

Strategic Procurement Model for Electric Company in Supply Chain Management

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The purpose of this research is to identify and explore various procurement activities for electricity companies in supply chain management and suggest their models. The study discusses the opinions of researchers regarding procurement processes in various countries that are currently warm where they're more applicable and helps supply chain practitioners assess various procurement activities before it is too late to revise decisions regarding their use in electricity companies. The model was developed based on a systematic mapping study of articles related to procurement, and was examined by semi-structured interviews with state-owned electricity companies that carry out procurement activities. The findings suggest that Procurement Strategy is very important for electricity companies to meet their electricity needs. Proper, fast and efficient procurement will provide a large profit impact for Companies in order to support economic growth. This study is limited by the availability of applied cases. Therefore, it cannot be considered a case study, but rather a literature review followed by a number of interviews. However, it produced a model that forms the basis for further exploratory studies with more empirical data.

Key words: *Procurement, Supply Chain, Strategic, Electricity Company.*

Introduction

Background

Procurement is the process of obtaining goods and services needed, so supply chain management is the infrastructure required for goods and services. All parties involved in the procurement process can help parts of the supply chain to run smoothly. This activity is needed by each partner, from suppliers, suppliers, service providers, business warehouses, to staff and employees. In the supply chain the procurement process itself consists of several steps, starting from company needs, finding suppliers, negotiating, requesting delivery, receiving bills and making payments.

Pujawan and Mahendrawati (2010) explain the important role of all parties from suppliers, manufacturers, distributors, retailers, and customers in creating cheap, quality, and fast products that form the concept of Supply Chain Management. Supply Chain Management (SCM) is the view of managers globally able to assess actions and predict results. SCM is the impact of decisions not limited to building a factory or appearance, but expanding the market of suppliers and customers. In order to maximise value for customers, there needs to be attention paid to engagement between value chains (Finch, Byron J., 2006: 362).

The SCM model in the company can work with other companies to meet production needs. The main purpose of SCM is to deliver products on time to meet consumer needs, reduce costs, reduce time, centralise planning and distribution activities. Companies need to consider problems in the supply chain to ensure that it supports the company's strategy. If the operational management function supports the overall corporate strategy, then the supply chain is designed to support the operational management strategy. Facilities and costs needed to meet customer needs, with the aim of achieving minimum costs and maximum service level all considered in supply chain management (Heizer and Render, 2005).

The first issue in this study is the current electrification ratio in Indonesia reaching 91.16% (2017). This percentage will continue to rise annually in line with the growth of electricity development. The government continues to strive to increase the electrification ratio to 99.7% in 2025 (RUPTL 2017-2026). It has assigned the State Electricity Company to build a power plant of 35,000 MW in a period of 5 years (2015-2019). It is not easy for the State Electricity Company to realise this dream. In previous years the average power plant that could be built by the State Electricity Company was \pm 2000-3000 MW per year. Therefore the 35,000 MW power plant development program normally takes 12-18 years. Therefore, the State Electricity Company must prepare an effective procurement plan so that the implementation of procurement that will be carried out can be completed quickly and accurately and meets of the criteria of efficiency, fairness, accountability, transparency without violating regulations. According to the implementation of procurement, faulty goods and services have an impact



on losses to be borne by the community, including low quality of services received by the government.

The second research problem consists of studying how the accelerated state electricity company strategy model is placed in the procurement process, bearing in mind that the challenges of the company's current needs are required to move quickly considering that the process of procuring plants with the International Competitive Bidding (ICB) pattern takes 6-8 months (post-qualification), while construction requires an average of 12-48 months depending on the size and type of power plant.

The third issue in this topic is the performance review of state electricity companies in the process of procurement of goods and services based on the factual conditions of electricity companies in Indonesia. Until now there has been a gap between the concept of universal procurement and practice.

The fourth problem consists of a study of the business scale related to the procurement of goods and services that can affect the sustainability of the electricity company.

This description is the basis for conducting research with the main theme of the procurement framework in supply chain management in the company's efforts to maintain sustainability. In this condition, researchers are interested in analysing an effective procurement model of the supply chain management approach so that it will have an impact on the sustainability of the state electricity company. This study attempts to find a model that can help achieve the goal of maintaining the continuity of electricity companies in Indonesia.

