



## IEOM Society International

The Fifth European Conference on  
**Industrial Engineering and Operations Management**  
Rome, Italy, July 26-28, 2022, Host: Sapienza – University of Rome

### Certificate of Presentation

*This is to certify that*

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**Alfian**, Faculty of Economic and Business, Lambung Mangkurat University, Banjarmasin, South Kalimantan, Indonesia

Delivered an Oral Presentation entitled **"ID 591 The Determining Factors For Innovation Performance Success (An Empirical Study of Indonesian Commercial Banking)**, at the 5<sup>th</sup> European IEOM Rome Conference.

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June 27, 2022

Galuh Tresna Murti, Lecturer, Telkom University  
Alfian, Lambung Mangkurat University

Subject: Paper Acceptance – 5th European IEOM Rome Conference

ID 561: The Determining Factors for Innovation Performance Success (An Empirical Study of Indonesian Commercial Banking)

Dear Authors:

On behalf of the organizing committee, we are delighted to inform you that your abstract has been accepted for oral presentation and publication at the 5th European International Conference on Industrial Engineering and Operations Management in Rome, Italy during July 26-28, 2022. Host is Faculty of Civil and Industrial Engineering, Sapienza – University of Rome and venue is Grand Hotel Palatino. The conference provides a forum for academics, researchers, and practitioners to exchange ideas and recent developments in the field of industrial engineering, systems engineering, manufacturing engineering, operations research, engineering management, supply chain, logistics and operations management. Theme is “**Fostering Sustainable, Human-Centric and Resilient Manufacturing**”. Proceeding papers (double peer review) will be indexed in SCOPUS.

IEOM Society has become a premier international platform and forum for academics, researchers, scientists, and practitioners to exchange ideas and provide insights into the latest developments and advancements in the fields of Industrial Engineering and Operations Management. IEOM has successfully organized international conferences in Dhaka (2010), Kuala Lumpur (2011), Istanbul (2012), Bali (2014), Dubai (2015), Rome (2015), KL (2016), Detroit (2016), Rabat (2017), Bristol, UK (2017), Bogota (2017), Bandung (2018), Paris (2018), Washington DC (2018), Pretoria (2018), Bangkok (2019), Pilsen (2019), Toronto (2019), Riyadh (2019), Dubai (2020), Detroit (2020), Harare (2020), Singapore (2021), Sao Paulo (2021), Haiti (2021), Harbin (2021), Bangalore (2021), Surakarta (2021), Monterrey (2021), Istanbul (2022), and Nigeria (2022).

IEOM is expecting another exciting event in Rome, Italy. Some of the events and activities that are planned include: outstanding keynote speakers, global engineering education speakers, global supply chain & logistics, Industry 4.0, industry solutions, undergraduate and graduate student paper competitions, senior design competition and awards.

You will see the IEOM 2022 Rome Conference as a great value-added event. Your participation is highly appreciated. If you have any question, please contact Dr. Taufiq Islam, Operations Manager at [info@ieomsociety.org](mailto:info@ieomsociety.org).

We look forward to seeing you at the 2022 IEOM Rome Conference.

Regards,

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# 5th European Conference on Industrial Engineering and Operations Management

July 26-28, 2022

*Rome, Italy*

Host University



SAPIENZA  
UNIVERSITÀ DI ROMA

Organizer



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## **5th European Conference on Industrial Engineering and Operations Management, Rome, July 26-28, 2022**

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International Conference of Industrial Engineering and Operations Management (ICIEOM) aims to publish quality research work in the field of industrial engineering and operations management (IEOM) for academics, researchers and practitioners to advance the theory and practice as well as to identify major trends in industrial engineering and operations management. The journal is expected to advance the theory and practice through publishing research-oriented papers with wide variety of problems related on real-life applications and research which affect in global levels.

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# 5th European Conference on Industrial Engineering and Operations Management

Rome, Italy, July 26-28, 2022

**Submission Deadline: June 25, 2022**

Theme: *Fostering Sustainable, Human-Centric and Resilient Manufacturing*

Host: Faculty of Civil and Industrial Engineering, Sapienza  
– University of Rome

Conference Chair Contact: [mario.fagnoli@unimercatorum.it](mailto:mario.fagnoli@unimercatorum.it)

Venue: FH55 Grand Hotel Palatino + Virtual via zoom

FH55 Grand Hotel Palatino is located almost right next to the Colosseum and the Roman Forum

## Welcome to the 5<sup>th</sup> European Conference on Industrial Engineering and Operations Management in Rome

To All-Conference Attendees:

On behalf of the IEOM Society International, we would like to welcome you to the 5<sup>th</sup> European Conference on Industrial Engineering and Operations Management, July 25-28, 2022, hosted by Sapienza – University of Rome. This unique international conference provides a forum for academics, researchers, and practitioners from many industries to exchange ideas and share recent developments in the fields of industrial engineering and operations management. This diverse international event provides an opportunity to collaborate and advance the theory and practice of major trends in industrial engineering and operations management. There were more than 600 papers/abstracts submitted from 51 countries. After a thorough peer-review process, more than 400 have been accepted for presentation and publication. The program includes many cutting-edge topics in industrial engineering and operations management.

This conference will address many of the issues concerning the continuous improvement of quality and service. The IEOM Society is delighted to have the following keynote speakers at their 5<sup>th</sup> European Conference:

1. Dr. Giulio di Gravio, Full Professor at the Department of Mechanical and Aerospace Engineering and Coordinator of the PhD course in Industrial and Management Engineering, Sapienza – University of Rome, Rome, Italy
2. Dr. Alexandre Dolgui, Editor-in-Chief, International Journal of Production Research, Distinguished Professor, Head of Department Automation, Production and Computer Sciences, IMT Atlantique, Nantes, France
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12. Dr. Juan Jesus Perez, Full Professor of Physical Chemistry, Universitat Politècnica de Catalunya, UPC, Barcelona, Spain
13. Luz María Valdez de la Rosa, Ph.D., Profesora del Departamento de Ingeniería Civil y Gestión, Universidad de Monterrey, Mexico
14. Mr. Salvatore Giua, Head of MEP & Safety for Design & Built Activities, SYSTRA SWS, Rome, Italy, and Chairman of the Italian Technical Committee 4.4 "Tunnels" of the World Road Association

At this conference, the IEOM Society will hold its 32<sup>nd</sup> Global Engineering Education session. It will feature distinguished speakers who will discuss workforce readiness and engineering education challenges and opportunities. The 31<sup>st</sup> IEOM Industry Solutions will showcase will also be held and feature major topics including IoT, AI, data analytics, iCloud, cybersecurity, automation, digital manufacturing, MSV, and industry best practices. The 2<sup>nd</sup> Global Business Management has three sessions. The 11<sup>th</sup> IEOM Global Supply Chain and Logistics will address the global logistic challenges due to the pandemic. Three-panel sessions have been planned: Global Engineering Education, Women in Industry and Transition to Human-Centric and Resilient Manufacturing Panel.

