

CHAPTER II

LITERATURE REVIEW

2.1. Empirical Study

Prawesti et al. (2016) stated that with economic growth, increasing market demand and increasing competition in the business sector, the company is highly required to provide more services to consumers. There is a significant and positive influence between supply chain management on competitive advantage. Increasing competitive advantage of companies will be able to improve company performance as well.

Ariani (2013) stated that supply chain management (supply chain management) is the integration of the procurement of materials and services, conversion into semi-finished goods and final products, and delivery to customers, bro. Management supply chain as an approach that is applied to bring together suppliers, entrepreneurs, warehouses, and other repositories (distributors, retailers, and retailers) efficiently, so that the product can be produced and distributed with the right amount, the right location, and time right to reduce costs and meet customer needs. Mufaqih et al. (2017) stated that in the supply chain management literature, the role and performance of supply chain management in the creation of competitive advantage of the company is inevitable. More specifically, the role of supply chain performance includes: 1) producing better performance than

competitors; 2) more responsive in meeting consumer needs and requests in general or specifically; 3) can reach a certain number of shipments on a certain date the item was sent; and 4) can collaborate well with its suppliers. However, Wang et al (2017) stated that the main body of the SCM literature still focuses on the manufacturing sector. Compared to physical products from the traditional manufacturing sector, service products exhibit unique characteristics that can be summarized as “IHIPCD”: intangibility, heterogeneity, inseparability, and perishability. Kotler (2009) explained that service is an activity or benefit that can be offered by one side to other side and basically it is intangible and also does not have an effect on the ownership. On the other hand, service has a different characteristic with other physical product. The characteristics are: intangible, inseparable, have many variations, have not long duration. Music studio business can be classified as the service institution because it is fulfilled the service criteria, the product can be tasted, have no effect on ownership and the consumption process is at the same time with the production process. In terms of Music Studio MSME, then how to implement music supply chain efficiently, so as to meet consumer needs.

Ariani (2013) stated that performance measures or performance parameters are a measure made to assess the level of success or performance of functions, jobs and company performance in general. In other words, the performance measures conducted to determine how far a particular function or part of the company and the people who work in achieving goals, both general and specific objectives, which are assigned to them. These assessments are called performance measures and can be expressed quantitatively or qualitatively. Mufakih et al. (2017) stated that the study of supply chain performance in the past decade has experienced a fairly rapid development. Many studies have been carried out to identify factors that influence the performance of the supply chain.

Ariani (2013) stated that further measurement of company performance is defined as the ability of companies to make standards desired by their customers,

this is done by considering low production and maintenance costs, improving product quality, reducing inventory in process, reducing material handling costs and delivery deadlines.

(Handriyono, 2014; Ariani, 2013) stated that information sharing, long term relationships, cooperation, and process integration variables affect the performance of the company. So, the researcher decided the variables in this study consisted of independent variables, namely information sharing variables, long term relationships, cooperation, and process integration. While the non-independent variable is the performance of the company.

Table 2.1 Previous Study of Research

| No | Author | Year | Title of Research | Objective of the Research | Method |
|----|-----------|------|---|--|-----------------------------------|
| 1 | Angelia A | 2013 | Kinerja Supply Chain Management dan Strategy Informasi pada PT. Multi Food Manado | Investigate how the performance of supply chain management strategies and how the information in the Manado Multi Food company | interviews and direct observation |
| 2 | Kurniawan | 2017 | Pengaruh Manajemen Rantai Pasokan Terhadap Kinerja UMKM Batik di Pekalongan | Analyze the influence of supply chain management to the performance of batik SMEs in Pekalongan by using four independent variables of information sharing, trust, longterm relationship, and collaboration. | multiple linear regression |

| No | Author | Year | Title of Research | Objective of the Research | Method |
|----|------------|------|---|--|----------------------------|
| 3 | Ariani | 2013 | Analisis Pengaruh Supply Chain Manajemen Terhadap Kinerja Perusahaan | Analyze how supply chain management influence on performance of the company. | multiple linear regression |
| 4 | Handriyono | 2014 | Pengaruh Upstream Supply Chain Management Pada Kinerja Perusahaan (Studi Pt. Zebra Agrindo Utama Di Kabupaten Jember) | Knowing the influence of Upstream Supply Chain Management on company performance with the study of company PT. Zebra Agrindo Utama in Jember Regency | balance score card |
| 5 | Prawesti | 2016 | Hubungan antara supply chain management dengan supply chain responsiveness dan competitive advantages | Knowing the effect of the Supply Chain Management Strategy on company performance with the study of company PT. Zebra Agrindo Utama in Jember Regency knowing the relationship between Supply Chain Management (SCM) and Supply Chain Responsiveness (SCR) and Competitive Advantages (CA) | Questinnaire |

