Competitiveness of Small and Medium Firms (SMEs) in Facing ASEAN Economic Community

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The purpose of this study is to develop a model of Resource-based View (RBV) and to analyze the competitiveness of Manado Small and Medium firms (SMEs) in facing the ASEAN Economic Community (AEC), based on valuable, rare, inimitable and non-substituable (VRIN) resources of Resource-based View (RBV). To answer these purposes, the proportional stratified random sampling was conducted by taking 180 small and medium firms (SMEs) in Manado consist of 90 small firms and 90 medium firms. The data were analyzed using qualitative systems dynamic analysis. The results indicated that holistically, systemic behavior of VRIN resources makes contribution on Manado SMEs competitiveness in facing the implementation of ASEAN Economic Community (AEC), both before and after intervention. Before intervention, decline of VRIN resources makes contribution on decline of the competitiveness of Manado SMEs. On the contrary, after intervention, increase of VRIN resources makes contribution on increase of the competitiveness of Manado SMEs. Partially, rare (R) resources make more contribution than non substitutable (N), imperfectly imitable (I) and valuable (V) resources on competitiveness. It can be concluded that these systemic behavior of VRIN resources make contribution both negatively in declining and positively on increasing competitiveness of Manado SMEs.
INTRODUCTION

The Association of Southeast Asian Nations (ASEAN) has made extraordinary progress since it was founded in 1967. It has been transformed into an increasingly well-regulated, dynamic and creative platform for trade and commerce across what many regard as the world’s fastest-developing economic region. One of the objectives of the evolving ASEAN Economic Community (AEC) is to promote free investment flows and freer capital flows (Aldaba and Yap, 2009). Every individual ASEAN country is currently preparing for the opportunities and assessing risks in the AEC integrating process (KPMG Asia Pacific Tax Center).

The realization of the ASEAN Economic Community has become opportunities as well as major challenges for Indonesia, especially in improving its competitiveness. One of the objectives of AEC is to increase ASEAN competitiveness. Globally, Indonesia competitiveness is on the 41st of 138 countries, compared to Singapore in the 2nd, Malaysia in the 25th place, Thailand in the 34th, Vietnam in the 60th and Philippines in the 57th (Schwab, 2016). The fact shows that Indonesia still farther below some ASEAN countries.

That phenomenon of the implementation of AEC will be faced by any industries of ASEAN, as well as by the SMEs in Indonesia. The current environment faced by SMEs is more competitive than before. Common problems in SMEs in Indonesia are lack of capital, unprofessional management, lack of raw material, and resources problem. Many studies showed that the performance of SMES in Indonesia still relatively not good and not capable to compete causing less of competitiveness.

As part of Indonesia and the capital of North Sulawesi, Manado is trying to support the Indonesian government in dealing with the AEC. This is about how to increase the competitive region of ASEAN by improving learning capability of Manado SMEs in creating and developing knowledge continuously as a strategy in facing such competitive region.
Organizational learning is described as a routine organizational activity to create, develop and manage knowledge. The success of organizational learning will depend on the four leverage factors: knowledge acquisition, knowledge assimilation, knowledge transformation, and knowledge exploitation (Zahra and George, 2002). Process of learning can be applied by SMEs in Manado, because it generates new value of knowledge to create sustained competitive advantage and to achieve strategic fit by allocating or matching resources to opportunities. Aspect of learning today for Manado SMEs is how to match their internal resources and skills with the opportunities and risks created by environmental change of AEC in ways that will be both effective and efficient over the time such resources will be deployed. Furthermore, within the framework of the organization’s strategy, learning capability of Manado SMEs will be regarded as a source of high potential knowledge creation in generating resources-based strategy and a best practice model of knowledge management for SMEs in dealing with competitiveness, both locally, regionally and globally.

Competitiveness as a comparative measure between companies within an industry is closely related to the presence of a competitive advantage and a major contribution to enlighten competitive advantage has come from studies done by Michael Porter (Bredrup, 1995). Porter (1985) defines competitive advantage grows out of value a firm is able to create for its buyers that exceed the firm’s cost of creating it. There are several paradigms associated with how a business creates and maintains its competitive advantage, such as the industrial organization paradigm of Porter (Porter, 1980), strategic conflict of Shapiro and resource-based view (RBV) of Wernefelt (Barney and Clark, 2007), dynamic capabilities of Teece (Teece, et al., 1997), as well as, learning paradigm of Senge (Gilley and Maycunich, 2000).

