

JICP
2018

Journal of International Conference Proceedings



**Published by
Association of International Bussiness
& Professional Management (AIBPM)**

**ISSN: 2622-0989 (Print)
ISSN: 2621-993X (Online)**

Journal of International Conference Proceedings (JICP)

Theme:

“Emerging Technology & Business Innovation in the Global World”

Gorontalo, November 24th - 25th, 2018

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The Chair of 2018 Conference Committees

ISSN 2622-0989 (Print)

ISSN: 2621-993X (Online)

**Association of International Business & Professional Management
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PREFACE

It is a great privilege for us to present the proceedings of 2018 Gorontalo ICPM to the authors and delegates of the event. We hope that you will find it useful, exciting and inspiring. 2018 Gorontalo ICPM is a prestigious event organized with a motivation to provide an excellent international platform for the academicians, researchers, industrial participants and students around the world to share their research findings with the international business expert.

2018 Gorontalo ICPM aims to provide opportunity for the global participants to share their ideas and experiences in person with their peer expected to join from different parts on the world. In addition, this gathering will help the delegates to establish research or business relations as well as to find international linkage for future collaborations in their career path.

The 2018 Gorontalo ICPM outcomes will lead to significant contributions to the knowledge base in these up-to date business and management fields in scope. Therefore, on the day of completion of this journey, we are delighted with a high level of satisfaction and aspiration. The responses to the call-for-papers had been overwhelming – both from Indonesia and from overseas. We would like to express our gratitude and appreciation for all of the reviewers who helped us maintain the high quality of manuscripts included in the proceedings. We would also like to extend our thanks to the members of the organizing team for their hard work. We are now optimistic and full of hope about getting the proceedings of ICPM 2018.

We appreciate that the authors of 2018 Gorontalo ICPM may want to maximize the popularity of their papers. And we will try our best to support them in their endeavors. Let us wish that all the participants of 2018 Gorontalo ICPM will have a wonderful and fruitful time at the conference.

Conference Chair

Liem Gai Sin, Ph.D On behalf of the ICPM 2018 Conference Committees

24th -25th November, 2018

Gorontalo, North Sulawesi, Indonesia.

TABLE OF CONTENTS

PREFACE	ii
The Influence of Transformational and Transactional Leadership on Employee Performance: Empirical Study on Employee of Banking Company at North Sulawesi Yance Tawas	9
The Effect of Leadership Effectiveness on the Work Effectiveness of the Staffs Hennij Lennij Suot	10
Business Management of MSMEs in Manado City its Problem and Development Strategy Dr. Agus Supandi Soegoto SE, MSi	11
The Effect of Institutional Ownership and Investment Decisions on Manufacturing Company Value in Indonesia Stock Exchange Joseph P. Kambey ¹ , Rusel Mangintiku ²	12
Protection of Farmers Copyright Rights in a Cleaning Agreement by Regional Government (Study in Clove Production Centers in North Sulawesi) Dr. Deasy Soeikromo, SH.MH.	13
The Analysis of Factors That Affecting the Tourist Visiting in Minahasa Regency Stanny S. Rawung	14
Employee Fit, Trust, Knowledge Sharing and Innovation Capabilities: Empirical Study on Indonesia Creative Industry ¹ Nikolas F. Wuryaningrat ¹ , Paulus Kindangen ² , Greis Sendouw ³ , Bode Lumanouw ⁴	15
Is SMEs Able to Construct Business Strategy to Improve Its Performance Using Its Own Ability? (Study On SMEs Karawo Handicraft in City of Gorontalo, Indonesia) Ariawan ¹ , Made Sudarma ² , Djumahir ³ , Ghazali Maski ⁴	16
Protection of Community Economic Rights in Mining Areas in North Sulawesi Dr. Caelia Waha, SH. MH.	17
Tax and Poverty in Indonesia Lydia Ivana Kumajas ¹ , Steven Tumbelaka ² , Merry L. Kumajas ³	18
Transformational and Transactional Leadership Improve Performance: Evidence From Lecture Faculty of Economics University of Ichsan Gorontalo Juriko Abdussamad ¹ , Ariawan ²	19
The Impact of Quality Aspects of Hospital Services Towards Hospitalized Patients' Interest In Treatment at Regional Public Hospital Prof. Dr. Aloe Saboe, Gorontalo City Endi Rahman	20
The Development of The Government's Stimulus Model Policy on Harrod-Domar Economic Growth Model Relevant With Resources in Sulawesi Utara Jeanne Rumawir	21
Inventory Management is a Crucial Issue in Supply Chain Management / Al Ain Hospital Dr. Ayman Mustafa Al Armouti ¹ , Mrs. Amal salem Al Kabi ²	22
Examining Marketing Mix Strategy on Consumer Intention To Buy: Empirical Study on Alfa Mart Retail Store at Manado City Juliana Ohy	23
Funding Decision and Dividend Policy and Its Implications on Firm Value Through	

