



International Journal of Management and Commerce Innovations (IJMCI)

Objective and Scope

International Journal of Management and Commerce Innovation (IJMCI) is scholarly open access, high citation leading Management and Commerce journal. Articles published include research work, case study, survey, reviews, recent trends and innovation around the world. The journal focuses on fast and rigorous review process to ensure relevance and originality of submitted manuscript. Conference papers are also published provided they meet with journal's review criteria.

The International Journal is not limited to Management and Commerce Innovation articles of interdisciplinary nature and professional interest are warmly welcome. Editorial Board members welcome new ideas and innovations. The aim of the editorial members is to maintain high quality publications. The Manuscript sent for review does not have authors name written with a vision to maintain fairness of the review process. Authors can track their status of Manuscript 24 X 7 on website homepage.

Publication frequency

All issues are finalised on bi-annually basis. Articles are published on same day after getting acceptance from Editorial Board.

Supervising Editor:

Contact: bonnie@researchpublish.com

Topic Covered

Accounting and Financial Analysis, Business for Professionals, Business Environment, Business Laws, Business processes management, business statics, Continuous improvement, Company Accounting, Cost Accounting, Creating marketing orientation, Database Management System, De-layering, E-business, E-management practices, Energy Management, Entrepreneurship Development, Enterprise, Ethics & CSR, Finance, Foreign Exchange Economics, financial Institution and services, Financial planning and analysis, Financing business, General management, Government policy on Companies, Hospitality Management, Human Resource, Human Resource management, Industrial Relations and labour Enactment, Information technology, Industrial Law, Infrastructure finance, Instilling creativity, International business, International marketing, Insurance and Risk Management, Logistics, Managing business relationships, Managing globalisation and work, place, Managing learning and improvement, Marketing, market of services, marketing research, Operations Management, Negotiation and counselling, Operation research, Organization Behaviour Studies, Personal growth and Training & development, sales and distribution management, Strategic Management, Supply chain management, Procurement, Production and operation, Quality management, Rural Management, Research Methodology, Restructuring Business management, Retail Management, security Analysis, Social impact of business, Strategy, Supply chain management, Tax planning, Team building and Leadership, Tourism Management, Travel management, working capital.

Issue

Vol 8 Issue 1 April 2020 - September 2020

Vol 8 Issue 2 October 2019 - March 2020

Vol 7 Issue 1 April 2019 - September 2019

Vol 6 Issue 2 October 2018 - March 2019

Vol 6 Issue 1 April 2018 - September 2018

Vol 5 Issue 2 October 2017 - March 2018

Vol 5 Issue 1 April 2017 - September 2017

Vol 4 Issue 2 October 2016 - March 2017

Vol 4 Issue 1 April 2016 - September 2016



News

Presently we offer free Publication of High Quality Paper in our International Journals for few developing... [.....]

Visitor Counter

Times

Join us (Editor/Reviewer)

Download Copyright Form

Download Paper Template



Editorial Board Members

Name	Designation	University
# International Journal Of Interdisciplinary Research And Innovations #	# International Journal Of Interdisciplinary Research And Innovations #	# International Journal Of Interdisciplinary Research And Innovations #
1. Dr. EMMIE M. CABANLIT, ED.D.	Associate Professor III, University Of Southeastern Philippines (USEP)	PhD, University Of Southeastern Philippines, Davao City
2. Dr. Esi Marius Costel	PhD Lecturer, Stefan Cel Mare University Of Suceava, Romania	Phd, Ontology And Science Philosophy, Al.I Cuza University, Faculty Of Philosophy
3. Dr. JEDER Daniela	"Associate Professor , Faculty Of Sciences Of Education, University ""Stefan Cel Mare" " Suceava "	PhD, Interdisciplinary Study PEDAGOGY ETHICS, University
4. Dr. Yeoh Kar Kheng	Senior Lecturer, School Of Chemical Sciences, Universiti Sains Malaysia, Malaysia.	D.Phil., University Of Oxford, United Kingdom.
5. Prof. (Dr.) Zainal Arifin Ahmad	Professor, School Of Materials And Mineral Resources Engineering, Universiti Sains Malaysia, MALAYSIA.	PhD, MSc, BAppSc(Hons), Malaysia.
6. Dr. Hooi-Ling Lee	Senior Lecturer, School Of Chemical Sciences, Universiti Sains Malaysia, Malaysia.	PhD (Surface Science), School Of Physical Sciences, Dublin City University, Ireland.
7. Dr. Alagbe Olujimi John	Doctor Of Theology (Ph.D)	United Marina Farms Limited Along Airport Road Kutungare Kaduna
8. Mr. Samantha Ilangakoon	B.A, M.A, Mphil	Buddhist And Pali University Of Sri Lanka
9. Dr. Asma Irshad	M.B.B.S Ahmadu Bello University Teaching Hospital, Nigeria	Ahmadu Bello University Teaching Hospital, Nigeria
10. Prof. Dr. Bulent Acma	Ph.D. Economics, Regional And Urban Development, Istanbul University, Department Of Economics, Istanbul	Anadolu University, Faculty Of Economics, Unit Of Southeastern Anatolia Project, (GAP), Eskisehir/TURKEY
11. Dr. Adam Dawria Ibrahim	Ph.D In Public Health	Shendi University- Faculty Of Public Health
12. Dr. Adrian Nicolae Branga	Phd. Mathematics Babes - Bolyai University Of Cluj-Napoca	Department Of Mathematics And Information Lucian Blaga University Of Sibiu Romania
13. Dr. DIDBEIN FLORES	Doctor Of Public Administration-Master Of Education Teaching Science	Member - Association Science Education Of The Philippines Science Club Advisers Association Of The Philippines
14. Dr. Roger D. Posadas	Executive Director. Research And Innovation Center Lyceum Of The Philippines University- Cavite	Philippines University, Philippines.
# International Journal Of Thesis Projects And Dissertations #	# International Journal Of Thesis Projects And Dissertations #	# International Journal Of Thesis Projects And Dissertations #
1. Dr. Esi Marius Costel	PhD Lecturer, Stefan Cel Mare University Of Suceava, Romania	Phd, Ontology And Science Philosophy, Al.I Cuza University, Faculty Of Philosophy
2. Dr. JEDER Daniela	"Associate Professor , Faculty Of Sciences Of Education, University ""Stefan Cel Mare" " Suceava "	PhD, Interdisciplinary Study PEDAGOGY ETHICS, University " Al. I. Cuza", Romania

Name	Designation	University
3. Dr Mohamed Saber Gad	Researcher, Mechanical Engineering Department, National Research Centre, Egypt	Ph.D., Mechanical Engineering, Faculty Of Engineering, AL-Azhar University
4. Dr. MARGARET NDUTA GITHAIE	"HOD, Department At Regina Pacis University College-Constitute College Of Catholic University Of Eastern Africa"	Ph D Community Health And Development
5. Dr. Uqbah Bin Muhammad Iqbal	Universiti Kebangsaan Malaysia, SCHOOL OF HISTORY, POLITICS AND STRATEGY	PhD, History, National University Of Malaysia
6. Prof. (Dr.) M.S. Ayyat	Professor, Department Of Animal Production, University Of Zagazig, Zagazig, Egypt.	Ph.D., Animal Production, Leningrad Agriculture Institute, Leningrad, USSR.
7. Dr. Lee Chee Keong	Senior Lecturer, Bioprocess Technology Division, School Of Industrial Technology, Universiti Sains Malaysia, Malaysia.	Ph.D., Industrial Biotechnology, University Sains Malaysia, Malaysia.
8. Dr. Muhammad Faizal Bin A. Ghani	Associate Prof., Department Of Educational Management, Planning And Policy, Faculty Of Education, University Of Malaya, Malaysia.	PhD (UM), University Of Malaya, Malaysia.
9. Mr. P. Khandelwal	M. Tech. (C. S.), M. E. (High Voltage Engineering), Jabalpur Engineering College, Jabalpur, India.	L.LB., Lucknow University, Lucknow, India.
10. Dr. Alagbe Olujimi John	Doctor Of Theology (Ph.D)	United Marina Farms Limited Along Airport Road Kutungare Kaduna
11. Mr. Samantha Ilangakoon	B.A, M.A, Mphil	Buddhist And Pali University Of Sri Lanka
12. Dr. Ayodele Temidojo	Phd, PGDE, M.sc	University Of Fort Hare South Africa
14. Dr. Kenneth Kiplangat Rono	PHD . Planning And Economics Of Education	Kenyatta University
# International Journal Of Social Science And Humanities Research #	# International Journal Of Social Science And Humanities Research #	# International Journal Of Social Science And Humanities Research #
1. Dr. Muhammad Faizal Bin A. Ghani	Associate Prof., Department Of Educational Management, Planning And Policy, Faculty Of Education, University Of Malaya, Malaysia.	PhD (UM), University Of Malaya, Malaysia.
2. Dr. Thomas Babalis	Professor, Faculty Of Primary Education, University Of Athens, Greece.	Ph.d. Degree, University Of Athens, Greece.
3. Mr. Samantha Ilangakoon	B.A, M.A, M Phil	Buddhist And Pali University Of Sri Lanka
4. Prof. Dr. Bulent Acma	Ph.D. Economics, Regional And Urban Development, Istanbul University, Department Of Economics, Istanbul	Anadolu University, Faculty Of Economics, Unit Of Southeastern Anatolia Project, (GAP), Eskisehir/TURKEY
5. Prof. Randel Estacio	Master Of Arts In Education Science (Mat- Science), Master Of Science Biology (Ms.Bio), Bachelor Of Science In Education Major In General Science	Quezon City Polytechnic University
6. Prof. Thouqan Saleem	PhD .[Methods Of Instruction And Curricula / English]	Najran University /Kingdom Of Saudi Arabia

