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Green Supplier Analysis on Entrepreneur Students

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ABSTRACT

This paper aims to focus on the development of a green supplier selection model using a factor analysis. There are 25 research indicators with 5 classifications. The research was carried out in 3 stages, namely the first stage exploring green supplier indicators, the second stage distributing questionnaires to respondents regarding 25 indicators, and the third processing the data using factor analysis. The research population was entrepreneurial students in Malang because no data on entrepreneurial students was found, the research sample was taken as 30, consisting of 5 respondents from each university. The research results show that 25 indicators are valid and reliable, from a classification of 5 they developed into 8 green supplier selection factors. The 8 factors are: delivery assurance, environmental quality, green assurance, environmental, delivery relationship, cost, conform quality

Introduction

Today's international business environment has required many firms to focus on green supply chain management to gain a competitive advantage (Liao et al., 2015). Green Supply chain management (GSCM) is a process of systematizing and amalgamating diverse activities, starting from the customer's order to end product delivery in a well-organized manner. The competition among modern enterprises is equivalent to the competition among the supply chains to which those enterprises belong, and supplier selection is a critical aspect of supply chain management (Liu et al., 2019). The selection of potential suppliers has been acknowledged as one of the critical issues that an organization faces while maintaining a strategically competitive position (Gupta et al., 2019). Selecting suitable suppliers considerably reduces material purchasing costs, increases flexibility and product quality, and eventually helps to accelerate the process of material purchasing (Yazdani et al., 2017).

Competitive markets have forced companies to focus on environmental issues aligned with other critical factors (e.g. Cost, quality, service level, etc.) to increase the supply chain surplus (Galankashi et al., 2015). Supplier selection is a key

operational task for developing sustainable supply chain partnerships (Kannan et al., 2013). With the increasing environmental awareness, apparel manufacturers have begun to consider environmental issues in supplier evaluation and selection (Guo et al., 2017). fiercely competitive environment the selection of appropriate suppliers is a significantly important decision for effective and efficient supply chain management (Branch & Street, 2015).

Green supplier evaluation and selection play a crucial role in the green supply chain management of any organization to reduce the purchasing cost of materials and increase the flexibility and quality of products. Owing to the recently escalated changes in the world's climate, green supplier selection is considered a key element for companies to help protect the world environment and maintain their competitive advantages in the global market (Van et al., 2018). Currently, companies, particularly in the developing nations, have to enhance the effectiveness of their green supply chain management activities to survive in the global marketplace (Wang et al., 2017).

Increasing air, air, and land pollution has increased public awareness of the importance of taking environmentally friendly actions. One of the actions taken by the company is implementing the concept of green supply chain management (GSCM). GSCM aims to balance economic, environmental, and social performance by reducing the impact of products/services on the environment and improving the environmental image. Determining the best supplier in the green supply chain has become a key strategic task for a firm (Liao et al., 2015). Major strategic activities include the evaluation of suppliers, selection of suppliers, and managing the supplier relationships. However, there is a big challenge for companies that have relationships with a large number of suppliers (Bai et al., 2017).

They expect to find suppliers to cooperate for the long term and establish complete supply chain relations to meet the enterprise's needs and therefore achieve a win-win result for both suppliers and enterprises (Chung et al., 2016). One of GSCM's activities is to encourage company collaboration with suppliers for long-term benefits. Green suppliers that embed "green" initiatives enable companies to reduce environmental risk, minimize production costs, and increase environment performance. Most importantly, they also help the companies to achieve sustainable development. Green supplier selection is gaining increasing interest among researchers and practitioners due to the growing awareness of environmental protection and its long-term effects on business and marketing issues (Konys, 2019). Various factors influence supplier cost selection, green competency, quality, delivery schedule, and environmental management performance (Graham et al., 2015).

Literature Review

Green Supplier

Building competitiveness through an improved environment and greening of practices, products, and services is something organizations have sought (Bai et al., 2017). Green supplier selection is one of the critical decision-making activities to obtain a competitive advantage and achieve GSCM goals. To achieve this firm's objective, the DMs should apply the best method and accurate criteria to solve green

supplier selection problems (Liao et al., 2015). Economic, environmental, and social (Liu et al., 2019). Economic criteria were Cost, Quality, Delivery, Technology, Flexibility, Financial capability Culture, Innovativeness Relationship, Organization, and Production facilities Service. Environmental criteria were Pollution production Pollution control Resource consumption Economic design, Environmental management system, Green image, Green competencies, Green products, Staff environmental training, Management commitment, Green technology Green R&D, and Green purchasing a Green degree. Social criteria were Social responsibility, Energy and resource efficiency, Ethical issues and legal complaints, Commitment to employee health and safety, Respect for policy compliance to government, Work Safety, Information disclosure Stakeholder rights, and employee interests and rights.

