Nusantara: An International Journal of Humanities and Social Sciences: Vol. 1 No. 1 (2019) pp. 68–89

DOI:10.6936/NIJHSS.201912_1(1).0004

Social Responsibility and SMEs in Local-Rural Community: A Case Study of Traceability System Among "*Emping*" Producers in Pandeglang, Indonesia

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Abstract

Social responsibility has been a concern for Indonesian researchers and practitioners. There has been a significant amount of research on the issue among large companies, in comparison to information is found for the small medium enterprises (SMEs). This case study investigates the social responsibility of SMEs from a local-rural community perspective by exploring the traceability system along the food supply chain in the SMEs in Indonesia. The local-rural community awareness of the implementation of the traceability system recalls the echoes from the increasing level of foodborne diseases in Indonesia. The sample utilized in this study is the local *emping* producers in the rural area in Indonesia. *Emping* is the name of a local food product made in Pandeglang, Indonesia. This rural *emping* producer community faces several challenging factors, including operating their products in the rural community and dealing with the food safety and transparency. These are some reasons why the study of the traceability system in SMEs among the local-rural community is necessary. The conclusion of this study suggests that SMEs should implement a traceability system in terms of food safety and transparency as an ethical social responsibility.

Keywords: social responsibility, small medium enterprises (SMEs), local-rural community, traceability, food supply chain

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1. Introduction

Social responsibility has become a popular topic in business and public discussion. This wave of attention is an important starting point for promoting social welfare by utilizing best practices of social responsibility. Social responsibility can be understood as a contribution of the firms in reflecting their moral obligation to their families, workers, local communities, and wider group of society to reach sustainable economic development (Branco & Rodrigues, 2006). Abundant examples are found about social responsibility initiatives among large enterprises. In contrast, just a little evidence is discovered in small medium enterprises (SMEs). Large companies commonly articulate the social responsibility related to their governance and behavioral actions as well as public awareness of environmental issues. For SMEs, social responsibility can be held by doing variety activities that are related to the general welfare of workers, relationships with suppliers, social and cultural support in the community, waste reduction, energy and water efficiency, recycling, and preserve natural resources (Vives, 2006). However, to undertake the social responsibility initiatives, SMEs have to deal with several barriers, because predominately they operate the business within the local-rural community. SMEs are difficult to strive and grow due to lack of labor productivity, lagging technology, and unskillful labor. Consequently, exploring and availing a wide array of natural resources by using low power is the only way for SMEs in the local-rural community to increase customer interest in particular the local product.

In Indonesia alone, there are 122 rural areas which spread across 24 provinces where local-rural community live and reliant on the surroundings. One of the rural areas to be profoundly observed in this study is Pandeglang regency, which administratively part of Banten province. Located on the west and the south coasts of Java Island, Pandeglang has approximately 829,731 people reside in the rural area, and 319,879 people are living in the urban (Brinkhoff, n.d.). The rural utilize the natural resources and work with the community to economically survive by industrializing the local product. The local product of SMEs that is well-known from Banten that central to this research is *emping* snacks[1] (Hasibuan, 2015). *Emping*

[1] *Emping* melinjo had the highest score among *sate bandeng, gipang, kue semprong, kue apem, laksa tangerang, nasi sumsum, ketan bintul, rabeg, nasi samin*, and *nasi uduk* based on five main criteria, such as product turnover, employment opportunities, regional featured product,

snacks made from melinjo or paddy oats (*gnetum genemon*) (HealthBenefits, n.d.). Among four regencies in Banten province, Pandeglang is the largest plantation area of melinjo that has approximately 2,644 ha. With the large of melinjo plantation, Pandeglang creates at least 125 *emping* entrepreneurs who can employ 50–250 workers on average (Hasibuan, 2015). Finally, in 2009, *emping* snacks was designated as the typical food of Pandeglang by Deperin RI (Industrial Department of Republic of Indonesia) due to high volume of production with around 5.2 ton per day, abundant raw materials, high economic value, a lot of labor absorption, and unique.

Therefore, conditioned by all of those above, *emping* producers fulfill the characteristics of being SMEs that should be taking matters on the local development. Enterprise requires strategies and the best perform of social responsibility devoted to supporting prosperity in the region (David, Abreu, & Pinheiro, 2013).