| No | Author | Year | Title of Research | Objective of the Research | Method |
|----|------------------|------|--|---|------------------------------|
| 6 | Muafaqih et al | 2017 | Pengaruh integrasi, berbagi informasi, dan penundaan pada kinerja rantai pasokan: Studi pada usaha kecil menengah batik di Indonesia | Focuses on the effect of five supply chain practices: supplier integration, internal integration, customer integration, information sharing, and postponement on supply chain performance | Likert Questionnaire |
| 7 | Zebst | 2010 | Impact of supply chain linkages on supply chain performance | Examine the impact of supply chain linkages on supply chain performance (SCP). It aims to define and describe linkage constructs for power, benefits, and risk reduction and develop multi-item scales for their measurement. It also aims to assess the relationships of the linkages with SCP | multiple regression approach |
| 8 | Imaslihkah et al | 2013 | Analisis Regresi Logistik Ordinal terhadap Faktor-faktor yang Mempengaruhi Predikat Kelulusan Mahasiswa S1 di ITS Surabaya | Finding the graduation predicate by predictor variable | Ordinal Logistic Regression |

| No | Author | Year | Title of Research | Objective of the Research | Method |
|----|------------|------|---|--|--|
| 9 | Wang et al | 2017 | Service supply chain integration: the role of interpersonal relationships | Explore the role of interpersonal relationships (IPRs) in service supply chain integration (SSCI) in terms of strategic alliance, information integration, and process integration | exploratory / investigational approach |

Zebst (2010) stated that multiple regression approach is used for study hypotheses test. On the contrary, nominal y variable can not be found by multiple regression, Imaslihkah et al. (2013) used Ordinal Logistic Regression to measure the graduation predicate, regarding to y variable which consists of praise, very satisfying, and satisfying. Ordinal logistic regression analysis is chosen because the response variable has an ordinal scale. The researcher is not use Ordinal Logistic Regression for the method of this paper in regards to nominal y variable, which only consists of supply chain performance of MSME's music is good or not. Hence the researcher uses Multiple Linear Regression.

Based on previous reseach, the research on Supply Chain Performance only focuses on factory as an object, which are (Ariani, 2013) with food factory, (Bayu, 2014) with rice production company, and (Kurniawan, 2017) with Batik factory. Factory has more shipshape supply chain than service. Therefore the researcher decided to focused MSMEs Music studio which are on service object that different than other reseach.

2.2. Theoretical Study

2.2.1. Supply Chain Management

Sell (1999) stated that Supply chain management is a set of approaches utilized to efficiently integrate suppliers, manufacturers, warehouses, and stores, so that merchandise is produced and distributed at the right quantities, to the right locations, and at the right time, in order to minimize systemwide costs while satisfying service level requirements.

This definition leads to several observations. First, supply chain management takes into consideration every facility that has an impact on cost and plays a role in making the product conform to customer requirements: from supplier and manufacturing facilities through warehouses and distribution centers to retailers and stores. Indeed, in some supply chain analysis, it is necessary to account for the suppliers' suppliers and the customers' customers because they have an impact on supply chain performance.

Second, the objective of supply chain management is to be efficient and cost-effective across the entire system; total systemwide costs, from transportation and distribution to inventories of raw materials, work in process, and finished goods, are to be minimized. Thus, the emphasis is not on simply minimizing transportation cost or reducing inventories but, rather, on taking a systems approach to supply chain management.

Finally, because supply chain management revolves around efficient integration of suppliers, manufacturers, warehouses, and stores, it encompasses the firm's activities at many levels, from the strategic level through the tactical to the operational level.

