

Fast Moving Consumer Goods (FMCG) Industry: Sap R/3 Perspectives in Indonesia Stock Exchange

¹Khristian Edi Nugroho Soebandrija, ²Frenky Wijaya, ²Hendra and ²Vioni Agustin

¹Department of Industrial Engineering, Faculty of Engineering of Research in Management,
Bina Nusantara University,

²Department of Industrial Engineering, Faculty of Engineering,
Bina Nusantara University (Syahdan Campus), Jl. K.H. Syahdan No. 9,
11480 Jakarta Barat, Indonesia

Abstract: Fast Moving Consumer Goods (FMCG) industry constitutes one of industries that its player to have competitive advantage and eventually sustainable competitive advantage through, its dynamic capabilities and resource base. The objective of this study is to elaborate research on FMCG through perspective of SAP R/3 in Indonesia Stock Exchange. The mentioned competitive advantage has its antecedents of internal resources of a company through its human capital, strategy and system. Furthermore, unit analysis of this research are companies in FMCG industry in Indonesia Stock Exchange and eventually the shortlisted companies from registered stock exchange of ASEAN, Asia, Australia, America, Africa and Europe. Processing and data analysis in this study refers to Linear Regression Method through MS Excel and Minitab and model compatibility test with MS Excel and Linear Structural Relationships (LISREL). Through, the SAP R/3 perspectives, the SAP R/3 has the ultimate impact so that companies within FMCG industry. Precisely, it has substantial capital that can implement SAP R/3 to support the internal resources in improving the competitive advantages that are empirically proven from 14 companies in the FMCG industry in Indonesia stock exchange.

Key words: Fast moving consumer goods, SAP R/3, Indonesia Stock Exchange, structural equation modeling, LISREL, competitive advantage

INTRODUCTION

This study discusses the Fast Moving Consumer Goods (FMCG) industry from SAP R/3 perspectives in Indonesia Stock Exchange. Precisely, FMCG industry constitutes one of industries, through organizational performance (Thormya and Saenchaiyathon, 2015) that its player to have competitive advantage and eventually sustainable competitive advantage through its dynamic capabilities and resource base. By definition, Fast Moving Consumer Goods (FMCG) are defined as products that can be sold quickly at a low price (Amarnath and Vijayudu, 2009). In 2011, this FMCG industry is deemed as a rapidly growing industry in the level of 11.8% in 2011 as linearly related to consumer shopping behavior. The mentioned growing implies the fierce competition requires sustainable competitive advantage in term of innovation that requires the company to implement such a strategy of product innovation that is not owned by another company.

Implementation of strategic decisions is the antecedent of company's long term performance in the area of internal resources to gain a competitive advantage (Nemati *et al.*, 2010; Kruasoma and Saenchaiyathon, 2015). Furthermore, the international journals emphasize the influence of company performance that eventually ameliorates firm competitive advantage (Arend, 2006). This study highlights company's internal resources as an integrated system to ensure the proper information and execution. The mentioned system is viewed from the perspective of SAP R/3 in Indonesia Stock Exchange through Enterprises Resources Planning (ERP) that are elaborated in literature review (Elragal and Al-Serafi, 2011). Systems Application Product (SAP) is one of the ERP applications that can be used to integrate enterprise information systems as elaborated by Giriraj and Muthu (2010).

MATERIALS AND METHODS

In this study constitute framework. The mentioned framework is considered as a reference for the purpose

