



The role of competitiveness as mediating effect of environmental uncertainty on performance of fisheries companies

La Hatani^{a*}

^a Faculty of Economics and Business, Halu Oleo University, Kendari, Indonesia;
lahatani@uho.ac.id*

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ABSTRAK

Penelitian saat ini bertujuan menganalisis dan menjelaskan pengaruh ketidakpastian lingkungan terhadap daya saing dan kinerja perusahaan perikanan, selanjutnya bertujuan menguji peran mediasi daya saing. Penelitian ini menggunakan pendekatan kuantitatif, dengan pengumpulan data menggunakan kuesioner. Penentuan sampel studi ini berdasarkan kriteria, yang diwakili 3 orang pada level manajemen dari 19 perusahaan perikanan yaitu direksi, manajer operasional dan pengawas, sehingga besarnya sampel ditetapkan sebanyak 57 manajer perusahaan perikanan. Analisis data dan pengujian hipotesis menggunakan Generalized Structured Component Analysis (GSCA). Hasil penelitian ini menunjukkan adanya pengaruh positif dan signifikan antara ketidakpastian lingkungan terhadap daya saing dan kinerja perusahaan perikanan. Demikian pula, daya saing berpengaruh positif signifikan terhadap kinerja perusahaan perikanan. Akhirnya, daya saing terbukti berperan sebagai mediasi parsial pengaruh antara ketidakpastian lingkungan dengan kinerja perusahaan perikanan. Implikasi praktis dari hasil studi ini pentingnya perusahaan perikanan untuk beradaptasi dengan ketidakpastian lingkungan agar dapat menciptakan daya saing dan meningkatkan kinerja perusahaan.

ABSTRACT

Current research purpose to analyze and explain the influence of environmental uncertainty on competitiveness and fishery company performance, then also aims to examine the mediating role of competitiveness. This research uses a quantitative approach, with data collection using questionnaires. The sampling in this study was determined based on criteria represented by 3 people at the management level of 19 fishing companies (i.e. directors, operational managers, and supervisors), thus a total sample of 57 managers in the fisheries company. Data analysis and hypothesis testing in this current research using generalized Structured Component Analysis (GSCA). Research findings

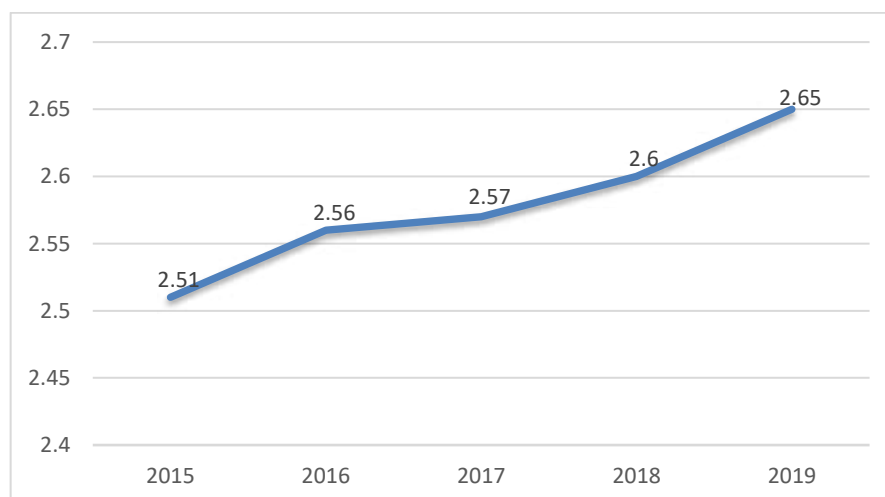
*Corresponding Author

indicate a positive and significant influence between environmental uncertainty on competitiveness and fishery company performance. Similarly, the competitiveness has a positive and significant effect on fishery company performance. Lastly, competitiveness has a role as partial mediation of the influence environmental uncertainty toward fishery company performance. The practical implications of the results of this study are the importance of fishing companies to adapt to environmental uncertainties in order to create competitiveness and improve company performance.

INTRODUCTION

Companies that survive faced with an increasingly complex level of business competition are companies that have high adaptability and adapt to the uncertainties of the business environment. Therefore, company management must prepare new ideas and strategic steps to improve company performance sustainably by creating competitiveness. Today's business competition is getting higher including the marine and fisheries sector, if it is managed properly, it can become the driving force for the wheels of the regional and national economy in Indonesia. Management of sustainable natural resource potential is a potential that refers to the marine and fisheries development strategy plan for "Prosperous Maritime and Fishery Communities".

Indonesia's position as the largest consumer with a population of around 269 million people or 3.49 percent of the world's total population is a potential market for various world products, including fishery products. The contribution of the fisheries and marine sector to Indonesia's GDP in 2019 is targeted at 4.50 percent, which is realized to reach 4.83 percent. Fisheries Contribution to Gross Domestic Product at Current Prices (2015-2019), presented in Figure 1.



Source: Central Bureau of Statistics Indonesia (2023)

Figure 1
Contribution to the National GDP of the Indonesian Fisheries Sector

Based on Figure 1, Central Bureau of Statistics Indonesia (2023) reported that the fisheries sector's contribution to Indonesia's gross domestic product (GDP) reached 2.65 percent in 2019. This figure increased from the previous year which was 2.60 percent. The biggest contribution came from Maluku with a percentage of 12.53 percent. The next highest provinces are Southeast Sulawesi and West Sulawesi with a percentage of 11.24 percent. Furthermore, estimates of the potential value of fisheries in Indonesia are supported by natural resources owned, where 70 percent of Indonesia's territory is the sea which stores fish resources, mineral water, and marine tourism which can be utilized for the welfare of the community. The marine water potential (capture) that can be utilized in Southeast Sulawesi is estimated at 250,000 tons/year. The utilization rate until 2019 reached IDR 221,412 tons or IDR 2.34 trillion (Central Bureau of Statistics Indonesia, 2023).

Various viewpoints and debates to explain the core concept of environmental uncertainty has become an issue that has attracted a lot of interest from researchers and practitioners in the last decade. This research is focused on fishing companies with the main raw material source, namely fish obtained from nature, therefore the theoretical basis used to explain the current research construct of environmental uncertainty, competitiveness, and performance of fishing companies is Natural Resource Based View (NRBV). In NRBV theory, the company's strategic management is required to have the ability to adapt to environmental uncertainties, to encourage the growth of competitiveness which ultimately increases social and economic outcomes (Chen *et al.*, 2005). However, Hart (1995) revealed that NRBV often ignores the critical factors imposed by the natural environment. These different views have become a hot topic of discussion from academics and practitioners, regarding the importance of companies adapting and determining strategies to make an adjustment to environmental uncertainty to improve the competitiveness and performance of the company. In a competitive environment, the sources of competitive advantage are constantly changing as companies are under increasing pressure to assume responsibility for enhancing competitiveness (Porter & Kramer, 2007).

Many previous studies have investigated the topic of the influence of environmental uncertainty on the competitiveness and performance of companies in various organizations both in the business and public (non-profit) sectors. For example, Hadj (2020); Junquera & Barba-Sánchez (2018); Salem (2019) found environmental uncertainty has a positive and significant effect on competitiveness. Furthermore, regarding the effect of environmental uncertainty on company performance, of the 19 researchers reviewed, 13 researchers found a positive and significant effect; 3 researchers had no significant effect; 2 researchers had a negative effect and only 1 researcher found a negative and insignificant effect. For example, Darvishmotevali *et al.* (2018); Gupta & Gupta (2020); Mohammad (2019) find environmental uncertainty has a positive and significant effect on company performance. However, Fernandes & Solimun (2017a); Junquera & Barba-Sánchez

(2018) find negative influences and Kwok *et al.* (2019) found not significant effect. As well as, Fernandes & Solimun (2017b) identify the negative and insignificant effects of environmental uncertainty on business performance in the aviation industry in Indonesia.

The findings of previous studies are inconsistent when it comes to reality because there are indications of an intermediate indirect effect environmental uncertainty and company performance. However, Junquera & Barba-Sánchez (2018) found that competitiveness does not play a mediating effect environmental uncertainty on company performance. The phenomenon of conflicting results is due to the fact that there is an indirect effect between environmental uncertainty, competitiveness and firm performance which has not been fully analyzed and explained. Nonetheless, the evidence collected from the results of previous research results yielded various and contradictory findings in both developed and developing countries, the majority of which support positive and negative influences. Whether environmental uncertainty has a positive/negative and significant/insignificant effect on the competitiveness and performance of companies continues to be a matter of debate. Based on the interests of the findings, it can be a gap for re-testing, especially in the fishing industry sector, which most previous researchers have not done.

