



ISSN 1746-8800
Volume 00 Number 00 2018

International Journal of
Emerging Markets



International Journal of Emerging Markets

Issue(s) available: 66 – From Volume: 1 Issue: 1, to Volume: 16 Issue: 2

Category: International Business

Subscribe to table of contents alerts

RSS feed



Search within this journal

- All issues
- EarlyCite
- Accepted Articles

Spillover effects of the US monetary policy on the Indian trilemma

Harpreet Singh Grewal, Pushpa Trivedi

The purpose of this paper is to investigate the impact of the US unconventional monetary policy surprises on the management of trilemma in India.

PDF (475 KB)

Reprints & Permissions

ISSN: 1746-8809
(International Standard Serial Number.)
Online date, start – end: 2006
Copyright Holder: Emerald Publishing Limited
Open Access: hybrid
Editor: Prof Ilan Alon

Economic policy uncertainty and stock liquidity: the role of board networks in an emerging market

William Mbanyele

The purpose of this study is to examine the role of board networks in promoting stock liquidity when there is high economic policy uncertainty using a sample of Brazilian...

- Further Information
- About the journal
 - Purchase information
 - Editorial team
 - Write for this journal

PDF (299 KB)

Reprints & Permissions



Subsidiary banks in emerging markets: how strong is the coordination on a group-wide basis?

Małgorzata Iwanicz-Drozdowska, Bartosz Witkowski

The parent-subsidiary nexus has been explored since the mid-1990s, but the extent to which subsidiaries resemble their parents remains unclear. Therefore, this study...

PDF (161 KB)

Reprints & Permissions



Your opinion matters ?

This conceptual paper develops a theoretical framework to provide insights with respect to enhancing focus on entrepreneurial sustainability initiatives in the context of...

 PDF (317 KB)

Reprints & Permissions

Mergers and acquisitions in Morocco: reality and perspectives

Mohammed Ibrahimi, Jalal Eddine Liassini

The purpose of this article is to address certain gaps and contribute to enriching the literature on mergers and acquisitions (M&A) in Africa; describe the phenomenon...

 PDF (1011 KB)

Reprints & Permissions

A quantile regression approach to evaluate the relative impact of global and local factors on the MENA stock markets

Slah Bahloul, Nawel Ben Amor

This paper investigates the relative importance of local macroeconomic and global factors in the explanation of twelve MENA (Middle East and North Africa) stock market...

 PDF (187 KB)

Reprints & Permissions

Voluntary intellectual capital disclosure and earnings forecast in Indonesia–Malaysia–Thailand growth triangle's pharmaceuticals sector

Saorce Elsy Hatane, Jefferson Clarenzo Diandra, Josua Tarigan, Ferry Jie

This study examines the role of intellectual capital disclosure (ICD) on earnings forecasting by analysts in the pharmaceutical industry in emerging countries...

 PDF (177 KB)

Reprints & Permissions

The exports–exchange rate volatility nexus in Pakistan: do financial constraints and financial development matter?

Abdul Rashid, Ataullah Muneeb, Maria Karim

This paper first examines how changes in the real effective exchange rate and its volatility affect the exporting activities of firms. Next, it investigates whether...

 PDF (469 KB)

Reprints & Permissions

Your opinion matters



[Home](#) > [Journal Finder](#) > International Journal Of Emerging Markets

International Journal of Emerging Markets

[Submit your paper](#)

[Table of contents](#)

[Author guidelines](#)



[Editorial team](#)



Editor-in-Chief

Professor Ilan Alon
University of Agder - Norway
ilan.alon@uia.no

Managing Editors

Dr Bruce Hearn
University of Southampton - UK
b.a.hearn@soton.ac.uk

Matevz Raskovic
Auckland University of Technology - New Zealand
matt.raskovic@aut.ac.nz

Co-Editors

Marcelo Alvarado-Vargas (Management)
University of Toledo - USA
marcelo.alvaradovargas@utoledo.edu

Khaled Hussainey (Finance and Accounting)
Bangor University - UK
k.hussainey@bangor.ac.uk

Małgorzata Iwanicz-Drozdowska (Finance)
SGH Warsaw School of Economics - Poland
malgorzata.iwanicz-drozdowska@sgh.waw.pl

Xiaolei Sun (Economics)
Chinese Academy of Sciences - People's Republic of China
xlsun@casisd.cn

Senior Editors

Dr Ghulam Ali Arain (Organizational Behaviour and Human Resource Management)
Lahore University of Management Sciences - Pakistan
drghulamaliarain@gmail.com