Profitability
Sitti Murniati24

Effect of Commitment, Compensation, and Leadership on Employee Performance and Sharia Engagement as Variable Intervening Indira Basalamah ¹ , H. Mansyur Ramli ² , H. Bahar Sinring ³ , Roslina Alam ⁴	25
The Effect of Company Image on Satisfaction and Customer Loyalty in Insurance Jiwasraya in City of Makassar Hafipah ¹ , H. Mahfudnurnajamuddin ² , H. Sabri Hasan ³ , Ilham Labbase ⁴	26
The Influence of Decision Investment, Capital Structure and Growth on Profitability and Company Value in Manufacturing Company Listed in Indonesia Stock Exchange Hikma Niar	27
Influence of Is Amount of Channeling of Credit to Profit Bank Credit People Bank of Millenia in Manado (Study Case in The Year 2014-2018) Sinolungan Alzefin Yolandi Roos Mareike	28
Influence Factors of Capital and Entrepreneurial Succes in Small Industries Maya Salindeho	29
The Influence of Firm Characteristics on Corporate Social Responsibility and Its Impact on Stock Prices Linda A.O. Tanor	30
Design and Manage Integrated Marketing Communication Hapsawati Taan	31
Analysis of the Needs of Concrete Iron Material Availability in The Work of the Chhazan Space Through the Eoq Approach Method (Case study: Project for Building a Bank Indonesia Representative Office for Gorontalo Province) Stella Junus ¹ , Muh. Yasser Arafat ² , Dwi Noviani ³ , Sofiyah H. Sabaya ⁴	32
Implementation of Social Security Protection for Workers at the Village Level (Research Study in Langsa-Aceh City) Bustami, S.H.,M.A ¹ , Rini Fitriani, S.H.,M.H ² , Liza Agnesta Krisna, S.H.,M.H ³	33
Analysis of Institutional Financial Management in Realizing Good Governance and Accountability of Financial Performance at Manado State University Freddy S. Kawatu ¹ , Ramon A. F. Tumiwa ² , Merry Natalia Rumagit ³ , Nova Ch. I. Mamuaya ⁴	34
The Influence of Leadership Effective, Work Ethic, and Collective Relation on the Organizational Commitment: A Survey at Junior High Schools in Minahasa Regency Sem Simson Dehoop	35
Reciprocal Management in MAPALUS As A Model of Community Economic Empowerment in Southeast Minahasa, North Sulawesi Treesje Imran	36
Internal Governance Mechanisms: Evidence from Islamic Banks Majdi Anwar Quttainah, Liem Gai Sin, Ph.D ²	37
The Motivation To Work and Environmental Influences Working Against Employees of The Employment Department of Education, Youth and Sports District Minahasa Roddy Albert Runtuwarouw ¹ , Jerry RH Wuisang ²	38
Technopreneurship For Local Economic Empowerment by Innovative Learning Module Herwin Mopangga, Frahmawati Bumulo	39
The Effect of the Financial Ratio on Company Value of Pharmaceutical Companies	

Listed in Indonesia Stock Exchange in 2013 -2016	
Eddy Winarso	40

The Relationship Between Budget Participation and Managerial Performance: The Role of Moderator Variables Interaction Johny Manaroinsong ¹ , Tinneke E.M. Sumual ² , Hisky R. Kawulur ³	41
The Effect of Transactional Leadership and Transformational Leadership on Employees Creativity Wilson Bogar	42
Principal Leadership Performance Against Teachers in SMA 1 Manado Dr. Meike D. Mamentu, M.Si	43
Knowledge Transfer 'Mapalus' in An Eris Village, Indonesia Ventje A. Senduk	44
Economy Dimension of Sustainable Development Index of Solar Powered Electricity Project in Pilolaheya And Pelita Hijau Villages of Bonebolango Regency Raflin Hinele	45
The Effect of Headmaster Leadership and Achievement Motivation on Competency of State High School Teachers in Manado City Sophia Pongoh ¹ , Dr. Sjeddy Watung ²	46
Gender Differences of Sustainable Consumer Behavior in Technology Adoption: Evidence From Indonesia Ardiwansyah Nanggong ¹ , Rahmatia ²	47
Entrepreneurial Orientation Literature Review: Measurement Eka Zahra Solikahan ¹ , Ali Mohammad ²	48
The Effects of Financial Awards, Work Environment, and Market Considerations: Work on Career Selection as a Public Accountant for Accounting Students (Study of State and Private Universities in Gorontalo Province) Imran Rosman Hambali ¹ , Ayu Rakhma Wuryandini ² , Sahmin Noholo ³	49
Analysis on Financial Performance Influence Toward Market Performance with ERM (Enterprise Risk Management) Implementation Category as Moderator Variable Hemmy Fauzan ¹ , Deni Pandu Nugraha ²	50
Analysis of the Potential Nature Tourism of Perintis Lake in the Huluduotamo Village of Suwawa District, Bone Bolango Regency Irwan Wunarlani ¹ , Nilawaty Yusuf ²	51
The Measurement of Service Quality in Cianjur Raya Restaurant using SERVQUAL Model. Stefani Angmalisang	52
Students Entrepreneurial Program at Faculty Economics Universitas Negeri Manado (UNIMA) Alfred F. Pongoh	53
Moonlighting, Harm? : Student Perception of the Effects of Moonlighting, Achievement Motivation on Lecturer Performance Hartina Fattah ¹ , Andi Batari Citta ²	54
Understanding the Factors that Influence User Adoption and Intention to Recommend the E-health Apps In Indonesia Ferdi Antonio	55
The Influence of Self Leadership and Psychological Empowerment on Mediated Performance by Job Satisfaction Lecturers of Private Universities in Yogyakarta Muhamad Ali Sukrajap ¹ , FX. Wahyu Widianoro ²	56