The IEOM Society would like to express our deep appreciation to our sponsors, university partners, organization partners, exhibitors, authors, reviewers, keynote speakers, panelists, track chairs, advisors, the local committee, and the many volunteers who have given so much of their time and talent to make this unique international conference an overwhelming success.

Sapienza - the University of Rome, the conference host, welcomes all participants. The IEOM Society Conference Organizing and Planning Committee wishes all of you a very successful and meaningful conference. Enjoy the opportunity to listen, learn, and network. Hopefully, our guests will have an opportunity to explore the beautiful city of Rome.

Enjoy the conference!



**Dr. Mario Fagnoli**  
Universitas Mercatorum (Committee Chairman)



**Prof. Mara Lombardi**  
Sapienza - University of Rome



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## Table of Content

5th European Conference on Industrial Engineering and Operations Management, Rome, July 26-28,  
2022

Title	Page
Title	ii
Masthead	iii
Welcome	v
Committee	vi
Table of Content	xxiii
The Effect of Background Music on Immersion in Virtual Social Game Experience	1
Optimization Design of IPM Motor for Express Delivery MotorCycle	2
Multi-Optimization of Line Start Permanent Magnet Assistance Synchronous Reluctance Considering Skewed Effect and Demagnetization	9
Peak Torque Evaluation of IPM 150kW for EVs	20
Optimal Design of Induction Motor using Genetic Algorithm with Different Rotor Slot Number	30
Taguchi Methods (TM) And Internet of Things (IoT) In Additive Manufacturing (AM): A Brief Literature Review	38
Holonic (HM), Fractal (FM) And Bionic Manufacturing (BM): A Brief Literature Review And Few Propositions	40
Hybrid Model For Locating Fire Station In A City	46
Model for Locating Hospitals in a City	53
Behavioural Finance (BF) And Portfolio Optimization Problem (POP)	60
Developing Data Analytics Skills for Complex Thinking Among Tomorrow’s Global Engineering Leaders	67
Container Pickup and Delivery with Charge Planning using Diesel and Battery Electric Heavy-Duty Trucks	73
Sustainability and Resilience in the Nigerian Power sector	75



The Effect of Content Marketing Instagram Sociolla on Customer Engagement, Customer Decision, Customer Satisfaction, and Customer Loyalty	2859
DETERMINANT FACTORS OF CORPORATE SOCIAL RESPONSIBILITY DISCLOSURE	2868
The Determining Factors For Innovation Performance Success (An Empirical Study of Indonesian Commercial Banking)	2879
Integrity of Financial Statements: Intellectual Capital, Leverage, and Audit Quality Of Consumer Goods Sector In Indonesia	2892
Effect Of Emotional Intelligence and Competency On Lecturer's Performance	2903
The Influence of Corporate Governance Mechanism On the Financial Performance of the State-Owned Bank Listed On the Indonesia Stock Exchange (IDX)	2912
Sentiment Analysis Online Shop Social Media On Tik-Tok App With Naive Bayes Classifier (NBC) Method	2921
Systematic Derivation of Learning Objectives for Fostering the Development of Sustainability Competences in the Education of Industrial Engineering and Management Students	2922
Empirically-Based Recommendations for Competence Profiles for Industrial Engineering and Management Students in Austria: Theoretical Framework and Preliminary Empirical Findings	2925
Financial Performance: Environmental Performance, Green Accounting, Green Intellectual Capital, Green Product, & Risk Management	2928
Level of IFRS Implementation in SMEs: Exploratory Case Studies of SMEs Palembang, Indonesia	2939
The Effect Of Board Diversity and Audit Quality on Earnings Quality (Study on Non-Financial State-Owned Enterprises Listed on the Indonesia Stock Exchange for the 2016-2020 Period)	2952
Sequencing Problems in Flow Shop Production Systems	2965
Analysis of E-Commerce Adoption for MSMES in the Food and Beverage Sector in Garut Regency	2974
Analysis of E-Wallet's Factors Adoption in Food and Beverage Business	2987
Layout Design to Enhance The Working Effectivity : A Case Study Applied in PT XYZ	2997

# **The Determining Factors For Innovation Performance Success (An Empirical Study of Indonesian Commercial Banking)**

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## **Abstract**

The purpose of this paper is to provide a determining factors of Innovation performance in banking industry. A systematic empirical study was conducted to explore the organization culture implementation as a determining factors of innovation success. This study used non-probability sampling method with purposive sampling techniques at commercial banks in Indonesia, the total sample in this study was 62 banks, 192 respondents. A research framework is created based on the Hofstede's organizational culture dimensions measured by the Values Survey Module (VSM) 2013 as survey instrument, and Eurostat and the Economic Development Organization (EOCD) method to measured innovation performance. Multiple Linear Regression is applied to assess the model fit and to test the research hypotheses. The estimated model, found the organization culture implemented in Indonesian Commercial Banks are High Power Distance, High Uncertainty Avoidance, Femininity, Collectivism, Long Term Orientation and Restraint. This study also found there were supports for the role of 6 hofstede's organization culture dimension in affecting Innovation Performance Success. This study provides new information in the emerging context of innovation performance of banking industry.

## **Keywords**

Organization Culture, Hofstede's Organization Culture Dimension, EOCD, Innovation Performance, Banking

## **1. Introduction**

During the pandemic in 2020 and early in 2021, financial services firms innovated at a pace much faster than in the past, (Marous 2022). The past two years of the pandemic have fast-tracked digital behaviors and redefined how customers engage with their banks. Banks and other traditional financial service provider have had to respond with an array of digitization and innovation initiatives. These initiatives employ cutting-edge technologies to ensure a customer-centric perspective rather than the traditional focus on products, real-time intelligent data integration rather than slow analysis being performed after-the-fact and open platform foundation. banks speed up their plans to close branches, digitize their experiences, and launch new ESG (environmental-, social-, and governance-focused) products and experiences, new entrants are doubling down on innovation to put their business in customers' pockets, create new business models, and drive the next wave of transformation (Forrester 2022). Without an ongoing ability to embrace change and create updated solutions, banks will fall further behind industry leaders, negatively impacting customer satisfaction, operational (Marous 2022).