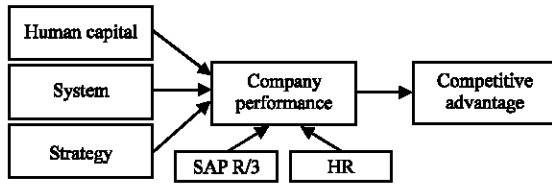


Fig. 1: Mindset research model

Table 1: Data collection source and stock exchange for FMCG industry

Region	States	Stock exchange
Asean	Indonesia	Indonesia Stock Exchange
	Filipina	Philippine Stock Exchange
Asia	Korea	Korea Exchange
	Tokyo	Tokyo Stock Exchange
	China	Chinese Stock Exchange
	India	Bombay Stock Exchange
Australia	Sri Lanka	Colombo Stock Exchange
	Hongkong	Hong Kong Stock Exchange
	Australia	Australia Securities Exchange
		National Stock Exchange of Australia
Amerca	USA	New York Stock Exchange
Africa	Namibia	Namibian Stock Exchange
	Johannesburg	Johannesburg Stock Exchange
Europe	Switzerland	SIX Swiss Exchange
	Denmark	Copenhagen Stock Exchange

of data assessment and hypotheses formulation, to simplify and test the causality’s connection as indicated in Fig. 1 to support data in Table 1.

Materials and data collection: The scope of this research are manufacturing company within FMCG industry that are listed on the stock exchanges during 2012 in the Indonesian region, Asia, Europe, America and Australia. Those companies’ reports are originated from annual report from 2010 and are further formulated in influence level of internal resources in term of human capital, systems and strategies, toward competitive advantage in the FMCG industry.

Posterior to the materials and data collection aspect, the consideration of population and sample. First, the population is classified as a manufacturing company in the FMCG industry listed on the stock exchange. Second, the sample is a manufacturing company in the FMCG industries of food and beverage area in which this sample using purposive sampling method which is based on sampling criteria specified researchers.

Data for the mentioned sample is the data collection that was segregated in two sources. First, the source of literature review is ranging from 1960, 1980, until the literature review of the last 5 years, comprise the following theory development of resource-, market-based view, multinational company performance, national company performance. Then, the second data collection source, refer to empirical case studies of manufacturing companies in the FMCG industry within annual report 2010 period of food and beverage area.

Data assessment and data analysis: To proceed to data assessment, this study constructs using three steps. First step is linear regression to determine the regression equation and the t-value as a condition in the hypothesis testing. In this situation, regression calculations refers to the software of MS Excel and Minitab. Second step is the test of suitability and validity of the model that refers to software of MS Excel and LISREL (Wijanto, 2008). Then, third step is the normality test data using Skewness test. For the purpose of data analysis in particular, its model development and testing of hypotheses, this study refers to the following technique: first, the technique of linear regression analysis to analyze the variables and its influence level using software of MS Excel and Minitab. Second, analysis of significance F value and Confirmatory Factor Analysis (CFA) to assess the overall model’s suitability and validity through Structural Equation Modeling (SEM) using software of LISREL (Sigauw, 2000).

RESULTS

This study provide the results in term of data assessment. Precisely, data qualified skewness normality if $Z < Z$ tables. Testing for normality using $\alpha = 1\%$ with Z table for 2:58.

Model 1 constitutes illustration of the direct connection between internal resources in term of human capital, systems and strategies with the company a competitive advantage. ANOVA and regression models CFA states that is beneficial to predict competitive advantage. In bigger, Fig. 2 shows the value of the t-value then the system variable (H_2) and strategy (H_3) is significantly conveys positive influence on competitive advantage while human capital variables (H_1) is not significantly convey positive influence on firm competitive advantage. The regression equation model 1:

$$\text{Competitive advantage} = 0.15 + 0.63X_1 + 0.36X_2 + 0.66 X_3$$

Model 2 constitutes illustration of the connection between internal resources in term of human capital, systems and strategies with the company a competitive advantage through enterprise performance mediated moderator SAP R/3. ANOVA and regression models CFA states can be used to predict competitive advantage. In bigger pictures, values in Fig. 3 shows the t-value, then the system variables (H_5) and strategy (H_6) significantly conveys positive effect on competitive advantage where the first internal resources influenced by the value of the company’s performance while human capital variables

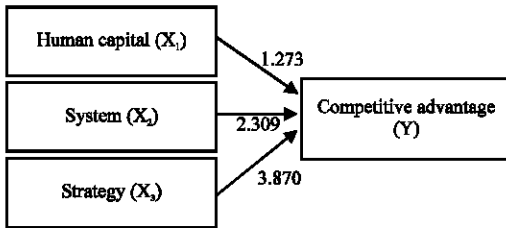


Fig. 2: Model 1 (direct connection)