Research Objectives

This study aims to assess and develop an empirical model of the procurement process strategy in the integration of supply chain management to achieve sustainability for state electricity companies in Indonesia.

Literature Review

In a general sense, procurement is understood as administrative management of the acquisition of goods and services to obtain the highest quality products at the lowest price, control supply stability, promote fair and equal competition and avoid inappropriate business transactions (Faucher and Fitzgibbons, 1992). Procurement refers to how to use resources in working on an activity or project that was built (Rowlinson, 1999). Siahaya (2013), maintains that procurement consists of the effort to obtain goods and services needed by companies and

institutions carried out systematically and in accordance with applicable rules and standard methods, principles, norms and ethics.

Procurement is a systematic determination of what (specifications, quality), how much (quantity), when (schedule, delivery time), how (source, system) and cost (cost). It is one of the main components of Supply Chain Management, where the task is to provide input in the form of goods and services needed in production activities or other activities in the company (Pujawan and Mahendrawathi, 2017).

Procurement is carried out through open auctions, or limited auctions for complex or complex specifications or categories. However, Walker & Hampson (2003) explain that tenders through the open system or with this prequalification method are generally conducted to obtain the lowest price according to job specifications with the assumption of “fixed price. “However, the cheapest price may not necessarily equate to good quality goods / services as expected by the owner (project owner).

Masterman (2002), states that research has shown that many “owners,” do not use procurement methods in a disciplined and logical way. If success is achieved with minimum difficulty, decisions about the most effective procurement method for a project must be made by comparing the characteristics, needs, and objectives of the project with the characteristics, strengths and weaknesses of each chosen system. However, it must be remembered that procurement management is part of the Supply Chain Management (SCM) that systematically and strategically processes the procurement of goods and services starting from the source of origin of goods up to the hands of customers (end users) based on the right quality, quantity, price, time, source and place to meet customer needs (Siahaya, 2013).

The concept of supply chain management was created in the 1990s. This is given the importance of presenting a product that is cheap, fast and of high quality. Supply Chain Management (SCM) consists of a series of activities managing a supply chain activity that includes co-ordination, scheduling and control of procurement, production, inventory and delivery of products or services to customers. This includes daily administration, operations, logistics and information processing starting from the customer to suppliers. Participating parties are responsible for maximising customer value and can achieve a sustainable and efficient competitive advantage.

Supply Chain Management has considered all the facilities that affect the product produced and the costs to be spent in meeting consumer needs. The main consideration discussed in procurement is the entry of goods and services. This is the main focus in the selection of sources, buyer and supplier relationships, determining the price, and meeting the needs of internal and external customers to improve inventory and transportation controls.

Supply Chain Management has three supporting components including Upstream Supply Chain Management, which is a process where the company obtains suppliers from outside parties to gain raw materials. Internal Supply Chain Management is a process in which raw material is changed into a finished product. Finally Downstream Supply Chain Management is a process of distributing goods by the company to customers which is usually carried out by an external distributor. This chain also constitutes a network of various interconnected organisations that have the same goal, that is the best possible procurement of goods.

Anderson, Britt, and Favre (1997) provide seven principles in SCM in formulating strategic decisions, including customer segmentation based on needs, adjusting the logistics network to serve various customer needs, listening to market signals and creating these signals on the basis of demand planning)so as to produce consistent forecasts and optimal allocation of resources, differentiating products at closer points to consumers and accelerating their conversion along the supply chain. A further principle is managing supply sources strategically to reduce the cost of ownership of materials or services, developing technological strategies for the entire supply chain that supports hierarchical decision making and provides a clear picture of the flow of products, services and information as well as the adoption of performance measurements for an overall supply chain with a view to improving service to end consumers.

Methodology

This study uses a systematic mapping study (SMS) which is secondary. Texting is rooted in the study literature review (SLR) introduced to medical research (Kitchenham, 2004). The application of SLRs is to identify, evaluate, and interpret all available and relevant literature related to research questions or domains of interest (Kitchenham, 2007; Petersenet. al., 2008). The most common reasons for conducting an SLR are to summarise the available evidence on the topic, to identify gaps in the current research and provide suggestions for future investigations and finally to provide background to position new research activities (Kitchenham, 2004).