Resource-based View (RBV) is the one that related to how organizations exploit their resources in facing the dynamic environment. Barney and Clark (2007) said that organization is bundles of resources which consists of as human, asset, capability, information, and knowledge. Barney (1991) develops the so-called VRIN (valuable, rare, inimitable and non substitutable) resources framework which defines characteristics resources need to posses in order to enable competitive advantage to be achieved. According to VRIN framework, valuable, rare, imperfectly imitable and not substitutable resources have the potential for creating sustainable competitive advantage (Talaja, 2012).

Under the condition of dynamic environment of AEC, RBV can be applied by SMEs in Manado in achieving and maintaining their competitiveness. How SMEs in Manado should achieve and maintain their competitiveness, becomes the problem that is figured out and being studied in this research, by developing a model of RBV and analyzing the competitiveness of SMEs in Manado based on VRIN resources of RBV related to dynamic environment of ASEAN Economic Community (AEC). Hopefully, this research will provide a framework for understanding how VRIN resources of RBV might appropriately viewed as a strategy to SMEs in Manado.

METHODS
The object of this research is Small and Medium firms (SMEs) in Manado. The term of SMEs was defined according to Central Bureau Statistics of Indonesia: a business, which has 5 to 19 employees, is called as small firms, whereas a business, which had 20 to 99 employees, is called as medium firms. The sample being taken was 180 SMEs, consisted of 90 small firms and 90 medium firms. The variable consisted of four main variables, i.e. valuable, rare, inimitable, and not substitutable (VRIN) resources of RBV (Barney and Clark, 2007). There are 28 question items that are divided into 9 questions for valuable, 6 questions for rare, 7 questions for inimitable, and 6 questions for nonsubstitutable.
Those are measured on Likert-type scales (Geoff, 2010), coded between 1 (unfavorable) until 5 (favorable). This research used qualitative systems dynamics approach (Coyle, 1999) that aims to develop a model of VRIN resources of RBV and correlation analysis (Walpole, 1993) that aims to measure the validity and reability of the questionnaire.

RESULTS AND DISCUSSION
The indicator of questionnaire is valid if the correlation coefficient is equal or greater than 0.30 (Friedenberg in Anwar, 2009), while the indicator of questionnaire is reliable if the correlation coefficient between the even number of items and the odd number of items is greater than 60% (Portes, 1986 in Rantung, 1992). Result showed that both $\alpha = 1\%$ and $\alpha = 5\%$, the correlation coefficient is above 0.4, while the correlation coefficient between the odd number of items and the even number of items is 0.92. This can be concluded that all the question items are valid and reliable to measure the valuable, rare, inimitable and non subsittutable (VRIN) resources of RBV towards the competitiveness of SMEs in Manado.

The Causal Loop Diagram (CLD) of SMEs Resource-based View (RBV)
The modelling of RBV based on systems dynamics which is an approach to understanding the behavior of complex systems overtime (Sterman, 2000).

Two model types are offered in system dynamics i.e Causal Loop Diagrams (CLDs) and Stock Flow Diagrams (SFDs) (Homer and Olivia, 2001) . The goal of CLDs is to provide a macroscopic view on causalities of the elements in a system and to enable a simulation of SFDs. The CLDs of RBV model is shown in figure 1. It explains the systemic causalities of VRIN resources of RBV, competitiveness of SMEs and environment of AEC.

There are seven reinforcing loops (R1, R2, R3, R4, R5, R6 dan R7) and seven balancing loops (B1, B2, B3, B4, B5, B6 and B7). The reinforcing loops of R1, R2, R3, and R4 explain ability of SMEs to create VRIN resources whereas the balancing loops of B1, B2, B3, B4 explain inability of SMEs in maintaining VRIN resources. Those four reinforcing and balancing loops are expected to generate competitiveness of Manado SMEs in dealing with the implementation of AEC. The reinforcing loop of R5 explains ability of SMEs to create RBV and the balancing loop of R6 explains inability of SMEs to create RBV. These two causalities are expected to generate RBV of Manado SMEs.

The implementation of AEC increases the environmental dynamic (reinforcing loop of R6). The ability of SMEs in generating RBV decrease the environment dynamic (balacing loop of B6). These two loops will generate environmental dynamic that can affect the competitiveness of SMEs. Reinforcing of R7 explains the ability of SMEs in implementing the RBV strategy by exploring and exploiting the VRIN resources so that affects the increase of competitiveness of SMEs, while balancing loop of B7 is about inability of SMEs in maintaining competitiveness caused by AEC implementetion. This causality will generate competitiveness of Manado SMEs.

Behavior of VRIN resources of RBV
Behavior of VRIN resources of Manado SMEs is simulated by using Powersim Constructor 2.5d. Simulation was conducted in two forms, i.e. before intervention and after intervention. Ouputs of this simulation are behavior of AEC competitive environment and behavior of VRIN resources to
the competitiveness of Manado SMEs in dealing with the dynamic environment of AEC.