Name	Designation	University
7. Dr. DIDBEIN FLORES	Doctor Of Public Administration- Master Of Education Teaching Science	Member - Association Science Education Of The Philippines Science Club Advisers Association Of The Philippines
8. Dr. Roger D. Posadas	Executive Director. Research And Innovation Center Lyceum Of The Philippines University- Cavite	Philippines University, Philippines.
# International Journal Of Mathematics And Physical Sciences Research #	# International Journal Of Mathematics And Physical Sciences Research #	# International Journal Of Mathematics And Physical Sciences Research #
1. Dr. Youssef Elmahroug	Researcher, Faculty Of Sciences Of Tunis, EL Manar University Campus, Tunis.	PhD, Particle Physics And High Energy, Faculty Of Sciences Of Tunis, Tunisia And Cotutelle With The Institute Of Nuclear Physics Of Lyon, France.
2. Dr. ODULARU, AYODELE TEMIDAYO	Faculty Of Science And Agriculture, University Of Fort Hare, South Africa	PhD, Faculty Of Science And Agriculture, University Of Fort Hare, South Africa
3. Prof. Dr. AMER A. TAQA	PROFESSOR, DEPARTMENT OF DENTAL BASIC SCIENCE COLLEGE OF DENTISTRY/MOSUL UNIVERSITY/IRAQ	PhD In Inorganic Chemistry
4. Dr. Mehsin Jabel Atteya	Assistant Professor, Mathematics	M.Sc. Degree: Al- Mustansiriyah University, College Of Education- Department Of Mathematics, Iraq
5. Dr. Qasem M. Al-Mdallal	"Associate Professor Of Mathematics Department Of Mathematical Sciences United Arab Emirates University Al-Ain, UAE"	PhD, Mathematics, Memorial University Of Newfoundland, Canada
6. Dr. Walid Ali Ahmed Hassan Rahoma	Associate Prof.& Researcher, Dept. Of Astronomy And Space Science, Cairo University	PhD, Astronomy, Cairo University, Faculty Of Science, Department Of Astronomy And Meteorology
7. Dr. Faisal Hussain Nesayef	Ph.d Pure Mathematics University Of Birmingham UK	Faculty Of Science, Department Of Mathematics, University Of Kirkuk, Kirkuk, Iraq
8. Dr. Ayodele Temidoyo	Phd, PGDE, M.sc	University Of Fort Hare South Africa
9. Dr. Adrian Nicolae Branga	Phd.Mathematics Babeş-Bolyai University Of Cluj-Napoca	Department Of Mathematics And Information Lucian Blaga University Of Sibiu Romania
10. Dr. DIOBEIN FLORES	Doctor Of Public Administration- Master Of Education Teaching Science	Member - Association Science Education Of The Philippines Science Club Advisers Association Of The Philippines
11. Dr. Roger D. Posadas	Executive Director. Research And Innovation Center Lyceum Of The Philippines University- Cavite	Philippines University, Philippines.
# International Journal Of Management And Commerce Innovations #	# International Journal Of Management And Commerce Innovations #	# International Journal Of Management And Commerce Innovations #
1. Dr. Keon-Hyung Lee	Associate Professor, Public Administration And Public Health, Florida State University.	Ph.D., Ph.D., University Of Southern California, School Of Public Policy, Planning, And Development, Los Angeles.

Name	Designation	University
2. Dr. Nik Ab Halim Bin Nik Abdullah	Senior Lecturer, School Of International Studies, Universiti Utara Malaysia, Kedah, Malaysia.	PhD. International Logistics Management, University Of Southern Queensland, Australia.
4. Dr. Yagoub Elryah	Research Associate, Research Economic Forum (REF), Xiamen University	PhD From Xiamen University
5. Dr. Uqbah Bin Muhammad Iqbal	Universiti Kebangsaan Malaysia, SCHOOL OF HISTORY, POLITICS AND STRATEGY	PhD, History, National University Of Malaysia
6. Dr. Ebrahim Nohani	Assistant Professor And Faculty Member At Islamic Azad University, Dezful Branch, Department Of Hydraulic Structures, Dezful, IRAN	Ph.D. In Hydraulic Structures, Islamic Azad University, Iran
7. Dr. Fatemeh Yarkarami	Islamic Azad University Of Kermanshah, Iran	Islamic Azad University Of Kermanshah, Iran
8. Prof. Dr. Bulent Acma	Ph.D. Economics, Regional And Urban Development, Istanbul University, Department Of Economics, Istanbul	Anadolu University, Faculty Of Economics, Unit Of Southeastern Anatolia Project, (GAP), Eskisehir/TURKEY
9. Dr. Roger D. Posadas	Executive Director. Research And Innovation Center Lyceum Of The Philippines University- Cavite	Philippines University, Philippines.
# International Journal Of Life Sciences Research #	# International Journal Of Life Sciences Research #	# International Journal Of Life Sciences Research #
1. Dr. Roberta Manuela Moretti	Researcher, Applied Biology, Department Of Pharmacological Sciences And Biomolecular, University Of Milan, Italy.	Ph.D., Endocrine And Metabolic Sciences, University Of Milan, Italy.
2. Prof. (Dr.) M.S. Ayyat	Professor, Department Of Animal Production, University Of Zagazig, Zagazig, Egypt.	Ph.D., Animal Production, Leningrad Agriculture Institute, Leningrad, USSR.
3. Dr. Yeoh Kar Kheng	Senior Lecturer, School Of Chemical Sciences, Universiti Sains Malaysia, Malaysia.	D.Phil., University Of Oxford, United Kingdom.
4. Dr. Lee Chee Keong	Senior Lecturer, Bioprocess Technology Division, School Of Industrial Technology, Universiti Sains Malaysia, Malaysia.	Ph.D., Industrial Biotechnology, University Sains Malaysia, Malaysia.
5. Dr. Alagbe Olujimi John	Doctor Of Theology (Ph.D)	United Marina Farms Limited Along Airport Road Kutungare Kaduna
6. Dr. Adam Dawria Ibrahim	Ph.D In Public Health	Shendi University- Faculty Of Public Health
7. Dr. Ayodele Temidoyo	Phd, PGDE, M.sc	University Of Fort Hare South Africa
8. Dr. DIDBEIN FLORES	Member - Association Science Education Of The Philippines Science Club Advisers Association Of The Philippines	Doctor Of Public Administration-Master Of Education Teaching Science
9. Dr. Roger D. Posadas	Executive Director. Research And Innovation Center Lyceum Of The Philippines University- Cavite	Philippines University, Philippines.
10. Dr. Roberta Manuela Moretti	Researcher, Applied Biology, Department Of Pharmacological Sciences And Biomolecular, University Of Milan, Italy.	Ph.D., Endocrine And Metabolic Sciences, University Of Milan, Italy.

