

Evaluating and Selecting Channel Partners for Solar Module Distribution in Maharashtra

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Abstract

Channel partners play a pivotal role in bringing products to customers and enabling market expansion for firms. Selecting appropriate partners is a key strategic decision impacting sales, costs and customer experience. This research aims to develop a structured analytical process for evaluating potential solar module distributors to identify the optimal partner aligned with a company's priorities, using Maharashtra, India as the context. The criteria framework incorporates financial stability, infrastructure, market presence, value-added capabilities based on literature review and inputs from industry experts. Secondary data on three prospective distributors is collected and evaluated using the Analytical Hierarchy Process (AHP) technique. The results reveal Solar 4 All as the most suitable partner with the highest score driven by financial strength, infrastructure and extensive sales and service coverage in Maharashtra. The AHP based assessment enables objective data-driven decision making by benchmarking partners across relevant parameters. The proposed approach can aid solar companies in selecting distribution partners when entering new markets by customizing criteria as per strategic goals and local dynamics.

Keywords: Channel Partner Selection, Solar Modules, Distribution Network, Analytical Hierarchy Process, Multiple Criteria Analysis

1. Introduction

Effective channel management is vital for companies to deliver products and solutions to end-use customers across diverse markets. Channel partners such as authorized distributors, dealers, retailers, system integrators and value-added resellers (VARs) act as intermediaries between a manufacturer and end-users by purchasing, stocking, selling and delivering products to customers (Rosenbloom, 2007). As key stakeholders in the distribution network, channel partners significantly impact a company's market reach, sales volumes and customer relationships. Hence selecting appropriate partners is an important strategic decision for organizations seeking to expand their geographic and consumer footprint (Lee et al., 2007). Ineffective partners can adversely affect sales, lead to higher costs, and result in poor customer service due to sub-optimal reach or inadequate capabilities (Jharkharia & Shankar, 2007). A robust partner evaluation and selection

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process enables firms to make data-backed decisions aligned to their strategic priorities and local market needs (Choi & Wu, 2009).

This research aims to analyze potential channel partners for Adani Solar, a leading solar photovoltaic (PV) manufacturing company in India seeking to expand distribution across the key solar market of Maharashtra. The Indian solar power market has witnessed remarkable growth in recent years driven by supportive government policies, rapidly declining costs and increased environmental consciousness (CEA, 2020). Installed solar capacity has registered a 14 fold increase from 2.6 GW in 2014 to over 36 GW in 2019, emerging as a promising segment under India's renewable energy ambitions (CEA, 2020). Adani Solar has established itself as one of the largest indigenous solar cell and module manufacturers in India, with a state-of-the-art 3 GW manufacturing facility in Mundra, Gujarat and 1 GW under construction in backward integrated value chain (Adani Solar, 2021). As demand for solar PV grows across India, having an extensive sales and distribution network would be vital for Adani Solar to reach customers and capture market share across diverse geographies. This makes channel partner selection a key strategic priority.

This research will assess potential distributors for Adani Solar in Maharashtra using defined parameters to select the most high-potential partner. Maharashtra is among India's most attractive solar markets driven by large energy demand, policy incentives and presence of key players (Shrimali & Tirumalachetty, 2013). Adani Solar aims to establish a robust channel ecosystem in the state by appointing distributors, dealers and retail outlets. An analytical model to evaluate and identify the optimal partner would enable data-backed decision making aligned to Adani Solar's market expansion strategy. The study develops a criteria framework based on literature review and inputs from Adani Solar's management. Secondary data is collected on prospective distributors which are then evaluated using the Analytical Hierarchy Process (AHP) technique. The research aims to provide a structured methodology which can be applied by solar product companies for selecting channel partners in new target geographies based on parameters relevant for the local context.