Anshu Arora (Marketing)
University of the District of Columbia - USA
anshu.arora@udc.edu

Ron Berger (Marketing)
Bar-Ilan University - Israel
ron.berger@biu.ac.il

Sabri Boubaker (Finance)
EM Normandie Business School - France
sboubaker@em-normandie.fr

Janusz Brzeszczyński (Finance)
Edinburgh Napier University - UK
J.Brzeszczyński@napier.ac.uk

Alberto Ferraris (Management)
University of Turin - Italy
alberto.ferraris@unito.it

Khaled Guesmi (Finance)
Paris School of Business - France
k.guesmi@psbedu.paris

[UPDATE PRIVACY SETTINGS](#)

[Accept all cookies](#)

We are using cookies to give you the best experience on our website, but you are free to manage these at any time. To continue with our standard settings click "Accept". To find out more and manage your cookies, click "Manage cookies"

[Reject all cookies](#)
[Manage cookies](#)

Bentley University - USA

tmanolova@bentley.edu

Dario Miocevic (Marketing)

University of Split - Croatia

dmiocevi@efst.hr

Tapas Mishra

Southampton Business School - UK

T.K.Mishra@soton.ac.uk

Ziaul Haque Munim (Operations and Supply Chain Management)

University of South-Eastern Norway, Norway

ziaul.h.munim@usn.no

Muhammad Abubakr Naeem (Finance)

Accounting and Finance Department, United Arab Emirates University - Al-Ain, United Arab Emirates

m.ab.naeem@gmail.com

Professor Diego Quer (Management)

University of Alicante - Spain

diego.quer@ua.es

Paurav Shukla (Marketing)

University of Southampton - United Kingdom

p.v.shukla@soton.ac.uk

Paresha Sinha (Management)

University of Waikato - New Zealand

paresha.sinha@waikato.ac.nz

Rohit Trivedi (Marketing)

University of Bradford - UK

r.trivedi1@bradford.ac.uk

Liu Wang (Finance)

Providence College, USA

lwang@providence.edu

Founding Editor

Yusaf H. Akbar

Central European University - Hungary

akbary@ceubusiness.org

Commissioning Editor

Jack Washington

Emerald Publishing - UK

jwashington@emerald.com

Journal Editorial Office (For queries related to pre-acceptance)

Rehan Ismail

Emerald Publishing

Rehan.emerald@kwglobal.com

Supplier Project Manager (For queries related to post-acceptance)

Lalita Shree Lakshmanamoorthy

Emerald Publishing

lalita.emerald@tnq.co.in

Editorial Advisory Board

Paul Beamish

Ivey Business School - Canada

Peter Buckley

University of Manchester - UK

John Child

Birmingham Business School - UK

Farok Contractor

Rutgers University - USA

Alvaro Cuervo-Cazurra

Northeastern University - USA

Michael R. Czinkota

Georgetown University - USA

Pervez Ghauri

University of Birmingham - UK

We are using cookies to give you the best experience on our website, but you are free to manage these at any time. To continue with our standard settings click "Accept". To find out more and manage your cookies, click "Manage cookies"

Jane Lu
The University of Melbourne - Australia

Yadong Luo
University of Miami - USA

Duc Khuong Nguyen
EMLV Business School - France

Sam Park
Nanyang Technological University - People's Republic of China

Torben Pedersen
Copenhagen Business School - Denmark

Mike Peng
University of Texas at Dallas - USA

Sheila Puffer
Northeastern University - USA

Ravi Ramamurti
Northeastern University - USA

Jagdish N Sheth
Emory University - USA

Mary Teagarden
Thunderbird School of Global Management - USA

Rosalie L. Tung
Simon Fraser University - Canada

Maurizio Zollo
Imperial College London - UK

Editorial Review Board

James Agarwal
University of Calgary - Canada

Aradhna Aggarwal
Copenhagen Business School - Denmark

Raj Aggarwal
Kent State University - USA

David Ahlstrom
Chinese University of Hong Kong - Hong Kong

Umair Akram
Peking University - People's Republic of China

Imran Ali
Central Queensland University - Australia

Tamar Almor
The College of Management - Israel

Andrew Alola
Istanbul Gelisim University - Turkey

Erkut Altindag
Beykent University - Turkey

Ahmad Arslan
University of Oulu - Finland

Ahmet Faruk Aysan
Hamad Bin Khalifa University - Qatar

Salman Bahoo
EDC Paris Business School - France

Melodena S. Balakrishnan
Mohammed Bin Rashid School of Government - United Arab Emirates