Name	Designation	University
11. Prof. (Dr.) M.S. Ayyat	Professor, Department Of Animal Production, University Of Zagazig, Zagazig, Egypt.	Ph.D., Animal Production, Leningrad Agriculture Institute, Leningrad, USSR.
12. Dr. Yeoh Kar Kheng	Senior Lecturer, School Of Chemical Sciences, Universiti Sains Malaysia, Malaysia.	D.Phil., University Of Oxford, United Kingdom.
13. Dr. Pablito Macapugay Magdalita	Professor, Crop Science Cluster & Institute Of Plant Breeding, College Of Agriculture, University Of The Philippines	Doctor Of Philosophy, Department Of Agriculture, The University Of Queensland, Brisbane, Australia
14. Dr. Dhruva Pathak	Post Doc , Department Of Anatomy And Neurobiology, The University Of Tennessee Health Science Center	PhD In Biological Science, University Of Belgrade, Serbia.
15. Dr. Mohammad Javed Ansari	Head Of The Department, Department Of Pharmaceutics, College Of Pharmacy Prince Sattam Bin Abdulaziz University Al-kharj, Saudi Arabia	Ph.D. Pharmaceutical Sciences / Pharmaceutical Medicine, Year, College Of Pharmacy, Jamia Hamdard, University
16. Dr. Roger D. Posadas	Executive Director. Research And Innovation Center Lyceum Of The Philippines University- Cavite	Philippines University, Philippines.
# International Journal Of Interdisciplinary Research And Innovations #	# International Journal Of Interdisciplinary Research And Innovations #	# International Journal Of Interdisciplinary Research And Innovations #
1. Dr. Adam Dawria Ibrahim	Ph.D In Public Health	Shendi University- Faculty Of Public Health
2. Dr. Adrian Nicolae Branga	Phd. Mathematics Babes - Bolyai University Of Cluj-Napoca	Department Of Mathematics And Information Lucian Blaga University Of Sibiu Romania
3. Dr. DIDBEIN FLORES	Doctor Of Public Administration- Master Of Education Teaching Science	Member - Association Science Education Of The Philippines Science Club Advisers Association Of The Philippines
4. Dr. Roger D. Posadas	Executive Director. Research And Innovation Center Lyceum Of The Philippines University- Cavite	Philippines University, Philippines.
# International Journal Of Healthcare Sciences #	# International Journal Of Healthcare Sciences #	# International Journal Of Healthcare Sciences #
1. Dr. Xiaoyan Jiang	Senior Scientist And Associate Professor, Medical Genetics, University Of British Columbia.	PhD, Molecular Biology, McGill University, Canada.
2. Prof. Dr. AMER A. TAQA	PROFESSOR, DEPARTMENT OF DENTAL BASIC SCIENCE COLLEGE OF DENTISTRY/MOSUL UNIVERSITY/IRAQ	PhD In Inorganic Chemistry
3. Dr. Dhruva Pathak	Post Doc , Department Of Anatomy And Neurobiology, The University Of Tennessee Health Science Center	PhD In Biological Science, University Of Belgrade, Serbia.
4. Dr. MARGARET NDUTA GITHAE	"HOD, Department At Regina Pacis University College-Constitute College Of Catholic University Of Eastern Africa"	Ph D Community Health And Development
5. Dr. Chona Q. Sarmiento	"Research Director, Research Development And Evaluation Center, Western Mindanao State University, Philippines "	PhD, Science Education, Biology
6. Dr. Mohammad Javed Ansari	Head Of The Department, Department Of Pharmaceutics, College Of Pharmacy Prince Sattam	Ph.D. Pharmaceutical Sciences / Pharmaceutical Medicine, Year, College Of

Name	Designation	University
	Bin Abdulaziz University Al-kharj, Saudi Arabia	Pharmacy, Jamia Hamdard, University
7. Dr. Yeoh Kar Kheng	Senior Lecturer, School Of Chemical Sciences, Universiti Sains Malaysia, Malaysia.	D.Phil., University Of Oxford, United Kingdom.
8. Mr. P. Khandelwal	M. Tech. (C. S.), M. E. (High Voltage Engineering), Jabalpur Engineering College, Jabalpur, India.	L.LB. (P), Lucknow University, Lucknow, India.
9. Dr. Asma Irshad	M.B.B.S Ahmadu Bello University Teaching Hospital, Nigeria	Ahmadu Bello University Teaching Hospital, Nigeria
10. Dr. Karen Clark	Faculty, School Of Nursing, University Of Maryland School Of Nursing. The Universities At Shady Grove.	PhD, Nursing, George Mason University, Fairfax, Virginia.
11. Dr. Adam Dawria Ibrahim	Ph.D In Public Health	Shendi University- Faculty Of Public Health
# International Journal Of Engineering Research And Reviews #	# International Journal Of Engineering Research And Reviews #	# International Journal Of Engineering Research And Reviews #
1. Dr. Ahmed Abdelraheem Farghaly Elkhodary	Professor, Faculty Of Industrial Education, Sohag University	PhD In Structural Engineering, Civil Engineering Department - College Of Engineering, Assiut University
2. Dr. Ebrahim Nohani	Assistant Professor And Faculty Member At Islamic Azad University, Dezful Branch, Department Of Hydraulic Structures, Dezful, IRAN	Ph.D. In Hydraulic Structures, Islamic Azad University, Iran
3. Prof. (Dr.) Zainal Arifin Ahmad	Professor, School Of Materials And Mineral Resources Engineering, Universiti Sains Malaysia, MALAYSIA.	PhD, MSc, BAppSc(Hons), Malaysia.
4. Dr. Patrizia Trovalusci	Professor, Department Of Structural Engineering And Geotechnics, Sapienza, University Of Rome, Rome.	PhD, Structures And Architecture, (History Of Building Sciences And Techniques), University Of Florence, Italy.
5. Mr. P. Khandelwal	M. Tech. (C. S.), M. E. (High Voltage Engineering), Jabalpur Engineering College, Jabalpur, India.	L.LB. (P), Lucknow University, Lucknow, India.
6. Prof. Jay Chatterjee	Emeritus Professor Of Architecture And Planning At The University Of Cincinnati, Ohio, U.S.	School Of Architecture And Interior Design M.Arch. (Urban Design), Harvard University.
7. Dr. Resat Atalay	Lecturer, Institute Of Earthquake Engineering And Disaster Management, Istanbul Technical University	Istanbul Technical University
8. Dr. Adrian Nicolae Branga	Phd.Mathematics Babes - Bolyai University Of Cluj-Napoca	Department Of Mathematics And Information Lucian Blaga University Of Sibiu Romania
# International Journal Of Mechanical And Industrial Technology #	# International Journal Of Mechanical And Industrial Technology #	# International Journal Of Mechanical And Industrial Technology #
1. Dr DIMITRIOS E. MAZARAKOS	Experienced Research Associate, APPLIED MECHANICS LABORATORY, UNIVERSITY OF PATRAS	PhD. Subsea Engineering, UNIVERSITY OF PATRAS

Name	Designation	University
2. Dr Mohamed Saber Gad	Researcher, Mechanical Engineering Department, National Research Centre, Egypt	Ph.D., Mechanical Engineering, Faculty Of Engineering, AL-Azhar University
3. Prof. (Dr.) Mariatti Jaafar	Program Chairman, Materials Engineering, School Of Materials & Mineral Resources Eng.,USM Eng. Campus,Malaysia.	P.hd., Universiti Sains Malaysia, Malaysia.; Degree Of Licentiate, Royal Institute Of Technology, Degree Of Licentiate, Stockholm, Sweden.
4. Mr. P. Khandelwal	M. Tech. (C. S.), M. E. (High Voltage Engineering), Jabalpur Engineering College, Jabalpur, India.	L.LB. (P), Lucknow University, Lucknow, India.
5. Dr. Adrian Nicolae Branga	Phd.Mathematics Babes - Bolyai University Of Cluj-Napoca	Department Of Mathematics And Information Lucian Blaga University Of Sibiu Romania
# International Journal Of Electrical And Electronics Research #	# International Journal Of Electrical And Electronics Research #	# International Journal Of Electrical And Electronics Research #
1. Dr Zia Saquib	Executive Director, C-DAC Mumbai	PhD, National Institute Of Technology, Surat
2. Dr. Rohollah. Abdollahi	Faculty The Electrical Eng. Department, Shahab-e- Danesh Institute Of Higher Education, Qom, Iran	PhD, Iran University Of Science And Technology, Tehran, Iran
3. Mr. P. Khandelwal	M. Tech. (C. S.), M. E. (High Voltage Engineering), Jabalpur Engineering College, Jabalpur, India.	L.LB. (P), Lucknow University, Lucknow, India.
4. Dr. Adrian Nicolae Branga	Phd.Mathematics Babes - Bolyai University Of Cluj-Napoca	Department Of Mathematics And Information Lucian Blaga University Of Sibiu Romania
# International Journal Of Computer Science And Information Technology Research #	# International Journal Of Computer Science And Information Technology Research #	# International Journal Of Computer Science And Information Technology Research #
1. Prof. DR. SAN SAN TINT	Professor, Head Of Department, Computer Hardware Technology Department, Computer University (Mandalay), The Republic Of The Union Of Myanmar	Ph.D, Information Technology, Myanmar
2. Dr Zia Saquib	Executive Director, C DAC Mumbai	PhD, National Institute Of Technology, Surat
3. Dr. Alagbe Olujimi John	Doctor Of Theology (Ph.D)	United Marina Farms Limited Along Airport Road Kutungare Kaduna
4. Dr. Resat Atalay	Lecturer, Institute Of Earthquake Engineering And Disaster Management, Istanbul Technical University	Istanbul Technical University
5. Dr. Adrian Nicolae Branga	Phd.Mathematics Babes - Bolyai University Of Cluj-Napoca	Department Of Mathematics And Information Lucian Blaga University Of Sibiu Romania
6. Dr. MAKERI AJIJI	NCE,HD,HND,Bsc, Msc, Phd Information Tecnology	Institute Of Governance And Management Nigeria
7. Dr. Roger D. Posadas	Executive Director. Research And Innovation Center Lyceum Of The Philippines University- Cavite	Philippines University, Philippines.