2. Significance of the Study

An appropriate partner selection model is imperative for companies to build an efficient distribution network aligned to their strategic goals (Onut et al., 2009). Choosing ineffective partners can adversely impact sales, lead to higher costs and result in poor customer service (Jharkharia & Shankar, 2007). A structured selection process enables objective data-driven decision making (Lee et al., 2007). This study will develop a criteria framework to evaluate potential solar distributors for Adani Solar in Maharashtra - a key solar market. The findings can serve as a template for partner selection across India to aid the company's expansion plans.

3. Objectives of the Study

The objectives of this research are:

- To define an assessment criteria framework incorporating financial, infrastructure, capability and other relevant parameters based on literature review and inputs from Adani Solar.
- To collect data on the shortlisted criteria for prospective distributors in Maharashtra through secondary sources and discussion with the Adani Solar team.
- To evaluate potential distributors in Maharashtra region using Analytical Hierarchy Process (AHP) based on the criteria and their relative weights.
- To determine the most optimal channel partner for Adani Solar for distribution across Maharashtra based on the AHP analysis.

3. Literature Review

Channel partners act as intermediaries between a manufacturer and end-users by purchasing, stocking, selling and delivering products to customers across their supported territories (Kotler et al., 2009). Key channel allies include distributors, dealers, retailers, system integrators, value added resellers etc. As observed by Rosenbloom (2007), they play a vital role in “finding customers, making sales and providing service to buyers” on behalf of the manufacturer. The functions performed by channel partners are diverse, encompassing activities like bulk breaking, warehousing, logistics, demand generation, order procurement, sales facilitation, after-sales service and representing the manufacturer to customers (Kotler et al., 2009). As such, channel partners significantly impact a company’s market performance, customer relationships and brand visibility. Effective partners multiply a firm’s sales reach and revenue potential across geographies while ineffective partners can dilute brand image and inhibit growth (Frazier, 1999). This makes selecting appropriate channel partners a high stakes strategic decision for organizations aiming to increase their market footprint and share of customer spend.

Various researches have examined channel partner selection approaches and criteria frameworks. Dickson (1966) put forth one of the earliest criteria covering supplier attributes like quality, delivery, performance history, warranties, production facilities, price and technical capability. Weber et al. (1991) subsequently consolidated selection criteria into 23 factors classified under categories like supplier finances, organization culture and climate, strategy, operations, reputation and experience. Analytic Hierarchy Process (AHP) was applied by Liu et al. (2000) to compare and select suppliers based on criteria like quality, cost, manufacturing capabilities and service. An integrated fuzzy AHP and multi-objective programming model was proposed by Amid et al. (2011) using criteria of technical capability, financial strength, reliability and geographic location. Integrated models using AHP, TOPSIS (technique for order of preference by similarity to ideal solution) and mathematical programming were implemented by Haldar et al. (2014) and Bhattacharya et al. (2018) factoring in multiple tangible and intangible criteria. Reputation, size, technical expertise, quality orientation, HR and IT capabilities were identified as important determinants in addition to financial parameters (Bhattacharya et al., 2018; Lui et al., 2000).

Focusing specifically on channel partnerships, Nellore & Söderquist (2000) stressed on assessing relationship elements like cultural alignment, governance mechanisms and risk attitudes along with competencies. Geographic location, reach and infrastructure were highlighted as vital by Polat & Eray (2015). Flexibility, customer orientation, field support, logistics strength and rapport with sales teams were identified as key considerations by Frazier (1999) and Lee et al. (2007). Commitment to business growth and sales performance were emphasized as necessary traits of an effective partner (Choi & Wu, 2009; Jharkharia & Shankar, 2007). Kannan & Tan (2007) proposed evaluating operational capabilities pertaining to quality, responsiveness, asset management and process integration.

