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# Competitive Strategy and Case Study in Food Industry: Perspectives of Industrial Engineering (IE) and Doctor of Research in Management (DRM)

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**Abstract:** Food industry is deemed as one of industries that require its players to have competitive advantage through its strategy. The objective of this study is to elaborate research on food industry and its competitive strategy through perspectives of Industrial Engineering (IE) and Doctor of Research in Management (DRM). The mentioned competitive strategy requires the Human Resources Management (HRM) and the integration of Resource-Based View (RBV) and Dynamic Capability (DC). The HRM are supported by the research deployment of Chadwick, Super and Kwoon pertaining Strategic Human Resources Management (SHRM). Meanwhile, the SHRM involves the Resource Orchestration of Company's CEO, Top Management Team (TMT) and employees; through various literatures of management's value on HRM by Bae and Lawler, Bennet, Ketchen and Schultz, Osterman and CEO's supports on HRM by Sheehan. Furthermore, both RBV and DC are supported by prior research by Kruasoma and Saenchaiyathon that enhanced the Resources Based Theory (RBT) by Barney and Clark and Bromiley and Rau; similarly, the DC and Strategic Management (SM) is enhanced by Teece. Processing and data analysis in this study refers to Structural Equation Modeling (SEM) using SmartPLS Software and its questionnaire. As the perspectives of Industrial Engineering (IE), this study elaborates the Analytical Hierarchy Process (AHP) for Decision Hierarchy and Malcolm Baldrige Criteria (MBC) for Performance Excellence (PE). Furthermore as the perspectives of DRM, this study elaborates SEM in term of analysis of antecedents, behaviors and consequences. The questionnaire refers to the variable of Leadership (LDRSHP), Organizational Learning (ORGLRN), Innovation (INNOVA) and Performance (PERFRM), through their constructs and indicators. Those variables are the base of one of this studies researchers Khristian Edi Nugroho Soebandrija's draft of dissertation study. Yet, this study provides different approach as compared to the mentioned dissertation.

**Key words:** Competitive strategy, food industry, Industrial Engineering (IE), Doctor of Research in Management (DRM), Structural Equation Modeling (SEM), SmartPLS

## INTRODUCTION

This study discusses the food industry in the perspectives of Industrial Engineering (IE) and Doctor of Research in Management (DRM) as elaborated, respectively through Analytical Hierarchy Process (AHP) and Malcolm Baldrige Criteria (MBC) and Structural Equation Modeling (SEM), through SmartPLS and its questionnaires as analysis of antecedents, behaviors and consequences. Precisely, food industry is deemed as one of industries that require its players to have competitive advantage through its strategy.

The objective of this study is to elaborate research on Food Industry and its competitive strategy through perspectives of Industrial Engineering (IE) and Doctor of Research in Management (DRM). The mentioned competitive strategy requires the Human Resources Management (HRM) and the integration of Resource-Based View (RBV) and Dynamic Capability (DC). Chadwick *et al*. (2015) have developed a scale measure of CEO emphasis on SHRM based on those mentioned researchers from year 2015 and prior years.

## MATERIALS AND METHODS

This study comprise two major aspects which are: Human Resources Management (HRM) and integration of both Resources-Based View (RBV) and Dynamic Capability (DC).

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There are indispensable reasons of putting those two major aspects as the Materials and Methods in this study. The mentioned reasons are: as it is mentioned in the Introduction of this study. The objective of this study is to elaborate research on food industry and its competitive strategy through perspectives of IE and DRM. The mentioned competitive strategy requires the Human Resources Management (HRM) and the integration of Resource-Based View (RBV) and Dynamic Capability (DC).

Prior to elaborate those two major aspects and its literature review; it is beneficial to explore several literature reviews that support the mentioned two major aspects in different perspectives to enrich this studies literature reviews.

Those literature reviews are ranging from the food industry in particularly food and beverage services into variety of reviews on leadership, organizational learning, innovation and performance; Analytical Hierarchy Process (AHP), Malcolm Baldrige Criteria (MBC) and structural equation modeling. Subsequently those reviews cover as well the research methodology, survey guidance through questionnaire and related human resources perspective.

Precisely, those reviews are based on following researchers: Andrews (2013), Bordens and Abbott (2008), Gaspersz (2007), Heizer and Render (2006), Hidayat and Otok (2012), Kuspijani and Sudarso (2010), Prabowo (2010) and Wignjosoebroto (1995).