Current research is not limited to analyzing empirically and proving the discrepancy between research results and literature on the influence of environmental uncertainty, competitiveness, and performance of fishing companies. However, it is hoped that it can provide valuable benefits and a good understanding of the strategy for managing fishery companies in the Ocean Fishery Port manufacturing industrial area of Southeast Sulawesi Province so that it can increase the competitiveness and performance of companies through environmental uncertainty both internally and externally, especially the community and fishermen around the fishing industry area. Thus, this study intends to empirically prove the following questions: (1) does environmental uncertainty affect the competitiveness and performance of fishery companies? (2) Does competitiveness directly affect the performance of fishery companies? (3) Does competitiveness act as a mediating effect between environmental uncertainty on the performance of fishery companies?

The purpose of this study was to examine and explain the effect of environmental uncertainty on the competitiveness and performance of fishing companies, both directly and through the mediating role of competitiveness. The practical contribution of the research is expected by business practitioners, especially in the fishery industry in the Southeast Sulawesi Ocean Fishery Port area to be responsible and concerned for the environment. Furthermore, developing a framework through an integrative strategy in the fishery industry area. In addition to contributing to the management of fishery companies in improving the competitiveness and performance of companies and knowing the factors that need priority attention and are considered important in environmental uncertainty.

LITERATURE REVIEW AND HYPOTHESIS DEVELOPMENT

Reviewing the literature both theoretically and empirically, the current research focuses on three main constructs, namely environmental uncertainty, competitiveness, and the performance of fishing companies based on the NRBV theory. The results of theoretical studies and previous research findings from the three main constructs, the research model proposed, and the development of hypotheses that can be explained:

Environmental Uncertainty

Environmental uncertainty can be identified from various aspects, but cannot be controlled by the company, which is the root of the uncertainty, so the company must be able to respond to this uncertainty when there is high environmental uncertainty. Environmental uncertainty is a very complex multidimensional phenomenon as has been described in the literature. Kohli & Jaworski (1999) highlight that the uncertainty of the business environment can be explained as turbulence or rate of change in customer markets, consumer preferences, technology, or competition intensity. Furthermore, Chen *et al.* (2005) state environmental uncertainty is considered a basic element in strategic management and has a real impact on organizational performance. The focus of this research is on the uncertainty that arises from the external environment of the company, namely suppliers, customers, and technology, but is attached to cross-company interactions, the flow of goods, and information involving cross-company tasks.

To minimize environmental uncertainty, Flynn *et al.* (2010) reveal that company managers must seek to obtain information through interaction with the environment such as other departments, suppliers, and customers. In organizational theory and strategic management environmental uncertainty is conceptualized as one of the important constructs for understanding organizational performance (Frank *et al.*, 2017). Consistent with the opinion of Ting (2012) that various approaches understand the concept environmental uncertainty is based on assumptions about the structure of the environment that describes the effects and nature of environmental changes, and how managers obtain knowledge from their environment. Therefore, practitioners and researchers believe that high creativity is very important for the sustainability of company so that it has competitiveness in environmental uncertainty, which in turn can improve company performance (Beheshtifar & Zare, 2013).

Factors environmental uncertainty can be classified into six main dimensions (Miller, 1993), namely: (1) government policy uncertainty, (2) macroeconomic uncertainty, (3) resource and service uncertainty, (4) market and product demand uncertainty, (5) competition uncertainty, and (6) technological uncertainty in the industry. Of the six dimensions are two dimensions of environmental uncertainty in general, namely government policy uncertainty and macroeconomics. Then the remaining four are related to industry and company-level uncertainties. Current

research uses three dimensions in measuring environmental uncertainty in fishing companies, namely supplier uncertainty, customer or consumer demand uncertainty, and technological uncertainty which has also been used by some researchers, such as Junquera & Barba-Sánchez (2018); Kafetzopoulos *et al.* (2019); Salem (2019).

Most of the empirical studies have proven and supported that there is a significant positive effect between environmental uncertainty on company competitiveness and performance. The gaps in the research results are presented in Table 1, such as Hadj (2020); Junquera & Barba-Sánchez (2018); Salem (2019) found a positive and significant effect between environmental uncertainty and competitiveness. However, Bagur-Femenías *et al.* (2015) found that environmental uncertainty has no significant effect on competitiveness. Further research results Darvishmotevali *et al.* (2018); Gupta & Gupta (2020); Kafetzopoulos *et al.* (2019); Mohammad (2019) find environmental uncertainty has a positive and significant effect on company performance. Nevertheless, Fernandes & Solimun (2017a); Junquera & Barba-Sánchez (2018) found no significant effect, then Bae (2017); Kwok *et al.* (2019) negative effect, and so on Fernandes & Solimun (2017b) found a negative and insignificant effect between environmental uncertainty with business performance.

There are still gaps in the results of previous studies which found that environmental uncertainty has a negative and insignificant effect on the competitiveness and performance of the company. Therefore, taking account the debatable nature of this influence and most researchers claim that there is a positive and significant influence, the hypothesis put forward in the current study is as follows:

H1: Environmental uncertainty has a positive and significant effect on competitiveness of fishery companies.

H2: Environmental uncertainty has a positive and significant effect on performance of fishery companies.

Competitiveness and Company Performance

Competitiveness is a multidimensional concept that ultimately relates to the long-term performance of a company with its competitors Man *et al.* (2002). According Nelson (1992), competitiveness can be categorized into three levels, namely: (1) "micro-level" competitiveness or company competitiveness; (2) "Meso-level" competitiveness or industrial competitiveness; and (3) "macro-level" competitiveness or national competitiveness. Competitiveness at the national level consists of various factors related to economic, political, and social aspects (Aiginger & Vogel, 2015). Furthermore, from a micro perspective or company competitiveness, namely the company's ability to compete in free market conditions, produce goods and services that meet market demand, simultaneously increasing profits for employees and owners (Najib *et al.*, 2011).

The success of the company's competitiveness can be measured by objective and subjective criteria. In general, the analysis and concept of competitiveness based on theoretical studies can be explained from the perspective of comparative advantage and competitive advantage. Comparative advantage was introduced by Ricardo with the term Ricardo's comparative advantage (RCA) namely analyzing competitiveness at the international level in the long run, while Porter's competitive advantage is in the term Porter's competitive advantage (PCA) that is, it considers the factors that will enable the industry to compete globally in the short term (Hoang, 2018). According to Raharja (2017), that strategy is very important for companies to be able to compete with other companies based on company performance both internally and externally. Thus, competitiveness is assumed to be the ability to synergize the company's strategy with internal competitors and external opportunities, as well as adjust the strategy to the environment in which the company competes.

Competitiveness should focus on core competencies the power of knowledge and capabilities that a company has accumulated to give it a better advantage over its competitors in the market (Hannigan *et al.*, 2015). The focus of the current research is on fishing companies where the main raw material source is fish derived from natural resources. Thus, the basic theory used to explain the relationship between the constructs of this study is the NRBV theory. According to Hart (1995), NRBV can be adopted for environmental management, a vision based on natural resources and capabilities developed by the company. However, NRBV often ignores the critical factors imposed by the natural environment Hart (1995). This study seeks to fill this gap to provide empirical evidence of the impermeability of the NRBV theory environmental uncertainty, competitiveness, and firm performance.

The performance of fishing companies in this study is explained through an approach balanced scorecard namely translating the mission and strategy of a fishing company into a comprehensive set of performance measures related to four perspectives, namely: finance, customers, internal business processes, learning, and growth (Kaplan, 2009). Previous research by Khalid *et al.* (2019) found integrated environmental dimensions through a balanced scorecard approach to strengthen the organizational vision and environmental strategy. Hoang (2018) states that the role of integrated reporting in efforts to increase environmental awareness can be carried out using a balanced scorecard approach, to improve corporate performance, governance, and social. Furthermore, the implementation and use of the balanced scorecard to measure company performance by Gupta & Gupta (2020); Hamid (2018).