Economic, environmental, and social (Van et al., 2018). Economic were Cost, Quality Delivery, Technology Flexibility, Financial capability Culture, and Innovativeness relationships. Environment was Pollution production Pollution control, Resource consumption, Eco-design, Environmental management system Green image, Green competencies, Green product, Staff environmental training, Management commitment, and Green Technology. Social were Social responsibility, Energy and resource efficiency, Ethical issues and legal complaints, and Commitment to the health and safety of employees. Resource consumption (RL), Staff environment training (SET), Service level (SL), Eco-design (ED), Green Image (GI), Environmental management system (EMS), Price/cost (P/C), Pollution control (PC) Quality (Q) (Gupta et al., 2019).

The green Supplier criteria are capability and willingness (Bai et al., 2017). The capabilities are Technology capability/availability of clean technology, Green packaging, Green product design/design for the environment Green transport and packaging, Resource consumption (raw material, energy, water), External recognition, Pollution control/reduction capability Use of environmentally friendly material, Green image, Public disclosure of environmental record, Carbon disclosure EMS, ISO 14001, Senior management support, Environmental training of employees, Collaboration with stakeholders, Energy efficiency Performance awards, Reputation of supplier, Process flexibility Structural flexibility. The willingness is Communication richness, Buyer–supplier relationship closeness, Supplier's commitment to buyer/dependency, Effort in eliminating waste, Commitment to continuous process/product improvement, Commitment to greening, Willingness to invest in specific tech, Long-term relationship, Communication openness, Open to site evaluation, Open to information sharing, Honest and frequent communication and Trust of the buying company.

The green supplier selection criteria include a total of 11 performance evaluation criteria from the three dimensions of operation (finance, customer service, quality, cost), competence (delivery time, response capability, capacity, technical capacity), and environmental consciousness (environmental specification, green image, environmental benefit) (Chung et al., 2016). Purchase cost, quality service, technology capability, environment skill, and delivery performance (Liao et al., 2015). Quality, lead time, flexibility, green design, resource consumption, and environment

performance assessment (Branch & Street, 2015). Green design (regulation, environment performance, economic performance), green purchasing (supplier-customer collaboration, enforcement of stakeholder, quality regulation), green production (green manufacturing, green packaging), green logistic (organization of logistic network, quality of resource, quality of technology), green recycling (reducing activities, remanufacturing, reusing, disposal) (Wang et al., 2017).

Green supplier criteria were green image, environmental performance, environmental competencies, design for environment, green competencies, corporate and social responsibilities, environmental efficiency, environmental authentication, environmental improvement cost, green logistic dimension, green organization activities, environmental certification, suppliers' green image, use of environmentally friendly material, use of environmentally friendly technology, waste management, re-use, recycle, green process innovation, green product, green purchasing, green project partnership and green design (Kannan et al., 2013). Quality, cost, delivery, technology, service, environmental, and competency (Guo et al., 2017). Price Quality Reputation, Service and Delivery Distance, Use of Green Materials, Air Emission, Level Waste Level, Energy Efficiency Green, and Design Capability (Galankashi et al., 2015).
Financial stability (FS), environmental management systems (EMS), waste disposal program (WDP), management commitment (MC), quality control systems (QCS), manufacturing (M), facility (F) and reverse logistics (RL) are considered as CRs, whereas, quality adaptation (QD), price (P), energy and natural resource consumption (ENRC), delivery speed (DS), green design (GD), re-use and recycle rate (RRR) and production planning (PP) are recognized as supplier selection criteria (Yazdani et al., 2017).

Method

The research was conducted by surveying 30 entrepreneurial students in three stages. The first stage is conducting semi-structured interviews to determine the criteria for selecting environmentally friendly suppliers with questions about what is considered in selecting environmentally friendly suppliers. The second stage is to develop environmentally friendly supplier criteria, create a questionnaire, and distribute it to respondents again. The third stage processes the questionnaire results using factor analysis with the help of SPSS.

The research population is entrepreneurial students who have managed a business for at least 2 years, have participated in business competitions, have at least 2 workers, and are in the coaching career center. The research sample consisted of 30 respondents from 6 universities in Malang, they were Brawijaya University, Malang State University, UIN Malang, Malang State Polytechnic, Muhammadiyah University, and Islamic University. The number of samples for each university was 5 respondents.