Name	Designation	University
# International Journal Of Civil And Structural Engineering Research #	# International Journal Of Civil And Structural Engineering Research #	# International Journal Of Civil And Structural Engineering Research #
1. Dr. Daniele Pellegrini	External Lecturer, Department Of Energy, System, Land And Buildings Engineering, Pisa University, Italy.	PhD, Sciences And Techniques Of Civil Engineering, Disciplinary Scientific Field ICAR09, Pisa University, Graduate School Of Engineering, Leonardo Da Vinci.
2. Dr DIMITRIOS E. MAZARAKOS	Experienced Research Associate, APPLIED MECHANICS LABORATORY, UNIVERSITY OF PATRAS	PhD. Subsea Engineering, UNIVERSITY OF PATRAS
3. Dr. Ahmed Abdelraheem Farghaly Elkhodary	Professor, Faculty Of Industrial Education, Sohag University	PhD In Structural Engineering, Civil Engineering Department - College Of Engineering, Assiut University
4. Dr. A.B.M. Amrul Kaish	Graduate Research Assistant, Sustainable Construction Materials & Building System, Faculty Of Engineering & Built Environment, Universiti Kebangsaan Malaysia	Ph D, Civil & Structural Engineering, Universiti Kebangsaan Malaysia (UKM), Malaysia
5. Dr. Ebrahim Nohani	Assistant Professor And Faculty Member At Islamic Azad University, Dezful Branch, Department Of Hydraulic Structures, Dezful, IRAN	Ph.D. In Hydraulic Structures, Islamic Azad University, Iran
6. Prof. Jay Chatterjee	Emeritus Professor Of Architecture And Planning At The University Of Cincinnati, Ohio, U.S.	School Of Architecture And Interior Design M.Arch. (Urban Design), Harvard University; MRP, University Of North Carolina; Certificate, Tropical Architecture, AA School; B.Arch., Indian Institute Of Technology, India.
7. Dr. Resat Atalay	Lecturer, Institute Of Earthquake Engineering And Disaster Management, Istanbul Technical University	Istanbul Technical University

Vol 7 Issue 2 October 2019-March 2020

Downloads Complete Paper

[Measurement of Accounting Information Systems by Adopting Delone & Mclean Models on SMEs in Badung Regency](#)

Vol 7 Issue 2 October 2019-March 2020

Ni Komang Ayu Inda Rumesa, Dodik Ariyanto

[Download Complete Paper](#)

[Abstract](#)

[A Study On Various Factors Causes Stress Among Private College Teachers In Coimbatore City](#)

Vol 7 Issue 2 October 2019-March 2020

Midhuna.S

[Download Complete Paper](#)

[Abstract](#)

[The Effects of Corporate Social Responsibility Disclosure, Profitability, Institutional Ownership and Leverage on Firm Value](#)

Vol 7 Issue 2 October 2019-March 2020

Renika Manalu, Ni Gusti Putu Wirawati, Ida Bagus Putra Astika, I. D. G Dharma Suputra

[Download Complete Paper](#)

[Abstract](#)

[The Effect of Budgetary Participation, Task Complexity, Budget Emphasis, Environmental Uncertainty and Information Asymmetry on Budgetary Slack](#)

Vol 7 Issue 2 October 2019-March 2020

A.A.Ayu Dika Praba Pradnyani, I Ketut Sujana

[Download Complete Paper](#)

[Abstract](#)

[Management Information Systems](#)

Vol 7 Issue 2 October 2019-March 2020

Jumana AlSanad

[Download Complete Paper](#)

[Abstract](#)

[THE INFLUENCE OF ORGANIZATIONAL CULTURE ON PROJECT TEAM PERFORMANCE IN NGOS USING A SPECIFIC REFERENCE OF LIVING WATER RWANDA](#)

Vol 7 Issue 2 October 2019-March 2020

DAVID MUGABO

[Download Complete Paper](#)

[Abstract](#)

[Analysis of Influencing Factors Auditor Switching](#)

Vol 7 Issue 2 October 2019-March 2020

Nadya Sintiadewi, I Nyoman Wijana Asmara Putra

[Download Complete Paper](#)

[Abstract](#)

[REWARD SYSTEM AND SERVICE DELIVERY IN ANAMBRA STATE CIVIL SERVICE](#)

Vol 7 Issue 2 October 2019-March 2020

EZENWEGBU NCHEDOCHUKWU CHINWENDU, SHEHU ADAMU ABDULLAHI, AKUBUE EUCHARIA O.

[Download Complete Paper](#)

[Abstract](#)

[Entrepreneurial Training and Graduate Unemployment Reduction in Anambra State, Nigeria](#)

Vol 7 Issue 2 October 2019-March 2020

DIKE CHINYELU Q.E, AMOBI DENNIS S.C (Ph.D)

[**Download Complete Paper**](#)

[**Abstract**](#)

[A study on effectiveness of social media marketing in hospitality industry](#)

Vol 7 Issue 2 October 2019-March 2020

Deepa Khatwani, Gautam Bhut

[**Download Complete Paper**](#)

[**Abstract**](#)

[Small and Medium Sized Enterprises \(SMEs\) and Innovative Marketing](#)

Vol 7 Issue 2 October 2019-March 2020

Aravind A, Ashil George

[**Download Complete Paper**](#)

[**Abstract**](#)

[The Influence of Buyback Features on Coupon Rate and Bond Ratings](#)

Vol 7 Issue 2 October 2019-March 2020

Putu Sita Crusyta Dewi, Agung Suaryana, Gayatri

[**Download Complete Paper**](#)

[**Abstract**](#)

[EFFECTS OF THE ATTITUDES OF BUSINESS ORGANIZATIONS TOWARDS TECHNOLOGICAL ADVANCEMENTS AND HOW THIS IMPACTS ON NEW TECHNOLOGY ADOPTION AND BUSINESS PERFORMANCE: PAPER REVIEW](#)

Vol 7 Issue 2 October 2019-March 2020

Zakarya Mohsen Muthanna, Barjoyai Bardai, Maged Mustafa

[**Download Complete Paper**](#)

[**Abstract**](#)

[The role of Marketing in Zambia's economic diversification process](#)

Vol 7 Issue 2 October 2019-March 2020

Francis Mukosa, Moses Katebe, Serah Mbewe, Mildred Muhyila

[**Download Complete Paper**](#)

[**Abstract**](#)

[The Effect of Loan to Deposit Ratio and Capital Adequacy Ratio on Bank Profitability with Proportion of Independent Commissioners as Moderating Variable](#)

Vol 7 Issue 2 October 2019-March 2020

Putu Bunga Maharani Wibawa Putri, I Made Sadha Suardikha

[**Download Complete Paper**](#)

[**Abstract**](#)

The Influence of Buyback Features on Coupon Rate and Bond Ratings

Putu Sita Crusyta Dewi¹, Agung Suaryana², Gayatri³

^{1,2,3} Udayana University

^{1,2,3} Faculty of Economics and Business, Bali, Indonesia

Abstract: The buyback feature is a feature that is owned by the type of callable bonds, where the issuer has the right to pay off the bond before maturity at the call price. This study aims to obtain empirical evidence regarding the effect of the buyback feature on coupon rates and bond ratings. The population in this study are all companies listed on the Indonesia Stock Exchange and issuing bonds in the period of 2016 - 2018. The sampling technique of this study used non probability sampling with a purposive sampling method to obtain 170 research samples. Data analysis technique used is Multivariate Analysis of Covariance. The results of the hypothesis test concluded that the H₁ and H₂ hypotheses were rejected, so the buyback feature did not significantly have a positive effect on the coupon rate and did not have a significant negative effect on the bond ratings.

Keywords: bonds, buyback features, coupon rates, bond ratings.

I. INTRODUCTION

The bond is a debt security, under which the issuer owes the holders a debt and (depending on the terms of the bond) is obliged to pay them interest (the coupon) or to repay the principal at a later date, termed the maturity date (Wikipedia, 2020). Bonds are one type of investment that can be purchased by investors as an alternative investment. Bonds can be used as a source of financing or to obtain additional funds for companies that issuing bond. Bonds are securities issued by issuers to investors (bondholders). The issuer will provide a return in the form of a coupon that is paid periodically and pays the principal value when the bond is due. Based on data from the OJK, bond investment trading has increased since the last 6 years, this indicates that there are a lot of demand on bond investment each year. The details of the recapitulation of bond trading from 2013-2018 can be seen in table 1.1

Table 1.1: Details of the Bond Trading Recapitulation

Year	Surat Utang Negara			Corporation		
	Outstanding	Volume (Million)	Freq	Outstanding	Volume (Million)	Freq
2013	995,251,926	1,877,736,673.75	121,561	218,219,600	185,718,893.72	19,989
2014	1,209,960,975	2,837,543,677.86	159,345	223,463,600	167,674,457.05	22,153
2015	1,425,994,103	3,399,241,916.15	169,822	249,879,900	187,655,445.10	22,279
2016	1,773,278,632	3,649,061,788.00	212,757	311,678,550	224,317,968.00	24,398
2017	2,099,765,960	3,842,419,890.00	214,618	387,329,515	322,133,270.00	30,476
2018	2,365,350,521	5,007,798,520.00	230,763	411,857,395	327,616,844.00	30,324

Source: Otoritas Jasa Keuangan (OJK), 2019

Table 1.1 shows the details of the recapitulation of bond trading from 2013 to 2018 which has increased. The reason why the bond investment trading is increasing is because investors see that the risks contained in these bonds are lower than stocks, but bonds remain risky assets (Hartono, 2016: 251).