The opinions of these experts have also been proven by previous studies on the effect of competitiveness on company performance but found mixed and contradictory results. Several previous researchers presented in Table 1 proved that there was a positive and significant influence between the two variables, for example Anwar *et al.* (2018); Cantele & Cassia (2020); Famiyeh (2017); Potjanajaruwit (2018); Yuniarta *et al.* (2020) others claim otherwise like Anwar *et al.* (2018); Heredia *et al.* (2017);

Tresna & Raharja (2019) found that competitiveness has a negative and insignificant effect on firm performance. The researcher argues that there are two main causes of the lack of consensus, namely differences in variable indicators when defining units of measurement for company competitiveness and performance; and the object of study of competitiveness and company performance. Based on the theoretical and empirical arguments described above, the hypotheses put forward in this study are:

H3: Competitiveness has a positive and significant effect on performance of fishery companies.

Based on a review of the literature both theoretically and empirically presented in Table 1. Current research to test and examine how the influence of environmental uncertainty constructs, competitiveness, and performance of fishing companies is presented in Figure 2.

Table 1
Summary of Research Review of Influence Between Current Research Variables

Research Gaps	Authors (year)	Influence between variables	Results
Gap 1. Influence of Environmental uncertainty on competitiveness	Hadj (2020); Harash (2015); Hosseini & Sheikhi (2012); Junquera & Barba-Sánchez (2018); Kim & Choi (2016); Poulis & Wisker (2016); Salem (2019); Widyaningdyah & Aryani (2016); Yap <i>et al.</i> (2013)	Environmental uncertainty → Competitiveness	Positive/ Significant
	Bagur-Femenías <i>et al.</i> (2015)	Environmental uncertainty → Competitiveness	Not significant
Gap 2. Influence of Environmental uncertainty on Fishery Company Performance	Allegrini & Monteduro (2018); Chin <i>et al.</i> (2014); Darvishmotevali <i>et al.</i> (2018); Gupta & Gupta (2020); Harash (2015); Kafetzopoulos <i>et al.</i> (2019); Latan <i>et al.</i> (2018); Merschmann & Thonemann (2011); Mohammad (2019); Poulis & Wisker (2016); Saeidi <i>et al.</i> (2015); Widyaningdyah & Aryani (2016); Wong <i>et al.</i> (2011)	Environmental uncertainty → Fishery Company Performance	Positive/ Significant
	Bae (2017); Fernandes & Solimun (2017a, 2017b); Junquera & Barba-Sánchez (2018); Kwok <i>et al.</i> (2019)	Environmental uncertainty → Fishery Company Performance	Negative/ Not significant
Gap 3. Influence of Competitiveness on Fishery Company Performance	Anwar <i>et al.</i> (2018); Bernal-Conesa <i>et al.</i> (2017); Cantele & Cassia (2020); Famiyeh (2017); Jain <i>et al.</i> (2017); Kiyabo & Isaga (2019); Saeidi <i>et al.</i> (2015); Sigalas & Papadakis (2018); Yuniarta <i>et al.</i> (2020)	Competitiveness → Fishery Company Performance	Positive/ Significant

Research Gaps	Authors (year)	Influence between variables	Results
	Astuti <i>et al.</i> (2018); Bagur-Femenías <i>et al.</i> (2015); Heredia <i>et al.</i> (2017); Junquera & Barba-Sánchez (2018); Tresna & Raharja (2019)	Competitiveness → Fishery Company Performance	Negative/ Not significant
Gap 4. Mediation role of Competitiveness	Bagur-Femenías <i>et al.</i> (2015); Harash (2015); Wong <i>et al.</i> (2011)	Environmental uncertainty → Competitiveness → Fishery Company Performance	Complete mediation
	Beatriz & Barba-Sánchez (2018)	Environmental uncertainty → Competitiveness → Fishery Company Performance	Non Mediation

Source: Article review by researchers

The Role of Mediation of Competitiveness

The current research also examines the construct of the role of competitiveness as a mediating influence between environmental uncertainty on the performance of fishing companies based on NRBV theory and a contingency perspective. The NRBV theory in this study argues that companies are a collection of resources that can adapt to environmental uncertainties to affect the competitiveness and performance of companies. According to Porter & Schwab (2008), the interaction between different resources leads to the company's ability to increase competitiveness if the company has economic value and uses it properly. Therefore, the company's ability to adapt to environmental uncertainty can shape a company's competitiveness and performance. Thus, this study synergizes the effect of environmental uncertainty on the performance of fishing companies through the mediation of competitiveness.

Competitiveness is believed to be a driving force for growth and a tool for assessing the success of companies in various industrial sectors because competitiveness has been significantly proven to be a determining factor for economic growth and development. Furthermore, the current research seeks to explain that company performance cannot be increased directly from environmental uncertainty (Cantele & Cassia, 2020; Junquera & Barba-Sánchez, 2018; Priyanka *et al.*, 2017; Yuniarta *et al.*, 2020), however through the role of competitiveness. From several studies, for example Bagur-Femenías *et al.* (2015); Harash (2015) found the effect of environmental uncertainty on firm performance is significantly mediated by competitiveness. Nevertheless, there are still gaps that competitiveness does not act as a mediating effect between environmental uncertainty on firm performance. The findings of previous studies are still contradictory to the role of competitiveness as a mediating influence between environmental uncertainty and company performance (Junquera & Barba-Sánchez, 2018). Therefore, to test the mediating effect of

competitiveness, the following hypothesis is proposed:

H4: Competitiveness has a significant role as a mediating influence between environmental uncertainty on performance of fishing companies.

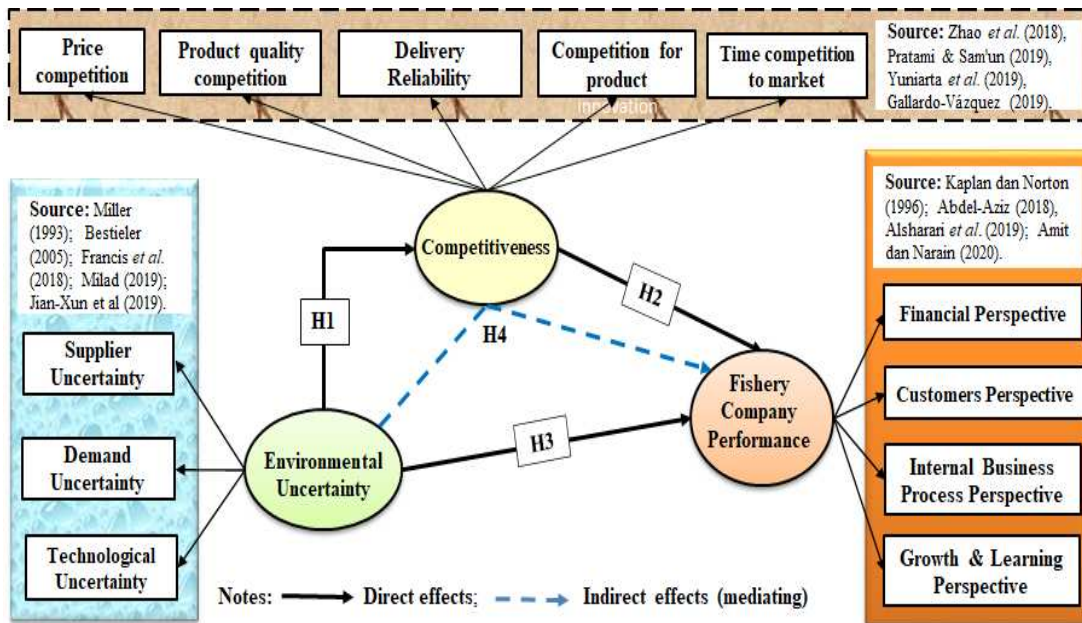


Figure 2
Research Conceptual Model

RESEARCH METHODS

The research approach uses a quantitative approach, with consideration of choosing a quantitative approach because it is most appropriate for the purpose of empirical testing and investigation of the effect of environmental uncertainty on competitiveness and firm performance, both directly and through the mediating role of competitiveness. The fishing companies that are the object of this research are companies that operate and are registered in the Ocean Harbor Fisheries industrial area, Southeast Sulawesi. Taking into account the contribution of the fisheries sector to Indonesia's gross domestic product (GDP), the second highest is Southeast Sulawesi with a percentage of 11.24 percent, and the first is Maluku with 12.53 percent (Central Bureau of Statistics Indonesia, 2023). Until now, there are 19 large-scale fishing companies. The target population for this study is at the management level of a fishing company, namely company directors, managers and supervisors. Therefore, the respondents of this study were identified based on the criteria, namely the leaders as decision makers, have knowledge about the conditions of the business environment, and know the policies of fishing companies. Thus, the acquisition of this research data is very representative of the fishing company management staff, starting from the top level (directors), the middle level (operational managers), and the lower levels

(production or operational supervisors). In addition, from the management level of the fishing company are key people who have accurate information about the policies and implementation of the company's operations.