Figure 1. Research Variable

No	Variable	Indicator
1	Cost is all expenses for company operations	1. Lowest price 2. Logistic cost 3. Quantity discount 4. Price fluctuation 5. Payment

2	Green competency is the company's ability and willingness to apply environmentally friendly activities	1. Green material selection 2. Green image 3. Cleaner production technology 4. Reduce green packaging 5. Pollution prevention
3	Quality is the conformity between what consumers want and what producers fulfill	1. Rejected/returned material 2. Quality assessment 3. Commitment to quality 4. Product quality 5. Assurance
4	Delivery schedule is the company's ability to send and provide products	1. Service performance 2. On-time delivery rate 3. On-time delivery quantity rate 4. Lead time delivery 5. Conformance to delivery schedule
5	Environmental management performance is the result of implementing environmentally friendly activities	1. Use of toxic/restricted substances 2. Waste management 3. Remanufacturing/reuse activity 4. Green Certification 5. Green relationship

Research model

This research is research that combines several research results that are considered to have similarities, the research results from Bai et al. (2017), Liao et al. (2015), Liu et al. (2019), Van et al. (2018), Gupta et al. (2019), Chung et al. (2016), Branch & Street (2015), Wang et al. (2017), Kannan et al. (2013), Guo et al. (2017), Galankashi et al. (2015) and Yazdani et al. (2017).

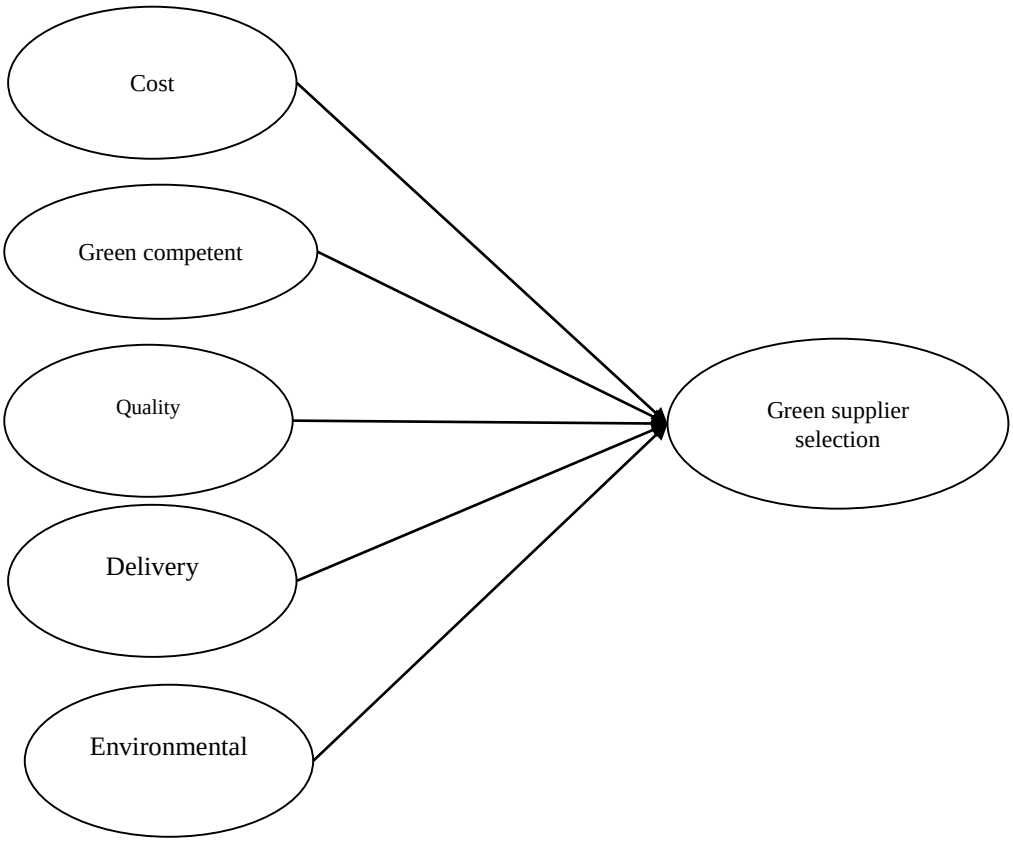

Figure 2. Research Model

Result and Discussion

Result

Demography of Respondent

30 research respondents can be described based on gender, semester, type of marketing, type of business, and payment. The number of female respondents was 40% and male respondents were 60%; 7% in semester I, 17% in semester III, 66% in semester V, and 10% in semester VII; 73% types of online marketing and 27% offline marketing; business type were 47% culinary, 50% fashion and 3% creative: payment was 13% cash and 87% was mobile. It can be said that most of the entrepreneur students are men, studying in the V semester, online marketing, the type of fashion business and the payment were mobile banking.