An innovation strategy and culture is needed now more than ever to change the way organizations deliver financial services and the way modern technology can support new banking operating models. Often, innovation is required to catch up with both financial and non-financial leaders that have disrupted the banking ecosystem and altered consumer and business expectations. efficiency, and revenue growth, (Marous 2022). Organizational culture is a crucial issue that has a significant impact on innovation, an essential source of growth and development for each organization,

(Syayah and Zehou 2019). Without a culture of innovation integrated throughout the entire organization, financial institutions will struggle to deploy the modern tools and services required to compete effectively in today's digital marketplace (thefinancialbrand.com 2022).

Given the importance of culture in improving innovation performance, a number of studies have attempted to identify the factors that can enhance innovation performance. Currently one of the variables deemed to have great influence on innovation is organizational culture. Organizational culture has shown strong influence on the point to which innovation and creativity are stimulated in an organization (Martins and Terblanche 2003) Organizational culture indirectly affects performance through firm innovation, (Naranjo et al. 2015) organizational culture is the element that drives organizations and therefore developing an organizational culture which stimulates innovation and creativity, is a key and strategic option for strengthening the organization and making it more competitive, (Syayah and Zehou 2019). The human value and factor plays a very significant role in the innovation process, ranging from personality of managers managing teams of employees, willingness and motivation of managers to take risks, the attitude of employees and the components of employee-employer interactions, (Adelekan 2016). These dimensions of an organization influence how employees will engage in generating new ideas and how innovation will be perceived within the organization, (Waimiri 2018).

## **1.1 Objectives**

The paper is specifically on the impact of organizational culture on innovation performance of the Commercial Banks in Indonesia. The paper is set to analyze the effects of culture's dimension on performance innovation in four sections. Section one is the introduction, section two is dedicated to review of literature which comprise of conceptual framework, review of relevant recent literature in order to establish the role of organizational culture on innovation performance while section three is the methodology and analyses of results and four is the discussion of results conclusion and recommendations.

## **2. Literature Review**

### **2.1 Organization Culture**

Culture is a complex phenomenon that can be defined in various ways and levels. In general, culture can be seen as a collective mind programming that distinguishes one group from another that influences the response of human groups to their environment (Hofstede 1980) and as a mental program with patterns of thinking, feeling and action, called "software of the mind". This programming starts from the family environment, then continues with the neighborhood, school, youth group, work environment, and community environment. Thus, culture is a value system adopted by an environment, both the family environment, school environment, work environment, to the wider community environment (Hofstede et al. 2010). Culture can be learned and inherited, and is a characteristic of a group (Apsalone 2018). The definition of organizational culture according to Apsalone (2018); Mazur and Zaborek (2016) is a pattern of shared basic assumptions learned by a group when solving problems that are considered good enough so that they are taught to new group members as the correct way to understand, think and feel problems.

Organizational culture can be seen at several levels, consisting of the highest level are artifacts, namely the visible physical environment, products, styles, myths and stories, observable rituals, visible organizational structure and behavior. The intermediate level consists of consciously held beliefs and values, such as strategies, goals, and philosophies. The stated values of the organization, shared vision and rules of behavior, which can be discussed and modified and the deepest level of culture, namely the underlying basic assumptions that are unconsciously accepted by members of the organization, in the form of beliefs, perceptions, thoughts and feelings given, which form the source values and actions, and this deepest level is the core of a culture. The measurement of organizational culture in this study uses measurements proposed by Hofstede (2001) and Hofstede et al. (2010). It is as revealed in the research of Gerlach and Eriksson (2021) Hofstede's theory of cultural dimensions has inspired and been cited in thousands of empirical studies over the decades. The dimensions and indicators for organizational culture are as follows: 1) Power Distance, 2) Uncertainty Avoidance 3) Individualism and Collectivism, 4) Masculinity and Femininity, 5) Long Term Orientation and Short Term Orientation, 6) Indulgence and Restraint.

### **2.2 Innovation Performance**

Innovation in organizations can be defined as teamwork, job enrichment, decentralization and continuous improvement in the context of lean production as a driving force for competitiveness, including the use of new managerial and work concepts and practices. Organizational innovation can further be categorized as structural or



procedural, and inter-organizational, which occurs outside the boundaries of the firm, and intra-organizational, which occurs within the firm. Organizational innovation can be - a contributing factor to product and process innovation, and aspects that improve company performance - for example, changes in organizational methods can increase operational efficiency and quality, thereby increasing demand or reducing costs (Apsalone 2018), innovation is a way of most efficient way to achieve competitive advantage, sustainable performance, and business development in the market (Shahzad et al. 2017). Another definition of innovation is an improvement of a process or product (or both) that is significantly different from the previous product or process and is made for a potential customer (product) or is being used by a unit (process), (Oslo 2018).

While the notion of innovation performance is the achievement of innovation through organizational activities according to the desired target which can be measured by various financial, technical, and non-financial methods, (Shahzad et al. 2017) and can be understood as the level of success achieved by the company. in achieving goals related to new products, services and other new solutions in business processes or management (Mazur and Zaborek 2016). Innovation performance can be understood as the ability to convert innovation inputs into outputs, and thus the ability to turn innovation capabilities and efforts into market implementation. (Zizlavsky 2016). The measurement of innovation performance in this study comes from the innovation framework provided by Eurostat and the Economic Development Organization (EOCD; Economic Co-Operation and Development (Oslo 2018), namely: 1) Product innovation, 2) Business process innovation.

### **2.3 The Impact Of Organizational Culture On Innovation Performance**

Research on the effect of organizational culture implementation on organizational performance has been widely carried out, but with various researchers' perspectives on the elements of organizational culture and innovation performance itself, as stated in the research conducted by Puryantini et al. (2017) stated organizational culture is a guideline / rules of behavior in the organization, so the organizational culture can affect the company's performance. In addition, organizational culture brings a sustainable competitive advantage that is difficult to imitate, other research also states that the stronger and more developed the organizational culture, the better the innovation performance of the company (Chen et al. 2018; Apsalone 2007).

These studies are in line with the opinion of Syahzad et al. (2017), which states that company values, trust, work environment and knowledge sharing have an impact on company innovation performance, a strong organizational culture can significantly stimulate creative and innovative behavior. employees that have an impact on the company's innovation performance.