In addition, nowadays, product safety and transparency of food is an important factor of concern by researchers and practitioners for fostering enterprises in the area of socially responsibility for society. Therefore, food safety and transparency has been become a research area and contributing to the increase of literature in the academic world (Chryssochoidis, Karagiannaki, Pramatari, & Kehagia, 2009). The importance of food safety and transparency issue is reasonable and salient variable to be discussed. According to World Health Organization (WHO) report, cases of foodborne diseases have been growing in the region, eliciting a million of people become the victim of health risk and die due to consuming unsafe foods. In 2010, WHO stated that approximately 600 million cases of sickness triggered by foodborne diseases (Choi, Puligundla, & Mok, 2016). Indonesia has been dealing with a tremendous challenge in the case of food safety. Data from National Drugs and Food Agency of Indonesia (Badan Pengawas Obat dan Makanan, BPOM RI)[2] from the year 2014 to 2017 as shown in Figure 1 represents that the majority of poisoned cases were contributed by foodborne, accounted for 135, 126, 85, and 68 cases, respectively.

However, there was a little number of cases of diseases caused by others such as plant, pesticide, polluter, natural toxins, chemical, and mix (chemicals and drinks). It

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contribution to original regional revenue, and regional specialty. These five criteria have different weights based on the consideration of their level of importance (Hasibuan, 2015, pp. 411–412).

[2] BPOM RI is a government institution to carry out governmental tasks in the field of drug and food supervision in accordance with statutory provisions.

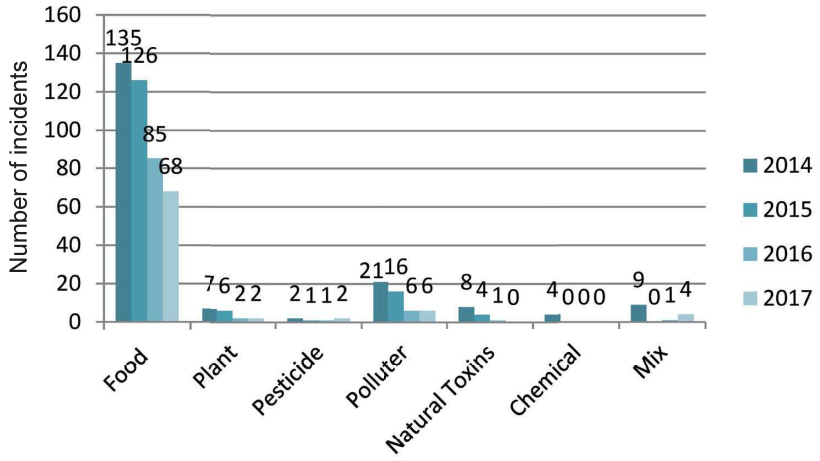

Figure 1. **Poisoned data in Indonesia of 2014–2017. Data was collected from "Sentra Informasi Keracunan Nasional," by Badan Pengawas Obat dan Makanan, n.d. (http://ik.pom.go.id/v2016) based on investigation through 138 mass media online from the year 2014 to 2017.**

concludes that people who got sick are mostly caused by foodborne ailments. For that reason, food industries have to take a bold step and implement a proper system to minimize that matter. Conceivably, traceability can be an answer to this question due to as a considerable instrument for assuring food safety and quality from farm to fork (Dabbene, Gay, & Tortia, 2014). Traceability system has widely been implemented in various industries such as automotive, software, aerospace, and food industries. In further developments, researchers have proposed either framework or model regarding food chain traceability. Researchers also agreed that traceability as a good corporate social responsibility practice of food industry to build healthy and self-image in the region (Wei & Huang, 2017).

Furthermore, this study is undertaken to emphasize and unveil the social responsibility aspect of *emping* producers as well as contextualize an experience of rural economics in Pandeglang on academic literature by highlighting the traceability system implementation in the *emping* supply chain as shown in Figure 2. As such, this study consists of five sections, wherein the first section introduced some background reflecting the proposed research. In the second section, the authors discuss social responsibility and local-rural community briefly, and provided a discussion on the traceability system and its content analysis. In the third section,

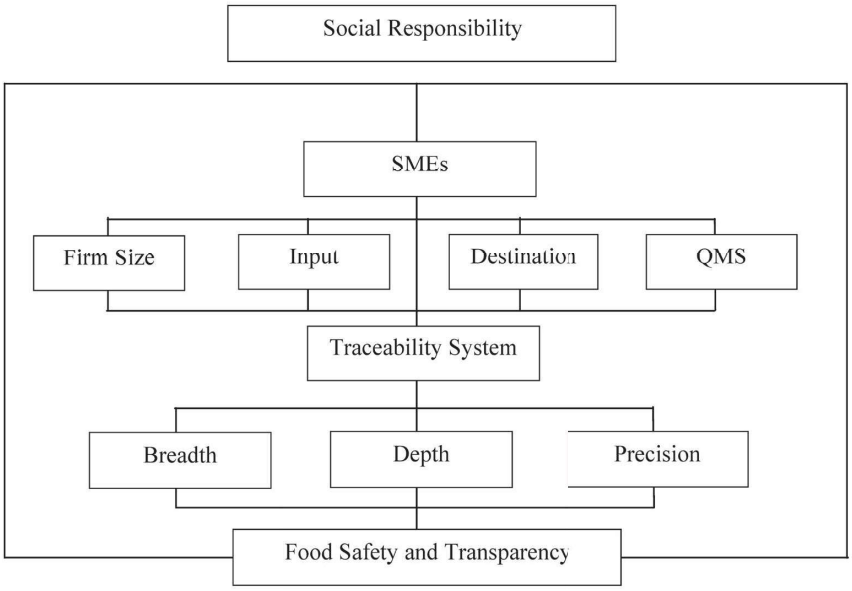

Figure 2. **Conceptual framework. SMEs = small medium enterprises; QMS = quality management system.**