Table 1. Respondent description

Profile	Frequency	Percentage (%)
Gender		
Female	12	40
Male	18	60
Semester		
I	2	7
III	5	17
V	20	66
VII	3	10
Type of marketing		
Online	22	73
Offline	8	27
Type of business		
Culinary	14	47
Fashion	15	50
Creative	1	3
Payment		
Cash	4	13
Mobile	26	87

Analysis data

Data from the results of questionnaires distributed to respondents were analyzed using SPSS factor analysis, and the results are as follows:

Table 2. KMO dan Barlett's Test

Tabel 2: KMO and Bartlett's Test

Kaiser-Meyer-Olkin Measure of Sampling Adequacy.		.605
Bartlett's Test of Sphericity	Approx. Chi-Square	597.449
	df	300
	Sig.	.000

The initial stage of factor analysis was the KMO test and Barlett's test which were used to determine the feasibility of the variables in the study. Eligibility requirements are if the KMO MSA value is greater than 0.50. The results of the KMO MSA analysis are 0.597 which is greater than 0.50 and the Barlett's test value is 0.000 or less than 0.05, so the analysis has met the requirements and can be continued.

Anti-image matrix

From the initial anti-image correlation table there are 25 variables that meet the requirements because the value is more than 0.50, all MSA > 0.50, or the overall value of communalities > 0.50 means that all research variables have a strong relationship based on the factors formed.

Table 3. Communalities

	Initial	Extraction
C1	1.000	.848
C2	1.000	.820
C3	1.000	.892
C4	1.000	.680
C5	1.000	.740
G1	1.000	.890
G2	1.000	.730
G3	1.000	.827
G4	1.000	.751
G5	1.000	.897
Q1	1.000	.789
Q2	1.000	.858
Q3	1.000	.860
Q4	1.000	.855
Q5	1.000	.875
D1	1.000	.832
D2	1.000	.926
D3	1.000	.852
D4	1.000	.750
D5	1.000	.829
E1	1.000	.832
E2	1.000	.772
E3	1.000	.898
E4	1.000	.847
E5	1.000	.784

Extraction Method: Principal Component Analysis.

All 25 research variables have a value greater than 0.50 meaning that all research variables are able to explain the factors in the study.

Table 4. Total variance explained

Component	Initial Eigenvalues			Extraction Sums of Squared Loadings			Rotation Sums of Squared Loadings		
	Total	% of Variance	Cumulative %	Total	% of Variance	Cumulative %	Total	% of Variance	Cumulative %
1	7.923	31.694	31.694	7.923	31.694	31.694	3.579	14.317	14.317
2	2.533	10.134	41.827	2.533	10.134	41.827	3.265	13.061	27.378
3	2.482	9.928	51.755	2.482	9.928	51.755	2.555	10.219	37.598
4	1.894	7.577	59.332	1.894	7.577	59.332	2.403	9.611	47.209
5	1.816	7.263	66.595	1.816	7.263	66.595	2.374	9.495	56.704

6	1.583	6.330	72.926	1.583	6.330	72.926	2.331	9.324	66.027
7	1.338	5.352	78.278	1.338	5.352	78.278	2.225	8.900	74.928
8	1.065	4.260	82.538	1.065	4.260	82.538	1.903	7.611	82.538
9	.919	3.676	86.214						
10	.687	2.749	88.964						
11	.560	2.241	91.205						
12	.432	1.729	92.933						
13	.333	1.333	94.267						
14	.328	1.312	95.579						
15	.285	1.140	96.719						
16	.203	.811	97.530						
17	.190	.761	98.290						
18	.129	.516	98.807						
19	.114	.455	99.261						
20	.063	.250	99.512						
21	.045	.179	99.690						
22	.041	.162	99.853						
23	.023	.090	99.943						
24	.012	.046	99.989						
25	.003	.011	100.000						

Extraction Method: Principal Component Analysis.