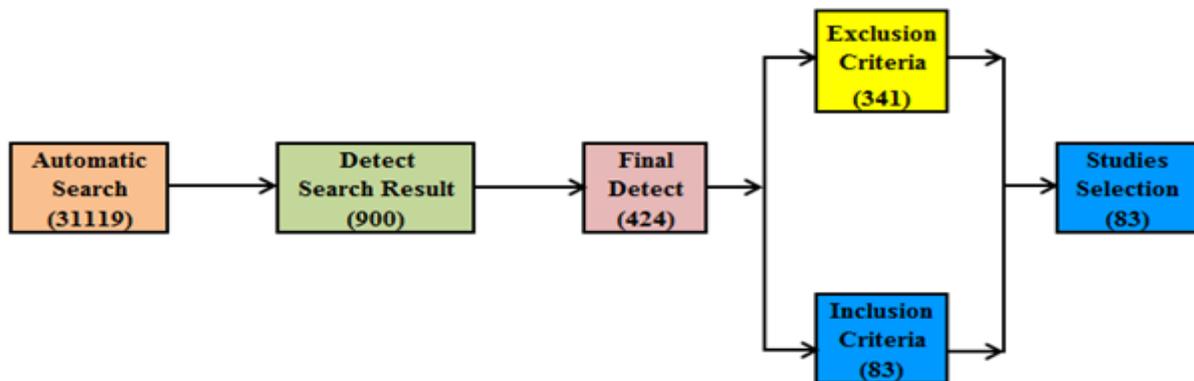
Systematic mapping study (SMS) is applied to describe the types of research activities that have been carried out in this study. SMS describes research at a high level and maps research rather than investigating research questions in detail (Petersen et al., 2008). In other words, SMS can be considered as a method to obtain a general picture of a particular research area (Kitchenham, 2004), as SMS research discovers detailed information (Brereton at al., 2007).

A novel phenomenon (procurement in SCM) is explored in this study to develop conceptual models. From the aspect of data collection, the methodology consists of more than an

interview study. Simply put, the research attempts to summarise previous research in the field, explain it to practitioners, and with the help of cases and empirical contexts, describe and develop it. The research method can be considered similar to the theory describing case studies (Ketokivi and Choi, 2014) but relying on fewer informants per case than usual due to the novel nature of the phenomenon which causes limited availability of empirical data.

The search for primary studies began using an electronic database. In addition, with consideration to expanding and improving the quality of search results, it is also used manually on the website through an electronic database. This form of search is limited to the year of publication (10 years). The search process is presented in Figure 1, as follows:

Figure 1. The Search Process for an Electronic Database



Online searches were conducted on several electronic journal databases including: ProQuest Research Library, EBSCOhost, Springer and DOAJ.

For the ProQuest Research Library, there are 22,407 reports for searches using the Strategic Procurement string in (1) Source Type-Scholarly Journal,; (2) Publication Date: 2006-20016 obtained 1002 reports; (3) Database: Technology Collection has 572 reports and Material Science & Engineering has 359 reports; (4) 314 reports were obtained. From the data, the report was reselected into 2 criteria, in exclusion criteria there were 245 reports and in inclusion criteria there were 69 reports. For EBSCOhost obtained from (1) Database Search for Strategic, Procurement, Electricity there are 10 reports; (2) Publication Date 2006-2016 there were 7 reports, and (3) in the results there were 6 reports. According to the selection criteria, selected reports consist of 3 reports and inclusion criteria there are 3 reports. For Springer, (1) Search string: “Strategic AND Procurement: there are 8,699 reports; (2) there are 1495 scholarly journals; (3) Publication Data 2006-2016 there are 1143 reports; (4) Article: Studies 368 reports, Energy Policy 64 reports; Supply chains have 29 reports; In infrastructure there are 40 reports; in Technological change there are 43 reports; in Competition there are 28 reports; in CSR there are 22 reports; in Manufacturing there are 19 reports; Electricity utilities have 18 reports and in Strategic management there are 14 reports.