**Human Resources Management (HRM):** The HRM are supported by the research deployment by Chadwick *et al*. (2015) pertaining Strategic Human Resources Management (SHRM) as published in Strategic Management Journal (SMJ). Precisely, the mentioned SHRM in SMJ 2015 elaborates CEO emphasizes on SHRM, commitment-based hr systems and firm performance.

This study limits its research merely on the CEO emphasizes on SHRM as the remaining discussion on commitment-based HR and firm performance can be elaborated in different perspectives of this study and be considered as further research opportunity.

Meanwhile, the SHRM involves the resource orchestration of company's CEO, Top Management Team (TMT) and employees; through various literatures of management's value on HRM by Bae and Lawler (2000), Bennett *et al*. (1998), Osterman (1994) and CEO's supports on HRM by Sheehan *et al*. (2007). Precisely, the mentioned resources orchestration of CEO, TMT and employees; Chadwick *et al*. (2015) have developed a scale measure of CEO emphasis on SHRM based on those mentioned researchers from year 2015 and prior years. As the integration of both 2015 and prior years' research, the scale measure how much stress the firm's CEO places on achieving competitive advantage through levering human resources. Thus, the resource orchestration is deemed indispensable in this situation.

**Resources-Based View (RBV) and Dynamic Capability (DC):** Both RBV and DC are supported by prior research by Kruasoma and Saenchaiyathon (2015) that enhanced the Resources Based Theory (RBT) by Barney and Clark (2007) and Bromiley and Rau (2014); similarly, the DC and Strategic Management (SM) is enhanced by Teece.
Kruasoma and Saenchaiyathon (2015), precisely, elaborate sustainable competitive advantage on the integration of resource-based view and dynamic capability.

In other perspectives, Bromiley and Rau (2014) elaborates the RBV from different approach that enrich the RBV, through Practice-Based View (PBV) of strategy. Bromiely and Rau define a practice in PBR as a defined acitivy or set of activities that a variety of firms might execute. According to both researchers in contrast toward RBV emphasis on things that other firms can imitate, the PBR examines imitable activities or practices, often in the public domain, amenable to transfer across firms. Meanwhile both Barney and Clark (2007) and Teece and their prior research through several classical journals are deemed the baseline of the discussion on RBT and DC that can be elaborated in different perspectives of this study and be considered as further research opportunity.

## RESULTS AND DISCUSSION

This study provides the results in term of perspectives of IE and DRM. Processing and data analysis in this study refers to Structural Equation Modeling (SEM) uses SmartPLS Software and its questionnaire. This study organizes the results session that is continued by its discussion session in which the results session elaborates the term, table and brief description. Furthermore, the discussion session elaborates the discussion on the results that are obtained in this study.

**Industrial Engineering (IE) perspectives:** As the perspectives of IE, this study elaborates the Analytical Hierarchy Process (AHP) for Decision Hierarchy and Malcolm Baldrige Criteria (MBC) for Performance Excellence (PE).

Table 1: Malcolm baldrige criteria and score

| Malcolm baldrige criteria | Malcolm baldrige scores |
|---|---|
| Leadership | 120 |
| Strategic planning | 85 |
| Customer focus | 85 |
| Measurement, analysis and knowledge management | 90 |
| Workforce focus | 85 |
| Operation focus | 85 |
| Results | 450 |
| Total | 1000 |

The decision hierarchy is considering questionnaire variable (variabel kuesioner), through leadership, innovation, organizational learning and performance. The decision hierarchy is based on on global priorities of Balanced Scorecard (BSC) through financial (finansial), customer (Pelanggan), human resources (SDM) and learning growth (pertumbuhan pembelajaran).

This study elaborates the overview of Malcolm Baldrige criteria of Table 1 and adds the score comparison based on score to achieve (expected) versus score based on questionnaire (actual).

**Doctor of Research in Management (DRM) perspectives:** As the perspectives of DRM, this study elaborates SEM in term of analysis of antecedents, behaviors and consequences. The SEM uses SmartPLS Software and its questionnaire in this study. The questionnaire refers to the variable of Leadership (LDRSHP) with its 7 indicators, Organizational Learning (ORGLRN) with its 16 indicators, Innovation (INNOVA) with 8 indicators and Performance (PERFRM) with 9 indicators.