Several researchers stated the same thing regarding the positive influence between organizational culture and innovation performance. Laforet (2016); Mazur and Zaborek (2016); Gambi and Broer (2015); While previously, researchers Arefin and Bao (2015) stated that the perceptions, values, norms, and beliefs shared by organizational members provide a conducive and enduring environment, having free flow of supplier and end customer information among organizational hierarchies and operational departments. different ways, so that the organization benefits through fast decision implementation, problem minimization, and enhanced performance. According to Maher (2014), organizational culture is a major factor which affects the speed and frequency of innovation. These researchers mention several other variables, namely innovation strategy (Laforet 2016), innovation culture (Mazur and Zaborek 2016), organizational strategy (Gambi and Broer 2015), interorganizational learning as a mediating factor Xiaodi et al. (2013); Huang et al. (2011).

### **2.4 Theoretical Framework**

This research is based on the impact of organizational culture and innovation capability on conventional commercial banks, in order to clarify the relevance of organization culture to performance innovation. Hofstede et al. (2010) was used and investigate every culture dimension identified and their relationship with innovation performance in conventional commercial banks. Hence these hypotheses are formulated thus;

- HO<sub>1</sub> : Power Distance dimension of organisation culture have an impact on Process Business Innovation Dimension of innovation performance
- HO<sub>2</sub> : Uncertainty Avoidance dimension of organisation culture have an impact on Process Business Innovation Dimension of innovation performance
- HO<sub>3</sub> : Masculinity VS Femininity dimension of organisation culture have an impact on Process Business Innovation Dimension of innovation performance
- HO<sub>4</sub> : Individualism VS Collectivism dimension of organisation culture have an impact on Process Business

- HO<sub>5</sub> : Innovation Dimension of innovation performance  
 : Long Term Orientation VS Short Term Orientation dimension of organisation culture have an impact on Process Business Innovation Dimension of innovation performance
- HO<sub>6</sub> : Indulgence VS Restraint dimension of organisation culture have an impact on Process Business Innovation Dimension of innovation performance
- HO<sub>7</sub> : Power Distance dimension of organisation culture have an impact on Product Innovation Dimension of innovation performance
- HO<sub>8</sub> : Uncertainty Avoidance dimension of organisation culture have an impact on Product Innovation Dimension of innovation performance
- HO<sub>9</sub> : Masculinity VS Femininity dimension of organisation culture have an impact on Product Innovation Dimension of innovation performance
- HO<sub>11</sub> : Individualism VS Collectivism dimension of organisation culture have an impact on Product Innovation Dimension of innovation performance
- HO<sub>12</sub> : Long Term Orientation VS Short Term Orientation dimension of organisation culture have an impact on Product Innovation Dimension of innovation performance
- HO<sub>13</sub> : Indulgence VS Restraint dimension of organisation culture have an impact on Product Innovation Dimension of innovation performance
- HO<sub>14</sub> : Organization culture have an impact on innovation performance

### 3. Methods

The research method used is a descriptive method and explanatory research. This research was designed using the non-probability method using purposive sampling techniques. The study sample was 4 commercial banks and 58 conventional commercial banks in the category of national private commercial banks, so the total sample in this study was 62. This study aims to test the hypothesis that has been stated above using the Multiple Regression Analysis. data analysis method with programming tools that support primary data analysis in the form of SPSS 5.0. The analysis unit in this study is banking in Indonesia based on data in 2021, while the observation unit of the Human Resources Development Unit and Research and Development Unit in conventional commercial banks.

The measurement of Organization Culture Variable is used a survey instrument, the Values Survey Module (VSM) 2013 and the measurement of Innovation Performance is used a method of EOCD.

### 4. Data Collection

The data collected consists of primary data using documentation study techniques, limited interviews and questionnaires, and secondary data using data available either from the Financial Services Authority's data publications or general data in various prints, report books, or electronics, including the bank's website. The data collection method uses a survey method using questionnaire instruments and ordinal data measured using a 5-scale Likert approach. The classical assumption test is calculated with the aim that the resulting equation is a good and unbiased equation. The test method of the research instrument is carried out by testing the reliability and validity.

### 5. Results and Discussion

#### 5.1 The Implementation of Organization Culture in Commercial Banks in Indonesia

The values of the organizational culture are calculated using the Values Survey Module (VSM) proposed by Hofstede (2011). The total number of questions in the 2013 VSM is 30 questions, of which 24 are questions that will be calculated based on the calculated score of the 2013 VSM index as a component of Hofstede's six dimensions of national culture. The last six questions are respondent identity data for statistical purposes and are not included in the formula for calculating the 2013 VSM index. These 24 questions will be assessed based on a rating scale (1-2-3-4-5), although there are 6 multiple-choice questions. will still be assessed based on a rating scale (1-2-3-4-5), (Siregar et al. 2016). After calculating the score in VSM 2013 then grouped into the following index:

Table 1. Hofstede Dimensional Scale Index on VSM 2013

No	Dimension	Formula	Index
1.	<i>Power Distance Index</i> (PDI)	<i>Small</i>	0 – 50
		<i>Large</i>	50 – 110
2.	<i>Uncertainty Avoidance Index</i> (UAI)	<i>Weak</i>	5 – 60
		<i>Strong</i>	60 - 115

No	Dimension	Formula	Index
3.	<i>Individualism VS Collectivism Index (IDV)</i>	<i>Collectivism</i>	5 - 50
		<i>Individualism</i>	50 - 95
4.	<i>Masculinity VS Femininity Index (MAS)</i>	<i>Feminism</i>	5 - 50
		<i>Masculinism</i>	50 - 95
5.	<i>Long Term Orientation VS Short Term Orientation Index (LTO)</i>	<i>Short Term Orientation</i>	5 - 50
		<i>Long Term Orientation</i>	50 - 105
6.	<i>Indulgence VS Restraint Index (IVR)</i>	<i>Restraint</i>	0 - 45
		<i>Indulgence</i>	45 - 100