(5) The results were 531 reports and (6) in the Final there were 101 reports. Springer selected reports according to exclusion criteria in which there are 91 reports and the inclusion criteria which contains 10 reports. For DOAJ, Search string: Strategic Procurement in article: abstract (1) Subject: Strategic Procurement for Electricity there are 3 reports consisting of (2) Full Text-Language: the English version has 1 report and the Indonesian version has 2 reports. There are 2 reports selected according to the exclusion criteria and 1 report in the inclusion criteria. All journals are in English.

Table 1: Results of the Strategic Procurement Systematic Execution Mapping

No	Data Source	Final Detected	Inclusion	Exclusion	% (Inclusion)	% (Exclusion)
1	ProQuest Research Library	314	69	245	22%	78%
2	EBSCOhost: Academic Search Complete	6	3	3	50%	50%
3	DOAJ	3	1	2	33%	67%
4	Springer	101	10	91	10%	90%
	Amount	424	83	341		

As shown in table 1, the journal search results through the exclusion and inclusion criteria clearly illustrate the mapping of a number of journals that have been carried out by researchers through electronic database searches in accordance with the themes raised in this study. Furthermore, the determination of selection criteria aims to support the selection of the main studies to be analysed in mapping studies. Inclusion criteria in strategic procurement studies in the form of articles or journals were included in this study or those that approach the review so that they can support the research criteria, while exclusion criteria consisting of journal articles or reviews are not directly related to the research.

The research method carried out in the search for online research analysts was undertaken by using qualitative, quantitative and mixed approaches. The results obtained by the research approach show that in the qualitative research approach there are 54 (65.06%) reports, followed by quantitative 27 (32.53%) reports and only 2 (2.41%) mixed reports. The research method approach is further traced back to; 1) case studies have 58 reports; theoretical studies have 8 reports and historical studies have 2 reports. The quantitative approach is completed through surveys to respondents in which there are 7 reports and through interviews and surveys where there are 6 reports, while in the mixed approach there are 2 reports. Mapping strategic research procurement is mostly completed using qualitative methods. This is due to the fact that a company's procurement activities are dynamic and follow market developments (technology). Companies can arrange guidelines / procedures for procurement of goods and services themselves in accordance with applicable norms and ethics.

The search for further research was extended to the countries studied as research subjects. There are 18 countries that are the subject of research which include Australia (including New Zealand) at most by doing, that is 13 research subjects, USA and China having 11 research subjects, while Indonesia only has 2 research subjects. This is a great opportunity for Indonesian researchers to conduct research on similar themes, given that there is still very little research available and open opportunities for conducting research. There were also 15 research subjects which had unknown country of origin. This is due to the fact that it is not clearly identified in the article.

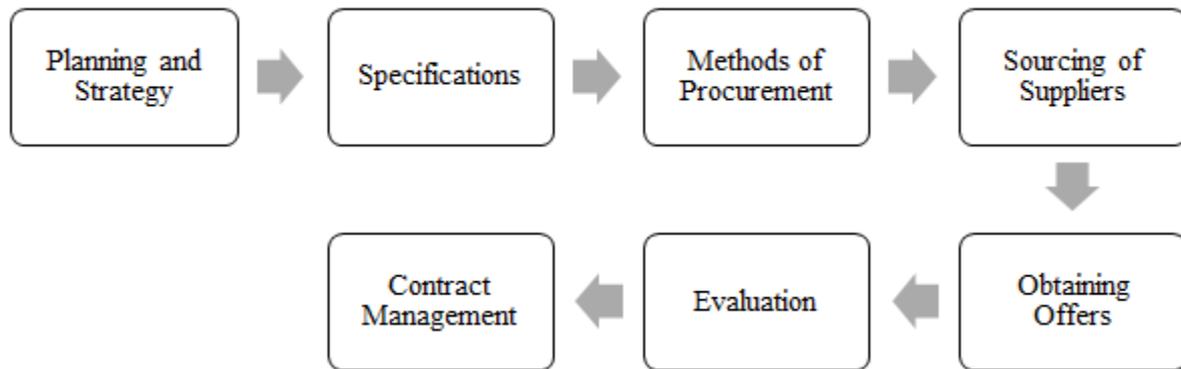
Results and Discussion

An electricity company construction project was built by involving a variety of available resources. In building a construction project the contractor will be supported by a supplier (manufacturer) and subcontractor to carry out the work so that it can be completed on time. The EPC (Engineering Procurement and Construction) construction project sometimes involves a consultant (engineering) to assist the project owner in carrying out / supervising from initiation, site survey, preparing auction documents, owner estimate of construction and operations. Detailed review is needed in planning to obtain the best results as expected by the project owner.