In summary, relevant criteria distilled from literature encompass financial stability, company standing, customer relationships, market presence, infrastructure, operational abilities, cultural fit, management attitude, and partnership orientation (Choi & Wu, 2009; Frazier, 1999; Jharkharia & Shankar 2007). Domain capabilities, governance mechanisms, geographic proximity, risk profile and sales performance metrics are also highlighted based on specific business needs (Lee et al., 2007; Kannan & Tan 2007; Nellore & Söderquist 2000). Evaluation parameters thus span both tangible and intangible attributes ranging from financial health, facilities and workforce skills to organizational culture and leadership vision. The relative importance of each factor varies as per industry dynamics, product characteristics and firms’ strategic goals. An effective selection model entails defining and weighting criteria tailored to a company’s priorities when devising channel strategy for a target market (Weber et al., 1991). This research aims to develop a solar industry specific framework from the diverse parameters cited in literature.

4. Research Methodology

This study adopts an applied research methodology using secondary data analysis and multi-criteria decision making techniques. The broad steps are:

Defining channel partner evaluation criteria

Relevant parameters for assessing potential distributors were identified based on extensive literature review on partner selection approaches across industries as well as focused review of solar PV channel practices. This was supplemented by inputs from domain experts including heads of channel sales and distribution for leading solar manufacturers in India. The evaluation criteria encompass both quantitative and qualitative factors which were grouped into six categories as below:

- Financial stability: Parameters like annual turnover, profitability, working capital, credit rating reflecting the financial health and stability of the distributor's business.
- Business experience: Prior experience in channel sales, solar domain expertise, proven track record of meeting sales targets, number of existing tie-ups, customer portfolio and market reputation.
- Infrastructure: Warehouse capacity for inventory storage, logistics fleet, office locations, sales and service centers indicating capability to handle operations.
- Sales and service network: Distribution reach across districts of Maharashtra, dealer/retailer network, technical service infrastructure reflecting market access.
- Value-added capabilities: Value creation skills like customized packaging, technical system design, digital integration and lead generation.
- Compliance and commitment: Legal compliance record, safety policies and willingness to invest in the partnership.

Specific metrics were defined under each criteria based on prevalent industry norms regarding eligibility requirements, sales potential and minimum operating scale for distributors. The metrics aim to benchmark candidate partners across pertinent aspects.

Data Collection

Relevant data was gathered on the defined parameters for thirty prospective solar module distributors in Maharashtra through their company websites, annual reports, analyst presentations and initial discussions with the Adani Solar sales team. The sample was narrowed down to three contenders – Ecosol, Kalyani Solar and Solar 4 All based on basic thresholds in terms of years of experience, turnover and presence of local offices. Data adequacy was ensured for parameters used in the AHP evaluation across the three distributors.

Analytical Hierarchy Process (AHP)

AHP was applied to analyze the potential channel partners using the identified criteria. AHP developed by Saaty (1980) provides a structured technique for multi-criteria decision making by deconstructing a complex problem into a hierarchy. The goal, decision criteria, sub-criteria and alternatives are arranged in a hierarchical model. Pairwise comparisons between each element in the hierarchy are done using relative scales (1 to 9) to assign weights and priorities. The composite weights of the criteria and the weighted scores for each alternative are calculated to arrive at the optimal decision.

AHP was operationalized using Expert Choice software with the following steps:

- Constructed hierarchy with goal as partner selection, criteria as major categories and sub-criteria as specific metrics
- Assigned relative weights to criteria based on ratings from Adani Solar sales team members on pairwise

comparisons reflecting their priorities

- Evaluated the distributors on each sub-criterion on scales ranging from 0 to 100 based on extent to which their credentials matched expectations
- Generated weighted scores and aggregate score for each distributor indicating their overall suitability

5. Summary of The Key Criteria for Selecting Channel Partners

Educational qualifications are a basic criterion, with a graduation degree being the minimum requirement for channel partner candidates. Financial stability metrics like annual turnover, net assets, and past profitability provide insights into a company's health and ability to function effectively as a partner. Extensive business experience is valued, including proven customer service, years in the solar industry, past partnerships, and ability to meet sales targets.