Determinan Performance of the Government of North Sulawesi Province	
Frida Magda Sumual	57

Implications of Supply Chain Management (SCM): Manufacturing Industries to Service supply Industries Dr. Md. Mamun Habib.....	58
Entrepreneurship Training for University Students, Entrepreneurial Programs Rusnandari Retno Cahyani ¹ , Asri Laksmi Riani ² , Edi Kurniadi ³ , Destina Paningrum ⁴	59
The Mediating Role of Return on Equity in The Influence of Intellectual Capital on The Islamic Social Responsibility Chandra Zaki Maulana ¹ , Fernando Africano ² , Lidia Desiana ³ , Yuyus Suryana ⁴ , Dwi Kartini ⁵ , Erie Febrian.....	60
Do Managerial Abilities Influence Organization Member Satisfaction (Evidence From Koperasi Pegawai Negeri Sehati SMK Negeri 3 Tahuna) Gilly Marlya Tiwow ¹ , Christian Habel ²	61
The Influence of Investment Decisions, Funding Decisions, and Dividend Policies on Corporate Values in Manufacturing Companies in the Consumer Goods Industry Sector Listed on the Indonesia Stock Exchange, for the 2012-2016 Jones Xaverius Pontoh ¹ , Agnes Punu ²	62
Analyzing the Application of The Global Virtual Team (GVT) Model in Developing International Business Skills in Indonesia Higher Education Liem Gai Sin, Ph.D ¹ , Stevi Jimry Poluan, ST, MM ²	63
A Modified Hill Cipher For Better Security Johni S Pasaribu.....	64
Relationship of Employee's Placement With The Employees' Performance Faculty of Economics of Manado State University Nancy Jenny Kaligis.....	65
Solid Waste Management in India: A Review and Road Rhead Artee Aggrawal ¹ , Gunchita Kaur Wadhwa ²	66
The Effect of Budget Participation on Budget Weapons Sahmin Noholo ¹ , Ayu Rakhma Wuryandini ²	67
The Effect of Leadership Style on Work Motivation and Its Impact on Employee Performance Ryan Kurniawan ¹ , Elih Hayati ²	68
Increased Equality of Opportunity Thorough International Tourism Scott A. Hipsher.....	69
The Effect of Leadership Competences on Job Satisfaction in Government Organization in Minahasa Region Devyano V.F. Ranti.....	70
The Effect of Remuneration on Lecturer Performance in Gorontalo State University Melki Ramon Amati ¹ , Heldy Vanni Alam ² , Valentina Monoarfa ³	71
Analysis of Determination Factors on Human Resources Development and Performance of Employees, Culture, Youth and Sports of Gorontalo Andi Yusniar Mendo.....	72
Performance Assessment Using Balance Scorecard in Kosika Gorontalo State University Students Zulkifli Bokuu, SE, Ak, Msi ¹ , Hartati Tuli, SE, Ak, Msi ² , Lukman Pakaya, SPd, MSA ³	73
The Influence of Operation Strategy on Culinary Business Performance in Malang City	