Risks arising from bond investments can come from agency conflicts, where this is a reality that cannot be avoided when a company conducts a debt policy. The conflict between the agent and the principal in the perspective of agency theory is motivated by the information asymmetry. This conflict between shareholders (agents) and bondholders (principals) is due to a different pay off structure and risk level. The pay-off structure of bondholders receives fixed income from interest and returns on their loans, while shareholders receive income when there is excess after the obligations to the bondholders are paid. Based on the level of risk, when shareholders carry out activities with high risk, the level of risk faced by bondholders is much higher than shareholders (Adhiputra, 2018). Several risks that need to be considered by bondholders in bond investment are interest rate risk, buyback risk, and default risk.

Call back risk is the risk caused by the type of bond that has a feature call / buyback feature. The buyback feature is one of the features of the type of callable bonds, where the issuer has the right to pay off the bond before maturity at the call price (higher than the fixed par price). The realization of the buyback feature is usually done if there is a decrease in interest rates which causes an increase in bond prices. One example of the buyback feature giving a loss to investors is that the company PT Sri Rejeki Isman Tbk (SRIL) in February 2019 had just completed a tender offer on purchases return or global bond buyback. The bond issuance value of US \$ 350 million was repurchased by SRIL with a bond issuance of US \$ 175.48 million. This caused a decrease in the company's interest expense of around 2% per year which will be experienced in 2020.

Coupon rate is the loan interest rate that must be paid by the debtor to the creditor. Bond interest rates vary depending on company management policy. The value of coupon rate depends on the risks inherent in the bond such as the buyback feature which is a risk of repurchase (call risk). The results of the study by Becker, et al. (2018) found the result that call options on bonds that have a buyback feature are very valuable for issuers and can be detrimental to investors. Callablebond ownership compensation for investors must have a higher return than bonds that cannot be bought back.

Bond ratings are character symbols given by rating agencies to show the risk of bonds (Hartono, 2016). In general, bond rating is a level of measurement of the quality and safety of a bond based on the financial condition of the bond issuer. Specifically, the bond rating is the result of an evaluation conducted by a rating agency which is an indicator of the bond issuer's ability to be able to pay debts and interest on time. Bond ratings reflect all risk scales of traded bonds (Veronica, 2015). Bond risk is the possibility of a bond not being paid on time (default) and the risk of a buyback.

One of the cases that occurred in Indonesia, where the issuer was threatened by default when the issuer tried to carry out its bond buyback activities was PT Kawasan Industri Jababeka Tbk (KIJA). PT Kawasan Industri Jababeka Tbk (KIJA) is a company engaged in industrial estates, on July 8, 2019 announced that the company has the risk of default in the near future for debt securities with a total of US \$ 300 million or equivalent to Rp 4.26 trillion. The company experienced a change in the composition of the board of directors and the board of commissioners, which required the company to buy back bonds at a purchase price of 101% of the principal amount of US \$ 300 million or equivalent to Rp 4.26 trillion. This value does not include interest obligations that must be paid. If the company is unable to carry out the purchase offer, the company will be in a default state (Ayuningtyas, 2019). The default condition will make the company having a low bond rating.

Independent institutions that provide credit rating information for bond issuers based on the Surat Edaran Otoritas Jasa Keuangan 37/SEOJK.03/2016 regarding rating agencies and ratings recognized by the Otoritas Jasa Keuangan there are five rating agencies recognized by the Otoritas Jasa Keuangan. The five agencies are Moody's Investor Service, Standar and Poor's, Fitch Ratings, PT. Fitch Rating Indonesia, dan PT. Pemingkat Efek Indonesia.

Bond rating agencies provide risk scale rating information, which shows the security of a bond for investors. Potential investor profits are limited by the withdrawal of bonds when the interest rate falls, which is detrimental to the investor. This loss can make a bond rating agency signal a relatively lower bond rating for bonds that have a buyback feature.

This study is different from previous studies because using the buyback feature variable affects the coupon rate and bond rating. Researchers still have not found much research that tries to examine the effect of buyback features on coupon rates and bond ratings, so researchers are interested in examining this variable to broaden the study of bonds and support the theory used. The formulation of the problem in this study is first, whether the buyback feature affects the coupon rate. Second, whether the buyback feature affects the bond rating. The research objective is to provide empirical evidence regarding the effect of the buyback feature on the coupon rate and provide empirical evidence about the effect of the buyback feature on the bond rating.

The benefits of the research are expected to provide theoretical and practical uses. The theoretical benefits are expected to support agency theory in confirming the concept of buyback features at coupon rates and bond ratings. This research is expected to be used as study material or further research material for other researchers who will conduct further research on the same topic.

The practical benefits focused on the author are expected to provide additional insight, knowledge and understanding for the authors themselves about the buyback feature influencing the coupon rate and bond rating. For investors, it is expected to increase understanding and insight for investors who want to invest, especially corporate bonds. Before deciding to buy bonds investors should pay attention to the buyback features inherent in bonds because they affect the coupon rate and bond rating. For issuers, they can provide consideration for bond issuing companies so that before deciding to issue bonds, issuers must maintain the company's sustainability in order to avoid bond defaults. For rating agencies, it can provide information to rating agencies that in determining the rating of corporate bonds, they must pay attention to the buyback features inherent in the bonds.

II. CONCEPTUAL MODEL AND HYPOTHESES

2.1. Agency Theory

The basic theory used is agency theory which illustrates that there is a contract of one or more people (principals) that instructs other people (agents) to perform a service on behalf of the principal and authorizes the agent to make the best decision for the principal. Conflicts of interest will arise from delegation of tasks given to agents caused by information asymmetry, where there is an imbalance of information due to unequal distribution of information between agent and principal. Agency conflict that arises from the company's policy to obtain funding from outside the company in the form of debt to third parties such as bonds is a conflict between shareholders and bondholders.

2.2. Bonds

The definition of bonds according to Hartono (2016: 210) is long-term debt that will be repaid at maturity with fixed interest. Bonds have different characteristics from other types of securities. The characteristics of bonds are the value of the bond, the term of the bond, the principal and coupon rate, and the payment schedule. Types of bonds can be grouped into several categories, based on the issuer, based on the interest payment system, and based on the type and characteristics.

2.3. Coupon Rate

Coupon rate is the loan interest rate that must be paid by the debtor to the creditor. Coupon exchange rate is the interest rate or return of the bond. The obligation to pay the coupon (bond interest rate) is done periodically in accordance with the previous agreement, it can be done quarterly or semi-annually. Based on the type of interest, the bond can be divided into two types, namely fixed interest and floating interest.

2.4. Bond Ratings

Bond rating is a measure of the quality and safety of a bond based on the financial condition of the bond issuer. Specifically, the bond rating is the result of an evaluation conducted by a rating agency which is an indicator of the possibility of a bond issuer being able to pay debts and interest on time. Rating agencies are institutions with a special function that is to assess the timeliness of payments by the issuer on its financial obligations (Prastiani, 2018). OJK (Otoritas Jasa Keuangan) states that every bond traded on the Indonesia Stock Exchange must be rated by a rating agency. Pefindo is one of the bond rating agencies in Indonesia. Bond ratings can be divided into two categories, namely investment grade (AAA, AA, A and BBB) and non-investment grade (BB, B, CCC and D). PT Pefindo has a special methodology used to rank debt securities, which includes three main risk assessments (industry risk, business risk, and financial risk).

2.5. Buyback Features

Features according to Kamus Besar Bahasa Indonesia (KBBI) Features according to the Big Indonesian Dictionary (KBBI) means special characteristics contained in a tool, in this study the intended tool is one investment tool in the form of bonds. The buyback feature is one of the features of the type of callable bonds, where the issuer has the right to pay off the bond before maturity at the call price (higher than the fixed par price). The realization of the buyback feature is usually done if there is a decrease in interest rates which causes an increase in bond prices.

2.6. Research Hypothesis

The results of the study of Becker, et al. (2018) found the result that call options on bonds that have a buyback feature are very valuable for issuers and can be detrimental to investors. Compensation of ownership of callable bonds for investors is to have a higher return than bonds that cannot be bought back. A high coupon value will cause bonds to attract investors because a high coupon value will provide a higher yield as well (Susanti & Permana, 2017). It can be concluded that the coupon has a positive effect on risk.

H₁: The buyback feature has a positive effect on the coupon rate.

Bond ratings reflect all risk scales of traded bonds (Veronica, 2015). Investment risks that may arise such as the risk of bond buyback. Issuers who have the right to repurchase their bonds are made when deposit rates decline and bond prices tend to increase. The decision to buyback bonds by issuers can hurt investors, because investors do not fully get the maximum bond yield (Veronica, 2015). The risk faced by these investors is reflected in the bond rating. The smaller the rating reflects the greater the risk level of the bond.

H₂: The buyback feature has a negative effect on bond ratings.

III. RESEARCH METHODS

This study uses quantitative data and uses secondary data there are bond prospectuses, annual reports and notes of the company's financial statements. The method used in this study is non-participant observation, data obtained from the IDX. The variables used in this study are the buyback feature, coupon rate, and bond rating. The populations in this study are all companies that issue bonds listed on the Indonesia Stock Exchange for the period of 2016-2018.

