	0,438	0,610
Differentiation	0,198	0,429	0,674
Inovation	0.213	0,371	0,482

Source: Test Output of SmartPLS usingBootstrapping

The test result above showed that all independent variables have positive relation with the estimated value of hospital performance. The loading factor value (λ) becomes valid if it has a latent variable to be measured ≥ 0.5, as in Table 3. The overall indicator appears to be valid as a good indicator for supporting latent variables.

Table 3. Validity Test

	E	σ	SE	Outer Loading	t Statistics	Validity
Enter1	0,991	0,079	0,079	16.038	13.121	Valid
Enter2	0,201	0,253	0,253	0,201	0,831	Valid
Perfor1	0.538	0,228	0,228	2.797	2.660	Valid
Perfor2	0,658	0.187	0.187	4.392	3.634	Valid
Perfor3	0,092	0.123	0.123	0,488	0,666	Valid
Stra1	0.114	0,228	0,228	0,773	0,823	Valid
Stra2	0,546	0.148	0.148	3.804	3.864	Valid
Stra3	0,489	0.191	0.191	2.854	2.921	Valid
Stra4	0.450	0.146	0.146	2.725	3.309	Valid

Source: Test Output of SmartPLS usingBootstrapping

Reliability Test and StructureModel Evaluation (Inner Model)

The reliability of the research will be confirmed if it meets the construct reliability or Cronbachs Alpha which is more than 0.6 excluding the value of the strategy variable. The output value of SmartPLS test result is illustrated in the following table.

Table4. Reliability Test

	SM	σ	SE	t Statistics	AVE	Comp Rel	R Square	Cronbachs Alpha
Enterpreneurshio	0.544	0.192	0.192	2.885	0.481	0.451	0.759	0.693
Strategy	0.495	0.167	0.167	3.094	0.399	0.602		0.199

Source: Test Output of SmartPLS usingBootstrapping

Based on Table 3, the latest variable has AVE <0,5 and ρ_c ≤ 0.7 while hospital performance has AVE> 0,5 and ρ_c ≥ 0,7. By viewing bootstrap test in Table 3, it is necessary to remove the indicator variable. Then proceed to the next step in Figure 2 below:

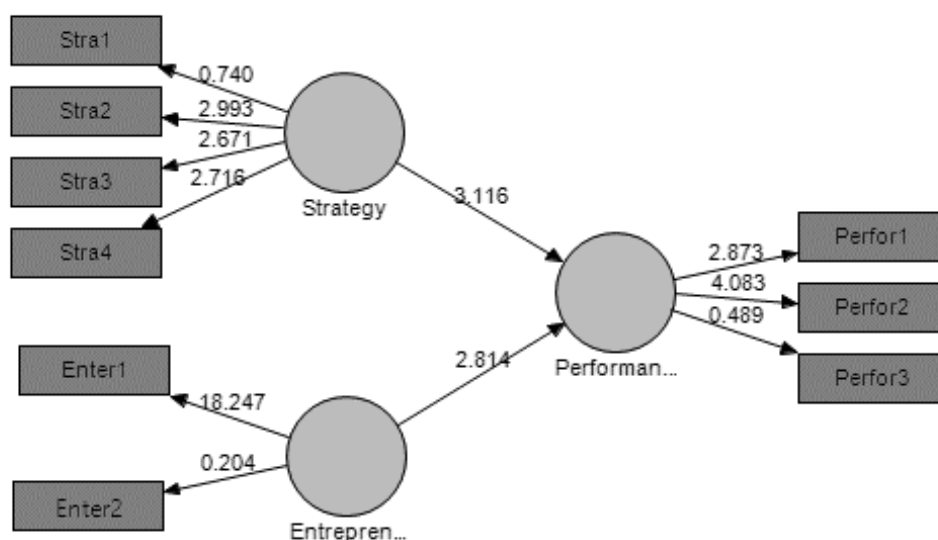**Figure 2.** Estimation Model of Equations Structural

V. The Result Of Hypothesis Testing

Based on Table 3 and Table 4 on hypothesis testing, it is showed that entrepreneurship has a positive effect and is associated with hospital performance along estimated path coefficient of 2,885. Hypothesis 2: the strategy has a positive effect and is associated with hospital performance along estimated path coefficient of 3,094. The determinant model (R Square) shows the estimated coefficient for hospital performance as 75.9 percent.

VI. Discussion

Our finding is that entrepreneurship becomes an effort to develop managerial capability of hospital performance, by encouraging managers to dare to risk with the ability to expand health care units which is also supported by the availability of health care inputs such as hotels, supermarkets, and pharmacies. Thus, the enterpreneurial spirit depends on the management and missions of the hospital owners.

Another reason why, hospital performance can still be detected at certain level, especially when making assignments. This research also explains the strong influence on both service components as supporting factors of local hospitals in Makassar, primarily on the preparation of food quality and accommodation to improve patient and their relatives' satisfaction. One possible thing is if a patient seeks alternative health care to obtain appropriate diagnostic and treatment as their satisfaction [29], in which such condition may reduce hospital performance. Although the hospital is clean and neat, it may not become as the only satisfactory factor of patients. As for the results of the research by viewing sex and age, it is undoubtedly consistent with previous researches which found similar satisfaction scores between men and women [30]. Also, the results show that elder patients felt more satisfied with the services they received than the younger ones [31]. This is one possible consideration for measuring higher levels of patient satisfaction to be better treated.

VII.   Conclusion

This research supports the hypothesis that hospital performance is affected by entrepreneurship and strategy implementation. It also has some disadvantage because inavailability to provide further pragmatic evidence. Therefore, it is not appropriate to stick to a statement that the failure management of hospital is not absolutely determined by the variables raised in this research. Further research should emphasize the information collection on the aspect of hospital supports, such as additional services of hotels for health care support. Despite that this is important to the patient or representing proxy for other aspects as long as patient and their relatives stay at hospital. The results also show that the variables which measure patients' perceptions toward care service become the determinants of patient satisfaction globally, compared to demographic characteristics and patient visit. Although the variables used may also change, this research has implications for healthcare providers aimed at improving care and service quality for patients and their relatives.

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