Fien Zulfikarijah.....	74
------------------------	----

Competency of Human Resources as Part of Performance Assessment in the Effort to Increase Organizational Performance Lisda L. Asi.....	75
The Causality Between Human Resource Planning, Career Development, and Work Achievement of Employees in PT. Peteka Karya Gapura Gorontalo Region Melan Angriani Asnawi.....	76
Analysis of the Effectiveness of Online Marketing Strategies (Case Study : PT. Velox Creative Indonesia Go Public) Nico Arviana Kartika ¹ , Andres Felipe Tarazona ²	77
Analysis of Packaging Innovation Affect Happytos Jeremy Kenny ¹ , Fakkar Zuhair ² , Maria Olyvia Samosir ³ , Maria Camila Palacio ⁴	78
Potential Client PT. Batu Bhumi Suryatama Sari Apel Flamboyan Anant Jain ¹ , David Rivaldy ² , Qonitah L ³ , Juan José Zuluaga ⁴	79
Go-Jek Case Study Carolina Escobar ¹ , Juan Fernando Quintero Franco ² , Yoga P ³	80
Analysis of the Red Arrow Strategy To Deal With Future Competitors Nurwendo Wisang ¹ , Yogi S ²	81
Analysis of Samsung's Internationalization Process and The Strategies Implemented to Generate an Effective Positioning of Its Brand and Products in Foreign Markets Shivam Mehta ¹ , Fatima Al Rashidi ² , Musaed Almutairi ³ , Felicia Anggawinata ⁴ , María Alejandra Villa ⁵	82
Marketing Habituation and Process Study on a Web-Based Business (A Study Case: Talabat.com) Jelita Sparta ¹ , Shahad Alsumait ² , Apoorva Joshi ³	83
Alibaba's Successful Strategy as an E-Commerce Company Vita Kartika ¹ , Geetanjali Naidu ² , Ahmad AlFahad ³ , Jumana Al Enzi ⁴	84
The Analysis of the Effect of Brand Image and Service Quality on Service Use Decisions (Study on ARAMEX Service Users PT. Global Distribution Alliance Kuwait) Almukaromah Dewi P ¹ , Aditya Jadhav ² , Hadeel Alhamlan ³ , Zamzam Al Kandari ⁴	85
Brand Analysis of Velqx Creative Company in Indonesia Grace Kezia Anang ¹ , Tarun Prakash ² , Nazanin Ahmad ³ , Karan Mahesh Tiwari ⁴	86
Analysis the Success of Sultan Center Company Maryam AlNuwaif ¹ , Sara Edrees ² , Madhu Lath ³ , Ferry Setianto ⁴	87
Marketing of Zee Network Glenn Evorius Pattiata ¹ , Ritika Agarwal ² , Soumini Pathak ³ , Surabhi Agrawal ⁴	88
Effective Strategy Analysis for JNE Indonesia to Win Logistics Competition with JNT Company in Indonesia in Terms of Marketing Strategies in Online Marketplace Rajavadivel Santhanakrishnan ¹ , Wenny Gilliani ² , Chirag Naithani ³ , Bhanupriya Parasar ⁴ , Dr. Kate Hughes, Ph.D ⁵ , Dr. Liem Gai Sin, Ph.D ⁶	89
Analysis of PT.Indofood Sukses Makmur Tbk Strategies Implementation in Front of International Market & Global Competition Mikha Valeo Ditra.....	90
Analysts in the Strategy of Marketing Toyota Motor Corporation Steve Anderson ¹ , Dana Naji Alkhoudher ²	91

The Usage of E-Learning of Academic Information System (SIAT) as Communication
Media for Lecturer and Students at State University of Gorontalo

Wandi Iswanto Nalole¹, Zulaeha Laisa², Citra Dano Putri³92

VIVA Company Mona Jluwi AlOsaimi.....	93
Increasing Income Through Community Empowerment Programs in Kerawang Handicraft Crafts Industry Group in Dumati Village Kecamatan Telaga Biru Gorontalo District Rusli Isa.....	94
Are The Profitability of Companies Influenced by Working Capital and Liquidity? Ramon Arthur Ferry Tumiwa ¹ , Nova Christian Mamuaya ²	95
The Influence of Investment and Managerial Ownership on Firm Value on Manufacturing Companies in the Consumer Goods Industry Sector Listed on the Indonesia Stock Exchange Lihard Stevanus Lumapow.....	96
Knowledge Management for Professional Staffs in Hospital Diah Mutiarasari.....	97
How To Entice Employees?: an Attempt to Reduce Labor Turn Over Andi Juanna ¹ , Agus Hakri Bokingo ²	98
The Effectiveness of Integrated Management Quality (MMT) in JNE Main Branch Gorontalo Dwi Ayu Hartinah ¹ , Abd. Rahman Pakaya ² , Sri Yulianty Mozin ³	99
Analysis of Good Corporate Governance Implementation in Improving Banking Performance in Gorontalo Province Dr. Hais Dama, SE,M.Si 100	
Managerial Ability in Managing Accountability in Financial Statements School Operational Costs at the Elementary School Level in Gorontalo City Muchtar Ahmad ¹ , Abdurrahman Pakaya ² , Nurlaila Kadir ³ , Dzakaria Lababa ⁴ 101	
Moderation Effect of Strategic Information System Development on the Relationship Social Sustainability in the Supply Chain and Firm Performance Titik Kusmantini ¹ , Ahmad Ikhwan Setiawan ² , Liem Gai Sin ³ , Hendri Gusaptono ⁴ , Hadi Oetomo ⁵ 102	
The Role of Customer Satisfaction as Mediating the Influence of Brand Communication, Brand Evidence, and Gamification on Customer Loyalty: Case of Starbucks Store Manado Consumers Rudy S. Wenas ¹ , Richo E. Suratman ² 103	
Evaluation of Asset Management Policies in Increasing Learning Quality in the Gorontalo State Junior High School Yanti Aneta ¹ , Husin Ali ² 104	
Implementation of Total Quality Management (TQM) in Efforts to Improve the Quality of Higher Education (Case Study at Gorontalo State University)	

Sri Yulianty Mozin¹, Irina Popoi²

105

Analysis of Factors that Influence the Enterprises Interests of Gorontalo State
University Students
Idris Yanto Niode