2.2.2. Definition of MSME

MSME stands for Micro, Small and Medium Enterprises. In its implementation, MSME apply the principles of togetherness, a democratic economy, independence, balance on progress, sustainability, efficiency of justice, and national economic unity. In Indonesia, the National MSME day is commemorated every 31st of March. MSME is a popular effort that is currently receiving attention and privileges mandated by the Law, such as business loan assistance with low interest, ease of terms of business license, business development assistance from government institutions, as well as some other conveniences. The fields of MSME range from fashion, culinary, handicraft to farming.

1. Micro Business is a business owned by individual and / or individual entity fulfilling the criteria of Micro Business as referred to in this Law, the maximum asset is 50 million and the income is not more than 300 million.
2. Small-scale business is a stand-alone productive economic enterprise, conducted by an individual or a business entity that is not a subsidiary or not a branch of a company owned, controlled, or becomes a part of the direct or indirect business of a medium-sized or large-scale business that meets the business criteria Small as defined in this Law, the asset criteria of 50 million-300 million and the income criteria of 300 million - 2.5 billion rupiah.
3. Medium Enterprise is a stand-alone productive economic enterprise, conducted by an individual or a business entity that is neither a subsidiary nor a branch of a company owned, controlled, or becomes part of either directly or indirectly with a small business or a large business with a net worth or annual sales results as stipulated in this Law, the asset criteria of 500 million -10 billion and the income criteria of 2.5 billion - 50 billion rupiah.

From the understanding already described above, it can be concluded that between MSMEs are the same but the difference is in the nominal amount of assets owned by a business and business

2.2.3. Supply Chain Performance

A In this study, researcher examines supply chain performance in terms of a MSME's performance in managing its supply chain. Historically, studies on organizational performance have focused more on financial measure, and the inconclusive results of IT productivity may be due to applying inappropriate measuring methods. This study therefore considers both financial and non-financial measures for the supply chain performance in a complementary manner. In addition, many studies on supply chain have suggested a number of organizational characteristics for potential effects on achieving supply chain performance, such as industry type and firm size. Albert (2017) stated that other goals pursued by small firms often include survival and business stability. We thus specify industry type and firm size as two control variables. Grounding on Multiple Regression and the interactional behaviors between partners, this study proposes a research model to explore the relationships among exchange drivers, information sharing, coordination, long term relationship, process integration and supply chain performance. Empirical data are further used to examine this research model.

According to Zelbst et al. (2009) in Kurniawan (2017), the performance of supply chain management is the company's ability to meet consumer needs both in terms of product quality and cost. Fawcett and Clinton (in Ibrahim and Ogunyemi, 2012: 447) said that the performance of supply chain management must help companies to understand the system and provide information to all partners in the supply chain. The success of supply chain management performance is based on the level of trust and commitment of all parties in the supply chain (Kwon and Suh, 2004). In implementing an effective supply chain, companies must make suppliers as part of the company's long-term strategy in meeting consumer needs with diverse products, high product quality, reduced costs, and speed of market response (Heizer & Render, 2011: 453). From the description above, it can be concluded that the performance of supply chain management can help to determine the

competitiveness of companies in meeting market demand effectively and efficiently.

2.2.4. MSME's Music Studio Supply Chain Performance

According to Zelbst et al. (2009), the performance of supply chain management is the company's ability to meet consumer needs both in terms of product quality and cost. Fawcett and Clinton (in Ibrahim and Ogunyemi, 2012: 447) said that the performance of supply chain management must help companies understand the system and provide information to all partners in the supply chain. The success of supply chain management performance is based on the level of trust and commitment of all parties in the supply chain (Kwon and Suh, 2004). In implementing an effective supply chain, companies must make suppliers as part of the company's long-term strategy in meeting consumer needs with diverse products, high product quality, reduced costs, and speed of market response (Heizer & Render, 2011: 453). From the description above, it can be concluded that the performance of supply chain management can help to determine the competitiveness of companies in meeting market demand effectively and efficiently.