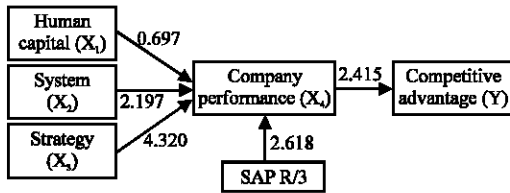


Fig. 3: Model 2 (SAP R/3)

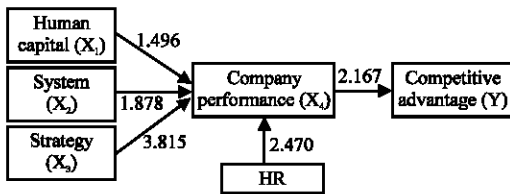


Fig. 4: Model 3 (HR)

(H₄) conveys no effect significantly positive for the company a competitive advantage. Regression equation model 2:

$$\text{Competitive advantage} = -0.22 + 0.32X_1 + 0.68X_3 + 0.31X_2 + 1.16X_4$$

Model 3 constitutes illustration of the connection internal resources in term of human capital, systems and strategies with a competitive advantage that the company firm performance mediated through human moderator. ANOVA and regression models CFA states can be used to predict competitive advantage. In bigger picture, values in Fig. 4 shows the t-value, then the variable system (H₃) and strategy (H₉) significantly conveys positive effect on competitive advantage where the first internal resources influenced by the value of the company's performance while human capital variables (H₇) convey no effect significantly positive for the company a competitive advantage. Regression equation model 3:

$$\text{Competitive advantage} = -0.23 + 0.69X_1 + 0.62X_3 + 0.28X_2 + 1.10X_4$$

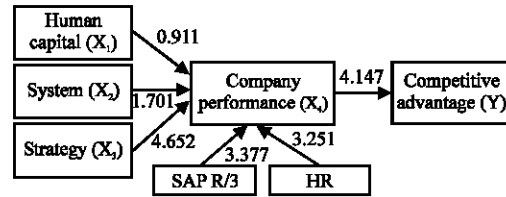


Fig. 5: Model 4 (SAP R/3 and HR)

Model 4 constitutes illustration of the connection between internal resources in term of human capital, systems and strategies with the company a competitive advantage through enterprise performance mediated moderator SAP R/3 and SAP. ANOVA and regression models CFA states can be used to predict competitive advantage. Values in Fig. 3 shows the t-value then the variable strategy (H₁₂) significantly convey positive effect on competitive advantage where the first internal resources influenced by the value of the company's performance while human capital variables (H₁₀) and variable system (H₁₁) conveys no effect significant positive effect on firm competitive advantage (Fig. 5). Regression equation model 4:

$$\text{Competitive advantage} = -0.20 + 0.36X_1 + 0.63X_3 + 0.21X_2 + 1.18X_4$$

DISCUSSION

The influence model is depicted in Table 2 pertaining the competitive advantage table (Clark, 1961) that illustrate the effect in which effect of the model is resulted from comparison of competitive advantage analysis toward annual competitive advantage report resulted from regression equation. This result can be obtained through data assessment through linear regression. Increase competitive advantage is originated from the total number percentage of firms that increase competitive advantage through such comparisons. The increase of competitive advantage percentage is elaborated and assessed in Table 2.