the concern about research methodology is comprehensively depicted, such as data analytical approach. In the fourth section, the core result and discussion are depicted. Finally, in the fifth section, a conclusion is provided.

2. Literature Review

2.1 Social Responsibility and Local-Rural Community

After the 1997–1998 monetary crises, Indonesia continued to show the high open unemployment rate in Southeast Asia, increasing the trend of SMEs ownership. As an important portion of the economies of the world, SMEs significantly contribute to the overall growth and development of many countries through representing good corporate citizenship (Spence & Painter, 2010). Corporate citizenship designates the actions and organizational practices adopted by the firm to meet their economic, legal, ethical, and philanthropic responsibilities toward their important stakeholders (Maignan, Ferrell, & Hult, 1999).

In Indonesia, SMEs account for 99% of all business, provide 89% of private-

sector employment in the country and contribute around 60% of the Indonesian gross domestic product (GDP) (Asian Development Bank, 2018). By their significant efforts, the social role of SMEs is demonstrated in providing job formation for people who cannot be employed by big enterprises or government. The role alleviates the poverty and distributes fairly the income to the community, which affecting the stable and solidity economics (Ibrahim, Jamali, & Karatas-Ozkan, 2012). The local-rural community is reliant on SMEs and prone to work with their neighbors in the home village, even though SMEs confront too many difficulties in the operation. Some of the challenges include low capacity to safeguard their economic viability, no expertise, and no time to plan effectively. While, on the other hand, social problem, for example, food safety and transparency still becomes an issue in society. This viewpoint also reinforces the statement of Holmes (1976) mentioning that businesses are not only meant to make a significant profit but also overcome the social problem within the community. This demonstrates that social responsibility provides potential activities that enterprises undertake in the society in which it operates (Fülöp, Hisrich, & Szegedi, 2000).

The concern of social responsibility for large enterprises is nowadays more interested by researchers than small or even micro. Consequently, academic literature related to social responsibility in particular small enterprises or comparison between large and small enterprises is only few attempts to be examined. However, in practice, the articulation of social responsibility is not only specific to more prominent places and spaces in reflecting the social responsibility "agenda" (Lawrence, 2007). For Indonesian firms, social responsibility is not well defined and understood, ascending a problematic question for each enterprise on how to operationalize the concept within the industry. Enterprises define their social responsibility concerning the law, while others on a much broader basis (Fülöp et al., 2000). This elucidates that social responsibility plays a significant role in economic development and business culture of Indonesia in the fore.

As the variety of social responsibility agendas mentioned above, the social responsibility of the supply chain dimension will be a compelling issue to be explored, due to only a few attempts of contextualization on the literature. This study will benefit to practitioners for operational practices, and researchers in anticipating and developing a further strategy of supply chain social responsibility. Also, the social responsibility perspective represents a wide array of activities that support the local-rural community (Maloni & Brown, 2006). Therefore, paying attention to the

community is very crucial for practitioners and researchers because the community provides a potential influence on the effectiveness of supply chain stages.

2.2 Nawacita: Indonesian National Plan in Improving Agriculture Sector

Joko Widodo–Jusuf Kalla's administration, offering the national plans for Indonesian development oriented to Indonesia-centric to strengthen the cornerstone of the homeland. The strategic programs called Nawacita, the Sanskrit, *nawa* "nine" and *cita* "hope," or the nine hopes for Indonesia that was brought as vision-mission in the presidential election of 2014. The salient points of Nawacita are (1) human development, (2) economic competitiveness, (3) development equality, (4) sustainable development, (5) arts and culture and national characteristics, (6) the rule of law, (7) security and defense, (8) bureaucracy, and (9) central-regional government relations (Kalla, 2014). The government initiative to boost economic competitiveness is to improve the agriculture sector by accelerating the productivity, food sovereignty, and the welfare of the farmers. The role of the agriculture sector of the insular country of Indonesia is reflected in the added value contribution the GDP with an average of 16.39% in the period 1985–2017 (Bashir et al., 2018). This contribution is relatively higher than in other sectors to Indonesian GDP. Therefore, the government realizes that the role of the agriculture sector is vital in economic development. Understandably, around 40% of the population is reliant on this sector (Bashir et al., 2018).