106

Sircular Migrant Livelihood Adaptation Informal Sector in Gorontalo City
Dr. Sri Endang Saleh, M.SiP¹, Prof. Dr. Ir. Syarwani Canon, M.Si²

107

The implementation of Problem Based Learning model to Improve Students
Achievement on Economics Subject, Class in Grade 2 of IPS XI at SMA Negeri 2
Gorontalo Utara
Melizubaida Mahmud, S.Pd.,M.Si

108

Analysis of Return Effectiveness of People's Business Credit (KUR) in Gorontalo Province

Lanto Miriatin Amali¹, Wahid Kurniawan Pulukadang²

109

Strategic Analysis using TIROCA Model: Case Study at PT Steel Pipe Industry of Indonesia, Tbk. (PT SPINDO, Tbk.).

Khoirun Nisa Bahri¹, Nadia Meirani², Popy Rufaidah³

110

The Effect of Key Success Factors Based on Business Functions on Competitive Advantage

Anggita Ulfazia Rahmi¹, Popy Rufaidah²

111

Swot Analysis Based on Total Quality Environmental Management: Case Study at PT. Yanaprima Hastapersada, Tbk.

Lira Mustika Sari¹, Ratna Asri Solihati², Popy Rufaidah³

112

Strategic Group in Textile Industry: Case Study at PT. Sunson Textile Manufacture, Tbk

Sarah Sentika¹, Nurhasanah², Popy Rufaidah³

113

The Role of Entrepreneurship Orientation and Competitive Strategies Toward Business Performance

Putri Tresnawati¹, Popy Rufaidah²

114

The Effect of Competitive Strategy and Quality Product on the Business Performance

Zenita Apriani¹, Popy Rufaidah²

115

The Determinant Factors of Rice's Marketed Surplus in Bone Bolango Regency

Yuliana Bakari

116

The Effect of System Quality, Information Quality and Service Quality on Use Intensity and Satisfaction of Integrated Academic Information System (SIAT) Users in Gorontalo State University

Rizan Machmud

117

CALL FOR CO-HOST

118

CALL FOR PAPERS

119

The Effect of System Quality, Information Quality and Service Quality on Use Intensity and Satisfaction of Integrated Academic Information System (SIAT) Users in Gorontalo State University

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ABSTRACT

Information technology is very crucial at this time where almost all forms of business use information technology. One form of use of information technology is a product made from the Information and Communication Technology Technical Implementation Unit (UPT TIK) of Gorontalo State University (UNG), namely the Integrated Academic Information System (SIAT). SIAT is currently running for eight years in all faculties in UNG, but no research has been conducted on the level of satisfaction of its use of SIAT products. Using the DeLone and McLean (2003) model, this research was conducted to examine the satisfaction of SIAT users in terms of system quality, information quality and service quality and the intensity of the use of SIAT.

Explanatory research methods with survey approaches are carried out. Data collected as many as 386 data from 500 data distributed by stratified random sampling method. Data were analyzed by PLS-SEM to test the hypothesis. The results showed that system quality had no significant effect on the intensity of use of SIAT, information quality and service quality had a significant effect on intensity of use, then when the intensity of use was intensely used by users, user satisfaction was better and vice versa when the satisfaction of users of SIAT was good. the higher it is.

Keywords: system quality, information quality, service quality, usage intensity, user satisfaction.

The effect of System Quality, Information Quality and Service Quality on Use Intensity and Satisfaction of Integrated Academic Information System (SIAT) Users in Gorontalo State University

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ABSTRACT

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PRELIMINARY

In a dynamic business, change is something that cannot be avoided. Especially if it is related to the Development of Information Technology (IT). Today's rapid development can make work faster, easier, more efficient and effective in various forms of business, including service businesses (Murdick et.al, 1997; Mc.Leod, 1997). McKeen in al. (1994) explain why information system users are very vital and cannot ignore.

Thus the satisfaction of system users (User satisfaction) is a need to be fulfilled. The response and feedback that the user raises after using the information system is a way to measure user satisfaction. According to Stanton (1994) and Kotler (2002) satisfied or not consumers are determined by comparing the expectations of a product or service with experience when consumers consume the product or service. If the product performance meets

the expectations of the user, the level of customer satisfaction is high and vice versa.

Gorontalo State University (UNG), one of the business centers of higher education services in Gorontalo Province, is trying to keep abreast of information technology. One proof is that UNG has developed an information system application called SIAT (integrated academic information system) as a one-door academic service for students and the entire UNG community. SIAT itself has been implemented in all faculties in UNG for more than 8 years at UNG. The problem is that during this period there has never been a study to measure the satisfaction of SIAT service users to find out more about the success of a system. To analyze the level of satisfaction of SIAT users, the models from DeLone and McLean try to be applied to measure the intensity of use and user satisfaction. According to DeLone and McLean, the quality of information, system quality and service quality have an effect on the level of information system usage and the level of satisfaction of information system users.