Based on the criteria of the respondents in this study, there are 19 fishing companies, all of which are targeted, so there is no need for research sampling. Thus, the main data collection in this study used a questionnaire distributed by 57 managers in 19 fishing companies, where each company was represented by 3 people based on management level, namely directors, operational managers, and supervisors. A total of 57 questionnaires were distributed through direct personal visits by the researcher from September 2022 to February 2023, the researcher received 57 responses, or were returned as a whole and can be used as the unit of analysis for this study.

Data Type, Scale and Variable Measurement

The types of data used in this study are secondary and primary data. Secondary data types are collected from literature reviews such as previous research results, articles, dissertations, annual reports of Ocean Fishery Port Southeast Sulawesi Province, and the internet. Furthermore, the primary data which is the main data of this study was collected through a questionnaire that was designed and developed based on theoretical studies and previous research. This research questionnaire contains two main parts, which include: demographic and measurement dimensions of the construct of this research, namely the variables of environmental uncertainty, competitiveness, and performance of fishing companies. Furthermore, indicators for measuring environmental uncertainty variables are conceptualized as measures of anticipation of environmental uncertainty at the industrial and corporate level, adopted from Miller (1993) which consists of three dimensions, namely: (1) supplier uncertainty; (2) demand or customer uncertainty; and (3) technological uncertainty that has also been adopted and developed by previous researchers by (Junquera & Barba-Sánchez, 2018; Kafetzopoulos *et al.*, 2019; Kwok *et al.*, 2019; Salem, 2019).

Company competitiveness is measured by five indicators, namely: (1) price competitiveness, (2) production quality, (3) delivery reliability, (4) production innovation competitiveness; and (5) time-to-market competitiveness developed from previous research (Astuti *et al.*, 2018; Cantele & Cassia, 2020; Hadj, 2020; Salem, 2019; Yuniarta *et al.*, 2020). Furthermore, for the performance of fishing companies in this study, the measurement is adopted from Kaplan (2009) which develops a comprehensive measure of the company's performance success through a balanced scorecard with four perspectives, namely: (1) a financial perspective; (2) customer perspective; (3) internal business process perspective; and (4) the perspective of growth and learning, which has also been used by previous researchers such as (Gupta & Gupta, 2020; Hamid, 2018; Hoang, 2018; Khalid *et al.*, 2019).

In current research, the overall construct, namely environmental uncertainty, competitiveness, and performance of fishing companies, is measured by a 5-point

Likert scale, where 1 represents very low/very poor implementation and 5 = very high/very good implementation in testing the perceptions or statements of managers' attitudes on each item (Sekaran & Bougie, 2016). Furthermore, the pre-test in order to test the validity and reliability of the instrument (questionnaire) involved 30 participants, namely 15 academics and 15 managers of fishing companies, with the aim of verifying the questionnaire as a measurement instrument, and then some minor changes were made.

Data Analysis Method

The research data analysis method uses component-based structural equation modeling, namely Generalized Structured Component Analysis (GSCA). GSCA is a component-based approach that is relatively new to management researchers. In particular, the specification of the measurement model for GSCA in this study is as follows: $Y1 = W1X1$ and $Y2 = W1X1 + W2Y1$, where X = environmental uncertainty, $Y1$ = competitiveness, $Y2$ = performance of fishing companies, and $W1$ - $W2$ = weight estimate (Hwang & Takane, 2004). According to Tenenhaus (2008), GSCA represents a component-based approach, in which this approach defines latent constructs as components or weighted composites of the observed variables. Because of that, GSCA was developed to complement the shortcomings of analysis of structure variance (SEM-AMOS/LISREL) and PLS covariance, which are complemented by global optimization procedures, making it robust for theory confirmation, including analysis flexibility and generalization. Singularity and multicollinearity problems often become serious obstacles in the analysis of covariance-based structural models. According to (Hwang & Takane, 2014), GSCA allows multicollinearity (there is a strong correlation between exogenous variables).

The GSCA analysis method can be used in structural models involving variable indicators, both reflective and formative (Hwang & Takane, 2014). Thus, researchers believe that data analysis using GSCA is very suitable for testing the hypotheses and models of this research, with the reasons: (1) the focus of current research studies on model testing and prediction of variance of latent variables (environmental uncertainty, competitiveness, and firm performance); (2) the conceptual framework of this research has a complex structure and tiered relationships; (3) the effect of environmental uncertainty on competitiveness and firm performance is evaluated both directly and indirectly (the mediation role of competitiveness); (4) this study uses a second-order reflective construct and the sample ($n = 57$) is rather small. The goal of GSCA is to replace factors with linear combinations of indicators (manifest variables) in SEM. The GSCA measure of fit analysis can be carried out on measurement models, structural models, and overall models, which are measures of goodness of fit combined between the measurement model and the structural model, especially reflective indicators. Evaluation of empirical models with GSCA modeling can be done: 1. Evaluation of the measurement model: all variables in this study are measured with reflective indicators, so evaluation of the measurement model can be carried out: (1)

the variable is considered to have convergent validity, if the estimated loading value is ≥ 0.70 and the CR value is significant $\alpha = 0.05$; (2) discriminant validity testing by looking at the AVE value ≥ 0.50 means that the latent variable has good discriminant validity; and (3) the latent variable has good composite reliability, if the value is ≥ 0.70 (Hair Jr *et al.*, 2016; Solimun *et al.*, 2019); 2. The goodness-of-fit evaluation of the structural model and the entire model is a measure of the goodness of fit combined between the measurement and structural models, namely: 1) Measure of fit structural model structural, measured using FIT and AFIT. FIT value, shows the proportion of the total variance of the endogenous variables explained by the model. Furthermore, AFIT, can be used for model comparison, which is the FIT adjustment for model complexity. The model with the largest AFIT value can be selected among the better models; 2) Measure of fit Overall Model, namely looking at the structural model and integrated measurement of the entire model. Criteria for evaluating the goodness of fit model overall are presented in Table 2.

Table 2
Evaluation of the Overall Goodness of Fit Model

Goodness of Fit	cut-off value	Description
SMRS (Standardized Root Mean Square Residual)	≤ 0.08	Equivalent to RMSEA in SEM
GFI (Goodness of Fit Index)	≥ 0.90	Similar to R^2 in regression

Notes: Criteria SMRS: < 0.05 = Close fit; $0.05-0.08$ = Good fit; $0.08-0.1$ = Marginal fit, > 0.1 = Poor fit

Source: Hwang & Takane (2014)

Based on a review of the literature, both theoretical and empirical studies, ideas, issues and research methods, a more detailed systematic flowchart of the current research process is presented in Figure 3.