Those variables are the base of one of this studies researchers Khristian Edi Nugroho Soebandrija's draft of dissertation study. The base consideration is that the dissertation studies draft of Khristian Edi Nugroho Soebandrija has different constructs and indicators and has different unit analysis of wider company. Precisely, the unit analysis of individual within company of private company and state owned enterprise with Indonesian Setting and Local Wisdom. Furthermore, this study along with its 4 co-author has merely a case study of one company which is PT. Penta Cahaya Bintang (PT. PCB).

The discussion in this study, constitutes the elaboration of the results session which consists of similar major aspects: discussion on IE perspectives and discussion on DRM perspectives.

**Discussion on IE perspectives:** In the perspectives of IE, this study elaborates the Analytical Hierarchy Process (AHP) as Decision Hierarchy and Malcolm Baldrige Criteria (MBC) for Performance Excellence (PE).

Based on the results in Table 1 and 2, the case study in this study, involved PT. Penta Cahaya Bintang (PT. PCB) as the company under study for this studies case study. The mentioned Table 1 and 2 generate the evaluation results of PT. PCB with the score of 320.98. This results indicate that PT. PCB belongs to the category or EARLY result for the malcolm baldrige criteria, meaning that this company has a big opportunity to have further improvement to next category of beginning improvement with the score of 550. In order to achieve this score, the PT. PCB should achieve 58.36% from the following (320.98/550)×100%.

Table 2: Malcolm baldrige criteria and score comparison

| Malcolm baldrige criteria | Score to achieve | Score based on questionnaire |
|---|---|---|
| Leadership | 66.00 | 35.16 |
| Strategic planning | 46.75 | 29.60 |
| Customer focus | 46.75 | 21.91 |
| Measurement, analysis and knowledge management | 49.50 | 28.76 |
| Workforce focus | 46.75 | 34.70 |
| Operation focus | 46.75 | 30.60 |
| Results | 247.50 | 140.25 |
| Total | 550.00 | 320.98 |

Table 3: PT PCB achievement for malcolm baldrige criteria

| Variables | Criteria | % |
|---|---|---|
| Leadership | Leadership | 53 |
| Innovation | Strategic planning | 63 |
| | Customer focus | 47 |
| Org. learning | Measurement, analysis and knowledge management | 58 |
| Org. learning | Workforce focus | 74 |
| | Operation focus | 65 |
| Performance | Results | 57 |

Furthermore, the following Table 3 indicates the overall achievement for all criteria of PT. PCB within the malcolm baldrige criteria. Furthermore, based on the results in Fig. 1 of decision hierarchy, PT. PCB has the variable of performance with dominant result which is 39.5% and followed by innovation (23.2%), organizational learning (23.2%) and leadership (14%). The mentioned results indicate that PT. PCB has prioritized the performance that is strongly indicated by the customer satisfaction. The mentioned results are also supported the fact that PT. PCB has put customer perspectives as the priority, through the Balanced Score Card (BSC) results of 31.5%. The mentioned results are followed by BSC results of learning and growth (31.0%), financial (18.8%) and human resources (18.6%).

**Discussion on DRM perspectives:** In the perspectives of DRM, this study elaborates SEM in term of analysis of antecedents, behaviors and consequences. Based on the results in Fig. 2 and 3, there are several discussion and analysis that can be elaborated. To begin with it is deemed indispensable to have overview of the

**Decision Hierarchy**

| Level 0 | Level 1 | Global Priorities | Finansial | Pelanggan | SDM | Pertumbuhan Pembelajaran |
|---|---|---|---|---|---|---|
| Variabel Kuisioner AHP | Leadership 0.1404 | 14.0 % | 0.0156 | 0.0273 | 0.0474 | 0.0502 |
| | Innovation 0.2322 | 23.2 % | 0.0317 | 0.0539 | 0.0317 | 0.1149 |
| | Organizational Learning 0.2322 | 23.2 % | 0.0284 | 0.0527 | 0.0527 | 0.0984 |
| | Performance 0.3952 | 39.5 % | 0.1125 | 0.1815 | 0.0542 | 0.047 |
| OK. Submit for group eval or alternative eval. Alternatives | | 1.0 | 18.8 % | 31.5 % | 18.6 % | 31.0 % |