Ellie Banalieva
Northeastern University - USA

Waheed Akbar Bhatti
Aalborg University Business School - Denmark

Sumon Kumar Bhaumik
University of Sheffield - UK

Jean-Marc Blanchard
Mr. & Mrs. S.H. Wong Center for the Study of Multinational Corporations - USA

John Cantwell
Rutgers University - USA

Shawn M Carraher
Harvard University - USA

Lourdes Casanova
SC Johnson College of Business, Cornell University, USA

Amitava Chattopadhyay
INSEAD - Singapore

We are using cookies to give you the best experience on our website, but you are free to manage these at any time. To continue with our standard settings click "Accept". To find out more and manage your cookies, click "Manage cookies"

Cihan Cobanoglu, CHTP
University of South Florida - USA

Adam R. Cross
Xi'an Jiaotong – Liverpool University - China

Andrzej Cwynar
University of Economics and Innovation - Poland

Desislava Dikova
WU Wirtschaftsuniversität Wien - Austria

Simon L. Dolan
Adantere School of Management - Spain

Nazam Dzolkarnaini
Edinburgh Napier University - UK

Sahar E-Vahdati
Coventry University - UK

Anna Earl
University of Canterbury - New Zealand

Nasr Elbahnasawy
Kent State University - USA

Stefano Elia
Politecnico di Milano - Italy

Heather Elms
American University - USA

Peter Enderwick
Auckland University of Technology - New Zealand

Zied Ftiti
EDC Paris Business School - France

Olivier Furrer
University of Fribourg - Switzerland

Axèle Giroud
Manchester Business School - UK

Omrane Guedhami
University of South Carolina - USA

Sangita Dutta Gupta
BML Munjal University - India

Suraksha Gupta
Newcastle University (UK)

Stine Haakonsson
Copenhagen Business School - Denmark

Imran Hameed
Faculty of Business, Sohar University - Oman

Michael Wendelboe Hansen
Copenhagen Business School - Denmark

Nicole Hartley
The University of Queensland Business School - Australia

M. Kabir Hassan
University of New Orleans - USA

Xinming He
Durham University Business School - UK

Reza Hesarzadeh
Ferdowsi University of Mashhad (FUM) - Iran

Mikael Hilmersson
University of Gothenburg - Sweden

Bersant Hobdari
Copenhagen Business School - Denmark

Dirk Holtbrügge
University of Erlangen-Nürnberg - Germany

Hafiz Hoque
Swansea University School of Management - UK

Frank Horwitz
Cranfield School of Management - UK

Helen Wei Hu
University of Melbourne - Australia

Ahmed Imran Hunjra
IPAG Business School, Paris - France

Najaf Iqbal
Anhui University of Finance & Economics - People's Republic of China

Hao Jiao
Beijing Normal University - People's Republic of China

Andreas A. Jobst
Central Bank of the UAE - USA



We are using cookies to give you the best experience on our website, but you are free to manage these at any time. To continue with our standard settings click "Accept". To find out more and manage your cookies, click "Manage cookies"

Besnik Krasniqi
University of Prishtina - Kosovo

Sumit K. Kundu
Florida International University - USA

Olga Kuznetsova
Manchester Metropolitan University - UK

Olivier Lamotte
Paris School of Business - France

Svetlana Ledyayev
Hanken School of Economics - Finland

Maria Tereza Leme Fleury
Getulio Vargas Foundation - Brazil

Haiyang Li
Rice University - USA

Jing Li
Simon Fraser University - Canada

Shaomin Li
Old Dominion University - USA

Yipeng Liu
Henley Business School - UK

Igor Loncarski
University of Ljubljana - Slovenia

Meiting Lu
Macquarie University - Australia

John M. Da Silva Luiz
University of Sussex Business School - UK

Sarianna Lundan
University of Bremen - Germany

Svetla Marinova
Aalborg University - Denmark

Anna Matysek-Jedrych
Poznan University of Economics and Business - Poland

Marshall W Meyer
University of Pennsylvania - USA

Michael Morley
Kemmy Business School, University of Limerick - Ireland

Dirk Morschett
University of Fribourg - Switzerland

Deepraj Mukherjee
Kent State University - USA

Andreea N. Kiss
Lehigh University - USA

Krzysztof Obloj
Kozminski University / University of Warsaw - Poland

Mohammed Omran
Arab Academy for Science and Technology - Egypt

Rudra P. Pradhan
Indian Institute of Technology Kharagpur - India

Giota Papadimitri
University of Portsmouth - UK

Chris Patel
Macquarie University - Australia

Parth Patel
Australian Institute of Business - Australia

Bent Petersen
Copenhagen Business School and University of Gothenburg - Denmark and Sweden