The total variance explanation table shows the value of each of the analyzed variables, namely initial eigenvalues and extraction sums of squared loadings on 25 variables. This analysis aims to explain a variance by adding up the values in the total initial eigenvalues column with a result of 25 which means that the variables analyzed are 25. The second is the sum of the values in the column and the extraction sums of squared loadings with the result of 8 which means that the number of variations or the number of factors involved formed is 8. The writing of eigenvalues is sorted from the largest to the smallest value with a variance value > 1 as shown in table 4. Of the 25 research indicators that have been selected, they are grouped into 8 factors, namely the first factor with eigenvalues of 7.923 and a variance value of 31.694%. The second factor with eigenvalues of 2.533 and the value of variance of 10.134%. The third factor with eigenvalues of 2.482 and a variance value of 9.928%. The fourth factor with eigenvalues of 1.894 and a value of variance of 7.577%. The fifth factor with eigenvalues of 1.816 and the value of variance of 7.263%. The sixth factor with eigenvalues of 1.583 and a value of variance of 6.330%. The seventh factor with eigenvalues of 1.338 and a value of variance of 5.352%. The eighth factor with eigenvalues of 1.065 and the value of variance of 4.260%, thus the next step can be continued.

Table 5. Component matrix

	Component							
	1	2	3	4	5	6	7	8
C1	.574	-.177	.488	.075	.199	.115	-.083	.429
C2	.490	-.279	.311	-.136	.531	.134	-.053	-.288

C3	.473	.379	.415	-.105	-.326	-.199	-.273	.347
C4	.598	.248	.250	-.292	.022	-.202	-.245	.109
C5	.503	-.142	.097	-.582	-.038	.304	.153	-.044
G1	.417	-.572	.104	.265	-.095	.026	.532	.118
G2	.556	-.245	.350	.355	-.241	.181	-.134	-.069
G3	.650	.135	.146	.336	-.047	-.284	-.079	-.403
G4	.669	-.021	-.019	.014	-.330	-.131	-.073	-.413
G5	.653	-.255	.470	.282	.256	-.085	.117	-.131
Q1	.832	.037	.178	.081	-.091	.159	-.146	-.050
Q2	.677	.283	-.132	.269	-.166	.187	-.409	-.013
Q3	.553	.271	-.127	-.455	-.444	-.092	.150	-.170
Q4	.464	.044	.395	-.415	-.304	-.295	.350	.086
Q5	.582	-.336	-.106	-.053	-.202	.569	.168	.129
D1	.445	-.130	-.416	.436	-.409	.091	-.002	.280
D2	.375	.598	.178	.013	.376	.445	.222	-.092
D3	.402	.738	-.056	.218	.140	.201	.170	.083
D4	.570	-.045	-.481	.270	.079	-.272	.126	-.151
D5	.650	.041	-.562	-.052	-.129	-.019	.260	.034
E1	.591	-.042	-.148	-.074	.326	-.512	.147	.251
E2	.684	-.230	-.219	-.196	.321	-.247	-.036	.000
E3	.552	.094	-.542	-.362	.219	.303	-.138	-.024
E4	.600	-.149	-.415	.023	.372	-.118	-.298	.227
E5	.012	.671	.059	.308	.169	-.102	.436	.079

Extraction Method: Principal Component Analysis.

a. 8 components extracted.

The results of the component matrix show the correlation or relationship between each variable and the factors that will be formed. As an illustration, the variable C1 has a correlation with factor 1 of .574, factor 2 of -.177, factor 3 of .488, factor 4 of .075, factor 5 of .199, factor 6 of .115, factor 7 of -.083, factor 8 of .429. Thus C1 is included in factor 1 because the value is the largest and so on.

Table 6. Rotate component matrix

	Component							
	1	2	3	4	5	6	7	8
C1	.167	.069	.161	.490	.073	.693	-.056	.246
C2	.254	.232	.241	.233	-.004	.106	-.042	.759
C3	-.009	.247	-.063	-.073	.136	.807	.363	-.144
C4	.283	.244	.082	-.138	.104	.583	.357	.191
C5	.090	.002	.619	.134	-.041	.130	.475	.294
G1	.175	.098	.092	.897	-.092	-.093	.131	-.043
G2	-.086	.600	.168	.472	-.070	.324	-.052	.026