Some of the most common procurement methods used by electricity companies include using the One Stage One Envelope, One Stage Two Envelope and Two Stage Two Envelope methods through Limited or Open Tender. Sometimes they also use the Direct Appointment Method while maintaining the principles of efficiency, effectiveness, competitiveness, fairness, transparency and accountability. The importance of market research is to discover the main material needs (manufacturers) and support materials as well as Engineering Procurement and Construction service providers.

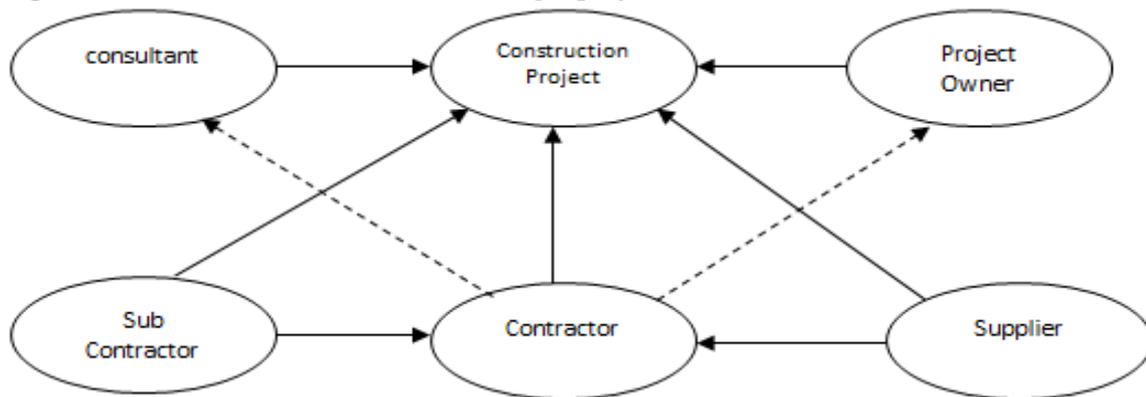
Procurement is a politically sensitive activity, because it involves a significant amount of the budget. It is essentially a government and organisational effort to obtain the desired goods / services using methods and processes in accordance with provisions in order to reach an agreement on price, time and quality of goods / services. So that the procurement of goods / services can be carried out as well as possible, both parties must be guided by the principles of procurement of goods / services, which is one of the stages of the project cycle required by the organisation which begins the process from planning of needs until the completion of all activities to obtain goods and services between two parties in accordance with the agreement or contract. It is advantageous for goods or services obtained to be in accordance with what is needed and incur the best costs to meet needs according to the right quality, quantity, time and location. Models to consider in the procurement of goods and services can be seen in figure 2.

Figure 2. Procurement Strategy Model



A project is built through a procurement model. The success of the project depends on how the contractor manages the subcontractor and suppliers. The relationship between the project owner and the contract and the coordination between the contractor and the consultant is very important, to avoid any gap/deviation between tender documents (requirements) and the mutually agreed offer. The relationship is illustrated by the image below:

Figure 3. Procurement Model for building a project



Source: Developed by Authors

Procurement of goods and services is closely related to the supply chain. The supply of chain management has become a topic of interest in the business world, given the numerous benefits obtained by the company, ranging from efficiency to customer satisfaction. Supply chain symbolising the integrity of activities that starts from the procurement of goods and services, converts raw materials into goods in process and finished goods and delivers these goods to customers in an efficient manner (Guritno and Harsasi, 2014). Supply chain is a network of companies that jointly work to create and deliver a product into the hands of end users, (Pujawan and Mahendrawathi, 2017). It is more than the physical movement of goods “from earth to earth.” It is also information, movement of money, , and the creation and deployment of intellectual capital, or, as some call it “knowledge work.”