While the agriculture sector in Banten province increased by approximately 1.31% from 3.58% in 2018 to 4.89% in 2019 (Statistics Indonesia Banten Province, 2019). The industrialization of *emping* snacks that turns into the notable program of the local government is one of the bold steps to develop agriculture sector. Good agriculture practice for melinjo in the origin side will increase the productivity of *emping* snacks, accentuating the effort of bringing Nawacita into the practice.

2.3 Traceability System

According to Narsimhalu, Potdar, and Kaur (2015) traceability is defined as the ability to trace history and application or location of the products or activities to gain data and information by identifying any related document. Also, traceability is acknowledged as tracing and tracking the product from "farm to fork." The system

of traceability, which nowadays is being implemented by the industries due to it provides several objectives such as establishing supply chain management, facilitating "trace-back" and "trace-forward" toward food safety and quality, differentiating food market with undetectable quality attributes, as well as assisting consumers to trust and improve self-assurance in the food supply chain (Aung & Chang, 2014). In the bottom line, logistics traceability delivers business information concerning logistics operations, for example, quantity, origin, destination, dispatch date, then allow the rapid tracking of product current location, origin, and destination, in case of a need for promptly recall or withdraw the product from the market.

Recently, traceability in the food chain is an essential requirement, which becomes compulsory in almost all developed countries like Europe and the USA. Europe and the USA have been agreed that traceability provides potential and essential initiative for sustainable development along the food supply chain. So that, since 2005, traceability system has been mandatory prerequisite to be obeyed by European food industries under European General Food Law (EGFL) No. 178/2002, and Bioterrorism Act PL107-188 for USA food industries. In the Indonesian context, however, traceability has not been yet direct stated as a mandatory regulation. It has been voluntary in some regulations particularly in food quality management, for example, certification of Halal Indonesian Ulema Council (Majelis Ulama Indonesia, MUI)[3] and Indonesian National Standard (Standar Nasional Indonesia, SNI) (Syahruddin & Kalchschmidt, 2012), which can be exerted as a guideline to conduct traceability. Consequently, there is no a legal framework like EGFL No. 178/2002 to be followed by the food producers in an attempt to improve food safety and transparency. The same holds, weak management of product quality assurance is a cause of the weak level of traceability implementation in Indonesia (Rizkyka, 2013). Therefore, the issue becomes difficult for researchers to be examined and explored. As a result, the study of food traceability system among SMEs in Indonesia has not been found in a lot of academic literature.

The context of food safety and transparency is haunted by enormous foodborne disease cases. Foodborne diseases are considered as a threat to the potential health

[3] Certification of Halal MUI is certification issued by the Assessment Institute for Foods, Drugs and Cosmetics (Lembaga Pengkajian Pangan Obat-obatan dan Kosmetika Majelis Ulama Indonesia, LPPOM MUI) (halal certification bodies and conducts examinations/audits, stipulations of fatwas, and issues halal certificates under MUI).

risk of a human being. As such, the system of product tracing and tracking is greatly required if there is a case of foodborne diseases happened in food producers. For that reason, traceability system is believed not only as food assurance, but also as an excellent social responsibility practice (Wei & Huang, 2017). Implementing the traceability system of the enterprise is started from figuring out its characteristics because every enterprise will be different in respect to the complexities of product, production process, and supply chain. The characteristics of the enterprise describe the resources and capacities which determine how a traceability system is implemented. These characteristics can be seen through some aspects such as type of quality management system (*QMS*), firm size (*FS*), the raw materials are sourced (input or *IN*), and the stage of the product sold (destination or *DEST*) (Asioli, Boecker, & Canavari, 2010).

As all stated above, hence, this study aims to profoundly observe how traceability system or traceability level is implemented and experienced by *emping* producers in Pandeglang. According to the academic literature, there are three levels of traceability system, namely breadth (*BRE*), depth (*DEP*), and precision (*PRE*). Breadth refers to what information is documented for an individual input batch (Asioli, Boecker, & Canavari, 2014). Information is an essential feature on this stage, remember that logistics traceability reflects food as a commodity, containing additional information particularly product quality and consumer safety, for example, information about pre-harvest and post-harvest technique, storage, and distribution conditions. Therefore, this reflects that traceability practices consist of data collection through the food chain (McEntire et al., 2010). Depth is defined as how far back or forward the system can track the proper information. It demonstrates how effective an enterprise in collecting and managing information by requiring collaboration to establish a long run relationships with other members in the chain (Canavari, Centonze, Hingley, & Spadoni, 2010). Precision refers to the level of assurance in identifying a particular movement of goods. Precision ordinarily defines as the smallest units that the company can trace at both input and output level (Asioli et al., 2014).