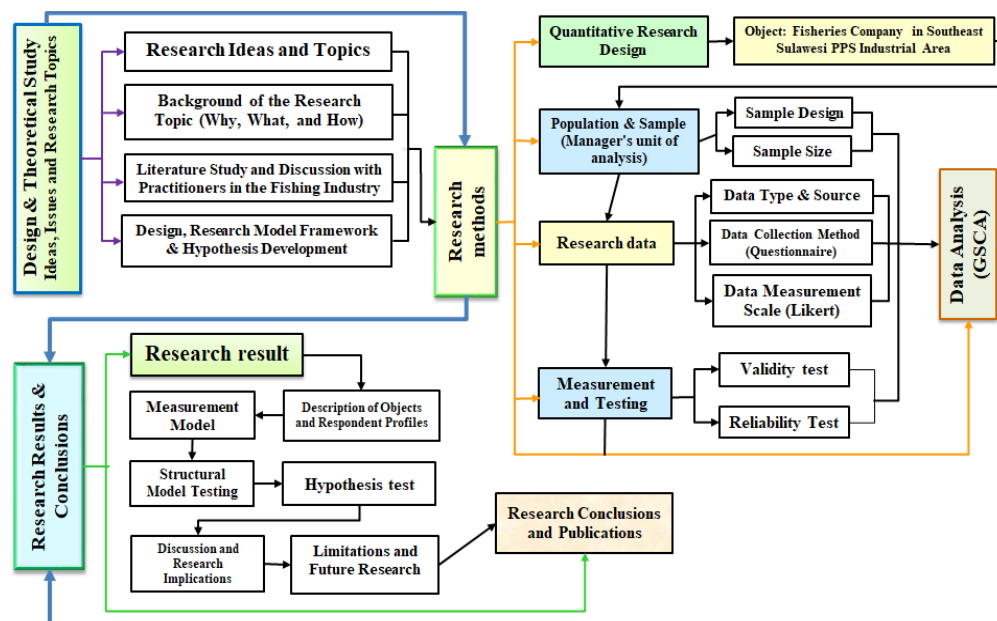
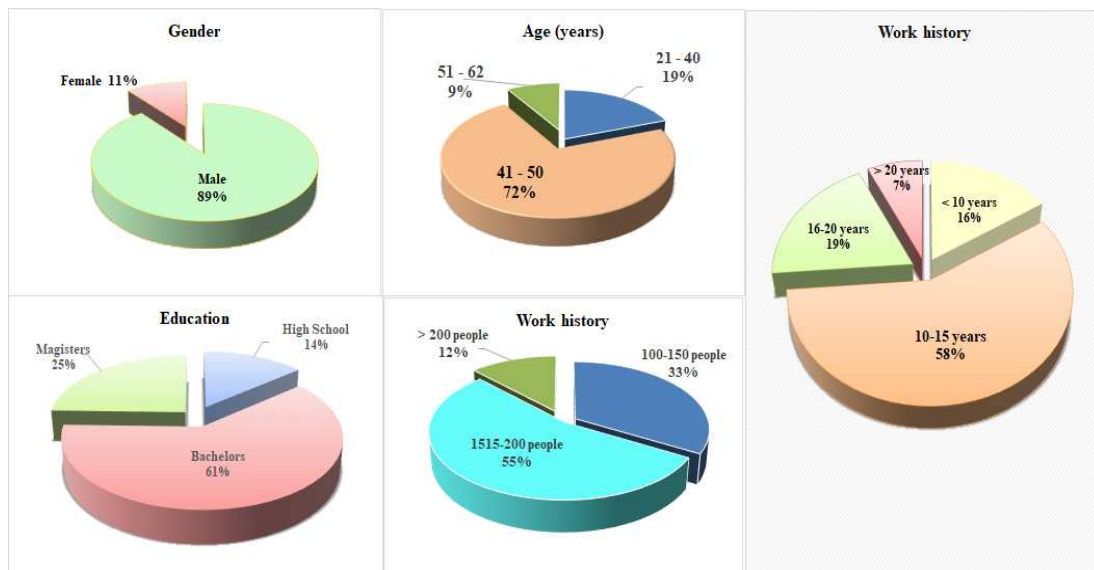


Figure 3
Research Process Flowchart

ANALYSIS AND DISCUSSION

The fishery industrial area that is currently the object of research is the Ocean Fishery Port of Southeast Sulawesi Province, which was built in 1984. Starting with a feasibility study by the Asian Development Bank Team and the Directorate General of Fisheries, but officially starting operations in 1990. Ocean Fishery Port is an integrated fishing industry center in Eastern Indonesia, especially in Southeast Sulawesi Province, where until now there are 19 large companies operating. Of the 19 companies, there are 13 companies engaged in the fish processing industry, including ABF and Coldstore. Furthermore, 6 companies are engaged in integrated industries, namely processing and fishing. The types of fish that are mostly processed are tuna, skipjack, cob, flying fish and octopus, with a total production in 2019 of 2,403 tons.

The demographic profile of the respondents from the results of this study of the 57 managers of fishing companies who were used as survey respondents, is presented in detail in Figure 4. It shows that the majority are based on male gender, 89 percent and 11 percent female. Characteristics of respondents based on the age of the majority between 41-50 years by 72 percent, the work experience of respondents in fishing companies is mostly between 10-15 years; 58 percent, based on the education level of the majority of undergraduate 61 percent, and the majority of fishing companies employ employees between 151-200 people by 55 percent.



Source: Processed primary data (n = 57)

Figure 4
Respondent Profile

Measurement Model with the GSCA method

In the current research, the initial steps taken before examining the structural model and testing the hypothesis with the GSCA method are: (1) evaluating the measurement model by examining the values of convergent validity, discriminant validity, and composite reliability (alpha); and (2) evaluating the goodness of the fit,

structural, and overall models through FIT, AFIT, GFI, and SRMS tests (Hwang & Takane, 2014), that is:

1. Evaluation of Measurement Models

The evaluation of the measurement model in this study uses three criteria for evaluating the measurement model test, namely:

- 1) **Discriminant validity**, evaluated using composite reliability (alpha). Evaluate the results of the discriminant validity test by looking at the square root of the AVE ($\sqrt{\text{AVE}}$) value. Table 3 summarizes the results of the discriminant validity test as measured by the $\sqrt{\text{AVE}}$ value. The results of the data analysis show a range of $\sqrt{\text{AVE}}$ values from 0.844 to 0.927 (environmental uncertainty = 0.927; competitiveness = 0.844; and company performance = 0.889). Therefore, all the variables tested show a value of $\sqrt{\text{AVE}}$ greater than the correlation between each pair (see Table 3), meaning that they are at a satisfactory level or have good discriminant validity (Henseler *et al.*, 2016).

Table 3
Average, Standard Deviasi (S.D), $\sqrt{\text{AVE}}$ and Correlations of latent variables

Latent Variable	Average	S.D.	$\sqrt{\text{AVE}}$	Correlations of latent variables		
				Environmental Uncertainty	Competitiveness	Fishery Company Performance
Environmental Uncertainty	3.769	0.733	0.927	1	0.838 (0.029)*	0.832 (0.023)*
Competitiveness	3.678	0.762	0.844	0.838 (0.029)*	1	0.738 (0.023)*
Fishery Company Performance	3.715	0.795	0.889	0.832 (0.023)*	0.738 (0.023)*	1

Notes: CR* = significant at .05 level

Source: Processed GSCA data

- 2) Evaluated by value-estimated factor loading. The results of this study in Table 4 show that all latent variable indicators are statistically significant at ($p < 0.05$), then the estimated loadings range from 0.792 (price competitiveness indicator) to 0.946 (technological uncertainty), therefore the convergent validity of the theoretical latent variables is very good (Henseler *et al.*, 2016). The AVE test results of all latent variables are greater than the recommended cutoff value of 0.70 (Hair Jr *et al.*, 2016), indicating strong convergent validity. It means the correlation between variable indicators of environmental uncertainty, competitiveness, and firm performance is positive and significant in reflecting all the constructs tested in the model.
- 3) **Composite reliability (Alpha)** in Table 4 shows the overall alpha values of the variables ranging from 0.897 to 0.917 (environmental uncertainty = 0.917; competitiveness = 0.897; and fishing company performance = 0.905). The test

results prove that these criteria are met because the composite reliability value is greater than 0.70. Thus, the composite reliability test results of all constructs have adequate composite reliability from the measurement scale and are acceptable (Hair Jr *et al.*, 2016).

Based on the results of the examination of the measurement model, it can be concluded that the value of composite reliability, convergent validity, and discriminant validity, meets the criteria for use in the measurement of all variables in this study because they have high suitability and reliability.