Caroline Booth (2010) has mapped procurement strategy by adopting the Category Analysis Matrix (Kraljic, 1983) through dividing four criteria, including Bottleneck, Routine, Strategic and Leverage. Each of these criteria is needed in mapping the procurement plan according to the needs of the organisation which can arrange its own criteria according to its needs. A focus on strategy is needed in order for successful procurement to be carried out by the organisation and the need to conduct market research / market sounding related to the supply chain.

Therefore, the supply chain is an activity jointly carried out between companies starting from the management and processing of raw materials, semi-finished goods to finished goods which are supported by manufacturers, suppliers, distributors / agents by involving couriers / transportation services to reach consumers. The supply chain is not only the physical movement of goods from one place to another, but also a flow of knowledge and money. Cooperation (joint operation) and communication is built between suppliers, manufacturers and distributors as well as agents so that products that are created can take a long time to be enjoyed / used by consumers. It is also important to build trust and cooperation between these companies so that products are able to provide satisfaction to consumers. There is a flow of material movement in the supply chain, from the beginning to the consumer by taking into account time, energy, cost and product volume factors. Thus, accurate information technology support is needed to equalise the perception for the need for raw materials to be processed into finished goods and the production needs required by consumers.

The existence of a flow of information is very important for a company to maintain its business while the availability of spare parts is significant for industry in the production process. There will be obstacles in production if the production machines are late in anticipating replacement parts (damage), customers of end-product users will be disappointed and which will reduce trust for providers of goods (distributors / agents) if they do not receive the spare parts needed by consumers.

The function of supply chain management (SCM) is to physically convert raw materials into finished products and deliver them to the final use. This initial function relates to physical costs, including material, storage, production, transportation etc. finally as market mediation, ensuring that what is supplied by the supply chain reflects the aspirations of customers or end users. This second function relates to the costs of market surveys, product design, and costs due to not meeting the aspirations of consumers by the products provided in the supply chain. These costs can be in the form of markdown costs, i.e. a reduction in the price of a product that is not sold at standard prices, or the cost of a supply shortage called stockout cost. Successful implementation of this principle usually requires changes at strategic and tactical levels. Conversely, failure is usually marked by the inability of

management to define the steps that must be taken in driving complex supply chain components in the same direction.

The procurement process itself consists of several activities in the supply chain ranging from company needs, finding suppliers, negotiating, requesting delivery, to receiving bills and making payments. The project owner is the first link to place the order. After the project owner makes the desired order, production plan is prepared to produce the required products. At this stage planning will also consider the need for raw and supporting materials. After receiving the production plan, in this case the need for raw materials and supporting materials, the procurement process will be carried out and all information related to the work will be conveyed during the auction process. After raw materials and supporting materials are obtained, quality and accuracy are approved by the project owner and stored in a warehouse for production needs. The production department will use raw and supporting materials supplied by these suppliers to carry out the production process. The finished goods are then put into a warehouse and ready to be sent in accordance with the specified schedule. Delivery to the warehouse must meet the desired schedule. Effective management is needed in this process to ensure harmony and effective communication between all business units. In other words, there are many aspects that need to be considered in the supply chain, such as products distribution, raw material retrieval, quality testing, product storage and more. Due to its importance, the supply chain can also be said to be a core part of the company's corporate strategy. The main objective to be achieved from the implementation of supply chain management is to maximise the value generated as a whole by the company.

Conclusions

Procurement strategy is very important for electricity companies to fulfil electricity needs. Proper, fast and efficient procurement will provide a large profit for the company in order to support growth. Security guarantees are needed for investors to invest in the electricity infrastructure sector to provide benefits and a sense of security and be able to provide welfare for the community. However, it is necessary to have a clear legal basis for the company in carrying out this procurement considering that there is a possibility that legal problems will arise in the future for the executor of the procurement.

This study has discovered relationships and working models between project owners, planning, procurement, warehousing, production and transportation in supply chain management theory in the procurement process especially regarding electricity companies in Indonesia.