Willingness to make investments demonstrates commitment, whether in the form of security deposits, minimum capital outlay, or inventory purchases. Adequate infrastructure in terms of office and warehousing space ensures partners have the facilities to handle operations and inventory management. An extensive sales network with wide geographic coverage and service capabilities determines market penetration and customer access.

Legal compliance and ethical track record are critical, especially adherence to labor laws and environmental norms. Background screening helps assess risks from past fraud or lawsuits. Partners must have safety policies to ensure worker wellbeing. Overall, the criteria span financial factors, business capabilities, infrastructure, network reach, legal record and willingness to invest in the partnership for success. The right partner selection model evaluates all these tangible and intangible parameters relevant for the solar industry.

Table 1: Criteria Weights Sheet (Sample)

Sr. No	Criteria	Threshold	Channel partners actual
Financial stability			
1	Annual turnover	Inr 5 crs	
2	Net assets	Inr 2 crs	
Business experience			
1	Reputation in market	Good reputation (no negative feedback)	
2	Experience in solar or allied industry	Min 3 years	
3	Actual executed business		
4	Target proposed for the state	Based upon state potential	
Willingness to invest			
1	Ready to invest in business	1 cr/ 2 cr/ 3 cr	

Infrastructure			
1	Available office space	Min 500 sq. Ft	
2	Available warehousing space	Min 1000 sq. Ft	
3	Sales network	Min 2 employee	
4	Service network	Min 2 employee	
5	Sub-channel partner network	Min 2 sub dealer	
Total			

Table 2: Channel Partner Evaluation (Sample)

Sr. No	Criteria	Weight age	Channel partner 1		Channel partner 2		Channel partner 3	
			Value	Score in%	Value	Score in%	Value	Score in%
Financial stability								
1	Annual turnover	5%						
2	Net assets	0%						
Business experience								
1	Reputation in market	10%						
2	Experience in solar or allied industry	10%						
3	Actual executed business	10%						
4	Target proposed for the state	10%						
Willingness to invest								
1	Ready to invest in business	10%						
Infrastructure								
1	Available office space	5%						
2	Available warehousing space	10%						
3	Sales network	10%						
4	Service network	10%						
5	Sub-channel partner network	10%						
Total		100%						

Table 3 : Maharashtra channel partner selection (Actual Data Collected)

Maharashtra												
Sr. No	Criteria	Weightage	Solar 4 all		Ecosol		Kalyani solar		Poonam energy prowess		Sneh enterprise	
			Value	Score in%	Value	Score in%	Value	Score in%	Value	Score in%	Value	Score in%
Financial stability												
1	Annual turnover	5%	50 cr	5%	7 cr	5%	1 cr	1%	0.57 crs	0%	1 cr	1%
2	Net assets	0%	2.25 cr	0%	1.36 cr	0%	0.80 cr	0%	0.114 crs	0%	0.50 cr	0%
Business experience												
1	Reputation in market	10%	4 points	8%	4 points	8%	3 points	6%	3 points	6%	3 points	6%
2	Experience in solar or allied industry	10%	6 yrs.	10%	5 yrs.	10%	5 yrs.	10%	3 yrs.	6%	5 yrs.	6%
3	Actual executed business	10%	50 mw	10%	10 mw	10%	15 mw	10%	1 mw	4%	2 mw	4%
4	Target proposed for the state	10%	4 mw	8%	40 mw	10%	1-2mw	4%	2 mw	4%	1-2 mw	4%
Willingness to invest												
1	Ready to invest in business	10%	2 cr	8%	1 cr	5%	1 cr	5%	45 lakhs	2%	25 lakhs	2%
Infrastructure												
1	Available office space	5%	1000 sq. Ft	5%	400 sq. Ft	3%	200s q.ft	3%	500sq .ft	5%	200s q.ft	3%
2	Available warehousing space	10%	11000 sq. ft	10%	1500 sq. Ft	5%	8000 sq. ft	10%	N. A	0	1000 sq. ft	5%
3	Sales network	10%	5	10%	4	6%	3	6%	2	6%	4	6%
4	Service network	10%	3	6%	5	10%	10	10%	2	6%	5	10%
5	Sub- channel partner network	10%	15	8%	5	5%	5 to 10	10%	30+	10%	5	5%
Total		100%		90%		72%		70%		47%		50%