Rebecca Piekari
Aalto University - Finland

Ashly Pinnington
Nottingham University Business School - UK

Jose Plà Barber
University of Valencia - Spain

Pia Polsa
Hanken School of Economics - Finland

Christiane Prange
Woxsen University / Zhejiang University International Business School - India / People's Republic of China

Prem Ramburuth
University of New South Wales - Australia

Jacobo Ramirez
Copenhagen Business School - Denmark



We are using cookies to give you the best experience on our website, but you are free to manage these at any time. To continue with our standard settings click "Accept". To find out more and manage your cookies, click "Manage cookies"

Vanessa Ratten
La Trobe University - Australia

Daniel Rottig
Florida Gulf Coast University - USA

Sanjit Roy
Edith Cowan University - Australia

Sami Saarenketo
LUT University - Finland

Manjit Sandhu
RMIT University - Vietnam

Nitin Sanghavi
Manchester Business School and Flame University - UK and India

Karl P Sauviant
Columbia University - USA

Alex Sclip
University of Verona - Italy

Jan Selmer
Aarhus University - Denmark

Abhijit Sharma
University of Huddersfield - UK

Gagan Deep Sharma
Guru Gobind Singh Indraprastha University - India

Piyush Sharma
Curtin University - Australia

Aviv Shoham
University of Haifa - Israel

Moade Shubita
Leeds Beckett University - UK

Mona Sinha
Kennesaw State University - USA

Francesca Spigarelli
University of Macerata - Italy

Włodzimierz Sroka
WSB University and University of Johannesburg - Poland and South Africa

Shalini Talwar
S. P. Jain Institute of Management and Research (SPJIMR) - India

Shlomo Tarba
University of Birmingham - UK

Menelaos Tasiou
University of Portsmouth - UK

Ekrem Tatoglu
Gulf University for Science and Technology / Ibn Haldun University - Kuwait / Turkey

Pooja Thakur-Wernz
Washington and Lee University - USA

Aviral Tiwari
Indian Institute Of Management Bodh Gaya - India

Jasman Tuyon
Universiti Teknologi MARA - Malaysia

Buerhan Uluyol
Istanbul Sabahattin Zaim University - Turkey

Zaghun Umar
Zayed University - United Arab Emirates

Andres Velez-Calle
Universidad EAFIT - Colombia

V. G. Venkatesh
EM Normandie Business School - France

Shaista Wasiuzzaman
Universiti Teknologi Brunei - Brunei Darussalam

Nirosha Hewa Wellalage
University of Waikato - New Zealand

Wing-Keung Wong
Asia University, Taiwan - People's Republic of China

Jun Wu
Georgia Gwinnett College - USA

Andrei Yakovlev
Higher School of Economics - Russia

Xiaohua Yang
University of San Francisco - USA

Larisa Yarovaya
University of Southampton - UK



We are using cookies to give you the best experience on our website, but you are free to manage these at any time. To continue with our standard settings click "Accept". To find out more and manage your cookies, click "Manage cookies"

Connie Zheng
University of South Australia - Australia

Cherrie Jiuhoa Zhu
Monash University - Australia

[Indexing & metrics](#) 

[Reviewers](#) 

[Calls for papers & news](#) 

International Journal of Emerging Markets is publishing high quality multidisciplinary research focusing on business in emerging markets.

ISSN: 1746-8809

eISSN: 1746-8817

You can choose to publish your article open access in this journal by indicating on the editorial system when you submit your paper.



Aims and scope

International Journal of Emerging Markets (IJoEM) publishes high-quality theoretical and empirical research that significantly enhances, advances or preferably develops our understanding of emerging markets through the causal exploration of the emerging market context and a clear link to theory. Emerging markets encompass a diverse range of economies and societies, including transitioning countries and developing nations, characterized by rapid growth and industrialization, evolving institutional frameworks, increasing integration into the global economy and an emerging middle class.