In this study, it is examined a Studio Music MSME's supply chain performance for the relationships with partners. Traditionally, most studies have assesses organizational performance based largely on financial indicators. These indicators are important to assess whether operational changes are improving the financial health of a company, but insufficient to measure supply chain performance. These indicators do not relate to important organizational strategies and non-financial performances, such as product quality and customer satisfacton (Lapide, 2000; Ranganathan et al., 2004). Accordingly, many studies have suggested both financial and non-financial indicators to measure an organization's supply chain performance. Besides Ariani (2013) applied the Multilinear Regression to define supply chain performance, which intends to link the

performance framework to this Multiple Regression based perspectives. It includes information sharing, cooperation, long term relationship, and process integration. In summary of the two performance systems, flexibility is commonly recognized as an independent non-financial measure. Next, output, as defined above, seems to cover both dependability and quality attribute as non-financial measure. Finally, efficiency, as defined above, is similar to resource measure and is considered a financial measure. This study thus defines a focal firm's supply chain performance with finance and non-finance in a complementary manner. Further, supply chain performance was conceptualized as a formative construct with two indicators, financial and non-financial. Both indicators, in essence, seem to capture different aspects of supply chain performance. Supply chain performance can thus be defined as a composite of the two indicators for observing its variance (Jarvis et al., 2003). According to Dian (2016) dan Ariani (2013), there are 4 variables that affect the performance of supply chain management in MSME, namely Cooperation, Information Sharing, Long Term Relationship, and Process Integration. So the model of this study will be drawn in figure 1.

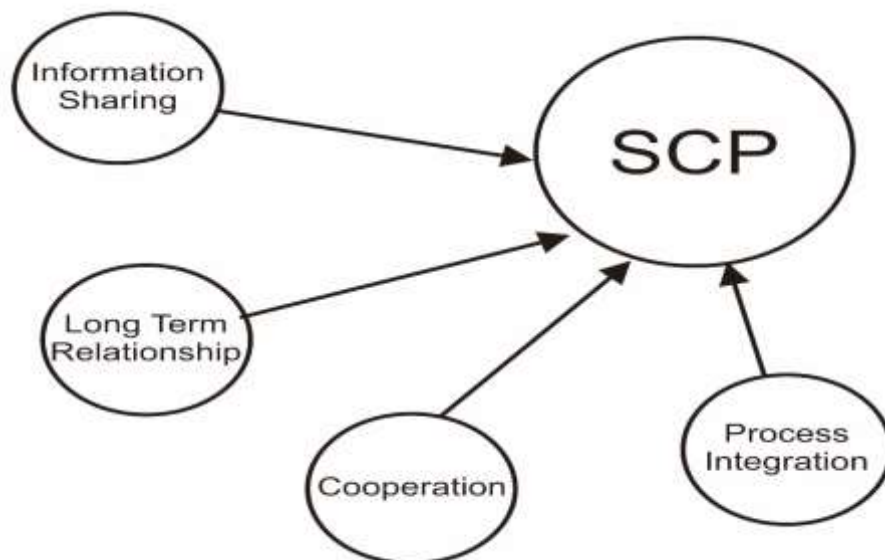


Figure 2.1 Research Model

2.2.5. Information Sharing

Based on several previous studies that were used as references in this study, it states that information sharing has a positive effect on the performance of supply chain management. Based on research conducted by Chang et al (2013) stated that sharing information makes the intensity of high information sharing can improve the performance of the company's supply chain management. Risnandar and Wulandari (2010) say, information is a collection of data that has been grouped, processed, and communicated to needs that are reasonable and meaningful or useful. Therefore information is used as a basis in making decisions that must be obtained at the right time, quickly, and of good quality. Information is the basis for implementing the supply chain process. According to Chopra and Meindl (in Pujawan and Mahendrawathi, 2010) information must have several characteristics in order to be useful in making supply chain decisions, such as :

1. Accurate. To make good decisions, information must describe the actual and reliable conditions.
2. Right. Consider what information is suitable and needed by the company.
3. Accessible when needed.

(Pujawan and Mahendrawathi, 2010) in Ariani (2013) stated that to be used when needed, information must be accessed properly and correctly, so that it can assist in making decisions. The success of the supply chain is very dependent on the information system, with the existence of business partner information in the supply chain can be calculated. Lack of coordination from the parties involved in the supply chain will cause information distortions called the bullwhip effect phenomenon (Parwati and Andrianto, 2009). Whereas Bullwhip Effect itself is defined by Susilo (2008) as an increase in the variability of demand that occurs at each supply chain level as a result of information distortion.