3. Research Methodology

3.1 Population and Sample

Emping producers in Pandeglang became the population to be observed.

According to Ministry of Industry and Trade (Departemen Perindustrian dan Perdagangan, Desperindag) in Banten Province, there are approximately 120 *emping* producers in Pandeglang. The data was collected by using purposive sampling method through particular criteria such as *emping* producers in Pandeglang, and they have been operating a business for more than two years. The questionnaires are delivered in Indonesian language, yet interview is conducted by using the local language (Sundanese language). Eventually, 30 respondents answered the questionnaire and enthusiastic about being interviewed.

3.2 Instrument Measurement

Table 1 provides the instrument measurement that consists of variable, definition, and value scale.

3.3 Data Analytical Approach

Partial least square (PLS) path analysis method was used for data analytical approach by using Smart-PLS (version 3.0) software. As shown in Figure 3, the path model proposed to be further analyzed. PLS a convenient analytical method because it does not require classical assumptions (Ghozali, 2006). Besides confirming the theory, PLS can also be used to explain the relationship between latent variables.

The PLS technique is justified where theory is insufficiently grounded, and the variables or measures do not conform to a rigorously specified measurement model or fit a specific distribution (Acedo & Jones, 2007). We realized that the study regarding the traceability system is still few. Therefore, for the initial development and assessment phase of theory building, using PLS is advantageous (Julien & Ramangalahy, 2003). As a robust reason why this study used PLS path analysis because proposed the model that had an exogenous variable (firm characteristics) connecting line with an arrow (path) at three endogenous variables (traceability levels and traceability benefit).

4. Result and Discussion

4.1 Descriptive Statistics

The descriptive presentation is indicated by Table 2 which shows the actual firm characteristics, traceability levels, and traceability benefit. Both the mean value and

Table 1
Instrument Measurement

Variable	Definition	Value Scale
Firm size (*FS*)	Annual revenue categories (1: $0–$22,300, 2: $22,301–$186,000, 3: $186,001–$3,700,000).	Min score: 1 Max score: 3
Input (*IN*)	Number of different raw material types which are used in operation: wild, farm, and processed (each reported raw material type adds a value of 1 to the score).	Min score: 1 Max score: 3
Destination (*DEST*)	Number of different regions to which output is sold: Pandeglang, Banten Province, Java Island, other island, Asean, Asia, EU/USA, and other (each reported destination region adds a value of 1 to the score).	Min score: 1 Max score: 8
Quality management system (*QMS*)	Number of food quality or safety assurance/ management standard to which the firm is certified: Indonesian National Standard (Standard Nasional Indonesiam, SNI): ISO 9001:2000; quality management system: ISO 22000:2005; food safety management system, Hazard Analysis and Critical Control Points (HACCP), Marine Stewardship Council (MSC), ISO 14001; Environmental, International Food Standard (IFS); and others (each reported certification adds a value of 1 to the score).	Min score: 1 Max score: 8
Breadth (*BRE*)	Number of information recorded for an individual input: supplier details, data an hour of product arrival, date of harvest, location (area) of harvest/farming, water quality classification, method of production, scientific name of the species, common name of the species, quantity, quality grading, and others (each reported information recorded adds a value of 1 to the score).	Min score: 1 Max score: 11
Depth (*DEP*)	Ability to trace the input beyond the direct suppliers and buyer on a regular basis.	No: 0 Yes: 1
Precision (*PRE*)	Ability to trace the smallest unit at the level input and output.	No: 0 Yes: 1
Overall benefit	Overall benefit (1: no benefit at all to 5: great benefit).	Min score: 1 Max score: 5

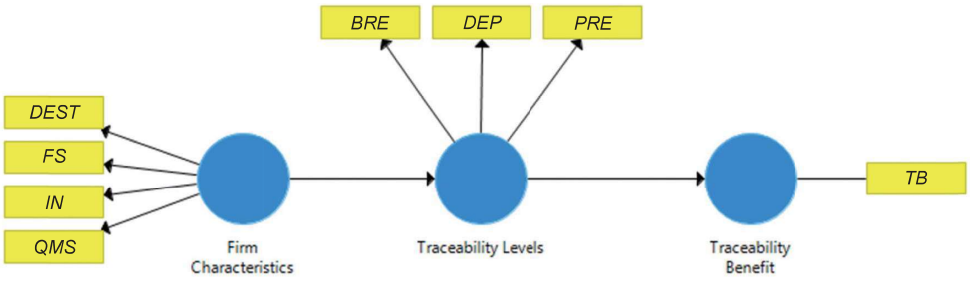

Figure 3. **Path model. Designed by using SmartPLS software. *DEST* = destination; *FS* = firm size; *IN* = input; *QMS* = quality management system; *BRE* = breadth; *DEP* = depth; *PRE* = precision; *TB* = traceability benefit.**