While influenced by some of the international business disciplines theoretical frameworks, like institutional theory and internationalization theory, *IJoEM* adopts a multidisciplinary perspective, drawing from economics, finance, marketing, management, strategy and theoretical frameworks from related disciplines. It embraces diverse methodological approaches supporting causal explorations of emerging market contexts which is clearly linked to appropriate theory. The journal welcomes both qualitative and quantitative studies, as well as conceptual work that advances emerging market theory, integrative literature reviews and meta-analyses, offering insights into the unique institutional, cultural, and economic contexts of emerging economies.

Particular emphasis is placed on comparative studies that explore differences and similarities between emerging and developed markets, or among emerging markets themselves. While *IJoEM* does publish replication studies, such studies must meet a higher threshold for ensuring theoretical novelty and originality. They need to contribute to theory testing or refinement by exploring the boundary conditions offered by emerging market contexts. Single-country studies are welcome. However, such studies still need to contribute to the broader literature on/about emerging markets and shouldn't just make an empirical contribution or be positioned as from an understudied emerging market. Single-country studies still need to provide theoretical insights for other emerging markets and draw on the broader emerging markets' literature.

SJR

SI

SR

CR

G

EPI

SJR

Scimago Journal & Country Rank

Enter Journal Title, ISSN or Publisher Name

Home

Journal Rankings

Journal Value

Country Rankings

Viz Tools

Help

About Us

International Journal of Emerging Markets

COUNTRY United Kingdom Universities and research institutions in United Kingdom Media Ranking in United Kingdom	SUBJECT AREA AND CATEGORY Business, Management and Accounting - Business and International Management - Business, Management and Accounting (miscellaneous)	PUBLISHER Emerald Publishing	SJR 2024 0.739Q2 H-INDEX 49
PUBLICATION TYPE Journals	ISSN 17468809, 17468817	COVERAGE 2006-2025	INFORMATION Homepage How to publish in this journal ilan.alon@uia.no

SCOPE

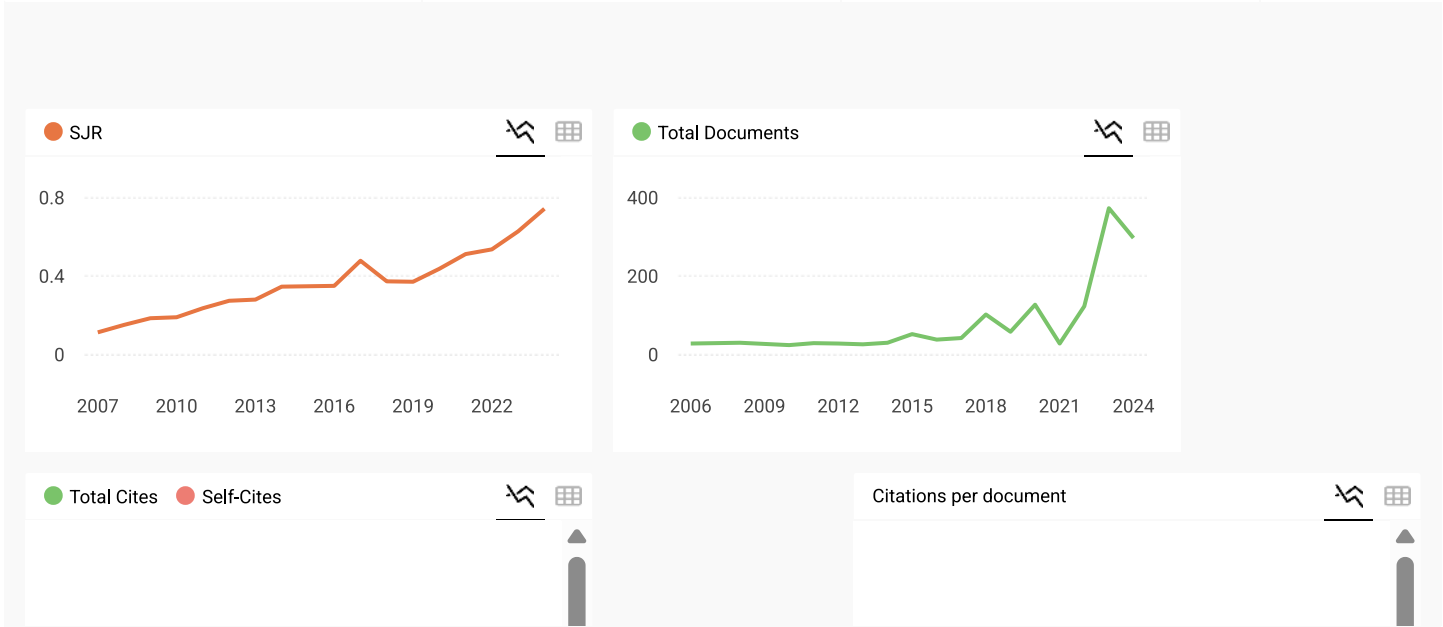
International Journal of Emerging Markets (IJoEM) publishes rigorous theoretical and empirical research on emerging markets from multidisciplinary (economics, finance, marketing, and management) and multinational geographic perspectives. The journal publishes qualitative and quantitative research, and review articles, such as meta-analysis. IJoEM especially encourages comparative studies of emerging markets or studies comparing the emerging markets with the developed markets, and seeks theories explaining the contextual differences. The journal welcomes papers on: • International business and strategy • Emerging markets multinationals • Consumer behaviour • Organizational behaviour • Marketing and entrepreneurship • International trade, finance and investment • Area studies and theories of emerging markets • Ethics, corporate social responsibility and sustainability • Policy, comparative and international political economy.