The sampling method in this study is non probability sampling using purposive sampling technique with the following criteria, companies listed on the IDX and issuing bonds during the period 2016 - 2018, corporate bonds listed in the bond rating issued by PT Pefindo, the company publishes financial statements and Complete annual report from the period 2016 - 2018, the company's financial statements use the Indonesian currency (Rp), corporate bonds do not have a floating coupon rate. Data analysis techniques in this study using Multivariate Analysis of Covariance (MANCOVA). Figure 1 shows the design of this study.

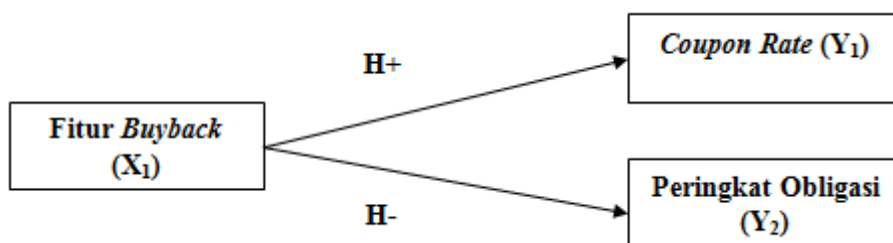


Figure 1. Research Design

Source: Data Processed 2019

Coupon rates are measured using coupons given by bond issuers. Data obtained from the prospectus of bonds in the library of PT. Indonesia stock exchange. Measurement of bond ratings uses interpretation from using codes 18 through 1 with the intention of higher weights representing higher rankings (Winanti et al., 2017). The bond rating scale is shown in Table 2.

Table 2: Bond Ratings Scale

Bond Ratings	Scale
AAA	19
AA+	18
AA	17
AA-	16
A+	15
A	14
A-	13
BBB+	12

BBB	11
BBB-	10
BB+	9
BB	8
BB-	7
B+	6
B	5
B-	4
CCC	3
SD	2
D	1

Source: Winanti dkk. (2017)

The buyback feature measurement scale in this study uses a nominal scale which is a dummy variable. Measurements are made by giving a value of 1 if the bond has a buyback feature and 0 if the bond does not have a buyback feature. Company size is a measure that shows the size of the company. Company size is measured using total assets. The measuring scale of the company size variable is the scale of total assets with natural log. Company Size = Ln (Total Assets).

IV. RESULT AND DISCUSSION

Based on the availability of data on the IDX, 170 samples of bonds were obtained. Table 3 shows the procedure for selecting study samples.

Table 3: Sample Selection Procedure

No	Criteria	Amount
1.	Companies listed on the IDX and issuing bonds during the 2016-2018 period	428
2.	Corporate bonds not listed in the bond rating issued other than PT Pefindo	(91)
3.	Companies that publish incomplete financial statements and annual reports for the 2016-2018 period	(137)
4.	Financial statements of companies that do not use the Indonesian currency (Rp)	(30)
5.	The company's bonds have a floating coupon rate	(0)
6.	Number of samples studied	170

Source: www.idx.co.id (Data Processed, 2019)

Descriptive statistics are used to provide a description of the research variables as seen from the mean, standard deviation, maximum and minimum. The characteristics in detail are presented in Table 4.

Table 4: Descriptive Statistics Analysis

		Descriptive Statistics				
		N	Minimum	Maximum	Mean	Std. Deviation
There are Buyback Features	Coupon Rate	156	6,50	12,50	8,58	1,10
	Bond Ratings	156	12	19	17,42	2,23
There is no Buyback Features	Coupon Rate	14	6,35	11	9,40	1,50
	Bond Ratings	14	12	19	15,57	2,82
All Samples	Buyback Features	170	0	1	0,92	0,28
	Coupon Rate	170	6,35	12,50	8,64	1,15
	Bond Ratings	170	12	19	17,26	2,33
	Company Size	170	28,30	34,93	31,85	1,59

Source: Processed secondary data processed, 2019

Based on the results of descriptive statistics analysis of the data shown in Table 3 the results show that the research sample for bonds that have a buyback feature totaled 156, the research sample for bonds that do not have a buyback feature totaled 14, and the total sample amounted to 170 with the following explanation:

1. Coupon rate for bonds that have a buyback feature has a minimum value of 6.50 and a maximum value of 12.50. The average is 8.58 with a standard deviation of 1.10.
2. Bond ratings for bonds that have a buyback feature have a minimum value of 12 and a maximum value of 19. The data average is 17.42 with a standard deviation of 2.23.
3. Coupon rate for bonds that do not have a buyback feature has a minimum value of 6.35 and a maximum value of 11.00. The data average is 9.40 with a standard deviation of 1.50.
4. Bond ratings for bonds that do not have a buyback feature have a minimum value of 12 and a maximum value of 19. Average is obtained at 15.57 with a standard deviation of 2.82.
5. The buyback feature has a minimum value of 0 and a maximum value of 1. The average is obtained at 0.92 with a standard deviation of 0.276.
6. Coupon rate has a minimum value of 6.35 and a maximum value of 12.5. The average is obtained at 8.644 with a standard deviation of 1.152.
7. The bond rating has a minimum value of 12 and a maximum value of 19. The average is obtained at 17.26 with a standard deviation of 2.332.
8. The size of the company has a minimum value of 28.30 and a maximum value of 34.93. The average is obtained at 31.84 with a standard deviation of 31.85.

Assumptions that must be fulfilled before the mancovia test is as follows (Saluh et al., 2014). Multivariate normal distribution is an extension of univariate normal distribution. Data normality test is performed to determine whether the distribution of a data follows or approaches the normal distribution, namely the distribution of data in the form of a bell (Mardelina, 2017).

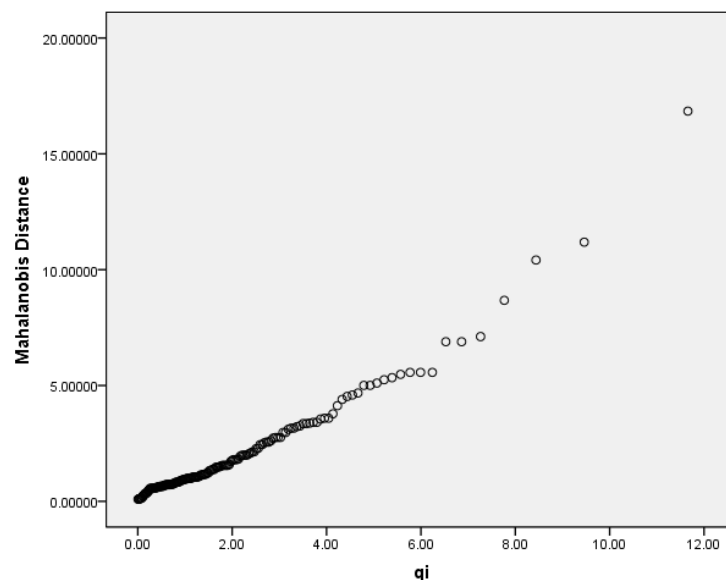


Figure 2: P-P Plot Graph

Source: Processed secondary data, 2019

Based on the results of the p-p plot graph obtained that the data spread around the diagonal line, the regression model meets the normality assumption.

Table 5: Correlation Results for Normality Test

Correlations		Mahalanobis Distance	Qi
Mahalanobis Distance	Pearson Correlation	1	.978**
	Sig. (2-tailed)		.000
	N	170	170
Qi	Pearson Correlation	.978**	1
	Sig. (2-tailed)	.000	
	N	170	170

** . Correlation is significant at the 0.01 level (2-tailed).

Source: Processed secondary data, 2019

Based on the table 5 regarding the correlation value obtained a significant value of 0,000. Significance value of 0,000 is less than 0.05 (0,000 <0.05), this shows that H₀ is accepted. So it was concluded that the data were multivariate normal distribution.

The variance homogeneity test is a test of variance equation on the two dependent variables individually which can be seen from the results of the Levene test (Mardelina, 2017).

Table 6: Variance Homogeneity Test Results

Levene's Test of Equality of Error Variances ^a				
	F	df1	df2	Sig.
Coupon Rate	1.368	1	168	.244
Bond Ratings	.846	1	168	.359

Tests the null hypothesis that the error variance of the dependent variable is equal across groups.

a. Design: Intercept + X1 + p1

Source: Processed secondary data, 2019

Based on Table 6 it can be seen that the significant value of the coupon rate of 0.244 with an F value of 1.368, and the significant value of the bond rating of 0.359 with an F value of 0.846. From the results of the analysis obtained a significant value from the coupon rate and bond ratings show values of more than 0.05 so that H₀ is accepted. This means that the population variance is identical / homogeneous and further testing can be done.

Homogeneity test for variance / covariance matrices conducted to see whether the covariance matrix of the dependent variable is the same for the existing groups (independent).

Table 7: Covariuous Homogeneity Test Results

Box's Test of Equality of Covariance Matrices ^a	
Box's M	2.652
F	.834
df1	3
df2	6080.580
Sig.	.475

Tests the null hypothesis that the observed covariance matrices of the dependent variables are equal across groups.

a. Design: Intercept + X1 + p1

Source: Processed secondary data, 2019

In Table 7 it can be seen that the significance value of the data is 0.475. This value is greater than 0.05, which means that H₀ is accepted. Therefore, it can be concluded that the variance matrix of homogeneous covariance or covariance of the dependent variable in each group is the same. The next test is the mancova test. The equation model used is as follows.

$$Y_1 + Y_2 + p_1 = X_1 \dots \dots \dots (1)$$

Information:

Y1: Coupon Rate

Y2: Bond Rating

p1: Company Size

X: Buyback feature

Multivariate significance test is conducted to determine the centroid differences of two or more groups that can be evaluated with various statistical test criteria.