Internal resources in term of human capital, systems and strategies, convey direct influence of 47% toward company competitive advantage. This situation elaborates Brahmana (2007) statement stated that competitive advantage is originated from the process to explore, identify and exploit internal resources in term of human capital, systems and strategies in which SAP R/3 triggers 53% influence toward the company competitive advantage. Further literature review of Elragal and Al-Serafi (2011) indicates that implementation of SAP R/3 can increase competitive advantage for an integration of information from SAP R/3. The mentioned integration is indispensable and provides big impact on company performance. Implementation of SAP R/3 that requires a

Table 2: Effect of increase in competitive advantage

No.	Advantage	Advantage prediction (Model)				Residual (Model)			
		1	2	3	4	1	2	3	4
1	0.67	0.54	0.54	0.51	0.51	(0.13)	<u>(0.13)</u>	(0.15)	(0.15)
2	0.60	0.74	0.73	0.65	0.61	0.14	<u>0.13</u>	0.05	0.01
3	0.47	0.52	0.54	0.49	0.52	<i>1</i>	<u>0.08</u>	0.02	0.05
4	0.53	0.44	0.47	0.51	0.57	(0.10)	<u>(0.06)</u>	(0.02)	0.03
5	0.20	0.48	0.35	0.44	0.30	0.28	<u>0.15</u>	0.24	0.10
6	0.27	0.39	0.31	0.36	0.27	0.12	<u>0.04</u>	0.09	0.00
7	0.93	0.88	0.90	0.92	0.95	(0.05)	<u>(0.04)</u>	(0.01)	0.02
8	0.53	0.41	0.45	0.38	0.42	(0.12)	<u>(0.08)</u>	(0.15)	(0.11)
9	0.47	0.53	0.56	0.48	0.51	0.06	<u>0.09</u>	0.01	0.04
10	1.00	0.67	0.72	0.74	0.82	(0.33)	<u>(0.28)</u>	(0.26)	(0.18)
11	0.93	0.68	0.71	0.73	0.77	(0.25)	<u>(0.22)</u>	(0.20)	(0.17)
12	0.47	0.43	0.47	0.40	0.44	(0.03)	<u>0.01</u>	(0.07)	(0.03)
13	0.40	0.32	0.36	0.30	0.34	(0.08)	<u>(0.04)</u>	(0.10)	(0.06)
14	0.33	0.63	0.68	0.58	0.63	0.30	<u>0.35</u>	0.25	0.30
15	0.33	0.33	0.24	0.43	0.34	(0.01)	<u>(0.09)</u>	0.10	0.01
16	0.33	0.33	0.38	0.32	0.35	<i>(0.01)</i>	<u>0.05</u>	<i>(0.02)</i>	0.02
17	0.40	0.30	0.34	0.28	0.32	(0.10)	<u>(0.06)</u>	(0.12)	(0.08)
18	0.33	0.38	0.41	0.37	0.39	0.05	<u>0.08</u>	0.03	0.06
19	0.33	0.45	0.47	0.40	0.44	0.12	<u>0.14</u>	0.06	0.10
20	0.40	0.34	0.39	0.32	0.37	(0.06)	<u>(0.01)</u>	(0.08)	(0.03)
21	0.53	0.56	0.56	0.53	0.53	0.03	<u>0.03</u>	<i>(0.00)</i>	<i>(0.01)</i>
22	0.47	0.45	0.47	0.42	0.43	<i>(0.01)</i>	<u>0.00</u>	<i>(0.05)</i>	<i>(0.03)</i>
23	0.27	0.35	0.41	0.43	0.51	0.08	<u>0.14</u>	0.16	0.25
24	0.67	0.57	0.58	0.64	0.67	(0.10)	<u>(0.08)</u>	(0.03)	0.01
25	0.40	0.41	0.31	0.50	0.40	0.01	<u>(0.09)</u>	0.10	0.00
26	0.40	0.39	0.28	0.47	0.37	(0.01)	<u>(0.12)</u>	0.07	(0.03)
27	0.60	0.61	0.60	0.68	0.68	0.01	<u>0.00</u>	0.08	0.08
28	0.40	0.57	0.46	0.52	0.40	0.17	<u>0.06</u>	0.12	(0.00)
29	0.47	0.59	0.51	0.53	0.43	0.13	<u>0.04</u>	0.07	(0.04)
30	0.53	0.39	0.43	0.33	0.39	(0.14)	<u>(0.10)</u>	(0.20)	(0.15)
Total	14.67	14.67	14.67	14.67	14.67	0.00	<u>0.00</u>	0.00	0.00
Percentage						47	53	50	53

Numbering sequence is a sequence of the research enterprise in stock exchange; Figures in bracket indicate a decrease residual competitive advantage while the bold values indicates an increase competitive advantage; The italic values indicates that companies convey increased competitive advantage; The underline values indicates the model selected by the researcher

Table 3: Effect of company competitive advantage

Variables	Increase (%)
Internal resources	47
SAP R/3	53
HR	50
SAP R/3 and HR	53

very expensive investment at risk of failure, convey inability of better information systems than non implementation of other company.