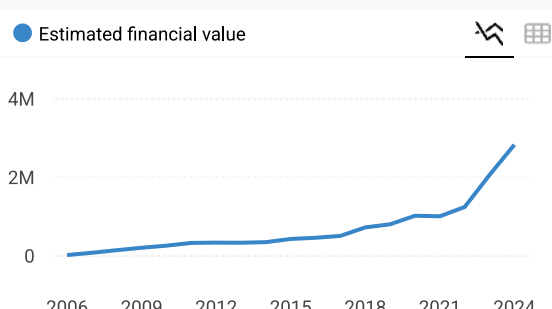
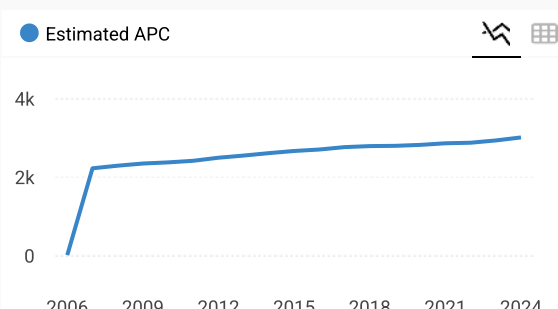
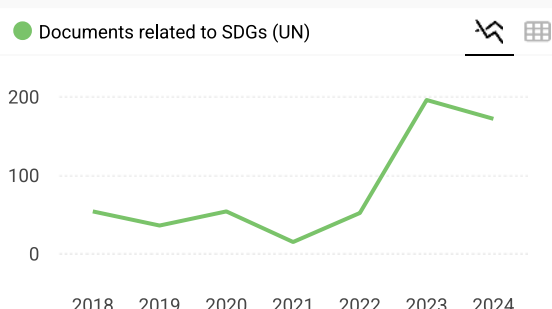
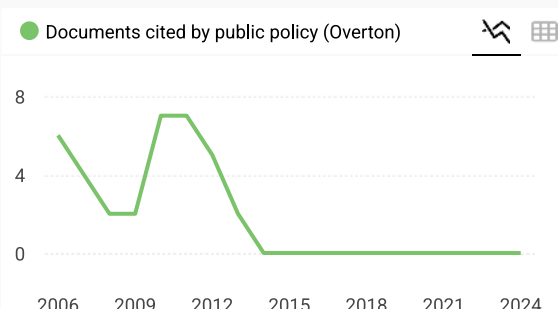
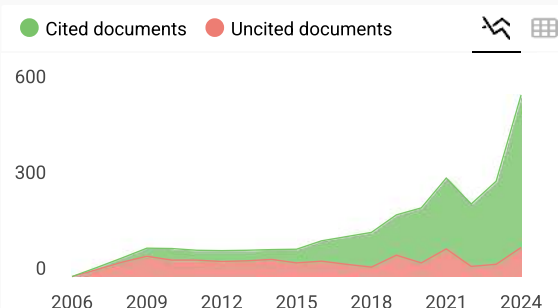
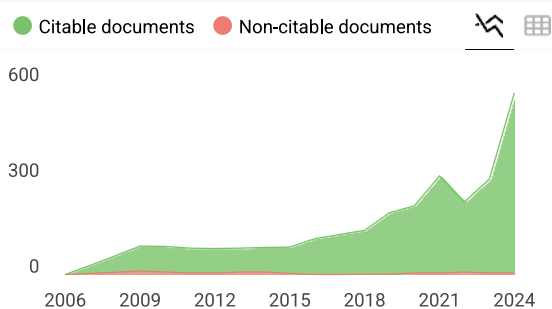
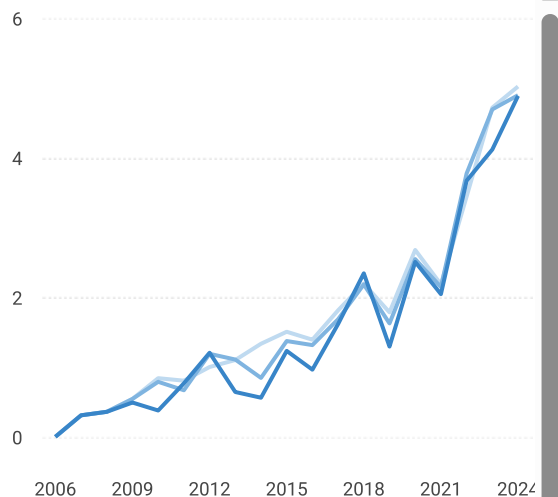
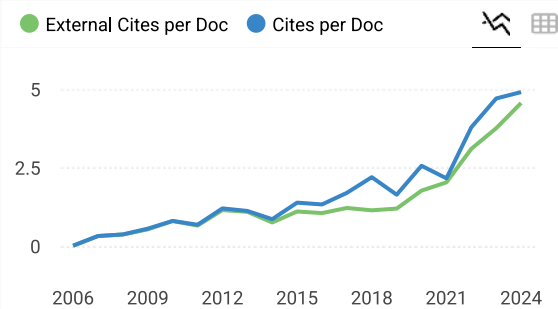
Join the conversation about this journal