Handfield and Nicholas (quoted by Susilo, 2008) said that inaccurate information or distorted information at each level of supply chain from the bottom up can cause several important problems, such as:

1. Excessive inventory
2. Loss of income
3. Decreased level of customer satisfaction
4. Ineffective delivery
5. Errors in production scheduling
6. Inefficient use of resources

(Simatupang & Sridharan in Yaqoub, 2012) said that Information sharing is the intensity and capacity of companies in their interactions to share information with partners in relation to joint business strategies. Information sharing also enables supply chain members to obtain, maintain and convey information needed to ensure effective decision making, and is a factor that is able to strengthen the elements of collaboration as a whole, therefore industrial congestion can be reduced by the existence of information sharing.

Research conducted by Anatan (2008) which suggests antecedent factors that must be considered in the management of supply chain to ensure the quality of information includes three main things, namely: environmental uncertainty, intra-organizational facilitators and inter-organizational relations stating that information sharing can help companies improve the efficiency and effectiveness of the supply chain and is the most important factor for achieving effective coordination in the supply chain and controlling it throughout the supply chain. Information sharing guarantees the availability of data on time so that the data held can be shared along the supply chain, and can respond to changes in the needs and desires of consumers more quickly. Information quality is also very much needed because fast but not quality information cannot be used and shared along the supply chain. Chang et al.

(2013) regarding e-procurement and supply chain performance, stating that information sharing has a positive effect on supply chain management performance.

In addition, the research conducted by Ibrahim and Ogunyemi (2012) on the effects of linkages and information sharing on supply chain and export performance in Egyptian T & C manufacturers also stated that information sharing has a positive effect on the performance of supply chain management. According to Yu et al. (2001), with the exchange of information in the supply chain, helps companies to improve inventory levels and make cost savings. Lin et al. (2002) in Kurniawan (2013) also stated that sharing information with partners in the supply chain can reduce uncertainty and improve service in fulfilling consumer orders. Therefore, understanding the factors that influence information sharing and information quality is very much needed to support the quality and information sharing process. So that the hypothesis can be drawn:

H1 : Information Sharing has a positive effect on supply chain management performance

2.2.6. Cooperation

Wu et al. (2014) stated that collaboration with partners helps companies to create better supply chain strategies. One way to build collaborative behavior is to create a conducive climate for members of the supply chain to be willing to collaborate and integrate all available resources. This can have an effect on reducing costs and improving customer service. So that a high level of collaboration can encourage an increase in the performance of the supply chain management company Kurniawan (2013).

(Bujang, 2007) states that cooperation is a situation that is marked when several parties work together to achieve a common goal that is mutually beneficial. Effective cooperation is a desire to develop relationships that will generate trust and

commitment. Suppliers and companies need to know how collaboration is developed and maintain it to undergo satisfying long-term collaborative relationships. Cooperative activity is the main tool for each company to maintain and improve outcomes.

(Rahardian, 2011) stated that the importance of cooperation between suppliers and companies that are well-nurtured is increasingly recognized by the company, not only in the interests of the short term but also for the long term. Companies can get many benefits from long-term cooperation. This is felt in conditions when the company requires shipment of raw materials for urgent needs, suppliers can immediately fulfill the request, because the relationship has been well developed so far. A good relationship between the supplier and the company will also benefit from stable shipping costs, which can reduce costs more efficiently.

(Ariefin, 2004) in Ariani (2013) stated that to get good performance through collaboration, good relations between the two parties are absolutely necessary, the quality of relationships can be measured by adopting the measurement dimensions used by Johnson in Ariefin (2004), namely trust, and fairness as the constituent dimensions of the quality of a cooperative relationship. When a company believes in its partners and truly treats partners, the company will view these relationships as strategic assets and strategic tools, which will strengthen the company's competitive ability.

Previous research as a reference in this study stated that collaboration has a positive effect on the performance of supply chain management. Based on research conducted by Gallear et al. (2012) regarding corporate responsibility, supply chain partnership and performance: an empirical examination, research conducted by Wu et al. (2014) regarding information sharing and collaborative behaviors in enabling supply chain performance: a social exchange perspective also states that collaboration has a positive effect on supply chain management performance. From the above explanation the hypothesis can be drawn:

H1: Cooperation has a positive effect on supply performance

2.2.7. Long Term Relationship

Prajogo and Olhalger (2013) stated that in the contemporary business environment, competition is no longer between organizations, but between supply chains. Organizations are increasingly thinking that they have to compete, as part of a supply chain, against other supply chains, to rapidly reflect market changes. Kanter in Lestari (2009) revealed that the company's relationship with suppliers is the strongest collaboration in the context of a value chain or supply chain. In this case, the supplier has the role of providing material or input materials used by the company. Material quality and capability in the distribution of materials depends on supplier performance which in turn affects the overall performance of the company.