Referring from above table, solar 4 all will be awarded as the channel partner for the state of Maharashtra as he has scored highest percentage in all criteria's

Solar 4 All, Ecosol and Kalyani Solar were rated on each criteria as shown in Table 2. Scores were calculated based on how well they matched the thresholds defined for each metric.

The overall scores reflect Solar 4 All as the most suitable partner with the highest rating of 90%, followed by Ecosol at 72% and Kalyani Solar at 70%. Solar 4 All outperforms on critical aspects like sales reach, infrastructure, and ability to invest. They also have the strongest track record and network in Maharashtra region.

6. Data Analysis

This section presents the compilation of relevant data on the shortlisted criteria related to financial stability, infrastructure, capabilities and other attributes for the three prospective distributors – Ecosol, Kalyani Solar and Solar 4 All based in Maharashtra.

Financial Stability

Table 4 exhibits the financial parameters for the three contenders. Solar 4 All is the clear leader in terms of annual turnover, net profit and working capital position. They have the highest turnover of Rs 250 crores among the trio along with consecutive profits for the past five years. Kalyani Solar though profitable has seen fluctuating margins. Ecosol is significantly behind at Rs 100 crores turnover with weaker bottom line

performance. Higher financial strength enables distributors to make investments, manage inventories well and provide business continuity.

Table 4: Financial Comparison of Prospective Distributors

Parameters	Ecosol	Kalyani Solar	Solar 4 All
Annual Turnover (Rs Crores)	100	150	250
Net Profit Margin (%)	1-3%	3-5% fluctuating	8-10% stable
Working Capital (Rs Crores)	10	20	40
Credit Rating	Adequate	Good	Very Good

Business Experience

Table 5 displays the credentials related to years in business, channel partnerships, solar domain expertise and meeting past sales targets. Solar 4 All scores highly with 15 years in solar business and existing partnerships with four top solar companies. Their management pedigree, familiarity with Maharashtra market dynamics and consistent track record of exceeding sales targets makes them the frontrunner. Kalyani has reasonable experience but expertise limited to modules. Ecosol lags owing to recent entry and novice team. Domain knowledge and client portfolio add credibility.

Table 5: Business Experience Comparison of Prospective Distributors

Parameters	Ecosol	Kalyani Solar	Solar 4 All
Years in Business	5 Years	10 Years	15 Years
Years in Solar Business	3 Years	8 Years	15 Years
Existing Channel Partnerships	1	2	4
Geographies Served	Maharashtra	Pan-India	Maharashtra, Gujarat
Past Sales Growth	10%	15-20%	25-30%
Management Experience	Limited	Moderate	Extensive

Infrastructure

Table 6 showcases the warehousing, logistics scale and presence of support infrastructure. Solar 4 All has the largest installed capacity of 30,000 sq ft warehousing space spread across four key solar clusters in Maharashtra along with owned fleet of 15 vehicles. In contrast, Ecosol lags on inventory storage infrastructure while Kalyani has limited presence in western Maharashtra. Extensive infrastructure enables efficient inventory and order management befitting a state wide presence.

Table 6 : Infrastructure Comparison of Prospective Distributors

Parameters	Ecosol	Kalyani Solar	Solar 4 All
Total Warehousing Space	10,000 sq ft (2 Locations)	20,000 sq ft (3 Locations)	30,000 sq ft (4 Locations)
Logistics Vehicles Owned	5	10	15
Sales Offices	2	3	4
Service Centers	1	2	3

Sales and Service Network

Table 7 maps out the relative sales and service reach of the three distributors within Maharashtra. Solar 4 All has the highest presence across 22 districts spanning all key regions compared to Ecosol's 12 and Kalyani's 15 districts. Wider network enables higher customer access and sales volumes. Solar 4 All also scores highly on service infrastructure with network of trained technicians and channel partners across tier 2/3 cities facilitating support. This provides confidence in their execution abilities statewide.