Table 4
Average, Loadings, Reliability (AVE), and Convergent Validity (Alpha)

Variable and Indicator	Average	Loadings			AVE	Composite Reliability (Alpha)
		Estimate	SE	CR		
Environmental Uncertainty:	3.769					
Supplier uncertainty	0.939	0.025	37.52*	0.939	0.859	0.917
Demand uncertainty	0.895	0.049	18.10*	0.895		
Technological uncertainty	0.946	0.023	41.61*	0.946		
Competitiveness:	3.678				0.712	0.897
Price competition	0.792	0.075	10.57*	0.792		
Product quality competition	0.832	0.048	17.26*	0.832		
Delivery reliability	0.844	0.057	14.76*	0.844		
Competitive product innovation	0.796	0.070	11.44*	0.796		
Time competition to market	0.795	0.037	21.71*	0.795		
Fishery company performance:	3.715				0.790	0.905
Financial perspective	0.933	0.020	47.01*	0.933		
Customers perspective	0.896	0.033	27.08*	0.896		
Internal business process	0.874	0.032	27.72*	0.874		
Growth and learning perspectiv	0.851	0.052	16.21*	0.851		

Notes: CR* = significant at .05 level

Source Processed GSCA data

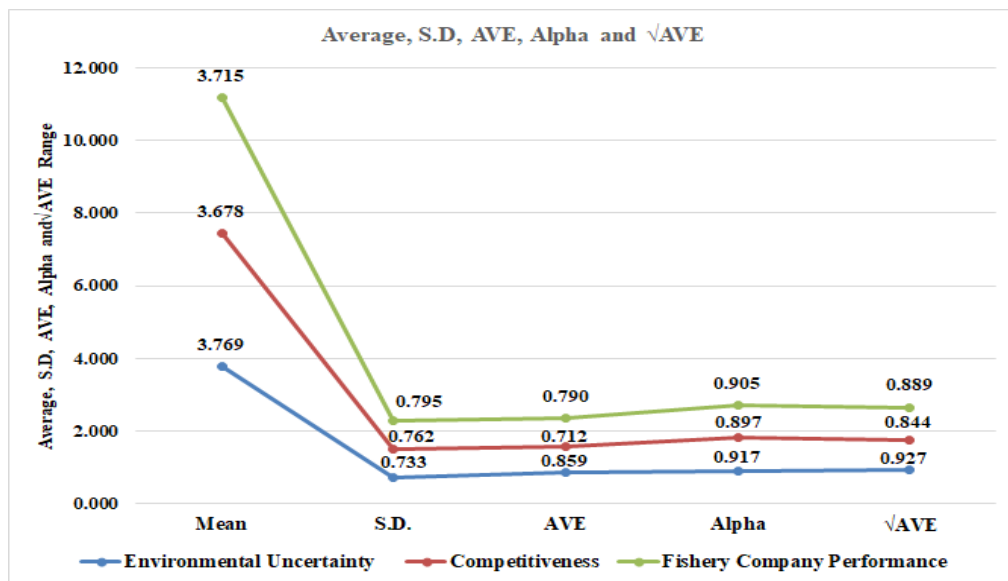


Figure 5

Graphical presentation average, S.D., AVE, Alpha, and \sqrt{AVE}

Figure 5 shows the average value, standard deviation, and the theoretical correlation of all research variables, which shows a bivariate correlation between environmental uncertainty, competitiveness, and firm performance ranging from 0.838 to 0.738 with significance at the level $p < 0.05$ or ≥ 0.70 , meaning that the validity criterion is acceptable (Solimun *et al.*, 2019). Furthermore, the \sqrt{AVE} value of all latent variables is greater than the correlation between each pair, meaning that it has a very good level of discriminant validity (Hair Jr *et al.*, 2016; Hwang & Takane, 2014).

2. Evaluation of goodness of fit structural and overall model

The results of the data analysis are presented in Figure 6. It is possible to evaluate the structural goodness of fit with FIT and AFIT, then evaluate the overall model with GFI and SRMS (Hwang & Takane, 2014), can be explained:

- 1) Measure goodness of fit structural model, the FIT value = 0.721 was obtained, meaning that the model proposed in this study could explain 72.10 percent of all the variables analyzed. Thus, the diversity of environmental uncertainty variables, competitiveness, and company performance can be explained by a model of 72.10 percent and the remaining 27.90 percent explained by other variables outside the research model. From the FIT value, it can be concluded that this research model has very good accuracy because it is ≥ 60 percent (Solimun *et al.*, 2019). Furthermore, the structural goodness of fit can be evaluated through the AFIT value, which is the adjusted FIT, because testing the influence between variables is based on a tiered conceptual framework either directly or indirectly, so it is more accurate if the interpretation of the accuracy of the model uses the adjusted FIT. The results of the data analysis of the AFIT value of 0.710 means that the proportion of the variable diversity of environmental uncertainty, competitiveness, and company performance can be explained by the model of 71.10 percent. The adjusted FIT value obtained can be said that the proposed model has very good accuracy above 60 percent (Hwang & Takane, 2014).
- 2) Measure goodness of fit overalls models, This research with the GSCA method can be done by examining the GFI and SRMS. The results of the data analysis show the value of GFI = 0.969 is far above the recommended limit value of 0.90 (Solimun *et al.*, 2019), meaning that the model proposed in the conceptual framework of this study can be said to be very good. Furthermore, the SRMR value = 0.072 > 0.1 can be said to be a good fit (Hwang & Takane, 2014).

Structural Model Evaluation and Hypothesis Testing

The results of data analysis using GSCA software are presented in Table 5 and Figure 6 shows the results of testing the structural model and the research hypothesis. The effect of environmental uncertainty on competitiveness is statistically positive and

significant ($\beta = 0.938$, and $p\text{-value} = 0.000 < 0.05$). Thus, H1 is accepted. Likewise, environmental uncertainty has a positive and significant effect on the performance of fishing companies ($\beta = 0.530$ and $p\text{-value} = 0.003 < 0.05$). Therefore, H2 is accepted. H1 shows a larger standardized coefficient and has a significant effect on explaining competitiveness. Likewise, H2 shows that environmental uncertainty has a significant positive effect on the performance of fishing companies. The results of this study indicate that competitiveness has a positive and significant effect on the performance of fishing companies ($\beta = 0.434$, and $p\text{-value} = 0.000 < 0.05$). H3 proved to be accepted, shows that competitiveness can boost the performance of fishing companies. When competitiveness is coupled with increasing environmental uncertainty, it can lead to a higher increase in the performance of fishing companies.