Internal resources in term of human capital, systems and strategies, supported by 50% of HR triggers effect of competitive advantage. Based on literature review of Nasaruddin development of human resources are obtained through training, that is defined as systematic process that changes the behavior of employees in order to achieve organizational goals by enhancing the capabilities and skills of the workers at this time. In bigger picture, the training aimed to improve the effectiveness and efficiency of the organization.

Internal resources in term of human capital, systems and strategies, supported by SAP R/3 HR and 53% affect competitive advantage (Table 3). In this case, the company is recommended to implement the SAP R/3 and increase HR.

Table 4: Companies experiencing increase on competitive advantage

Companies	Increasing
PT. Tiga Pilar Sejahtera Food Tbk	0.13
Mayora Indah Tbk	0.08
PT. Siantar Top Tbk	0.15
PT. Sekar Laut Tbk	0.04
PT. Akasha Wira International Tbk	0.05
PT. Delta Djakarta Tbk	0.08
PT. Cahaya Kalbar Tbk	0.14
PT. Multi Bintang Indonesia Tbk	0.03
PT. Prasadha Aneka Niaga Tbk	0.00

Through, assessment of processing and linear regression analysis, internal resources (in term of human capital, strategy and systems) directly influence the competitive advantage of 47%. Yet in other assessment, the company increases 53% of competitive advantage through implementation of SAP R/3. This study conveys empirically, based on 14 companies in the FMCG industry in Indonesia that there are 9 companies as the research object increased its competitive advantage that are illustrated in Table 4.

The following discussion constitutes the broader discussion of abstract and leading to the conclusion. Fast Moving Consumer Goods (FMCG) industry constitutes

one of industries that its player to have competitive advantage and eventually sustainable competitive advantage (Barney, 1991), through its dynamic capabilities and resource base (Grant, 1991). The objective of this paper is to elaborate research on FMCG through perspective of SAP R/3 in Indonesia Stock Exchange. The mentioned competitive advantage has its antecedents of internal resources of a company through its human capital (Coff, 1997; Mahoney and Deckop, 1986; Robert, 2002), strategy (Collis, 1994; Johnson and Scholes, 2002; David, 2009; Greer, 1995; Glueck and Launch, 2008) and system (Melody, 1985; Wagner, 2007).

This study constitutes the research with its limitation, yet it is open for further research, referring to its baseline of existed research and discussion in this study. The mentioned and further research refers to the baseline, other than the existed and discussed in this study (Adams, 1996; Clark, 1961; Gujarati, 1995; Kowalski and Montgomery, 2011; Gaspersz, 1988; Penrose, 1959).

CONCLUSION

Based on the conclusion; first, it is commendable that company increases the company competitive advantages through improved system and application strategies. The reason behind this is the fact that hypothesis testing depicts that the system variables and strategies convey significantly positive influence on competitive advantage. The exception is for the system variables that are influenced by the SAP R/3 and HR. Furthermore, second, it is commendable that the company is able to increase competitive advantage with the implementation of both HR and SAP R/3.

Subsequently, third in order to proceed to the application of both HR and SAP R/3, the company is suggested to provide a significant amount of capital. With this situation of adequate capital to implement HR limited due to the implementation of SAP R/3, trigger high level of investment and the failure risk. Eventually as the big picture the influence level of internal resources in term of human capital, strategy and systems to the company competitive advantage, this study provide recommendation that manufacturing company within the FMCG industry is suggested to implement SAP R/3.

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