LITERATURE REVIEW

Information Systems

Information is crucial for management for management decision making, the right information can make a decision taken better and minimize the risk of decisions made. Quality information can be obtained from an information system developed by the organization. McLeod et al. (2007: 10) explains that the Information system is a virtual system that allows management to control the operations of a company's physical system, in other words reducing manual processes in each company's operations. Information System is a collection of hardware, software, brainware, procedures and or rules that are integrated to process data into information needed for decision making to solve problems.

The opinion from McLeod above is supported by (Laudon and Laudon, 2000) which explains that information systems will produce output in the form of images, sounds and interconnected writings that result from collecting data, processing, storing, and distributing information to support making satisfaction and supervision in the organization. Then Bodnar and Hopwood (2000) explain that computer-based information systems are the necessary combination of hardware and software to transform data into information.

Laudon and Laudon, (2000) explain that in designing information systems a technical approach and behavioral approach are needed or a combination of the two approaches. The technical approach emphasizes the mathematical model of a system of information and technological skills physically and formally a system while a behavioral approach is related to human behavior needed to respond to behavioral problems such as system utilization, implementation, and creative design that have an impact on behavior and attitude changes. King et al. (1994) support this statement by revealing that information systems must consider internal and external factors. Internal factors, namely human factors that influence the process of adoption and design of information systems themselves, besides that King et al explained

that human behavior in information systems includes the value system of individuals and organizations, norms, and strategic interests and needs of the organization. External factors that come from the environment outside the organization.

System Quality, Information and Services and Their Impact on Usage Intensity and User Satisfaction

Previous research is from Ives et al., (1983); Bailey and Pearson, (1983); Doll and Torkzadeh, (1988); Seddon and Yiew, (1992); Mahmood et al. (2000); Doll et al. (2004); Livari, (2005); Landrum and Prybutok, (2004) generally explain the success of information systems represented by user satisfaction. DeLone and McLean (1992) state that satisfaction of information system users is influenced by 2 (two) variables, namely the quality of the system and the quality of information. Then DeLone and McLean (2003) develop that information system user satisfaction is influenced by 3 (three) variables, namely system quality and information quality and service quality. Quality of service is added to accommodate human factors in the use of information systems. The three variables are predicted to affect significantly the intensity of system usage and also affect the satisfaction of the users of the information system in question. A system success will have an impact on individual and organizational users, and user satisfaction which in turn impacts on organizational performance (Markus and Keil, 1994).

System quality is defined as the quality of the combination of hardware and software in information systems (DeLone and McLean, 1992), when the quality of the system is increasingly considered good by the user, it can lead to better system quality and quality of system output provided. For example the speed of time to access; and the usefulness of the system output, will cause users not to feel reluctant to reuse, thus the intensity of system usage will increase.

Similarly, the quality of information is information obtained by users as correct information from trusted sources (King et al 1994; DeLone and McLean, 1992; 2003) which will make users believe that the information produced is appropriate for making decision-making bases. The stronger the trust in the information produced, the more likely the information system will be used more often and user satisfaction with the information produced can be better.

DeLone and McLean (2003) add a measure of service quality, because they want to add elements of human behavior in information systems. Kettinger et al (1995) and Li (1997) state that information systems cannot be separated from human behavior, because designers and users of information systems are humans themselves so that those who are able to measure the success or failure of information systems are users, namely humans.

The opinion of Jiang et al (2002) is one of the cornerstones of DeLone and McLean (2003) to add an element of service quality. Jiang explained that information systems are closely related to service quality (SERVQUAL), which was first introduced by Parasuraman and Zeithamal (1984). Parasuraman and

Zeithamal measure SERVQUAL with tangible, reliability, responsiveness and empathy. Jiang et al (2002) explained that information systems are called tangible because they are a combination of hardware and software that can be physically seen and felt, then information systems are measured by reality because information systems are highly dependent on users. Responsiveness measures information systems based on service responses for their use. Assurance relates to the knowledge possessed by information system designers and users of information systems. Finally, information systems are created basically as a form of empathy or a sense of concern for users having caring users.

Referring to this, the better quality of service that can be felt by users will open the opportunity for users to feel like continuing to use information systems. In addition, when the information system is often used is an indication of the satisfaction of users of information systems.

Referring to the opinion above, the hypothesis appears in this study, namely:

H1: System quality affects significantly the intensity of the use of information systems

H2: information quality affects significantly the intensity of information system usage

H3: service quality significantly affects the intensity of the use of information systems.