Before intervention, it is to explain about the existing behavior of VRIN resources, while after intervention it is to explain about the behavior of VRIN resources after being intervened to VRIN resources. The intervention is a scenario such as policies that can be taken both by SMEs and government by stimulating all valuable, rare, imperfectly imitable and non substitutable (VRIN) resources.

SMEs need to upgrade their management skills and capabilities, human resource competence, working capital, management and technological skills. On the other side, governments need to improve SMEs access to financing, information infrastructures and international markets. Providing regulatory, legal and financial frameworks conducive to entrepreneurship and small firm start-up and growth is a priority (OECD, 2000).

**Dynamic Environment of AEC**

Business environment refers to all external forces includes factors outside the firm which can lead to opportunities for or threats to the firm competitiveness. Organizational competitiveness and competitive environment are the two elements that affect each other. Understanding the business environment is very important for running a business unit successfully. Differences in competitiveness today are significantly different compared to past period.
The implementation of AEC causes the more competitive environment of ASEAN region. This is implied in the first AEC Blueprint (2008-2015). Under this Blueprint, the AEC is built on four interrelated and mutually-reinforcing characteristics: (a) a single market and production base; (b) a highly competitive economic region; (c) a region of equitable economic development, and (d) a region fully integrated into the global economy. Moreover, the new Blueprint 2025, a stronger AEC is envisaged by 2025 with the following characteristics: (a) a highly integrated and cohesive economy; (b) a competitive, innovative, and dynamic ASEAN; (c) enhanced connectivity and sectoral cooperation; (d) a resilient, inclusive and people-oriented, people-centred ASEAN; and (e) a global ASEAN (The ASEAN Secretariat, 2015). These characteristics cause the present day of AEC environment is regarded as hyper-competitive (figure 2).

The Effect of VRIN Resources to SMEs Competitiveness

In term of microeconomic, competitiveness identifies operating practices and strategies of firms as well as business inputs, infrastructure, institutions and policies that constitute the environment in which firms compete (Wong, et al., 2011). Presently, only a small part of the SMEs is able to identify and exploit this competition and deal with the dynamic environment. SMEs, due to their size, are particularly constrained by non-competitive resources, as well as Manado SMEs.

Result of simulation showed that systemical behavior of VRIN resources of SMEs affects and makes contribution on competitiveness negatively in decreasing and positively in increasing, both before and after intervention. Before intervention, the behavior of VRIN resources of SMEs showed a decline resulting in decrease in SMES competitiveness. The decline of rare (R) resources followed by valuable (V), non-subsitable (N) and imperfectly imitable resources (I) caused in decreasing competitiveness (figure 3). This indicated that VRIN resources of SMEs are not potential resources in dealing with complex environment of AEC.

Rostek (2012) argues that SMEs needs to improve competitiveness to survive in a changing environment and strong business competition. Improving the competitiveness of Manado SMEs

![Figure 2: Dynamic Environment of AEC](image-url)

Source: Based on Powersim Constructor 2.5 d
can be pursued by intervening to their resources. The intervention can be applied by considering to Barney (1991) of RBV that firm resources must have four attributes: (a) it must be valuable, in the sense that it exploit opportunities and/or neutralizes threats in firm’s environment (b) it must be rare among a firm’s current and potential competition, (c) it must be imperfectly imitable, and (d) there cannot be strategically equivalent substitutes for this resources that are valuable but neither rare or imperfectly imitable. This original framework was called VRIN. These attributes of firm resources can be thought of as empirical indicators of how heterogeneous an immobile a firm’s resources are and thus how useful these resources are for generating sustained competitive advantage (Barney, 1991).

In the condition of after intervention to VRIN resources (figure 4), holistically, result showed that the combination of VRIN resources contributes significantly on competitiveness than before intervention.

Partially (figure 5), rare (R) resources have strong contribution, followed by non substitutable (N), imperfectly imitable (I) resources and valuable (V) resources. The fast increasing of valuable (V) resources is not able to improve the competitiveness of SMEs.

Barney (1991) argued that firm resources can only be a source of competitive advantage or sustained competitive advantage when they are valuable and Talaja (2012) said that valuable resources that are not rare cannot be the sources of the competitive advantage and to achieve the competitive advantage, resource must be valuable and rare. These are stressed that the value and rarity of resources are necessary conditions for achieving competitive advantage.