G3	.262	.793	-.176	.124	.188	.100	.149	.129
G4	.198	.732	.156	.066	-.059	.019	.380	-.004
G5	.230	.451	-.065	.595	.107	.256	.023	.453
Q1	.208	.587	.356	.229	.159	.408	.145	.095
Q2	.220	.656	.333	-.103	.238	.370	-.115	-.224
Q3	.155	.304	.312	-.152	.102	.055	.767	-.147
Q4	.051	.050	-.030	.262	.023	.316	.819	.095
Q5	.076	.169	.760	.488	-.023	.074	.084	-.110
D1	.274	.336	.244	.327	-.002	.070	-.110	-.678
D2	-.026	.103	.313	-.017	.835	.115	.015	.327
D3	.122	.189	.128	-.084	.858	.167	.023	-.114
D4	.673	.418	.019	.153	.130	-.221	.045	-.176
D5	.588	.227	.389	.131	.190	-.150	.309	-.331
E1	.810	.003	-.136	.191	.103	.216	.240	.078
E2	.762	.182	.201	.119	-.087	.109	.167	.239
E3	.541	.092	.711	-.256	.140	-.022	.057	.041
E4	.812	.147	.258	-.007	-.043	.229	-.213	.003
E5	.006	-.055	-.330	.026	.809	-.038	.070	-.106

Extraction Method: Principal Component Analysis.
Rotation Method: Varimax with Kaiser Normalization.
a. Rotation converged in 15 iterations.

The rotated component matrix analysis is the way to ensure that a variable is included in the factor group based on the largest correlation value between the variables and the formed factors (components). In the C1 variable, there are 8 correlation values, they were .167; .069; .161; .490; .073; .693; -.056, and .246 of the 8 values, the largest is 0.693, then the C1 variable is included in the factor group 1. The result of factor rotation is that 8 new factors have been formed, there were factor 1 with 5 indicators, factor 2 with 5 indicators, factor 3 with 3 indicators, factor 4 with 2 indicators, factor 5 with 3 indicators, factor 6 with 3 indicators, factor 7 with 2 indicator and factor 8 with 2 indicator.

Table 7. Component transformation matrix

Component	1	2	3	4	5	6	7	8
1	.517	.534	.364	.286	.188	.339	.279	.076
2	-.121	.055	-.128	-.540	.775	.164	.157	-.148
3	-.535	.068	-.287	.301	.032	.511	.147	.502
4	-.049	.413	-.370	.390	.254	-.076	-.609	-.314
5	.445	-.300	-.065	-.034	.281	-.050	-.438	.659
6	-.448	-.045	.789	.108	.225	-.049	-.329	.046
7	-.015	-.314	-.067	.566	.409	-.467	.436	-.030
8	.177	-.589	.033	.223	.046	.607	-.126	-.430

Extraction Method: Principal Component Analysis.
Rotation Method: Varimax with Kaiser Normalization.

The results of data analysis in Table 7, namely the component transformation metrics, show that all components have a correlation value greater than 0.5, namely

component 1 is 0.534, component 2 is 0.775, component 3 is 0.535, component 4 is 0.609, component 5 is 0.659, component 6 is 0.789, component 7 is 0.566 and component 8 is 0.607. Thus, it can be concluded that the eight factors formed are suitable for summarizing the 8 factors analyzed.

The interpretation

The results of the component transformation matrix contain 8 formation factors, 6 of which are combinations of various variables and 2 of the same variable.

Table 8. New factor supplier selection

No	Factor		Construct variable	Nilai Eigenvalue	% of Variance
1	Delivery assurance	D4	Lead time delivery	7.923	31.694
		D5	Conformance to delivery schedule		
		E1	Use of toxic/restricted subtances		
		E2	Waste management		
		E4	Green sertification		
2	Environmen t quality	G2	Green image	2.533	10.134
		G3	Cleaner production technology		
		G4	Reduce green packaging		
		Q1	Rejected/returned material		
		Q2	Quality assessment		
3	Green Assurance	C5	Payment	2.482	9.928
		Q5	Assurance		
		E3	Remanufacturing/reuse activity		
4	Green product	G1	Green material selection	1.894	7.577
		G5	Pollution prevention		
5	Delivery relationship	D2	On-time delivery rate	1.816	7.263
		D3	On-time delivery quantity rate		
		E5	Green relationship		
6	Cost	C1	Lowest price	1.583	6.330
		C3	Quantity discount		
		C4	Price fluctuation		
7	Conform quality	Q3	Commitment to quality	1.338	5.352
		Q4	Product quality		
8	Service performanc e	C2	Logistic cost	1.065	4.260
		D1	Service performance		

8 factors considered from the interpretation table were delivery assurance, environmental quality, Green Assurance, Environmental, Delivery relationship, Cost, Conform quality, and Service performance and the delivery assurance factors were the higher score.