Table 8: Mancova Test Results

Effect		Value	F	Hypot- hesis df	Error df	Sig.	Noncent. Parameter	Observed Power ^b
Intercept	Pillai's Trace	.400	55.220 ^a	2.000	166.000	.000	110.439	1.000
	Wilks' Lambda	.600	55.220 ^a	2.000	166.000	.000	110.439	1.000
	Hotelling's Trace	.665	55.220 ^a	2.000	166.000	.000	110.439	1.000
	Roy's Largest Root	.665	55.220 ^a	2.000	166.000	.000	110.439	1.000
X1	Pillai's Trace	.127	12.120 ^a	2.000	166.000	.000	24.240	.995
	Wilks' Lambda	.873	12.120 ^a	2.000	166.000	.000	24.240	.995
	Hotelling's Trace	.146	12.120 ^a	2.000	166.000	.000	24.240	.995
	Roy's Largest Root	.146	12.120 ^a	2.000	166.000	.000	24.240	.995
p1	Pillai's Trace	.276	31.646 ^a	2.000	166.000	.000	63.292	1.000
	Wilks' Lambda	.724	31.646 ^a	2.000	166.000	.000	63.292	1.000
	Hotelling's Trace	.381	31.646 ^a	2.000	166.000	.000	63.292	1.000
	Roy's Largest Root	.381	31.646 ^a	2.000	166.000	.000	63.292	1.000

a. Exact statistic

b. Computed using alpha = .05

c. Design: Intercept + X1 + p1

Source: Processed secondary data, 2019

The results of the mancova test can be seen in table 8 of multivariate tests. Values for Wilks' lambda, Pillai Trace, Hotelling trace, Roy's Largest Root have a significance value of 0,000 where the significance value is less than 0.05, it can be concluded that H0 is rejected. This means that the free variable buyback feature shows the influence of the dependent variable (coupon rate and bond rating).

The univariate significant test (test of between subject effects) was used to find out which variable caused the difference in the average of the two groups through the univariate F.

Table 9: Test Results of Between-Subjects Effects Test

Tests of Between-Subjects Effects								
Source	Dependent Variable	Type III Sum of Squares	Df	Mean Square	F	Sig.	Noncent. Parameter	Observed Power ^b
Corrected Model	Coupon Rate	32.879 ^a	2	16.440	14.327	.000	28.654	.999
	Bond Ratings	283.971 ^c	2	141.985	37.334	.000	74.668	1.000
Intercept	Coupon Rate	106.543	1	106.543	92.852	.000	92.852	1.000
	Bond Ratings	25.881	1	25.881	6.805	.010	6.805	.737
X1	Coupon Rate	17.103	1	17.103	14.905	.000	14.905	.970
	Bond Ratings	87.918	1	87.918	23.117	.000	23.117	.998
p1	Coupon Rate	21.816	1	21.816	19.012	.000	19.012	.991
	Bond Ratings	240.228	1	240.228	63.166	.000	63.166	1.000
Error	Coupon Rate	191.625	167	1.147				
	Bond Ratings	635.117	167	3.803				

Total	Coupon Rate	12929.196	170
	Bond Ratings	51591.000	170
Corrected	Coupon Rate	224.504	169
Total	Bond Ratings	919.088	169

a. R Squared = .146 (Adjusted R Squared = .136)

b. Computed using alpha = .05

c. R Squared = .309 (Adjusted R Squared = .301)

Source: Processed secondary data, 2019

Based on table 9 it is obtained that the significance of the coupon rate shows $0,000 < 0.05$, it can be concluded that the average coupon rate shows the effect on the variable X (buyback feature). While it is obtained that the significance of the bond rating shows $0,000 < 0.05$, it can be concluded that the average bond rating shows the effect on variable X (buyback feature).

Based on the results of the hypothesis test, the influence of the buyback feature on the coupon rate through the multivariate test shows a significant effect with a value of $0,000 < 0.05$, and for the direction of influence can be seen from the descriptive statistical value on the mean coupon rate for bonds that have a buyback feature of 8.58 and the mean coupon rate for bonds that do not have a buyback feature of 9.40 can be concluded that the mean coupon rate for bonds that have a buyback feature is smaller / decreasing or has a negative effect compared to the mean coupon rate for bonds that do not have features buyback.

Thus, H1 hypothesis is rejected, the buyback feature has no positive effect on the coupon rate. This happened due to companies issuing bonds without the buyback feature, which turned out to provide a higher coupon rate compared to companies that issue bonds with a buyback feature and the low ability of bond issuing companies with buyback features to compensate callable bond ownership to investors in the form of higher returns than bonds that cannot be repurchased.

Inefficient capital markets can also be one of the reasons companies do not consider giving a higher coupon rate to investors who buy bonds with a buyback feature. The Indonesian capital market is still not functioning optimally and is still in the weak efficient category level (Ady and Mulyaningtyas, 2017). The research sample is also suspected not to be heterogeneous enough to handle other dominant factors that can influence the results of this study such as a decrease in interest rates. Putriadita (2017).

Based on the results of the hypothesis test the effect of the buyback feature on bond ratings through the multivariate test shows a significant effect with a value of $0,000 < 0.05$ and for the direction of influence can be seen from the mean value of bond ratings. The mean value of bonds that have a buyback feature of 17.42 and the mean value of bond ratings for bonds that do not have a buyback feature of 15.57. It can be concluded that the mean value of bond ratings that have a buyback feature is greater / increased or has a positive effect compared to the mean value of bond ratings for bonds that do not have a buyback feature.

Thus, the H2 hypothesis is rejected or the buyback feature has no negative effect on bond ratings. This is because companies that issue bonds without the buyback feature apparently get lower bond ratings compared to companies that issue bonds with a buyback feature. Risks faced by investors such as the risk of bond buyback are not reflected in the bond rating. This condition shows that inefficient capital markets allow a biased reaction to information.

V. CONCLUSION AND SUGGESTIONS

Based on the results of the research analysis and the results of the discussion in the previous chapter, the conclusions of this study are as follows.

1. The effect of the buyback feature has no positive effect on the coupon rate. The influence of the buyback feature on the coupon rate through multivariate tests and statistical values on the mean coupon rate for bonds that have a smaller / declining buyback feature or have a negative effect compared to the mean coupon rate for bonds that do not have a buyback feature. It can be concluded that the H_1 hypothesis is rejected.
2. The effect of the buyback feature has no negative effect on the bond rating. The influence of the buyback feature on the bond rating through the multivariate test and the statistical value on the mean rating of bonds that have a buyback feature that is greater / increased or has a positive effect compared to the mean rating of bonds for bonds that are does not have a buyback feature. It can be concluded that H_2 hypothesis is rejected.

Based on these conclusions, the suggestions of this study are as follows:

1. For investors who want to invest in bonds, should pay attention to things that are attached to bonds such as the buyback feature, high coupon rate, and bond rating to be able to choose good bonds.
2. For further research, you should add another dominant factor affecting the coupon rate and bond rating. Further research can also expand the research year so that the sample used can be balanced between bonds that have a buyback feature, and bonds that do not have a buyback feature.