(Ellram and Zineldin in Bujang, 2007) stated that some of the main advantages of long-term collaborative relationships include: the same supplier in the long run will better understand consumer desires, plans formulated together and exchange of business information will encourage conformity to planning. Furthermore and a jointly planned strategy will produce strength that can be used as a competitive advantage in the long term.

According to Zineldin in Rahardian (2011) the quality of a relationship is a function of several elements or certain factors including: cooperation, capability and employee performance including managers, physical resources, quality, distribution and product pricing, information sharing, experience, expectations consumer and satisfaction. The relationship between suppliers, customers, and companies must be managed well and always be improved so that a sustainable relationship is established and suppliers are also responsible for the quality of the product and for the distribution of products from upstream to downstream in time to the end user. So the improvement of good relationships in the long term and

mutual trust between companies, suppliers and customers are needed in order to achieve efficiency in the performance of the company (Rahmasari, 2011).

(Bernard, 2011) stated that trust is seen as a fundamental element for the success of a relationship (relationship). Relationships will be created from trust that continues, without the belief that a relationship will not last for a long time. Another element needed in a relationship is commitment, commitment is defined as the belief of one party that fostering relationships with other parties is important and influences the optimal benefits obtained by both parties in dealing (Morgan and Hunt in Bernard, 2011).

Based on research conducted by Gallear et al. (2012) regarding corporate responsibility, supply chain partnership and performance: an empirical examination, and research conducted by Wu et al. (2014) regarding information sharing and collaborative behaviors in enabling supply chain performance: a social exchange perspective states that collaboration has a positive effect on supply chain management performance

From the above description we can draw hypotheses, namely:

H1 : Long Term Relationship has a positive effect on supply chain management performance.

2.2.8. Process Integration

Process Integration is a systematic process of combining all activities in supply chain management so that all activities run smoothly. Based on research conducted by Rahadi (2012) about the effect of SCM on the company's operational performance, empirically analyzed the SCM strategy with the company's performance. The unit of analysis is the independent variable is SCM and the performance variable is measured by the company's operations, one of which is

Process Integration. The results of the study state that these variables have a positive effect on company performance:

H1 : Process Integration has a positive effect on supply chain management performance.

2.2.9. Purposive Sampling Technique

Data gathering is crucial in research, as the data is meant to contribute to a better understanding of a theoretical framework. It then becomes imperious that selecting the manner of obtaining data and from whom the data will be acquired be done with sound judgment, especially since no amount of analysis can make up for improperly collected data. The purposive sampling technique, also called judgment sampling, is the deliberate choice of a participant due to the qualities the participant possesses. It is a nonrandom technique that does not need underlying theories or a set number of participants. Simply put, the researcher decides what needs to be known and sets out to find people who can and are willing to provide the information by virtue of knowledge or experience. It is typically used in qualitative research to identify and select the information-rich cases for the most proper utilization of available resources. This involves identification and selection of individuals or groups of individuals that are proficient and well-informed with a phenomenon of interest. In addition to knowledge and experience, and note the importance of availability and willingness to participate, and the ability to communicate experiences and opinions in an articulate, expressive, and reflective manner. Unlike random studies, which deliberately include a diverse cross section of ages, backgrounds and cultures, the idea behind purposive sampling is to concentrate on people with particular characteristics who will better be able to assist with the relevant research.

2.2.10. Likert Scale Questionnaire

Likert-scale instruments are most frequently used to measure psychological constructs (see Messick, 1989, for a detailed discussion of the notion of construct), which is one aspect of a person's affect or cognition that can be operationalized and measured. Constructs in the field of SLA are typically linguistic (e.g., syntactic knowledge), affective (e.g., listening anxiety), or personality based (e.g., extraversion), and they are conceptualized as extending from one extreme to another—low to high, small to large, negative to positive, or weak to strong. In other words, they form a continuum. Regardless of the type of construct being measured, the starting point for questionnaire development is to arrive at a thorough understanding of the target construct, primarily by reading academic literature on the topic. This reading should be focused on both understanding the theory associated with the construct and on analyzing items from previous questionnaires designed to measure that construct. In addition to reading, it is useful to engage in a critical discussion of the content of the reading with persons also familiar with the construct, as this strategy can result in a more well-developed, accurate understanding of the construct.