Discussion

Based on the results of data analysis, the supplier selection factors considered by entrepreneurial students at universities in Malang can be described.

Factors considered by entrepreneurial students:

The results showed that in 8 (eight) carrying out green supplier selection entrepreneurial students had the following reasons:

1. Delivery assurance. The purpose of delivery assurance is to provide a level of reassurance, to the various stakeholders, that a given status is true, correct, and reflective. One of the determinants in selecting a green supplier is providing a

guarantee of delivery of the required goods as promised. On-time delivery is very important in helping to expedite production process activities. Delivery delays will have fatal consequences because they result in delays in completing goods and delays in service to end consumers. This delay will increase operational costs and service costs. Operational costs are fixed costs that must be incurred without production activities, while social costs are the costs of service delays, which can be in the form of complaint costs or costs of restoring a good name. Delivery assurance has 5 indicators, there were:

a. Lead time delivery. Green suppliers always record every order and will communicate the delivery time and arrival time of the goods to the orderer. Determining this time is very important as a basis for determining order and reordering times to anticipate delays and out-of-stock.
b. Conformance to delivery schedule. Each green supplier has a delivery schedule to ensure that goods are delivered to each order according to a predetermined schedule. Apart from that, the delivery schedule can be used to determine the quantity, capacity, location, and time of delivery, so that this activity can be carried out effectively and efficiently.
c. Use of toxic/restricted substances. Green suppliers must ensure that the goods sold and delivered are free from toxic content and are always available when ordered. Toxic goods are strictly avoided when selecting green suppliers because they will endanger the product and company.
d. Waste management. Green suppliers have SOPs for managing waste from goods sold which are given to partner companies. Waste management can take the form of collecting, transporting, processing, and recycling waste materials. The aim is to reduce its impact on health, the environment, or aesthetics.
e. Green certification. Green suppliers can ensure that they care and have implemented green supply through green supplier certificates and competencies related to the green environment. Certificates can be obtained either through a competency test or by registering at a related institution, meaning it can depend on the human resources they have and the procedures that have been carried out.

2. Environment quality. Environmental quality is often related to environmental conditions such as the quality of air, water, land, existing buildings, and socio-demographic conditions in certain areas, whether residential, office, or company environments. Creating environmental quality is the duty of all humans, whether as individuals, or part of society, let alone as part of a company that must try to maintain the balance of the environment and nature. This balance must be maintained and maintained because it will have an impact on long-term balance as well.
   a. Cleaner production technology. Technology was created to help people and companies make it easier to carry out various activities, however, it is necessary to consider the use of environmentally friendly technology. Environmentally friendly technology is technology that will not damage the environment, namely technology that pays attention to the principles of environmental conservation.

b. Reduce green packaging. The development of industry and products can create products that are difficult to decompose, such as plastic, the use of plastic increases waste and increases environmental damage. In anticipating this, companies must reduce the use of plastic and utilize packaging items that can be recycled, such as using leaves or paper. Culinary businesses can reduce packaging by suggesting consumers bring plates or glasses, using cloth or paper bags.
c. Rejected/return material. Supervision or checking of products before they are marketed or sent is very important for green suppliers to avoid nonconformity of the quality of goods with predetermined standards. This non-conformity can result in the return of goods which will require return fees or even loss of consumer trust. Consumer trust is capital in establishing long relationships and building loyalty. Once loyalty is betrayed, it will be difficult to return it and it will be difficult to attract new customers.
d. Quality assessment. To guarantee the quality of goods, it is necessary to form a quality assurance team whose task is to carry out quality assessments and maintain that the quality complies with predetermined standards. The implementation of quality assessments is carried out carefully and continuously by a team that is truly trustworthy and professional. Quality assessment is one way to maintain the brand image of goods and companies.

3. Green Assurance. Green products or company guarantees in the form of economic, environmental, and social harmony demonstrated by all activities and products referring to principles that can maintain balance and have no impact on the environment. Companies can do this by conducting outreach or campaigns on the importance of maintaining environmental balance.
   a. Payment. Payments refer to those made to producers as compensation for environmental benefits that accrue as a result of or in conjunction with their farming activities. These environmental benefits can include protecting wetlands as too improve filtration or maintaining soil quality to provide a carbon sink.
   b. Assurance. Assurance is a guarantee that the amount of money paid by consumers is following the benefits of the product received or even the benefits are greater than the value of the money paid. Apart from that, assurance is also related to the suitability between the value paid and the quality of the goods. Assurance is a form of trust that is built to ensure the seriousness and alignment of green suppliers towards consumers.
   c. Remanufacturing/reuse activity. Remanufacturing is a production process to repair what has been used in a new product under existing company standards. This activity is an anticipation of goods that are damaged and no longer used. But it is still reused by increasing the useful value and function of the product.
4. Green product. Green products are good products that are guaranteed not to pollute the environment. This product is produced based on agreed principles and is recognized as not damaging the environmental balance. The products produced can preserve the environment based on mutually agreed provisions.