- 1) Dimensions of Power Distance with a score of 83.70 in the criteria of high Power Distance (high Power Distance). This criterion is still the same as Hofstede's (2011) research for national culture in Indonesia, with a score of 78 being included in the criteria for High Power Differences.
- 2) Dimensions of Individuality and Collectivism with a score of 35.83 in the collectivism criteria. This criterion is still the same as Hofstede's (2011) research for national culture in Indonesia, namely with a score of 14, it is included in the collectivity criteria.
- 3) Dimensions of Masculinity and Femininity with a score of 48.96 in the criteria of Femininity which is moderate to Masculine. This criterion is different from Hofstede's (2011) research for national culture in Indonesia, which is with a score of 46. This difference is due to differences in the values adopted by conventional commercial banks in Indonesia in responding to rapid business changes in the banking world, which causes changes in the value of status, a person's position and title which becomes something important in obtaining a good opinion in the work environment.
- 4) The dimension of Uncertainty Avoidance with a score of 52.04 in the criteria for High Uncertainty Avoidance. This criterion is different from Hofstede's (2011) research for national culture in Indonesia, which is 48 so it is included in the Avoidance criteria. Against low Uncertainty. The difference in the results of this study is possible due to changes in the values adopted by conventional commercial banks in Indonesia in responding to everything related to banks that cause uncertainty. Banks are constantly dealing with the business world, which changes frequently due to changes in business processes, technological developments, trends in changing customer behavior patterns in bank transactions, as well as regulations from banking regulatory and supervisory authorities. The Bank always strives to adapt and avoid uncertainty by changing business processes and innovations, adopting the latest information technology as well as providing services according to customer wishes and following the rules of the bank's regulatory and supervisory authorities.
- 5) Dimensions of Long-Term Orientation/Short-Term Orientation with a score of 65.10 in the Long Term Orientation criteria. This criterion is still the same as Hofstede's (2011) research for national culture in Indonesia, with a score of 62, which is included in the Long-Term Orientation criteria.
- 6) Dimensions of Indulgence/Restraint with a score of 34.74 in the criteria of Restraint. This criterion is still the same as Hofstede's (2011) research for national culture in Indonesia, with a score of 38, which is included in the criteria of Restraint.

## 5.2 Multiple Regression Equation Model 1

In the multiple regression model 1, the influence of organizational culture dimensions consisting of Power Distance Dimensions, Uncertainty Avoidance Dimensions, Masculinity VS Femininity Dimensions, Individuality VS Collectivity Dimensions, Long Term Orientation VS Short Term Orientation Dimensions and Indulgence VS Restraint. Dimensions on Innovation Performance Dimensions consisting of Business Process Innovation will be calculated. Based on the result of calculation using SPSS 5.0, the Multiple Linear Regression equation in model 1 is obtained with the following equation:

$$Y_1 = 1,243 + 0,219X_1 + 0,357X_2 + 0,248X_3 + 0,082X_4 + 0,437X_5 + 0,485X_6 + e_1 \dots\dots\dots(1)$$

- Y<sub>1</sub> = Business Process Innovation
- X<sub>1</sub> = Power Distance
- X<sub>2</sub> = Uncertainty Avoidance
- X<sub>3</sub> = Masculinity VS Femininity
- X<sub>4</sub> = Individuality VS Collectivity Dimensions
- X<sub>5</sub> = Long Term Orientation VS Short Term Orientation
- X<sub>6</sub> = Indulgence VS Restraint.
- a = Constat



$b_1-b_2$  = Regression Coefficient  
 $e_1$  = error model 1

The regression coefficient value of the independent variables illustrates that if it is estimated that the independent variable increases by one unit and the value of the other independent variables is estimated to be constant or equal to zero, then the value of the variable is estimated to increase or decrease according to the sign of the regression coefficient of the independent variable. The regression coefficient value of 1.243 means that when business process innovation is not influenced by the dimensions of organizational culture, it has a coefficient of 1.243 with a positive slope (business process innovation tends to be high). The sign of the independent variable regression coefficient shows the direction of the relationship of the variables concerned with business process innovation. The regression coefficient for the independent variable  $X_1$  is positive, indicating a unidirectional relationship between power differences and business process innovation. The  $X_1$  variable regression coefficient of 0.219 means that for every increase in organizational culture in terms of a power distance of one unit, it will cause an increase in business process innovation of 0.219 units. The regression coefficient for the independent variable  $X_2$  is positive, indicating a unidirectional relationship between avoidance of uncertainty and business process innovation. The  $X_2$  variable regression coefficient of 0.357 means that every increase in organizational culture in terms of uncertainty avoidance by one unit will cause an increase in business process innovation by 0.357 units.

The regression coefficient for the independent variable  $X_3$  is positive, indicating a unidirectional relationship between masculinity vs femininity with business process innovation. The  $X_3$  variable regression coefficient of 0.248 means that for every increase in organizational culture in terms of masculinity vs. femininity by one unit will cause an increase in business process innovation by 0.248 units.

The regression coefficient for the independent variable  $X_4$  is positive, indicating a unidirectional relationship between individuality vs collectivity and business process innovation. The  $X_4$  variable regression coefficient of 0.082 means that for every increase in organizational culture in terms of individuality vs collectivity by one unit, it will cause an increase in business process innovation by 0.082 units. The regression coefficient for the independent variable  $X_5$  is positive, indicating a unidirectional relationship between long-term orientation/short-term orientation and business process innovation. The  $X_5$  variable regression coefficient of 0.437 means that every increase in organizational culture in terms of long-term orientation/short-term orientation of one unit will cause an increase in business process innovation of 0.437 units. The regression coefficient for the independent variable  $X_6$  is positive, indicating a unidirectional relationship between indulgences/ Restraint and business process innovation. The  $X_6$  variable regression coefficient of 0.485 means that for every increase in organizational culture in terms of indulgences/ Restraint by one unit, it will cause an increase in business process innovation by 0.485 units.

### 5.2.1 Hypotesis Testing Model 1

Hypothesis testing used t test or partial test was conducted to prove whether the dimensions of organizational culture consisting of power distance, uncertainty avoidance, masculinity vs femininity, individuality vs collectivity, long-term orientation/short-term orientation, and indulgence/ Restraint affect business process innovation. The following are the results of the recapitulation of hypothesis testing in regression model 1.