REFERENCES

- Chong, Alain YL, et. al. (2011). Can Malaysian firms improve organisational /innovation performance via SCM? *Industrial Management & Data Systems*, 147,108,174-187.
- Chong, Alain Yee-Loong, et. al. (2009). Factors affecting the adoption level of c-commerce: An empirical study. *Journal of Computer Information Systems*, 50, 2, 13-22.
- Belenky, A. S. (2015). Finding an optimal strategy of incorporating renewable sources of energy and electricity storing systems in a regional electrical grid. *Energy Systems*, 6(2), 291-308.
- Anderson, D.L, Britt, F.F., Dan Favre, D.J. (1997) “*Supply Chain Management Review: The 7 Principles of Supply Chain Management.*”
- Alrazi, B. N. A Shaiful, B. and Mat, H. N. (2016). “A preliminary analysis of carbon disclosure among the electricity generation companies in Asia.” *International Journal of Innovation, Management and Technology* 7. 2, 67.
- Blau, Benjamin, et. al. (2009). “How to coordinate value generation in service networks.” *Business & Information Systems Engineering* 1. 5, 343.
- Caroline, B. (2010), *Strategic Procurement – Organising Suppliers and Supply Chains for Competitive Advantage*, 120 Pentonville Road London N1 9JN United Kingdom.
- Cohen, S. and Roussel, (2005), *Strategic supply chain management, the five disciplines for top performance*. McGraw-Hill United States of America.
- Creswell, J. W. (2012), *Research design: Pendekatan kualitatif, kuantitatif dan mixed*. (Terjemahan dari Qualitative, Quantitative, and Mixed Methods Approaches, Third Edition, SAGE Publications, California, Thousand Oaks-2009), Cetakan II, Yogyakarta, Pustaka Pelajar.
- Darman M. Moses, A. S. (2014) *The first mover advantage of solar module players in Indonesia: A Case Study of PT. LEN Industry*.
- Dimitri, N. et. al. (2006) *Handbook of procurement* Cambridge University Press, New York.
- Eric Hittinger, Jay Apt, J F Whitacre (2014) “*The effect of variability-mitigating market rules on the operation of wind power plants.*”
- Evangelia Fragouli, Adedolapo Akapo (2014) “*National Oil Companies; Energy Market: The Energy Matrix Change and Its Implications.*”
- F D'Errico, G Perricone, R Oppio (2009) “*A New Integrated Lean Manufacturing Model for Magnesium Products.*”
- F Karlsson, P Rohdin, M-L Persson (2007) “*Measured and predicted energy demand of a low energy building: important aspects when using Building Energy Simulation.*”
- Faucher, Philippe and Fitzgibbons, Kevin (1992) “*The Political Economy of Electrical Power Generation: Procurement Policy and Technological Development in Quebec, Ontario and British Columbia.*”
- Fen-May Liou, Chih-Pin Huang, Borliang Chen (2012) “*Modelling Government Subsidies and Project Risk for Financially Non-Viable Build-Operate-Transfer (BOT) Projects.*” Finch,

- Byron J., (2006) *“Operations Now: Profitability, Processes, Performance,”* 2nd edition, McGraw-Hill.
- Finon Dominique, Pignon, Virginie (2008) *“Electricity and long-term capacity adequacy: The quest for regulatory mechanism compatible with electricity market.”*
- Florence YY Ling, Peng Chong Tan, Yan Ning, Albert Teo, Asanga Gunawansa (2015) *“Effect of adoption of relational contracting practices on relationship quality in public projects in Singapore.”*
- Grbich, Carol (2007), *Qualitative Data Analysis, an introduction*, London, SAGE Publication Ltd 1 Oliver Yard 55 City Road.
- Gary P Moynihan, Dimos Triantafillu (2012) *“Energy Savings for a Manufacturing Facility Using Building Simulation Modeling: A Case Study.”*
- Gerald Ondrey (2008) *“Fuel Cells Move Into the CPI Plant.”*
- Ginas de RusM. Pilar Socorro (2010) *“Infrastructure Investment and Incentives with Supranational Funding.”*
- Guidelines IBRD, 2014, *Procurement of Goods, Works, And Non-Consulting Services*, Under IBRD Loans and IDA Credit & Grants By World Bank Borrowers, January 2011- Revised July 2014, Classification: Public.
- Guritno, Adi Djoko dan Harsasi, (2013), *Manajemen Rantai Pasok*, Universitas Terbuka, Banten Cetakan kelima, Edisi Kesatu.
- Hans C. Curtius Karoline Kanzel Moritz Loock (2012) *“Generic customer segments and business models for smart grids.”*
- Hardjomuljadi, Sarwono dkk (2006), *Strategi Klaim Konstruksi Berdasarkan FIDIC Conditions of Contract*, Pola Grade Cetakan ke 1.
- Heizer, Jay & Barry Render (2008) *“Operations Management,”* 7th edition, Prentice Hall.
- Heng Lim, Benson Teck, (et. al.,) (2010) *“The Survival Strategies of Singapore Contractors in Prolonged Recession.”*
- Hervé Corvellec (2007) *“Arguing for a license to operate: the case of the Swedish wind power industry.”*
- Hsueh-Ming Steve Wang, Karl M Spohn, Lu Ann Piccard, Lei Yao (2010) *“Feasibility Study of Wind Power Generation System at Arctic Valley.”*
- Hua Wang (2008) *“Innovation in product architecture” A study of the Chinese automobile industry.”*
- Huifeng Pan, Yingqi Liu, Hongwei Gao (2015) *“Impact of agricultural industrial structure adjustment on energy conservation and income growth in Western China: a statistical study.”*
- Il Ryu, Soon Hu So, Chulmo Koo (2009) *“The role of partnership in supply chain performance.”*
- Jan Abrell Friedrich Kunz (2015) *“Integrating Intermittent Renewable Wind Generation – A Stochastic Multi-Market Electricity Model for the European Electricity Market.”*
- Javad Khazaei, Golbon Zakeri, Geoffrey Pritchard (2014) *“The effects of stochastic market clearing on the cost of wind integration: a case of New Zealand electricity market.”*