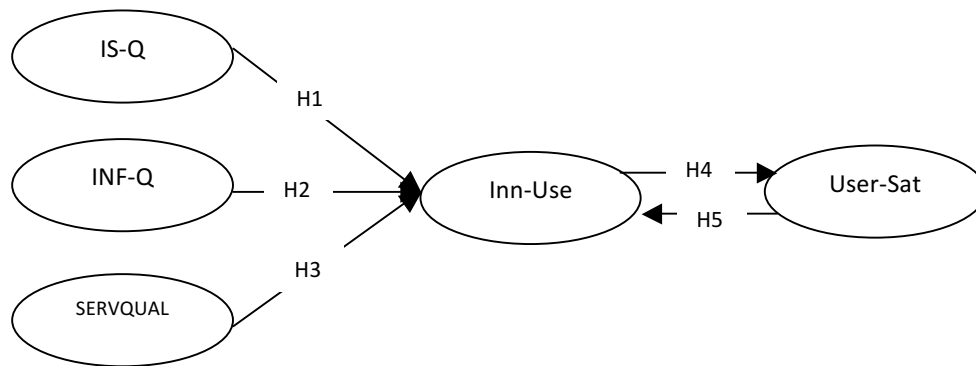
H4: the intensity of the use of information systems will have a significant effect on user satisfaction.

H5: user satisfaction has a significant effect on the intensity of the use of information systems

RESEARCH MODEL

Referring to the research hypothesis above, this research model can be made. The research model can be seen in Figure 1.

Figure 1. Research Model



Note:

IS-Q: system quality; INF-Q: quality of information; SERVQUAL: service quality; Inn-Use: intensity of use of information systems; User-Sat: user satisfaction.

RESEARCH METHODS

This research is explanatory research with a survey approach. The object of this research is the SIAT information system that has been implemented at UNG for 8 years. Respondents from this study were UNG students in the Faculty of Economics semester 3 and above. The Faculty of Economics was chosen because it is a pioneer Faculty that implements SIAT. The 3rd Semester students and above were chosen because they had become SIAT information system users for more than a year, so it was expected that they would know enough about SIAT. The sampling method was taken proportionally in each department in the Faculty of Economics, UNG with a stratified random sampling method. In this study 386 data were collected during a period of 2 months collecting data from 500 data distributed through the SIAT student account and e-mail from UNG students who were already registered at SIAT. It can only be collected 386 possibly caused by many e-mails being inactive or rarely used by students or new e-mails of students who are not informed by the SIAT manager.

The data collected was analyzed using PLS-SEM with 2.0M3 SmartPLS software. Validity test is done by looking at the value of the loading factor and AVE which is higher than 0.5 while the reliability test uses a reference composite composite value greater than 0.7 (Hair et al. 2010). In this study, the hypothesis can be accepted if it has a higher C.R value than 1960.

DEFINITION OF VARIABLES AND MEASUREMENTS

Quality of the SIAT System

The quality of the system is the student's perception of the quality of the combination of hardware and software in the SIAT information system (DeLone and McLean, 1992). The indicators used are 4 of the 8 indicators used by Hamilton and Chervany (1981), namely ease of use, ease of access (system flexibility), speed of access (response time), and resistance to damage (reliability). The respondent's perception of the indicator was measured by a 1-5 Likert scale.

Information Quality SIAT

Information quality refers to student perceptions of the output of information systems, concerning the value, benefits, relevance, and urgency of

the information produced (Pitt and Watson, 1997). This variable is measured by the 4 indicators used by Bailey and Pearson (1983), namely accuracy, timeliness, completeness and presentation of information. Respondents' perception of the indicator was measured by a Likert scale

Quality of Service SIAT

Quality of service refers to the perceptions of students in the process of using information systems by users. The indicator is a combination of hardware and software (tangible), the information system is very dependent on its users (reliability), information systems are responsive to service users (responsiveness), information systems require workers who have knowledge and information systems that have caring users (empathy).) (Jiang et al. (2002).

Intensitas Use of Information System SIAT

The intensity of the use of information refers to how often students use information systems. This variable is measured by the indicators McGill et al. (2003) which only consists of one item, namely frequency of use. Respondents' perception of the indicator was measured by a 1-5 Likert scale.

Information System User Satisfaction SIAT

System User Satisfaction (User satisfaction) is a perception of the response and feedback that the user raises after using the information system. This variable is measured by the indicators McGill et al. (2003) which consists of 3 items, namely efficiency (efficiency) an effectiveness (effectiveness), and satisfaction (satisfaction), and pride in using the system (proudness). Respondents' perception of the indicator was measured by a 1-5 Likert scale.

RESEARCH RESULT

Test Validity and Reliability

As previously explained, the value of alpha and cronbach is used as a reference to determine the validity and reliability of the research instrument. The results of validity and reliability tests can be seen in table 1.