Table 2. Recapitulation of Hypothesis Testing Model 1

Hipothesis	Variable	t count	t table	p-value	Result
H1	power distance ( $X_1$ )	1.884	1.973	0.061	Rejected
H2	uncertainty avoidance ( $X_2$ )	3.162		0.002	Accepted
H3	masculinity vs femininity ( $X_3$ )	2.674		0.008	Accepted
H4	individuality vs collectivity ( $X_4$ )	1.011		0.314	Rejected
H5	long-term orientation/short-term orientation ( $X_5$ )	5.506		0.001	Accepted
H6	indulgence/ Restraint ( $X_6$ )	4.500		0.001	Accepted

An independent variable have a significant effect on the dependent variable if it has a t-count value greater than t-table or a probability value (p-value) less than 0.05. The t-table value for a sample of 192 respondent with a total of 6 independent variables is 1.973. Based on the recapitulation table, it can be seen that the calculated t value for the power distance dimension is 1.884 with a p-value of 0.061. Because the t-count value is smaller than t-table and the p-value is greater than 0.05, hypothesis 1 is rejected. That is, the power distance dimension has a positive but not significant effect on business process innovation. The calculated t value for the uncertainty Avoidance dimension to is 3.162 with a p-value of 0.002. Because the t-count value is greater than t-table and the p-value is smaller than 0.05, hypothesis 2 is accepted. That is, the uncertainty avoidance has a positive and significant impact on business process innovation. The calculated t value for the Masculinity vs Femininity variable is 2.674 with a p-value of 0.008. Because the t-count is greater than t-table and the p-value is less than 0.05, hypothesis 3 is accepted. That is, Masculinity vs. Femininity has a positive and significant effect on business process innovation.

The value of t-count for the Individuality vs. Collectivity dimension is 1.011 with a p-value of 0.314. Because the t-count is smaller than t-table and the p-value is greater than 0.05, hypothesis 4 is rejected. That is, Individuality vs. Collectivity has a positive but not significant effect on the business innovation process. The calculated t-value for the Long-Term Orientation and Short-Term Orientation variables is 5.506 with a p-value of 0.001. Because the t-count is greater than t-table and the p-value is less than 0.05, hypothesis 5 is accepted. That is, long-term orientation and short-term orientation have a positive and significant impact on the business innovation process. The calculated t value for the Indulgence and Restraint dimension is 4,500 with a p-value of 0.001. Because the t-count value is greater than t-table and the p-value is smaller than 0.05, hypothesis 6 is accepted. That is, Indulgence and Restraint have a positive and significant impact on the business innovation process.

### 5.2.2 Coefficient of Determination Model 1

The coefficient of determination is used to see the magnitude of the influence of organizational culture which consists of power distance dimension, uncertainty avoidance dimension, masculinity vs femininity dimension, individuality vs collectivity dimension, long-term orientation/short-term orientation dimension, and indulgence/ Restraint dimension to business process innovation. The following are the results of the calculation of the coefficient of acceptance based on the SPSS output.

Table 3. Coefficient of Determination Model 1  
Model Summary<sup>b</sup>

Model	R	R Square	Adjusted R Square	Std. Error of the Estimate
1	.802 <sup>a</sup>	.643	.631	2.58855

a. Predictors: (Constant), IVR, UAI, LTO, IDV, MAS, PDI

b. Dependent Variable: Business Process Inovation

Based on the table above, it can be seen that the value of the simultaneous correlation coefficient is 0.802, then the coefficient of determination (R<sup>2</sup>) is obtained a value of 0.643. This means that there is an influence between the dimensions of organizational culture consisting of power distance, uncertainty avoidance, masculinity vs femininity, individuality vs collectivity, long-term orientation/short-term orientation, and indulgence/ Restraint to business process innovation by 64.3% while the remaining 33,7% is the influence of other variables that the researcher did not involve in this study. Then to determine the magnitude of the influence of the dimensions of organizational culture which consists of power distance, uncertainty avoidance, masculinity vs femininity, individuality vs collectivity, long-term orientation/short-term orientation, and Indulgence/Restraint on business process innovation, a partial effect is calculated. as follows :

Table 4. Magnitude of Partial Effect Model 1

Dimension	Beta	Correlation Zero Order	Total Influence	%
power distance (X <sub>1</sub> )	0.157	0.682	0.107	10.7%
uncertainty avoidance (X <sub>2</sub> )	0.168	0.493	0.083	8.3%
masculinity vs femininity (X <sub>3</sub> )	0.191	0.643	0.123	12.3%

Dimension	Beta	Correlation Zero Order	Total Influence	%
individuality vs collectivity (X4)	0.069	0.581	0.040	4.0%
long-term orientation/short-term orientation (X5)	0.277	0.566	0.157	15.7%
indulgence/ Restraint (X6)	0.254	0.528	0.134	13.4%
Total			0.643	64.3%

Based on the calculation results in the table above, it can be seen that the dimensions of organizational culture that have the most influence on business process innovation are Long-Term Orientation and Short-Term Orientation, indulgence/ and Restraint and Masculinity vs Femininity. While the dimension with the lowest influence is Individuality vs. Collectivity with a total influence of 4.0%.

### 5.3 Multiple Regression Equation Model 2

In the multiple regression model 2, the influence of organizational culture dimensions consisting of Power Distance Dimensions, Uncertainty Avoidance Dimensions, Masculinity VS Femininity Dimensions, Individuality VS Collectivity Dimensions, Long Term Orientation VS Short Term Orientation Dimensions and Indulgence VS Restraint Dimensions on Innovation Performance Dimensions consisting of Product Innovation will be calculated. Based on the result of calculation using SPSS 5.0, the Multiple Linear Regression equation in model 2 is obtained with the following equation:

$$Y_2 = 2,566 + 0,228X_1 + 0,111X_2 + 0,166X_3 + 0,064X_4 + 0,259X_5 + 0,193X_6 + e_2 \dots\dots(2)$$

- $Y_2$  = Business Process Inovation
- $X_1$  = Power Distance
- $X_2$  = Uncertainty Avoidance
- $X_3$  = Masculinity VS Femininity
- $X_4$  = Individuality VS Collectivity Dimensions
- $X_5$  = Long Term Orientation VS Short Term Orientation
- $X_6$  = Indulgence VS Restraint
- $a$  = Constat
- $b_1$ - $b_2$  = Regression Coefficient
- $e_2$  = error model 2

The regression coefficient value of 2.566 means that when product innovation is not influenced by the dimensions of organizational culture, it has a coefficient of 2.566 with a positive slope (product innovation tends to be high). The sign of the regression coefficient of the independent variable shows the direction of the relationship of the variables concerned with product innovation. The regression coefficient for the independent variable  $X_1$  is positive, indicating a unidirectional relationship between Power Distance and product innovation. The  $X_1$  variable regression coefficient of 0.228 means that every increase in organizational culture in terms of a Power Distance of one unit will cause an increase in product innovation of 0.228 units. The regression coefficient for the independent variable  $X_2$  is positive, indicating a unidirectional relationship between uncertainty avoidance and product innovation. The  $X_2$  variable regression coefficient of 0.111 means that every increase in organizational culture in uncertainty avoidance by one unit will cause an increase in product innovation of 0.111 units.