On the contrary to those arguments of valuable (V) resources of Barney (1991) and Talaja (2012), this study showed that valuable (R) resources of SMEs is more potential than valuable (V) resources. Valuable (V) resources, as a source of competitive advantage or sustained competitive (Barney, 1991), are not potential because the emphasis on valuable (V) resources tends to the level of corporate. This reason is supported by statement of Talaja (2012), it is important to emphasize that the value of resources has to be estimated in the context of corporate strategy and the specific
environment in which the company operates. The strong contribution of rare (R) resources of SMEs of this research is similar with research of Miraza dan Hafas (2015), which found that rare (R) resources have significant impact on SMEs competitiveness. The prominent resources are rare (R) resources can be shown by utilizing unique resources such as local based resources, agricultural based resources, creative resources and labor-intensive resources (Bank Indonesia, 2015).

This result also showed that these imperfectly imitable (I) resources and non substitutable (N) resources contribute to Manado competitiveness. Following to Barney (1991) that valuable (V) and rare (R) organizational resources can only be sources of sustained competitive advantage if firms that do not possess these resources cannot obtain them. Talaja (2012) said that if there is no other resource that could be used as an adequate and worthy replacement for the existing resource, existing resources are not substitutable. These firm resources are called imperfectly imitable (I) resources and non substitutable (N) resources. It is stressed that the value and rarity of resources are necessary conditions for achieving competitive advantage. Therefore, a firm resource must, in addition, be valuable, rare, and imperfectly imitable and substitutable in order to be source of a sustained competitive advantage (Barney, 1991). Because, on the context of VRIN resources, Pina (2011) stated that VRIN resources of the company are affect significantly to the competitive advantage and organization performance.

**MANAGERIAL IMPLICATIONS**

According to the VRIN framework, if a firm possesses and exploits valuable, rare, inimitable and non-substitutable resources and capabilities, it will achieve sustainable competitive advantage (Talaja, 2012). To improve competitiveness, an intervention on VRIN resources is required. From the result of simulation, it indicates that holistically, combination of these resources shows positively make contribution on competitiveness of Manado SMEs in dealing with complex environment of AEC.

Although, partially, rare (R) resources of SMEs have significant contribution on improving competitiveness of Manado SMEs, it can not ignore the role of valuable (V) resources, imperfectly imitable (I) resources and non-substitutable (N) resources. Therefore, VRIN resources of

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Figure 4: Behavior of VRIN Resources of Manado SMEs to Competitiveness After Intervention (Holistically)

Source: Based on Powersim Constructor 2.5 d
Figure 5: Behavior of VRIN Resources of SMEs to Competitiveness After Intervention (Partially)
Source: Based on Powersim Constructor 2.5 d
Manado SMEs have to be combined, organized, and deployed appropriately and systemically to be source of competitive advantage. Indeed, if the firm’s strategy does not set up the correct structure, control systems and reward systems to support these resources, it seems highly improbable that the resource will contribute to the firm’s competitive advantage (Bridoux, 2004).

Manado SMEs should decide and examine their environment for opportunities and threats in order to establish where they can gain their competitiveness and where their resources might most usefully be concentrated in dealing with complex environment like AEC environment. For support this decision, SMEs should create dynamic resource management (Wernefelt, 1984) and effective management of resources based on input quality of organization resources in the form of physical resources, organizational resources and human resources. Human resources are the most crucial resources for small firms (Sulaimiah, 2017) in exploring and exploiting firm’s resources to be VRIN resources. This process must be done continually as a part of organizational routines (Nelson and Winter, 1982) and a mechanism for prevent sustained competitive advantage, and reflect a response to some managerial goal or environmental pressure (Cohen et al., 1996).

CONCLUSION
In order to analyze contribution of SMEs resources on competitiveness of Manado SMEs in dealing with AEC, this study proposed a model of Resource-based View (RBV) which explains the role of causality and systematic behavior of valuable (V) resources, rare (R) resources, imperfectly imitable (I) resources and non-substitutable (N) resources to competitiveness of Manado SMEs.

Holistically, systematic behavior of VRIN resources of Manado SMEs affects and makes contribution on their competitiveness both negatively in decreasing and positively in increasing. Before intervention, the behavior of VRIN resources shows a decline that causes decreasing to competitiveness of Manado SMEs. The fast decline is rare (R) resources followed by valuable (V), non-substitutable (N) and inimitable resources (I). In term of this condition, these VRIN resources of SMEs are not potential resources in dealing with dynamic environment of AEC. After intervention, the VRIN resources of Manado SMEs are potential in making contribution on increase of competitiveness of Manado SMEs.

Partially, rare (R) resources of SMEs have a strong contribution on improving competitiveness of Manado SMEs, followed by non substitutable (N), imperfectly imitable (I) resources and valuable (V) resources. The fast increase of valuable (V) resources is not able to improve the competitiveness of SMEs.
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