Table 2
Descriptive Statistics

Variable	Mean	Standard Deviation
FS	1.167	0.637
DEST	2.200	1.249
IN	1.200	0.653
QMS	0.100	0.396
BRE	1.600	1.497
DEP	0.433	0.496
PRE	0.500	0.500
TB	3.133	1.087

Note. *FS* = firm size; *DEST* = destination; *IN* = input; *QMS* = quality management system; *BRE* = breadth; *DEP* = depth; *PRE* = precision ; *TB* = traceability benefit.

the standard deviations are presented. For firm characteristics, where *FS* have mean value 1.167, indicating the respondents have average annual revenue below $22,300. *DEST* is accounted for 2.200, meaning that respondents typically sold the product to only two regions. Also, normally, the respondents sourced raw material from one input (*IN*). Whereas, *QMS* has mean value 0.100, representing that the respondents averagely have no quality management system. Now, turn into the traceability levels, which consist of *BRE*, *DEP*, and *PRE*, where *BRE* is accounted for 1.600 of mean value, demonstrating the number of information recorded in the input level. *DEP* is 0.433, representing the ability to trace the input beyond the direct suppliers and buyer regularly, through the options 1 = Yes and 0 = No. While, the ability to trace the smallest unit at the level input and output, or represented by *PRE* is accounted for 0.500, through the options 1 = Yes and 0 = No. Lastly, traceability benefit (*TB*) which represent the perceptions in the five-point Likert scale ranges, from 1 = no benefit at all, 2 = slightly benefit, 3 = neutral, 4 = benefit to 5 = great benefit. Observably, *TB* has 3.133 of the mean value.

4.2 Inner Model

The inner model illustrates the relationship between latent variables that exist in the research model. The structural model is evaluated by using *R*-square for the dependent construct as Table 3 presents below, showing that traceability level can be explained by firm characteristics with only 13.8%, while traceability level can describe the traceability benefit 50.2%.

4.3 *R*-Square

In addition, the significance of the structural path parameter coefficients and hypothesis-test are shown in Figure 2 and Table 4, respectively.

4.4 Path Model

A path model was run and shown the result in Figure 4 through the bootstrapping after omitting insignificant reflective variable. Therefore, this path model presents that one reflective item on firm characteristics, which is QMS has been omitted from the model.

Table 3
R-Square

Variable	*R*-Square
Traceability level	0.138
Traceability benefit	0.502

Table 4
Hypothesis-Test

Variable	Original Sample	Sample Mean	Standard Error	*t*-statistics
Firm characteristics → traceability levels	0.709	0.734	0.075	9.407
Traceability levels → traceability benefit	0.371	0.362	0.143	2.598

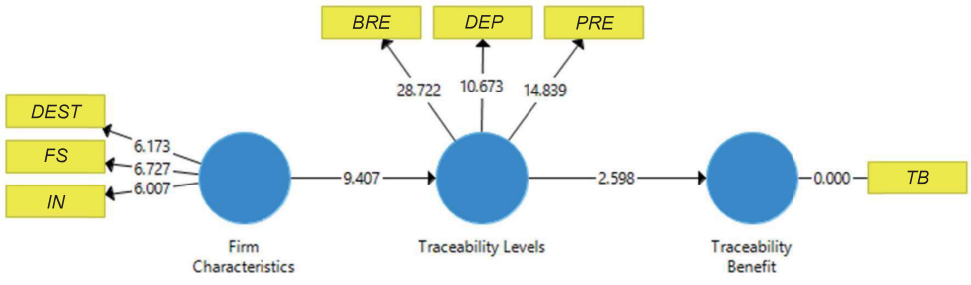

Figure 4. **Path model bootstrapping result. Designed by using SmartPLS software. *DEST* = destination; *FS* = firm size; *IN* = input; *BRE* = breadth; *DEP* = depth; *PRE* = precision; *TB* = traceability benefit.**

4.5 Hypothesis-Test

Hypothesis-test is conducted by running the bootstrapping on SmartPLS software. The influence between variables is considered significant at the 5% level if the *t*-statistic value is higher than *t*-table; *t*-table on the study with 30 complete respondents is 1.69.