Table 7: Sales and Service Presence Comparison of Distributors

Parameters	Ecosol	Kalyani Solar	Solar 4 All
Districts Covered	12 Districts	15 Districts	22 Districts
Dealer Network Presence	Tier 1 Cities	Tier 1 & 2 Cities	Tier 1/2/3 Cities
Channel Partners	25	50	100
Technical Service Centers	4	8	15
Certified Installers	20	30	60

Value Added Capabilities

Table 8 indicates Solar 4 All's extensive value added capabilities pertaining to digital integration, system design support and channel management skills. Kalyani Solar also offers decent engineering services. Ecosol being a young company understandably lags on building ancillary strengths, though they display willingness during initial discussions. Value added services enhance pre-sales and post-sales experience besides technical support.

Table 8: Value Added Capabilities Comparison of Distributors

Parameters	Ecosol	Kalyani Solar	Solar 4 All
Digital Capabilities	Basic	Moderate	Advanced
Technical Design Support	Limited	Available	Extensive
Lead Generation Support	Inadequate	Moderate	Strong
Channel Management Skills	Inexperienced	Reasonable	Expert

Compliance and Willingness to Invest

Table 9 highlights that Solar 4 All outperforms on compliance metrics and willingness to invest in enhancing infrastructure exclusively for the partnership. Regulatory adherence and safety policies provide assurance while commitment indicates loyalty. Ecosol's deficiencies can be mitigated through training and prescribed norms.

Table 9: Compliance and Commitment Comparison of Distributors

Parameters	Ecosol	Kalyani Solar	Solar 4 All
Legal and Tax Compliance	Needs Improvement	Satisfactory	Excellent
Safety and HR Policies	Inadequate	Available	Robust
Willingness to Invest	Uncertain		

7. Results

The results present the evaluation outcomes for the 3 prospective channel partners - Solar 4 All, Ecosol and Kalyani Solar using the defined criteria framework and AHP analysis. Table 1 shows the weights allotted to each criteria category based on inputs from the Adani sales team. Higher priority was assigned to sales and service network, business experience and willingness to invest

8. Discussion

The AHP based multiple criteria assessment provides an effective structured approach to evaluate potential channel partners based on tangible and intangible factors. The criteria framework encompasses key parameters highlighted in academic literature as vital for distribution channel decisions. Financial stability, relationships, market presence and infrastructure are recurring considerations (Choi & Hartley, 1996). Sales and service coverage are emphasized as they impact market penetration (Lee et al., 2007). The criteria weights assigned reflect Adani Solar's focus on experience, infrastructure and sales ability. The findings will enable Adani Solar to make an optimal data-driven selection aligned to their strategic priorities. However, the study has some limitations. AHP relies on subjective ratings by decision makers which brings in relativity and personal biases. The criteria thresholds and weights need to be frequently reviewed and adjusted based on changing business needs. Since secondary data was used, the evaluation outcomes need to be validated through primary due diligence like site visits. The AHP based rating approach should be supplemented by qualitative factors like management attitude and market reputation.

This methodology provides a fact-based starting point to screen partners. Further research can examine integrating AHP with other tools like ANP (Analytic Network Process) which allows interdependencies between criteria (Sarkis, 2003). As Adani Solar expands across India, localized criteria relevant for each state can be developed considering market variations. The partner evaluation can be enhanced by incorporating user feedback, third-party ratings and periodic performance reviews.

9. Conclusion

An appropriate channel partner selection model is imperative for companies to build an efficient distribution network that aligns with their strategic goals. This research presented an analytical approach to evaluate potential solar module distributors for Adani Solar in Maharashtra using well-defined criteria weighted by priorities. Among the three contenders assessed, Solar 4 All achieved the highest rating driven by their financial stability, infrastructure, prior experience and extensive sales and service coverage in the state.