   a. Green material selection. Consumers are often faced with various material choices, therefore it is necessary to make the right selection to find materials that are truly environmentally friendly. This choice is not easy because there are two interests, namely costs and profits. Choosing green materials requires time, effort, and costs which are more expensive in the short term, but in the long term will be cheaper.
   b. Pollution prevention. Prevention costs are greater than corrective costs, but the impact of pollution will be greater. In achieving this goal, wise decisions are required for companies to always think about the interests of the wider community and the long term.
5. Delivery relationship. The delivery relationship is the connection between delivery and the goals of each company. The supplier's ability to send goods at the right time in the right quantity gives an idea of the results that will be obtained. Maintaining the company's good name is one of the company's duties by maintaining its best performance through delivery.
   a. On-time delivery quantity rate. The right delivery time and quantity of goods can be achieved with careful planning by making the right schedule and measurements. Delivery that is too fast or too late will make it difficult for consumers to make adjustments. Likewise, mismatches in the number of goods, either too many or too few, will affect warehousing management. Thus, both delivery time and delivery quantity must be adjusted to demand
   b. Green relationship. Suppliers and consumers are two actors in production activities who need each other and benefit each other. Green relationship is a harmonious bond and relationship in maintaining and maintaining a win-win solution for both parties, especially those related to the environment.
6. Cost. Every company in its production activities will incur costs, both fixed and variable costs, so that costs are sacrifices in achieving something in accordance with the goals that have been set. Every cost incurred will be balanced with the revenue that will be obtained, at least the costs and revenue are balanced. Success will be recorded when costs are smaller than revenue, meaning the company can carry out activities effectively and efficiently. This achievement is one form of enabling the company's sustainability in the future.
   a. Quantity discount. Attracting consumers is providing added value which can be in the form of better service or giving discounts on purchases that exceed the standard amount. Quantity is an attraction for consumers to buy goods and become customers.
   b. Price fluctuation. External conditions are conditions that cannot be controlled which can cause price fluctuations. This can be caused by instability in the supply of goods in the market or unstable economic conditions. One way that can be done to anticipate price fluctuations is to increase the amount of inventory and maintain inventory.
7. Conform quality. Conformity between expectations and reality is a condition that every company wants to realize. Maintaining this balance requires two-way communication to avoid misunderstandings. Apart from that, this communication

is useful in realizing an attitude that is mutually open to criticism and criticism of non-conformities.

a. Commitment to quality. Quality is not just a jargon or symbol, but more than that it must be a commitment, especially to green suppliers. As a company that is trusted, it has an obligation to maintain and maintain that trust. This commitment can be realized whether supervised or unsupervised, meaning that even though consumers do not supervise suppliers, suppliers still maintain their commitment.
b. Product quality. Every company is morally and ethically obliged to guarantee the quality of the products promised. There are various levels of quality, so which quality chosen by the supplier must be realized following the specifications that have been written or promised

8. Service performance. The results of work are not only tangible but also intangible, namely in the form of services. Services can be the way a company responds to consumers in the form of communication, attitude, and attitude. Communication is an activity both verbal and using gestures that makes it easier for consumers to understand and feel treated well.
   a. Logistic cost. Logistics costs are all consumer expenses in obtaining goods from suppliers which can include the price of goods, transportation costs, communication, and material handling up to the goods being sent to the company and storage costs.

Service performance. Service performance is the result of work while providing services to consumers starting from input, process to output

Conclusion

The research results show that in green supplier selection, 25 indicators are considered by entrepreneurial students. At the beginning of the grouping there were 5 factors or classifications of factors that were considered in green supplier selection, but after processing it was developed into 8 factors. The initial factors are cost, green competence, quality, delivery, and environmental management. Development into 8, namely delivery assurance, environmental quality, green assurance, environmental performance, delivery relationship, cost, and conforming quality. Of the eight factors, 2 have the same indicators and 6 have a combination of indicators from various previous factors.

Limitations and Future Research Potential

This research uses limited samples and indicators, hence in further research, it is necessary to add samples and research indicators.

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