Quartiles

FIND SIMILAR JOURNALS

1 Business Perspectives and Research GBR	2 Brazilian Business Review BRA	3 Revista Brasileira de Gestao de Negocios BRA	4 International Business and Management MYS
52% similarity	52% similarity	51% similarity	50% similarity







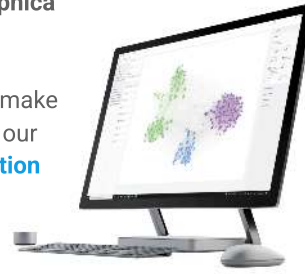
← Show this widget in your own website

Just copy the code below and paste within your html code:

```
<a href="https://www.scimagojr.com" data-bbox="260 137 407 150">
```

SCImago Graphica

Explore, visually communicate and make sense of data with our **new data visualization tool**.



Metrics based on Scopus® data as of March 2025

R

Researcher 2 years ago

Very bad review process; after holding my work for about 11 months, they decided to reject it. However, two of the three reviewers accepted the work with major revisions. They just killed my time, so frustrating.

← reply

Y

Yilmaz 2 years ago

This journal must be definitely in Q1

How can you show it at Q2?

Also sometimes you show some predatory journals at Q2 or even Q1.

← reply



Melanie Ortiz 2 years ago

SCImago Team

Dear Yilmaz,
Thank you for contacting us.

As you probably already know, SCImago calculates the scientometric indicators based on the data sent by Scopus. Keep in mind that these data are a static image of Scopus database and that this one increases its documents daily. The SJR indicator is calculated equally with a recursive algorithm that takes into account the data sent by Scopus.

Source details

International Journal of Emerging Markets

Years currently covered by Scopus: from 2006 to 2025

Publisher: Emerald Publishing

ISSN: 1746-8809 E-ISSN: 1746-8817

Subject area: Business, Management and Accounting: General Business, Management and Accounting

Source type: Journal

- View all documents >
- Set document alert
-  Save to source list

CiteScore 2024	7.2	
SJR 2024	0.739	
SNIP 2024	1.180	

CiteScore CiteScore rank & trend Scopus content coverage

CiteScore 2024 

7.2 = $\frac{4,637 \text{ Citations } 2021 - 2024}{641 \text{ Documents } 2021 - 2024}$

Calculated on 05 May, 2025

CiteScoreTracker 2025 

8.3 = $\frac{6,242 \text{ Citations to date}}{755 \text{ Documents to date}}$

Last updated on 05 July, 2025 • Updated monthly

CiteScore rank 2024

Category	Rank	Percentile
Business, Management and Accounting	#41/225	82nd
General Business, Management and Accounting		

View CiteScore methodology > CiteScore FAQ > Add CiteScore to your site 

Voluntary intellectual capital disclosure and earnings forecast in Indonesia–Malaysia–Thailand growth triangle’s pharmaceuticals sector