REFERENCES

- [1] Adams, M., Burton, B., & Hardwick, P. (2000). The Determinants of Credit Ratings in the United Kingdom Insurance Industry. Unpublished working paper, European Business Management School.
- [2] Adhiputra, Made Wahyu. (2018). Pengaruh Penerapan Konservatisme Akuntansi dan Tingkat Kepemilikan Pada Konflik Bondholder-Shareholder di Bursa Efek Indonesia. E-jurnal Ekonomi dan Bisnis Universitas Udayana 7(5): 1225-1260.
- [3] Agrawal, A., and Knoeber, G. 1990. Large shareholders and the monitoring of managers: The case of antitakeover charter amendments. *Journal of Financial and Quantitative Analysis* 25.
- [4] Altman, E. I. (1989). Measuring Corporate Bond Mortality and Performance. *Journal of Finance* 44: 909–922.
- [5] Andriyani, Caesa dan Darmawati, Deni. (2016). Pengaruh Manajemen Laba, Jaminan, dan Umur Obligasi, Terhadap Peringkat Obligasi. Seminar Nasional Cendekiawan.
- [6] Arifman, Yessy. (2013). Pengaruh Likuiditas, Profitabilitas dan Lverage Terhadap Peringkat Obligasi Perusahaan (Studi Empiris pada Perusahaan Yang Terdaftar di Bursa Efek Indonesia). *Jurnal Akuntansi*, 1(3).
- [7] Becker, Bo et all. (2018). Debt Overhang and Life Cycle of Callable Bonds. Swedish House of Finance Research Paper, 18-16. https://papers.ssrn.com/sol3/papers.cfm?abstract_id=3302502
- [8] Belkaoui dan Riahi, A. (2004). *Accounting Theory* Buku 1. Edisi Kelima. Jakarta: Salemba Empat.
- [9] Bhojraj, S., dan Sengupta, P. (2003). Effect Of Corporate Governance On Bond Ratings And Yields: The Role Of Institutional Investors And Outside Directors. *The Journal of Business*, 76(3).
- [10] Burton, B., Mike Adams, and Philip Hardwick. (1998). The Determinants of Credit Ratings in United Kingdom Insurance Industry. *The Journal of Risk and Insurance*.
- [11] Bradley, M., Dallas, G.S., Snyderwine, E. & Chen, D. (2008). The Effects of Corporate Governance Attributes on Credit Ratings and Bond Yields. Working Paper.
- [12] Brigham, E. E., L. C. Gapenski, dan P. R. Daves. (1999). *Intermediate Financial Management*. 6th ed. Orlando: The Dryden Press.
- [13] Chan, K; Jagadeesh, N; and Warga, A. (1999). Market based evaluation for model to predict bond ratings and corporate bond trading strategy. Working Paper.
- [14] Coyle, Brian. (2002). *Corporate Bonds and Commercial Paper*. The Chartered Institute of Bankers. 133-139.
- [15] Damena, Herdy, Ervita Safitri, dan Rini Aprilia. (2014). Analisis Pengaruh Coupon (Bunga Obligasi), Jangka Waktu Jatuh Tempo, dan Likuiditas Obligasi terhadap Tingkat Perubahan Harga Obligasi yang terdaftar di Bursa Efek Indonesia. Jurusan Manajemen STIE MDP.
- [16] Darmadji, Tjiptono dan Fakhruddin. (2012) *Pasar Modal Di Indonesia (Edisi Ketiga)*. Jakarta: Salemba Empat.
- [17] Eisenhardt, Kathleen (1989). Agency Theory: An Assesment and Review. *Academy of Management Review*, 14(1).
- [18] Elsaify, Amora., dan Nikolai, Roussanov. (2016). Why Do Firm Issue Callable Bonds?. *Finance and Financial Management Commons*. http://repository.upenn.edu/fnce_papers/5
- [19] Estiyanti, N. M., dan Gerianta Wirawan Yasa. (2012). Pengaruh Faktor Keuangan Dan Non Keuangan Pada Peringkat Obligasi Di Bursa Efek Indonesia. SNA XV. Banjarmasin.

- [20] Febriani, Anita. (2017). Faktor-Faktor yang mempengaruhi Peringkat Obligasi Pada Perusahaan Perbankan. *Jurnal Profita*, 3
- [21] Gozhali, H. Imam. (2012). Aplikasi Analisis Multivariate dengan Program IBM SPSS (Edisi Enam). Semarang: Universitas Diponegoro.
- [22] Hartono, Jogiyanto. (2016). Teori Portofolio dan Analisis Investasi. Yogyakarta: BPFE-Yogyakarta.
- [23] Horne and Wachowicz. (2017). Prinsip Manajemen Keuangan (Buku 2 Edisi 13). Jakarta: Selemba Empat.
- [24] Horningan, J. (1966). The Determination of Long Term, Credit standing With Financial Ratio, Empirical Research in Accounting: Selected Studies. Supplement to Journal of Accounting Research.
- [25] Iswara, Vina Indah, dkk. 2017. Pengaruh Nilai Obligasi Syariah, Rtaing Obligasi Syariah, Umur Obligasi Syariah Terhadap Reaksi Pasar Modal. E-Jurnal Riset Manajemen Prodi Manajemen Fakultas Ekonomi Unisma.
- [26] James, Chen. (2019). Callable Bond. Diunduh dari Investopedia website: <https://www.investopedia.com/terms/c/callablebond.asp>
- [27] Jensen MC and JH Meckling. (1976). Theory of Firm : Managerial Behavior, Agency Cost and Ownership Structure. *Journal of Financial Economics*, 3, pp: 305-360.
- [28] Jones, Charles P. (2013). Investments Analysis and Management (Twelfth Edition). United States of Amerika: Library of Congress.
- [29] Kilapong, Greacec Victoria.(2011). The Effect of Accounting and Non Accounting Information to The Rating of Companys Bond. *Journal Accounting Departement*,1-7.
- [30] Manurung, A. H., Silitonga, D., dan Tobing, W.R.L. (2009). Hubungan Rasio Rasio Keuangan dengan Rating Obligasi. PT Finansial Bisnis Informasi Jakarta.
- [31] Pascal, Francois and Sophie, Pardo. (2015). Prepayment Risk On Callable Bonds: Theory and Test. *Decisions Econ Finan*, 38, 147-176.
- [32] PEFINDO. (2010). Indonesian Rating High Light. Pefindo Credit Rating.
- [33] Putriadita, Danielisa. (2017). Kupon Obligasi Turun Akibat Penurunan 7DRR. Diunduh dari Investasi Kontan website: <https://investasi.kontan.co.id/news/kupon-obligasi-turun-akibat-penurunan-7dr>
- [34] Prastiani, S. C. (2018). Pengaruh Kinerja Keuangan Terhadap Peringkat Obligasi Dengan Manajemen Laba Sebagai Variabel Intervening Pada Perusahaan Manufaktur yang Terdaftar di BEI. *Jurnal Akuntansi Berkelanjutan Indonesia*, 1(1), 1–23.
- [35] Raimuna, Rosi dan Mutia, Evi. (2018). Faktor-Faktor yang Mempengaruhi Peringkat Sukuk yang Ditinjau dari Faktor Akuntansi dan Non Akuntansi. *Jurnal Ilmiah Mahasiswa Ekonomi Akuntansi*, 3(3),505-514.
- [36] Rudiyanto. (2018). Ini Perbedaan Obligasi dan MTN yang Menjadi Aset Dasar Reksa dana. Diunduh dari website: <http://rudiyanto.blog.kontan.co.id/category/obligasi/>
- [37] Saippudin. (2014). Manova dan Manacova Dalam Statistik Inferensial. Diunduh dari Wawasan Edukasi website: <http://wawasanedukasi.blogspot.com/2014/12/manova-dan-mancova-dalam-statistik.html>
- [38] Saluh, Melkianus, Dima, Riaulita, dan Tursina Ratu. (2014). Manacova dan Asumsi. Diunduh dari Academia website: <https://www.academia.edu> > MAKALAH_MANCOVA
- [39] Sugiyono. (2017). Metode Penelitian Kuantitatif, Kualitatif, dan R&D. Bandung: Alfabeta
- [40] Susanti, N., & Permana, M. R. (2017). Pengaruh Peringkat, Likuiditas, Kupon Dan Maturitas Terhadap Yield Obligasi Pada Bursa Efek Indonesia (Bei) Periode 2013-2014. *Jurnal Muara Ilmu Ekonomi Dan Bisnis*, 1(1), 1. <https://doi.org/10.24912/jmieb.v1i1.400>
- [41] Suwanto, Adhi dan Sudana, I Made. (2014). Pengumuman Stock Buyback dan Reaksi PASAR Saham. *Jurnal Manajemen Bisnis Indonesia*, 2(1).
- [42] Tandelilin, Eduardus. (2010). Portofolio dan Investasi (Edisi Pertama). Yogyakarta: Kanisius.

- [43] Tribun (2019). Buyback Obligasi, SRIL Menghemat Beban 2%. Diunduh dari Tribun Manado website: <https://manado.tribunnews.com/2019/02/23/buyback-obligasi-sril-menghemat-beban-2?page=3>
- [44] Veronica, Aries. (2015). Faktor-Faktor yang Mempengaruhi Peringkat Obligasi Pada Perusahaan Manufaktur. *Jurnal Manajemen dan Bisnis Sriwijaya*, 13(2).
- [45] Winanti, Endah., Siti, Nurlaela., dan Kartika, Hendra Titisari. (2017). Pengaruh Rasio Likuiditas, Rasio Produktivitas, Rasio Profitabilitas, dan Rasio Solvabilitas Terhadap Peringkat Sukuk. *Jurnal Akuntansi dan Pajak*, 18 (1), 130-139.
- [46] Werastuti, Desak Nyoman Sri. (2015). Analisis Prediksi Pringkat Obligasi Dengan Pendekatan Faktor Keuangan dan Non Keuangan. *Jurnal Dinamika Akuntansi*, 7(10),63-74.
- [47] Yasa, Gerianta Wirawan. 2010. Pemingkatan Obligasi Perdana Sebagai Pemicu Manajemen Laba: Bukti Empiris Dari Pasar Modal Indonesia. *Simposium Nasional Akuntansi XIII*. Purwokerto.
- [48] Yoy. (2019). Pefindo Kuasai 90% Pasar Peringkat Obligasi. Diunduh dari Indonesia Bond Pricing Agency website: <http://www.ibpa.co.id/NewsAnnouncement/ArsipBerita/tabid/126/EntryId/443/Pefindo-Kuasai-90-Pasar-Peringkat-Obligasi.aspx>
- [49] Zuhrohtun, Zaki Baridwan. (2005). Pengaruh Pengumuman Peringkat terhadap Kinerja Obligasi. *Simposium Nasional Akuntansi 8*, September.