After gaining an understanding of the hypothesized construct, it is possible to consider item design. Items are the concrete realization of the abstract construct, and as such, represent the theoretical understanding of the construct. Each item should be designed to measure a specific aspect of the construct. There are two main advantages to this approach. First, item design is no longer arbitrary because it is based on a detailed understanding of the construct. For this reason, data gathered using the items can be related back to the construct with greater confidence. Second, the statistical results that flow from the data produced by the items can be used to improve our understanding of the construct. For instance, statistical analyses can show which items adequately measure the construct and which appear to measure a different construct. The use of this sort of information can be likened to a conversation between theory and item performance. The theory initially informs

item development, but then the data gathered using those items inform further theory development, as they potentially indicate where the theory is, and is not, supported. Each item should be designed to measure one idea and should be written in straightforward, easy-to-understand language so that the meaning of the item is unambiguous to respondents (Wolfe & Smith, 2007). For instance, high-frequency, nontechnical vocabulary should be used, and complex grammatical constructions should be avoided. Moreover, conjunctions, such as and, or, and but should not be used, as they generally indicate the presence of two ideas (i.e., a so-called “double-barreled” question). The problem with doubled-barreled questions is that they invite respondents literally to answer different questions. For instance, if the item says I can understand written and spoken academic texts, some respondents might respond to the word written, but others might respond to the word spoken. If the item writer wishes to include both ideas on the questionnaire, they should be presented as separate items.

Two further issues should be considered when constructing items. First, positively and negatively worded items should not be used to measure a single construct, as this approach negatively affects unidimensionality (Quilty, Oakman, & Risko, 2006; Yamaguchi, 1997). Unidimensionality, which is the idea that a set of items measures a single construct, is important because it is difficult to interpret the results of items measuring multiple constructs. Items should be written in a single direction with a preference for positively worded items (Wolfe & Smith, 2007). Second, when possible, the items should be written in a language the respondents understand well or that is their native language. This is in order to reduce the contamination of construct irrelevant variance, which is produced by contextual variables that affect the responses made by the respondents (e.g., excessive heat, loud noises, or in this case, a poor understanding of the meaning of the item). The goal should be to produce items that the respondents immediately and accurately comprehend.

Croasmun and Ostrom (2011) stated that rating scales are commonly used in the social sciences and with attitude scores. Such instruments often use a Likert-type scale. A Likert-type scale requires an individual to respond to a series of statements by indicating whether he or she strongly agrees (SA), agrees (A), is undecided (U), disagrees (D), or strongly disagrees (SD). Each response is assigned a point value, and an individual's score is determined by adding the point values of all of the statements. Likert scales provide a range of responses to a statement or series of statements. Usually, there are 5 categories of response ranging from 5 = strongly agree to 1 = strongly disagree with a 3 = neutral type of response (Jamieson, 2004). However, there is a debate among researchers concerning the optimum number of choices in a Likert-type scale. There are some researchers who prefer scales with 7 items or with an even number of response items (Cohen, Manion, & Morrison, 2000). Symonds (1924) implied that the optimal reliability is with a 7-point scale. If there are more than that, the increases in reliability would be so small that it would not be worth the effort to analyze the difference or develop the instrument.

2.2.11. Multiple Linear Regression

According to Qadratullah (2013) regression analysis is a statistical tool used to determine the relationship between one variable with another variable in order to predict a value on the dependent variable (the dependent variable) if the value of other variables (the independent variable or the independent variable) is known. Regression analysis according to Sunyoto (2007) is an analysis to measure the effect of the dependent variable (the independent variable) on the independent variable (the dependent variable). If the measurement carried out only involves one independent variable (the independent variable) and the dependent variable (the bound) then it is called a simple linear regression analysis that can be formulated with: $Y = a + bx$, where the value of a is constant and the value of b is the regression coefficient for variable X . Meanwhile, if the measurements made involve two or more independent variables, it is called multiple linear regression analysis, knowing whether there is an influence of each independent variable on the dependent variable.