The regression coefficient for the independent variable  $X_3$  is positive, indicating a unidirectional relationship between masculinity vs femininity and product innovation. The  $X_3$  variable regression coefficient of 0.166 means that for every increase in organizational culture in terms of masculinity vs. femininity by one unit will cause an increase in product innovation of 0.166 units.

The regression coefficient for the independent variable  $X_4$  is positive, indicating a unidirectional relationship between individuality vs collectivity and product innovation. The  $X_4$  variable regression coefficient of 0.064 means that for every increase in organizational culture in terms of individuality vs collectivity of one unit, it will cause an increase in product innovation of 0.064 units. The regression coefficient for the independent variable  $X_5$  is positive, indicating a unidirectional relationship between long-term orientation/short-term orientation and product innovation. The  $X_5$  variable regression coefficient of 0.259 means that for every increase in organizational culture in terms of long-term orientation/short-term orientation, one unit will cause an increase in product innovation of 0.259 units. The regression coefficient for the independent variable  $X_6$  is positive, indicating a unidirectional relationship between indulgences/



Restraint and product innovation. The  $X_6$  variable regression coefficient of 0.193 means that every increase in organizational culture in terms of indulgences/ Restraint by one unit will cause an increase in product innovation of 0.193 units.

### 5.3.1 Hypotesis Testing Model 2

Hypothesis testing used t test or partial test was conducted to prove whether the dimensions of organizational culture consisting of power distance, uncertainty avoidance, masculinity vs femininity, individuality vs collectivity, long-term orientation/short-term orientation, and indulgence/ Restraint affect product innovation. The following are the results of the recapitulation of hypothesis testing in regression model 2.

Table 5. Recapitulation of Hypothesis Testing Model 2

Hipotesis	Variable	t count	t table	p-value	Result
H7	power distance ( $X_1$ )	3.190	1.973	0.002	Accepted
H8	uncertainty avoidance ( $X_2$ )	1.599		0.111	Rejected
H9	masculinity vs femininity ( $X_3$ )	2.932		0.004	Accepted
H10	individuality vs collectivity ( $X_4$ )	1.277		0.203	Rejected
H11	long-term orientation/short-term orientation ( $X_5$ )	5.321		0.001	Accepted
H12	indulgence/ Restraint ( $X_6$ )	2.925		0.004	Accepted

Based on the recapitulation table, it can be seen that the t-value for the power distance is 3.190 with a p-value of 0.002. Because the t-count is greater than t-table and the p-value is less than 0.05, hypothesis 7 is accepted. That is, the power distance has a positive and significant effect on product innovation. The calculated t value for the uncertainty avoidance is 1.599 with a p-value of 0.111. Because the t-count value is smaller than t-table and the p-value is greater than 0.05, hypothesis 8 is rejected. That is, uncertainty avoidance has a positive but not significant effect on product innovation. The calculated t value for the Masculinity vs Femininity variable is 2,932 with a p-value of 0.004. Because the t-count is greater than t-table and the p-value is less than 0.05, hypothesis 9 is accepted. That is, Masculinity vs.

Femininity has a positive and significant effect on product innovation the value of t-count for the variable Individuality vs. Collectivity is 1.277 with a p-value of 0.203. Because the t-count value is smaller than t-table and the p-value is greater than 0.05, hypothesis 10 is rejected. This means that individuality vs collectivity has a positive but not significant effect on product innovation. The calculated t value for the Long-Term Orientation and Short-Term Orientation variables is 5.352 with a p-value of 0.001. Because the t-count value is greater than t-table and the p-value is smaller than 0.05, hypothesis 11 is accepted. That is, long-term orientation and short-term orientation have a positive and significant impact on product innovation. The calculated t value for the indulgence and Restraint variable is 2.925 with a p-value of 0.004. Because the t-count is greater than t-table and the p-value is less than 0.05, hypothesis 12 is accepted. That is, indulgence and Restraint have a positive and significant effect on product innovation.

### 5.3.2 Coefficient of Determination Model 2

The coefficient of determination is used to see the magnitude of the influence of organizational culture which consists of Power Distance, high Uncertainty Avoidance, Femininity, Collectivity, Long-Term Orientation, and Restraint dimension to product innovation. The following are the results of the calculation of the coefficient of acceptance based on the SPSS output.

Table 6. Coefficient of Determination Model 2  
Model Summary<sup>b</sup>

Model	R	R Square	Adjusted R Square	Std. Error of the Estimate
1	.806 <sup>a</sup>	.649	.638	1.58728

a. Predictors: (Constant), IVR, UAI, LTO, IDV, MAS, PDI

b. Dependent Variable: Product Innovation

Based on the table above, it can be seen that the value of the simultaneous correlation coefficient is 0.806, then the coefficient of determination (R<sup>2</sup>) is obtained a value of 0,649. This means that there is an influence between the dimensions of organizational culture consisting of Power Distance, high Uncertainty Avoidance, Femininity, Collectivity, Long-Term Orientation, and Restraint to business process innovation by 64.9% while the remaining 35,1% is the influence of other variables that the researcher did not involve in this study. Then to determine the magnitude of the influence of the dimensions of organizational culture which consists of high Power Distance, high Uncertainty Avoidance, Femininity, Collectivity, Long-Term Orientation, and Restraint on Business Process Innovation, a partial effect is calculated. as follows:

Table 7. Magnitude of Partial Effect Model 2

Variabel	Beta	Correlation Zero Order	Total Influence	%
power distance (X <sub>1</sub> )	0.263	0.718	0.189	18.9%
uncertainty avoidance (X <sub>2</sub> )	0.084	0.455	0.038	3.8%
masculinity vs femininity (X <sub>3</sub> )	0.208	0.669	0.139	13.9%
individuality vs collectivity (X <sub>4</sub> )	0.086	0.615	0.053	5.3%
long-term orientation/short-term orientation (X <sub>5</sub> )	0.265	0.558	0.148	14.8%
indulgence/ Restraint (X <sub>6</sub> )	0.164	0.502	0.082	8.2%
Total			0.649	64.9%

Based on the calculation results in the table above, it can be seen that the dimensions of organizational culture that have the greatest influence on product innovation are power distance, masculinity vs femininity, long-term orientation and short-term orientation. Meanwhile, the dimension with the lowest influence is the uncertainty avoidance with a total effect of 3.8%.