4.5.1 SMEs Characteristics Are Affecting on Traceability System Implementation

Based on the hypothesis-test, "firm characteristics → traceability levels" has coefficient parameter 0.709, supported by *t*-statistics with 9.407 higher than *t*-table 1.690, indicating that firm characteristic can effect on traceability levels implemented by the enterprise. The result is becoming a robust finding supports (Asioli et al., 2014), mentioning that firm characteristic were found significantly affecting on traceability system implementation. Therefore, we believe that the traceability system which comprised of three levels is depended on the business activity, stage in the supply chain, and applicable legislation. The finding eventually showed that traceability practices contain the data collection along the food chain (McEntire et al., 2010). Besides, not only the data collection but also, further, determining and managing the information which is included both in the logistics and chain and the strategic issues (Canavari et al., 2010). Because according to Mari, Dreyer, Olsen, and Elvevoll (2012), determining the information that requires to be traced is one of the fundamental prerequisites for designing an effective traceability system.

The answer from the respondents was expected to help explain the rationales behind the empirical result. The following statement confirmed the importance of traceability system which conducted within the enterprise through free translation by the authors.

> *Abdi mah teu teurang kana traceability, tapina karyawan abdi dititah nyatet inpormasi saheunteuna data pamasok, jam kadatangan produk, jumlah produk. Di catetna na kertas terus disimpen. Lamun aya produk cacad, teu sasuai, jeung sajabana, langsung nelpon ka konsumen supados dianterkeun produkna, terus dicek deui ka gudang jeung proses produksi. [I do not know what traceability is, but I always ask my employee to record some information at least the supplier's details, date and hour of product arrival, and quantity of the product. The data are*

recorded on the paper and keep it on the desk, once problem occurred such as defect, unclassified products, I directly call the customers to track the product, and then check it in the warehouse and production stage.] (Subject 1)

The response of this respondent reinforces the study as reflected in Manos and Manikas' (2010) study, mentioning that in most of the cases, an efficient paper-based traceability system conducted by SMEs can effectively trace the product, demonstrating that introduction the costly and the complex of traceability systems are no longer needed for particularly small producers. Therefore, the result proves that, by recordkeeping at the input stage, SMEs can conduct the traceability system.

4.5.2 Traceability System Can Support Local-Rural Community to Improve Food Safety and Transparency

Based on the hypothesis-test, "traceability levels → traceability benefits" has coefficient parameter 0.371 supported by *t*-statistics with 2.598 higher than *t*-table 1.690, indicating that traceability levels can affect on traceability benefit. For the particular traceability benefit, the study delivered the option for the respondent to choose the range by proposing the five-point Likert scale on the issue of food safety and transparency. The result indicates that the respondents agreed on the issue of the importance of the traceability system implementation in boosting the food safety and transparency of *emping*. As the local product, *emping* is typically sold within the local-rural community. Therefore, with an effective traceability system, *emping* producers can support local-rural community to improve food safety and transparency, which is stated by Mora and D (2003) as the company image.

Usaha abdi mah tos kadaptar di BPOM RI jeung LPPM MUI. Artina konsumen mah ulah khawatir ka produk abdi. Soalna supados kadaptar sertifikat eta teh teu gampang, aya evaluasi tina sagalana. [My company has been licensed by BPOM RI and halal MUI. This means that consumers do not need to worry about buying my product. Because getting the certification requires strict assessment and evaluation of the whole of the chain of my company.] (Subject 2)

Some features of the traceability system are included in the requirement of quality management systems such as *BPOM RI* and Halal *MUI*. Providing labels, proper package, and put additional information on the product, for example, the origin of the raw materials should be applied by these enterprises. Through these initiatives, a good company image can be perceived, reassuring the consumers to trust the enterprise of the particular issue of food safety and transparency. As such, the traceability system is a good aspect for a food assurance (Bennet, 2010). In addition, it is worth-mentioning that traceability has becomes a good social responsibility practice (Wei & Huang, 2017).

4.5.3 Traceability System Can Perceive Economic Benefits

Mora and D (2003) added that improve not only the whole quality of the product, traceability also assured an increase in turnover and market share. Besides, the enterprise wants to perceive economic benefits from the traceability system. Some advantages on the issue of economic, provably, such as beyond the regulatory requirement, efficiency and quality (improved customer service/response time), and effective supply chain operation (Bennet, 2010).

> *Abdi nyatet data pamasok, jumlah produk, koordinasi jeung pemasok lewat telepon. Tapi abdi bisa langsung ngecek kaayaanana bahan baku jeung jumlahna di gudang supaya langsung ngarespon kabutuhana pelanggan. [I record the data of the suppliers, quantity in the warehouse, and coordinate with the suppliers even just by phone, I can directly check the availability of raw materials in the suppliers and the quantity in my warehouse to quickly response my customer's needs.] (Subject 3)*

Respondents were concerned on market share and customer response. the above the statement reflects the study noted in Asioli et al. (2014) that, optimistically, traceability benefits in particular increasing market share or customer's response is being concerned by the enterprise. Further, Bosona and Gebresenbet (2013) confirmed that in the modern food supply chain, enterprises should adequately provide information that consumers and other members need to know, for example, diversity of food features, country of source, and so on, then would rise consumer sureness in food to make a good choice. Yet, regarding consumer awareness of the

traceability, Setiawan (2017) found that on his surveys throughout the Jabodetabek region (Jakarta, Bogor, Depok, Tangerang, and Bekasi)[4] with total of 878 interviews, consumer awareness of traceable products is lower than respondents who prefer to buy ordinary products. Consumers often ignore or misread the quality of food product labels, thus resulting quality interpretations that go afar what the labels really stand for. Consumer awareness to the quality of product labels will help guaranteeing the product quality or origin. For those consumers unwilling to buy traceable food, there are two major reasons for this unwillingness: disbelief in traceable food information and high price.