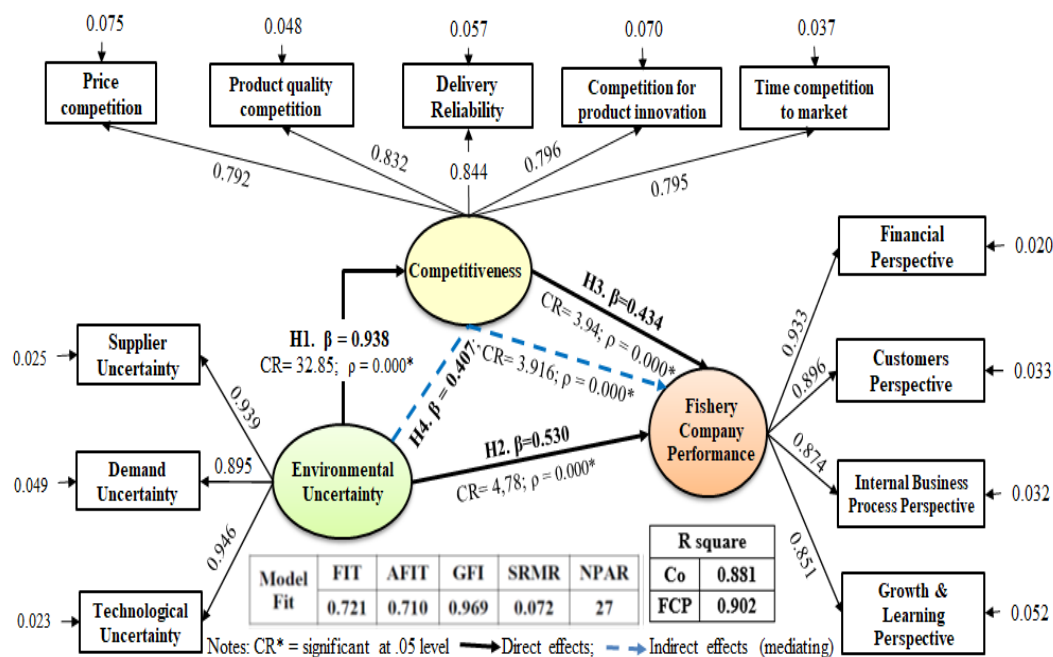


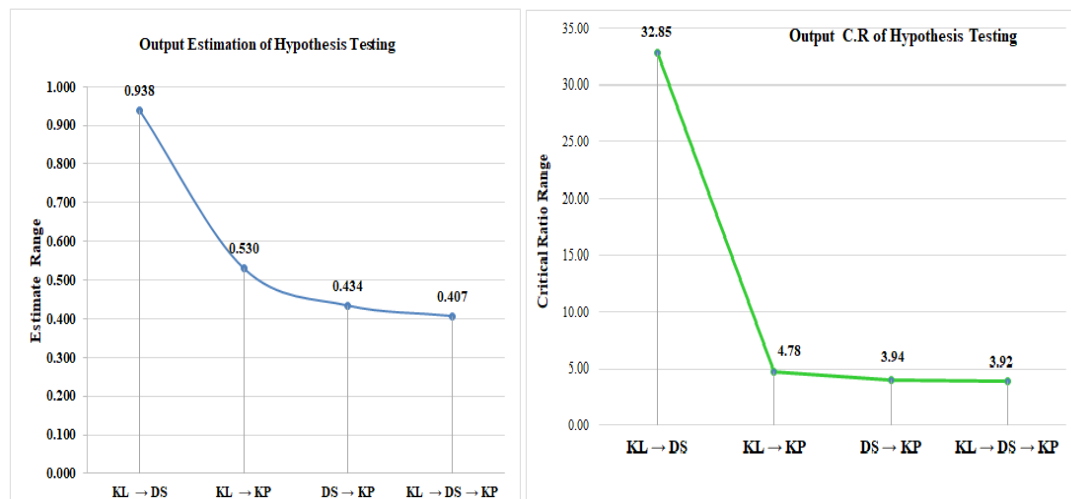
Figure 6
Result of Structural model and Hypothesis Testing

Table 5
Summary of Research Hypothesis Analysis and Testing Results

Summary of Research Hypothesis Analysis and Testing Results						
Influence between variables		Path coefficient (β)				Results
		Estimate	SE	C.R	<i>p-value</i>	
Direct effects						
H1	Environmental Uncertainty → Competitiveness	0.938	0.029	32.85*	0.000	Supported
H2	Environmental Uncertainty → Fishery Company Performance	0.530	0.111	4.78*	0.000	Supported
H3	Competitiveness → Fishery Company Performance	0.434	0.110	3.94*	0.000	Supported
Indirect effects (mediation)						
H4	Environmental Uncertainty → Competitiveness → Fishery Company Performance	0.407	0.109	3.915*	0.000	Supported

Notes: CR* = significant at .05 level

Source: Processed GSCA data



Notes: KL = Environmental Uncertainty; DS = Competitiveness; KP = Fishery Company Performance.

Figure 7
Graphical Presentation Output GSCA

The current research also aims to investigate the effect of environmental uncertainty on the performance of fishing companies through the mediating role of competitiveness. To evaluate the mediating effect of competitiveness, the researcher followed the procedure recommended by (Hair Jr *et al.*, 2016; Solimun *et al.*, 2019). First, the total effect and significant value of the influence of exogenous variables on endogenous variables were evaluated as presented in Table 5. If significant indirect effects (influence of exogenous variables on fishing firm performance through competitiveness) were evaluated. Next, the direct effect of exogenous variables on the performance of fishing companies is evaluated to see whether the mediating effect is perfect, partial, or not mediating.

Based on the results of the analysis of data obtained from the GSCA output in Table 5, the mediating effect of competitiveness on the relationship between environmental uncertainty and fishing company performance (H4), the total effect of environmental uncertainty on competitiveness is positive and significant ($\beta = 0.938$, and $p\text{-value} = 0.000 < 0.05$). The indirect effect of environmental uncertainty on the performance of fishing companies through competitiveness is also positive and significant ($\beta = 0.407$ and $p\text{-value} = 0.000 < 0.05$). The path coefficient for the direct effect of environmental uncertainty on the performance of fishing companies after the inclusion of the mediating variable is found to be positive and significant ($\beta = 0.434$, and $p\text{-value} = 0.000 < 0.05$) is presented in Figure 6. Thus, it can be concluded that there is a partial mediating role, so that H4 is accepted.

Discussion and Research Implications

The current research aims to analyze and explain the impact of environmental uncertainty on the performance of fishing companies through the mediating role of competitiveness. Data analysis and hypothesis testing for this study used GSCA

modeling, with the unit of analysis of fisheries company managers represented by the management level. The results of this study from the three proposed direct influence hypotheses are all accepted (H1, H2, and H3), then one indirect effect hypothesis, namely the role of competitiveness as a mediating influence between environmental uncertainty on the performance of fishing companies, is also accepted (H4). These results can prove that environmental uncertainty directly has a significant positive effect on the competitiveness and performance of companies, as well as through the mediating role of competitiveness. Therefore, this study also proposes and tests a relatively new model, namely the effect of environmental uncertainty on firm performance through competitiveness.

The findings of this study indicate that environmental uncertainty has a significant positive effect on the competitiveness and performance of fishing companies. It means increasing the adaptability of fishing companies to environmental uncertainties as reflected in supplier, demand/customer uncertainties and technological uncertainties has a positive and significant contribution to creating competitiveness, which can ultimately improve the performance of fishing companies. These results are consistent with Flynn *et al.* (2010) finding that environmental uncertainty can be used as an opportunity for companies to increase competitiveness and company performance. Same opinion by Chen *et al.* (2005) that environmental uncertainty is a fundamental factor in strategic management has a significant effect on organizational performance. Furthermore, the results of this study are in line with Kwok *et al.* (2019); Ting (2012) who argue that in organizational theory and strategic management environmental uncertainty is conceptualized as an important factor for understanding firm performance.

The results of this study are supported by the fact that, based on the response of the manager of a fishing company as a respondent stated that environmental uncertainty was perceived in its implementation to be high. The manager's statement shows that technological uncertainty has the highest average and estimated loading factor, followed by demand/consumer uncertainty, and finally supplier uncertainty. This means that technological uncertainty described through technological change is an opportunity for fishing companies to increase their competitiveness; having lots of ideas to produce new products through technological breakthroughs; and that technology improvement is a factor that is prioritized and has a dominant contribution in reflecting environmental uncertainty variables.

The results of this study are supported by previous research, such as Hadj (2020); Harash (2015); Hosseini & Sheikhi (2012); Junquera & Barba-Sánchez (2018); Kim & Choi (2016); Poulis & Wisker (2016); Salem (2019); Widyaningdyah & Aryani (2016); Yap *et al.* (2013) that found a positive and significant effect between environmental uncertainty and competitiveness. Likewise, environmental uncertainty has a positive and significant influence on the performance of fishing companies, consistent with research (Allegrini & Monteduro, 2018; Darvishmotevali *et al.*, 2018;

Gupta & Gupta, 2020; Harash, 2015; Hengky et al., 2018; Hosseini & Sheikhi, 2012; Kafetzopoulos et al., 2019; Mohammad, 2019; Poulis & Wisker, 2016; Widyaningdyah & Aryani, 2016; Wong et al., 2011). However, the findings of this study contradict Fernandes & Solimun (2017a); Junquera & Barba-Sánchez (2018) which found no significant effect between environmental uncertainty and company performance. Then, Bae (2017); Kwok *et al.* (2019) found that environmental uncertainty has a negative influence on the performance of international joint ventures in China. As well as, Fernandes & Solimun (2017b) identify the negative and in significant effect between environmental uncertainty and business performance in Indonesia.

The success of increasing competitiveness and achieving company performance goals in the Ocean Fishery Port Kendari industrial area is also related to a number of factors, such as price competitiveness, product quality, delivery reliability, product innovation, and time competition to market. Based on the company manager's statement, the five indicators for measuring competitiveness show that production quality competitiveness is the factor with the highest priority or implementation in achieving the competitiveness of fishing companies. Therefore, the results of this study show a significant positive effect between competitiveness and the performance of fishing companies. The identification of these influences is consistent with the research findings (Anwar et al., 2018; Bernal-Conesa et al., 2017; Cantele & Cassia, 2020; Famiyeh, 2017; Kiyabo & Isaga, 2019; Potjanajaruwit, 2018; Priyanka et al., 2017; Rua et al., 2018; Saeidi et al., 2015; Sigalas & Papadakis, 2018; Yuniarta et al., 2020). However, the results of this study are contradictory with Astuti *et al.* (2018); Bagur-Femenías *et al.* (2015) who found that competitiveness has no significant effect on firm performance. In addition, it is not supported by research results Heredia *et al.* (2017) which find that competitiveness has a negative effect on company performance. Likewise, Junquera & Barba-Sánchez (2018); Tresna & Raharja (2019) found that competitiveness has a negative and insignificant effect on firm performance.