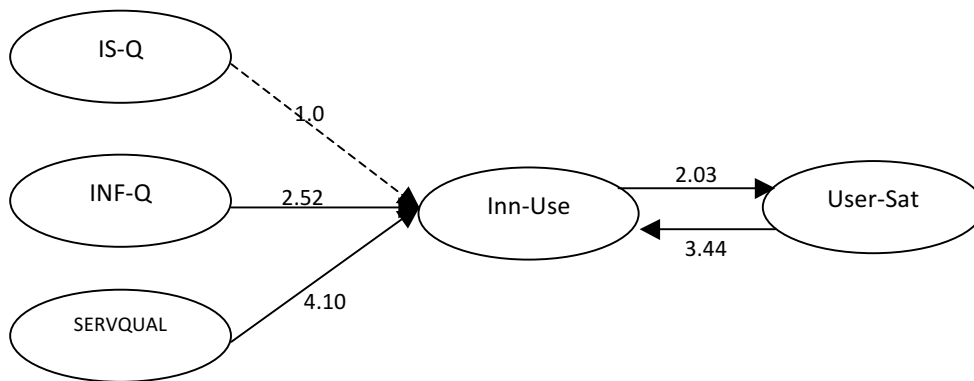
Table 1.
Test Validity and Reliability

Item	Loading Factor	AVE	Composte Reability
System Quality		0.584	0.777
ease of use	0.581		
system flexibility	0.795		
response time	0.698		
Reliability	0.759		
Information Quality		0.582	0.704
Accuracy	0.682		
Timeliness	0.583		
Completeness	0.658		
Format	0.592		
Service quality		0.588	0.733
Tangible	0.804		
Reliability	0.768		
Responsiveness	0.830		
Assurance	0.624		
Emphaty	0.628		
Usage Intensity			
frequency of use	0.671	0.671	0.811
User Satisfaction		0.529	0.744
Efficiency	0.753		
Effectiveness	0.501		
Satisfaction	0.734		
Proudness	0.699		

From table 1, it can be concluded that the statement items of all the variables studied have a factor loading value greater than 0.5 and do not need to be dropped because it produces a value of AVE that is also higher than 0.5. In other words, if it refers to the Factor loading and AVE values, all research variables can be considered valid. Then for the reliability of the reference value, the composite reability value is greater than 0.7 (Hair et al. 2010). Table 1 states that all research variables for composite reability values are at reliability values above 0.70.

Hypothesis testing

After testing validity and reliability and the results are declared valid, the next step is to test the hypothesis. The results of hypothesis testing can be seen in the picture of model 2 below:



Note:
Ific Significant
---> not significant

DISCUSSION AND CONCLUSION

Based on the results of the analysis of research, it can be elaborated on the effect of system quality, information quality, service quality, intensity of use, and user satisfaction on the SIAT information system. In model 2 shows that there is an effect of the system quality variable on the usage intensity of CR 1.09 or lower than the reference value of 1960, in other words hypothesis 1 is not accepted. This can be interpreted that there is no significant influence between the quality of the system and the intensity of the use of SIAT. These results explain that UNG students seem to perceive that the quality of the SIAT system does not pay too much attention to the quality of the system or whether the students who are needed by the academic services are good or not because they may not fully understand the system processes, hardware and software problems that students can know running well or not. In other words what makes students more often access SIAT is not the quality of the system, but it seems the quality they feel regardless of how the application is designed.

In the figure of model 2 above it is shown that the quality of information has a significant effect on the intensity of the use of SIAT. This is indicated by the value of CR 2.52 which is higher than 1960. In other words, hypothesis 2 is accepted. These results indicate that after students feel they can get academic information that can be trusted quickly and well through SIAT. For example, information issued by SIAT is valid information from trusted sources, because students can get one academic information from grades or submission of examinations or graduations.

In the picture of model 2 above, it is also shown that hypothesis 3 is accepted, because service quality has a significant effect on the intensity of the use of SIAT with a value of CR 4.10 higher than 1960. These results provide a strong belief that the better the quality of SIAT services, the higher the intensity of the use of SIAT. The quality of SIAT services is indicated by menus or features that are considered beneficial for students. Students feel that with the existence of SIAT students are very helpful, with this online-based academic information system students simply have to re-register to other academic needs, enough access from anywhere and paperless. So with the convenience, the SIAT will continue to be accessed by students happily not just running the obligation to access the SIAT issued by UNG. Although it is obligatory to access SIAT but when the service cannot function, there are complaints from students. If the obligation to access SIAT is accompanied by good service quality from SIAT including services from its managers, students will feel happy, this means that students' expectations of SIAT can be well accommodated.

Then for hypothesis 4 shows a significant value of CR 2.03 which is higher than 1960 which means that the higher the intensity of the use of SIAT, the higher the user satisfaction of SIAT. This result can be interpreted that when SIAT was widely accessed, it seems that this could be an indication that SIAT users were very satisfied with SIAT. The logic is that if there is continuous access from SIAT, this indicates that the user, the student himself, is very fond of the quality of SIAT. The level of satisfaction will be largely determined by consumers by comparing the expectations of a product or service with results based on pleasant experience or not by consuming the product or service (Stanton, 1994). In other words, SIAT which is often used or accessed with good feelings by students is a strong indication that the level of satisfaction with SIAT is also getting better.

Hypothesis 5 is also acceptable because it produces a CR value of 3.44 which is higher than 1960. This means that there is a significant influence if the user is satisfied with SIAT, the user is more intense with the SIAT application. This indicates that students who are satisfied with the SIAT information system will continue to access SIAT if needed with happy feelings. Kotler (2000) revealed that if the product exceeds its expectations, consumers will make repeat purchases, repeated purchases in this case are re-access to SIAT with satisfaction.

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