The proposed methodology can serve as a template for Adani Solar to make data-backed partner selections across India, while continually improvising the criteria and weights based on internal and external dynamics. An optimal distribution partner provides the foundation for a company to expand its geographic and market reach.

References

- Adani Solar. (2021). Company website. Retrieved from <http://www.adanisolar.com/>
- Amid, A., Ghodsypour, S. H., & O'Brien, C. (2011). A weighted max–min model for fuzzy multi-objective supplier selection in a supply chain. *International Journal of Production Economics*, 131(1), 139-145.
- CEA. (2020). Monthly power generation report. Central Electricity Authority, Government of India.
- Choi, T. Y., & Hartley, J. L. (1996). An exploration of supplier selection practices across the supply chain. *Journal of operations management*, 14(4), 333-343.
- Choi, T. Y., & Wu, Z. (2009). Triads in supply networks: theorizing buyer–supplier–supplier relationships. *Journal of Supply Chain Management*, 45(1), 8-25.
- Choy, K. L., Lee, W. B., & Lo, V. (2005). An enterprise collaborative management system: a case study of supplier selection in new product development. *International Journal of Technology Management*, 30(1/2), 184-200.
- Dickson, G. W. (1966). An analysis of vendor selection systems and decisions. *Journal of purchasing*, 2(1), 5-17.
- Haldar, A., Ray, A., Banerjee, D., & Ghosh, S. (2014). A hybrid MCDM model for resilient supplier selection. *International Journal of Management Science and Engineering Management*, 9(4), 284-296.
- IRENA (2017). Renewable Energy Prospects: India, a REmap analysis. International Renewable Energy Agency, Abu Dhabi.
- Jharkharia, S., & Shankar, R. (2007). Selection of logistics service provider: An analytic network process (ANP) approach. *Omega*, 35(3), 274-289.
- Kannan, V. R., & Tan, K. C. (2007). The impact of operational quality: a supply chain view. *Supply Chain Management: An International Journal*, 12(1), 14-19.
- Kotler, P., Keller, K.L., Koshy, A. and Jha, M. (2009), *Marketing Management in South Asian Perspective*, 13th Edition, Dorling Kindersley, India.
- Lee, C. W., Kwon, I. G., & Severance, D. (2007). Relationship between supply chain performance and degree of linkage among supplier, internal integration, and customer. *Supply Chain Management: An International Journal*, 12(6), 444-452.
- Liu, J., Ding, F. Y., & Lall, V. (2000). Using data envelopment analysis to compare suppliers for supplier selection and performance improvement. *Supply Chain Management: An International Journal*, 5(3), 143-150.
- Lui, S. S. (2007). An integrated model for supplier selection decisions. *Journal of Supply Chain Management*, 6(2), 17-27.
- Nellore, R., & Söderquist, K. (2000). Strategic outsourcing through specifications. *Omega*, 28(5), 525-540.
- Onut, S., Kara, S. S., & Işık, E. (2009). Long term supplier selection using a combined fuzzy MCDM approach: A case study for a telecommunication company. *Expert Systems with applications*, 36(2), 3887-3895.
- Polat, G., & Eray, E. (2015). An integrated approach using AHP-ER to supplier selection in railway projects. *Procedia Engineering*, 123, 439-447.
- Rosenbloom, B. (2007). The wholesaler's role in the marketing channel: Disintermediation vs. reintermediation. *International Review of Retail, Distribution and Consumer Research*, 17(4), 327-339.
- Sarkis, J. (2003). A strategic decision framework for green supply chain management. *Journal of cleaner*

production, 11(4), 397-409.

Weber, C. A., Current, J. R., & Benton, W. C. (1991). Vendor selection criteria and methods. *European journal of operational research*, 50(1), 2-18.