5. Conclusions

Traceability has been becoming a significant figure to identify products, materials, service and process that had been conducted by the enterprises within the supply chain, particularly in the food chain. Also, traceability can deliver a significant impact on the pursuant of sustainability as an integral part of social responsibility practices. It can offer more detailed and complete data, not only to the products but also to the sustainability performance of the supply chain (i.e., food safety and transparency). We believe that SMEs can implement a traceability system by recording information through efficient paper-based documentation at the input level as well as tracing upward and backwards in the smallest unit per batch/lot within the chain. Therefore, food producers can provide safety and transparency for consumer. The actual traceability system of *emping* producers in Pandeglang can be summarized in Figure 5.

This study depicts the comprehensive picture of the traceability system in *emping* supply chain, which is beneficial for food producers, consumers, government, and academicians. This study suggests that food producers have to keep recording related data in order to trace adequate information along the chain effectively. Moreover, if an advanced-technology is applied, members in the supply chain could access data in real-time effectively.

Besides, the Indonesian government is requiring food processors to implement traceability under the strict regulation such as EGFL or Bioterrorism Act. Therefore,

[4] Name of the regions in the area of Jakarta, West Java, and Banten Province.

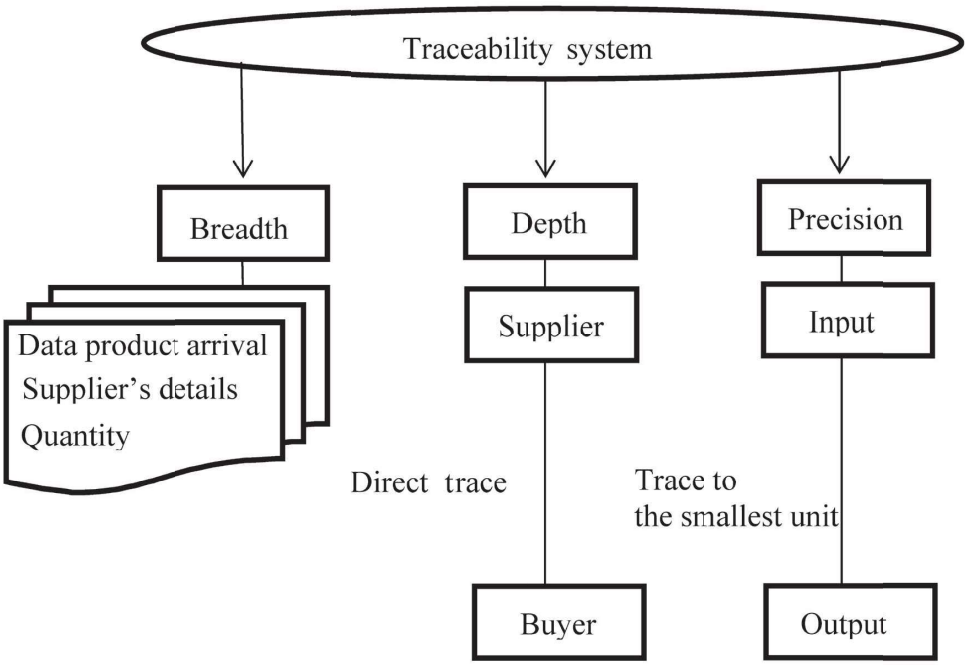

Figure 5. **Traceability system of *emping* supply chain in Pandeglang.**

we believe that the government should design the traceability system as a legal framework to guide food producers by forming the mandatory regulation and workshop. Some activities such as training program and the upgrading of quality assessment technique are required to be organized by the Indonesian government. In addition to the process of field research, there was a problem of sample size due to a distant location of respondents. Therefore, for future research, it is expected to meet a bigger sample size to achieve more robust justification. Another limitation is insufficiently grounded theory. Future researchers should gather more literature regarding traceability system in food SMEs.

To sum up, this study demonstrated just an example of implementation of the traceability system in SMEs, especially in *emping* snacks producers. Future research should be exciting and providing a broader perspective to extend the study on the issue of traceability in the supply chain until the end consumers.

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