Fig. 1: Decision hierarchy through AHP

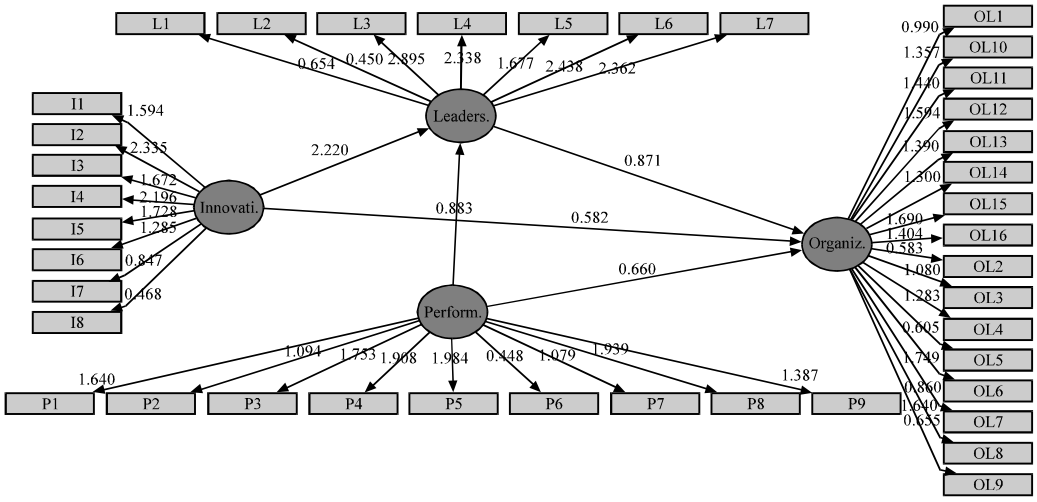


Fig. 2: Inner model: structural equation modeling and SmartPLS

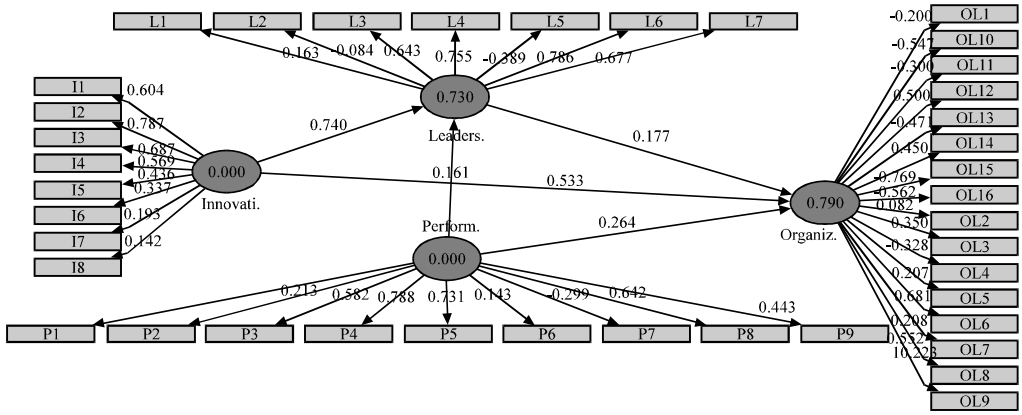


Fig. 3: Outer model: structural equation modeling and SmartPLS

Table 4: Value of relationship among variables of SmartPLS

| Relationship values | Parameter coefficient | t-statistics |
|---|---|---|
| Innovation-leadership | 0.740 | 2.220 |
| Innovation-organizational learning | 0.533 | 1.582 |
| Performance-leadership | 0.161 | 0.883 |
| Leadership-organizational learning | 0.177 | 0.871 |
| Performance-organizational learning | 0.264 | 0.660 |

causality relationship toward the parameter coefficient and t-statistics to have the value of relationship among variables (Table 4).

## CONCLUSION

Therefore, it can be concluded from Table 4 from vice et versa relationship: The better innovation, then leadership can decrease by 22.2% and organizational learning can decrease by 15.82%. Subsequently, the better leadership, then organizational learning can decrease by 8.71%. Furthermore, the better performance, then leadership can decrease by 8.83% and organizational learning can decrease by 6.60%.

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