#### 5.4 Testing the Influence of Organizational Culture on Innovation Performance.

After all the models are calculated, then the overall hypothesis is tested, namely to determine the influence of organizational culture on innovation performance. The following is the result of the total regression analysis between organizational culture and innovation performance.

Table 8. Total Multiple Regression Analysis Coefficients<sup>a</sup>

Model		Unstandardized Coefficients		Standardized Coefficients	t	Sig.
		B	Std. Error	Beta		
1	(Constant)	7.276	1.637		4.445	.000
	Organization Culture	.428	.022	.810	19.053	.000

a. Dependent Variable: innovation performance

Based on the results of the calculations in the table above, the form of the multiple linear regression equation is obtained as follows:  $Y_3 = 7.276 + 0.428X + e_3 \dots\dots\dots(3)$

The value of the regression coefficient on the independent variables illustrates that if it is estimated that the independent variable increases by one unit and the value of the other independent variables is estimated to be constant or equal to zero, then the value of the dependent variable is estimated to increase or decrease according to the sign of the regression coefficient of the independent variable. The regression coefficient value of 7.276 means that when product innovation is not influenced by the dimensions of organizational culture, it has a coefficient of 7.276 with a positive slope (innovation performance tends to be high).

The regression coefficient for the independent variable of organizational culture is positive, indicating that there is a direct relationship between organizational culture and innovation performance. The organizational culture regression coefficient of 0.428 means that for every one unit increase in organizational culture, it will lead to an increase in product innovation performance of 0.428 units.

#### 5.4.1 Hypotesis Testing Total Model

Hypothesis testing is carried out to prove whether organizational culture has an effect on innovation performance. So in testing this hypothesis used t test or partial test. The following is the result of the recapitulation of hypothesis testing on the total regression model.

Table 9. Hypothesis Testing Total Model

Hipotesis	Variabel	t count	t Table	p-value	Result
H <sub>13</sub>	Organization Culture (X)	19.053	1.973	0.001	Accepted

Based on the table above, it can be seen that the t-value for the organizational culture variable is 19,053 with a p-value of 0.001. Because the t-count value is greater than t-table and the p-value is smaller than 0.05, hypothesis 13 is accepted. That is, organizational culture has a positive and significant effect on innovation performance.

#### 5.4.2 Coefficient of Determination Total Model

The coefficient of determination is used to see the magnitude of the influence of organizational culture to innovation performance. The following are the results of the calculation of the coefficient of acceptance based on the SPSS output.

Table 10. Coefficient of Determination Total Model  
Model Summary

Model	R	R Square	Adjusted R Square	Std. Error of the Estimate
1	.810 <sup>a</sup>	.656	.655	3.94343

a. Predictors: (Constant), Organization Culture

Based on the table above, it can be seen that the correlation coefficient value is 0.810 then the coefficient of determination (R<sup>2</sup>) is obtained a value of 0.656. This means that there is an influence between organizational culture on innovation performance of 65.6% while the remaining 34.4% is the influence of other variables that the researcher did not involve in this study.

### 6. Conclusion

- 1) Using the VSM 2013, it's found that The Organization Culture that implemented in Indonesian conventional banks are in criteria high Power Distance, high Uncertainty Avoidance, Femininity, Long-Term Orientation, Collectivity and Restraint dimension. This finding adding a new understanding of organizational culture in the banking sector. Working relations in conventional commercial banks high Power Distance which implies that the working relationship between superiors and subordinates is colored by behavior that prioritizes work professionalism, prioritizing a hierarchical order which means that superiors in the perception of subordinates have the authority to influence and superiors act actively in relation to the innovation performance. The Uncertainty Avoidance dimension relates to the readiness of respondents at conventional commercial banks to face uncertainty in the future and how the level of reaction will be in dealing with it. The Collectivity dimension is a trait that describes the degree to which people prefer to act together in a group. Team goals are goals that must be achieved by group members so that to achieve successful implementation of business intelligence, the application is carried out in teams with an interconnected system. There is a tendency to shift cultural dimensions that lead to masculine priorities, namely assertiveness, money, material and success. This can happen due to the stronger material culture due to the demands of life which increasingly require money and a high appreciation of one's physical appearance. In the Long Term Orientation implementation, performance achievements are evaluated from time to time to ensure that annual targets can be achieved, in addition the bank makes periodic projections based on recent achievements, conducts intensive monitoring and determines action plans and appropriate steps to achieve the



annual targets set by the Bank. task force to monitor the implementation of the business plan through the implementation of a business intelligence system.

- 2) Using the Multiple Linear Regression All The dimensions of organizational culture has a positive impact on Business Process Innovation and Product Innovation. The dimensions of organizational culture that have the greatest influence on Product Innovation are high Power Distance, Femininity and Long-Term Orientation dimension. Meanwhile, the dimension with the lowest effect is the uncertainty avoidance. The dimensions of organizational culture that have the greatest influence on Business Process Innovation are Long-Term Orientation, Restraint and Femininity dimension. While the dimension with the lowest influence is Collectivity dimension. There were an influence between the dimensions of Organizational Culture inovation performance. There were has a positive and significant effect influence between Organizational Culture on Innovation Performance.
- 3) The influence is in the form of implementation of organizational culture of high power difference dimension, implementation of high uncertainty avoidance dimension, implementation of collective dimension, implementation of feminine dimension, implementation of long-term orientation dimension of organizational culture, implementation of reitrait dimension, where Bank's leader must pay attention to the organizational culture, by being a leader who can be a role model for subordinates, Employees collectively achieve goals in work teams, and share knowledge and knowledge with each other so that fellow employees gain experience and knowledge indirectly and this makes other employees more responsive in carrying out their work. bank leader should optimize team work and provide rewards and punishments accompanied by clear rules. Rules regarding innovation performance are clearly stated in each work program and clear reporting on the achievement of innovation performance aimed at bank stakeholders. Employees as team members must interact and evaluate information in a timely manner to get the most suitable decisions for innovation performance improvement. As an implementation of Longterm Orientation, bank used strategic plan, bank business plan and formulation of bank focus that ensures sustainable business growth which is then poured into work plans and initiatives to be carried out as well as targets to be achieved within the year. Performance achievements are evaluated from time to time to ensure that annual targets can be achieved, in addition the bank makes periodic projections based on recent achievements, conducts intensive monitoring and determines action plans and appropriate steps to achieve the annual targets set by the Bank. Bank used task force to monitor the implementation of the business plan to achive innovation performance.

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