- Jay Na Lim, Frank Peltner (2011) *“Innovation performance of construction enterprises: A empirical assessment of the German and Singapore construction enterprises.”*
- Jose Tongzon (2007) *“Determinants of Competitiveness in Logistics: Implications for the ASEAN Region.”*
- Jun Ying Liu, Sui Pheng Low, Miaomiao Niu (2011) *“Challenges and opportunities for cross border acquisitions by Chinese construction enterprises.”* Kitchenham, B. and Charters, S. (2007), *Guidelines for Performing Systematic Literature Reviews in Software Engineering*. Technical Report EBSE-2007-01, school of Computer Science & Mathematics, Keele University. Kitchenham, B. (2007), *The Current State of Evidence-based Software Engineering*. International Conference on evaluating & assessment in software engineering. Kotler, P. and Keller, Kevin Lane (2016), *Manajemen Pemasaran*, Edisi kedua belas Jilid 1, (terjemahan bahasa Indonesia), Jakarta: PT Indeks.
- Kotler, P., et al., (2006), *Marketing*, 7th Edition Pearson Education, Australia-Prentice Hall.
- Mark B. (2006). *Applying multiple perspectives to the BPO decision: A Case Study of Call Centres in Australia*. Masterman, W. E. J. (2002). *An introduction to building procurement systems*. Spon Press 11 New Fetter Lane, London EC4P 4EE, 2nd edition.
- Brodkorb, M. et al. (2007). Energy management: Consider supply and demand. *Chemical Engineering* 114.6. 42.
- Davis, P. and Peter, L. (2011). Alliance contracting: Adding value through relationship development. *Engineering, Construction and Architectural Management*. 17, 12.158-168.
- Pujawan, N. and Mahendrawathi, (2017), *Supply chain management*. Andi Offset Yogyakarta, Edisi 3.
- Rowlinson, S. and MC, D. P. (1999), *Procurement systems, a guide to best practise in constructions*. E&FN Spon 11 New Fetter Lane, London EC4P 4EE.
- Sehgal, V. (2009). *Enterprise supply chain management, integrating best in class processes*. John Wiley & Sons, Inc., Hoboken, New Jersey. Siahaya, W. (2013). *170 tindak pelanggaran pengadaan barang dan jasa mencegah dan menghindari*, LPKN, Jakarta.
- Thai, K. V. (2009), *International handbook of public procurement*, Auerbach publications Taylor & Francis group 6000 broken sound parkway NW. Suite 300 Boca Raton, FL 33487-2742.
- Walker, D. and Hampson, K. (2003), *Procurement strategic-a relationship-based approach*, Blackwell science. Ltd. A Blackwell Publishing Company Editorial Officers: Osney Mead, Oxford OX2 0EL. UK.