The results of this study are positive and significant, meaning that the management of fishing companies effectively utilizes competitiveness to improve company performance. Therefore, the increase in competitiveness is reflected in the ability of fishing companies in price competitiveness, product quality, delivery reliability, product innovation, and time competition to market have a significant contribution to improving the performance of fishing companies. Consistent with Raharja (2017) who argues that a company's strategy to be competitive must be based on company performance. Thus, competitiveness can be achieved by companies that have the ability to synergize corporate strategies with competitors and adjust the environment in which they compete.

The current research also highlights the role of competitiveness as a mediating influence between environmental uncertainty on the performance of fishing companies. The empirical findings of this study can prove that competitiveness has a role as a partial mediation between environmental uncertainty and the performance of

fishing companies. This means that competitiveness is significantly influenced by environmental uncertainty, and competitiveness significantly affects the performance of fishing companies. Furthermore, environmental uncertainty has a significant influence on the performance of fishing companies. This partial mediation proves that competitiveness is only a partial mediation of the influence of environmental uncertainty on company performance. The results of this study can prove that the ability of fishing companies that can adapt to environmental uncertainty maximally can help to gain and create competitiveness, which in turn can improve company performance both from financial, customer, internal business process, growth, and learning aspects.

The results of this study are strengthened by the opinions of Beheshtifar & Zare (2013) which state that competitiveness requires high creativity for corporate sustainability in rapidly changing environmental uncertainty, which in turn can improve corporate performance. Consistent with Chen *et al.* (2005) that stated environmental uncertainty is an important factor in strategic management that can contribute to the creation of competitiveness, which in turn has a significant effect on improving company performance. Furthermore, the results of this study are supported by Bagur-Femenías *et al.* (2015); Harash (2015); Wong *et al.* (2011) found that competitiveness acts as a mediating effect between the effects of environmental uncertainty and firm performance. However, the results of this study are contradictory and are not supported by Junquera & Barba-Sánchez (2018) who state that competitiveness does not play a role as a mediation of environmental uncertainty with company performance.

The findings of this study are consistently based on the NRBV theory. According to Hart (1995), a company's internal characteristics for the development of different resources and capabilities that are difficult to imitate and replace, adapting to environmental uncertainties. Consistent with the focus of this research study on fishing companies, where the main raw material is fish that comes from natural resources. Also supported by opinions expressed by Porter & Schwab (2008) that the interaction between different resources leads to the company's ability to increase competitiveness, the company has economic value and uses it properly. Therefore, environmental uncertainty can create competitiveness and improve company performance both directly and through the role of competitiveness mediation. Furthermore, Gupta & Gupta (2020); Hoang (2018) who state that in an integrated way efforts to increase environmental awareness can be carried out with a balanced scorecard approach, which can improve company performance, corporate governance, social conditions.

Finally, the findings of this study are consistent with Heizer *et al.* (2017) who found that companies have ability to manage and have policies that consider environmental, social, and financial impacts in making decisions are more likely to be successful. Company managers with an environmental approach in mind, find it helpful to create shared value. Shared values recommend finding policies and practices

to enhance the competitiveness of companies while simultaneously advancing the economic and social conditions of the communities in which the organization operates (Heizer *et al.*, 2017). Therefore, the findings of this study can provide new insights to managers of fishing companies that competitiveness is expected to be explained through changes in environmental uncertainty, which in turn can improve company performance. With regard to the results of this study, researchers argue that competitiveness mediates the relationship between environmental uncertainty and company performance can influence the management decisions of fishing companies in implementing new ideas and strategies to improve company performance in a sustainable manner.

The main contribution that is the originality of this research is that it can empirically prove the role of competitiveness as a mediating influence between environmental uncertainty on company performance in an integrated manner with the GSCA method, which has never been done by previous research. These results are proven from the articles reviewed by researchers, the methods used to test the relationship model of environmental uncertainty, competitiveness, and company performance both directly and indirectly, the majority use interdependence methods (regression analysis, OLS, non-linear, Anova, Tobin's Q, econometric models, and binary logistic regression), SEM based on covariance (AMOS and LISREL) and SEM based on variance (PLS). In addition, there are no previous researchers who have become references for model testing by taking objects in fishing companies, both developed and developing countries in Asia, such as Indonesia.

The current research findings also have some practical implications. First, from the perspective of the manufacturing industry engaged in the fisheries sector, these results can show the importance of fishing companies adapting to environmental uncertainties in order to create competitiveness and improve the performance of fishery companies. Therefore, in achieving the performance of fishing companies and explaining the role of competitiveness in company operations that lead to strategic advantages by synergizing aspects of the business environment both in suppliers, customer demand, and technological developments. Second, the findings of this study prove that environmental uncertainty has a significant effect on the competitiveness and performance of fishing companies, furthermore, competitiveness has a role as a partial mediation. Because of that, Fishery company managers must be able to carry out various strategies to continuously understand the condition of the fishing industry through the ability to adapt to environmental uncertainties in an effort to explore resources in an effort to create competitiveness and improve company performance.

Fishery companies in the fishery industry area in order to maintain competitiveness, company managers must realize the importance of environmental uncertainty by exploring new ideas and strategies that must be carried out periodically focused on suppliers, customer demand and technology. The regional and local implications for the Kendari Ocean Fishery Port fishery industry are in adapting to

environmental uncertainties. Therefore, fishery companies should continue to consider the local wisdom and culture of the community with national and international initiatives. The concern for environment is the responsibility of everyone and all stakeholders.

CONCLUSIONS, LIMITATIONS AND SUGGESTIONS

Investigation of the role of competitiveness as a mediating influence between environmental uncertainty on company performance can provide new ideas and strategies for fishery companies in creating competitiveness and improving company performance. Current research shows that there is a positive and significant influence between environmental uncertainty and the competitiveness and performance of fishing companies. These results prove that the ability of fishing companies to anticipate environmental uncertainties in suppliers, customers, and technological changes can make a positive and significant contribution to the competitiveness and performance of fishery companies, which is reflected in the perspectives of finance, customers, internal business processes, growth, and learning. Likewise, the findings of this study indicate that competitiveness, as reflected in price competitiveness, product quality, delivery reliability, product innovation, and time competition to market has a significant contribution to improving the performance of fishing companies.

The findings of this study prove that there is a significant positive effect between environmental uncertainty and the performance of fishing companies through the mediation of competitiveness. These results indicate that environmental uncertainty in the fishing industry can encourage fishing companies to be more anticipatory and proactive in building partnerships with business partners, especially suppliers, customers, and the ability to keep up with technological changes to be competitive, which in turn can improve the performance of fishing companies. The existence of opportunities to create competitiveness effectively can make a significant contribution to the performance of fishing companies. Finally, given the current regional and global economic growth,

The limitations of the current research are the specific area of the manufacturing industry engaged in the fisheries sector and the geographical coverage of fishing companies is only in the Southeast Sulawesi Ocean Fishery Port area. Therefore, caution is very important and needed when generalizing the findings of this study, in particular in the case of fishing companies in other industrial areas in Indonesia and other industrial sectors. Future researchers can develop this research in all industrial fishing areas in Indonesia and other countries, as well as industrial areas in other sectors. Current research is limited to the scope of the proposed model framework to empirically investigate the effect of environmental uncertainty on the competitiveness and performance of fishing firms. Future research can consider other contextual factors such as economic growth, local community wisdom, and corporate culture.

Limitations of this study also stem from the use of data in analysis, which has been a classic problem generally in the logical domain of cross-sectional survey research methods, one-shot reports, and self-appraisal. The use of cross-sectional data usually has problems in constructing causality that cannot be confirmed. Future studies can use the temporal dissolution of the dimensions of environmental uncertainty, competitiveness, and firm performance as antecedents and construct results during data collection to further strengthen the causality case. Potential future research by developing the conceptual model of this research, measuring each dimension of environmental uncertainty (supplier uncertainty, demand/customer uncertainty, and technology uncertainty), can be proposed to evaluate the effect of each dimension on company competitiveness and performance.

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