Voluntary ICD
and earnings
forecast

Saorce Elsy Hatane, Jefferson Clarenzo Diandra and Josua Tarigan
*Accounting, Faculty of Business and Economics, Universitas Kristen Petra,
Surabaya, Indonesia, and*
Ferry Jie
School of Business and Law, Edith Cowan University, Joondalup, Australia

Received 8 January 2020
Revised 13 September 2020
22 January 2021
3 March 2021
Accepted 8 March 2021

Abstract

Purpose – This study examines the role of intellectual capital disclosure (ICD) on earnings forecasting by analysts in the pharmaceutical industry in emerging countries, particularly in Indonesia, Malaysia and Thailand. This study specifically examines the role of each component of the ICD on analysts’ forecasts, which consists of errors of forecasted earnings, the standard deviation of forecasted earnings and analyst recommendations.

Design/methodology/approach – Panel data analysis is conducted using a sample of 17 companies from pharmaceuticals industries in Indonesia, Malaysia, Thailand – Growth Triangle (IMT-GT), which are listed in the Indonesia Stock Exchange (IDX), Malaysia Stock Exchange (MYX) and Stock Exchange of Thailand (SET) from 2010 to 2017. Secondary data is obtained from Bloomberg and Annual report, where they are being analyzed to measure the ICD and gather the control variables.

Findings – The results indicate that the three components of ICD, namely human capital disclosure (HCD), structural capital disclosure (SCD) and relational capital disclosure (RCD), insignificantly influence average analysts’ consensus recommendation and analysts’ earnings forecast dispersion. However, the findings show a significant negative influence of relational capital disclosure (RCD) on analysts’ earnings forecast error. In contrast, HCD and SCD have an insignificant impact.

Practical implications – Transparency in disclosing activities related to external parties is essential for the pharmaceutical industry. It is found that relational capital disclosure is the only ICD indicator that can strengthen analysts’ profit predictions. Transparency about company activities in maintaining customer satisfaction and activities related to strategic alliances with other organizations are two critical things that can accommodate the accuracy of earnings forecasting from analysts in pharmaceutical companies.

Originality/value – This study contributes to ICD-related research by discussing the financial analyst’s response to this voluntary disclosure in the pharmaceutical industry, particularly in Indonesia, Malaysia and Thailand. The selected observation period is seven years, starting one year after the global financial crisis. The results showed that the disclosure of IC is not an exciting thing for financial analysts. In forecasting current earnings, financial analysts are more interested in errors than the previous year’s estimates.

Keywords Intellectual capital disclosure, Earnings forecast, Pharmaceuticals industry, IMT-GT

Paper type Research paper

1. Introduction

A major financial and economic crisis, also known as the Global Financial Crisis, has happened in one of the economic giants, the United States, in 2007–2009. This unfortunate event was due to high-risk loan provision provided by US Banks to borrowers with poor credit history for a mortgage (Iannuzzi and Berardi, 2010). As a result, many banks and investors experienced a significant loss, makes them stop taking a risk, thereby making the credit market freezing. Since then, the decreasing confidence in the credit market led to a



decline in economic growth, and many countries entered a recession from the second half of 2008 (Crotty, 2009).

The recession in developed countries had also been delivering a damaging impact on the emerging countries, including countries in South-East Asia. The emerging countries needed to stabilize their economies; thereby, they do not have excess funds for investment. The decline in loans and investments was a primary reason the emerging countries were impacted severely, considering their high dependency on loans for development assistance (Buyse *et al.*, 2010). Companies might not bear the high cost of voluntary disclosure during financial crisis periods due to related preparation and competitive costs. Thus, companies will diminish voluntary disclosure after the financial crisis (Haji and Ghazali, 2012). However, voluntary disclosure in the pharmaceuticals sector is relatively needed to assess the competitive advantages, particularly in high research and development activities (Gray and Skogsvik, 2004).

Indonesia, Malaysia, Thailand – Growth Triangle (IMT-GT) relationship is chosen to represent the condition of emerging countries' economies in this particular study, as it is believed to be the pioneer in developing a bilateral agreement between countries in ASEAN. Also, the relentless growth of "IMT-GT" might positively influence all ASEAN members (Avianto, 2010). The pharmaceuticals are such an exciting industry to be discussed due to the high valuation of intangible capital, including patents creation, the capitalization of R&D and advertising (Russell, 2016).

The problem is that intellectual capital disclosure (ICD) has possessed high voluntary disclosure costs, thus disclosing intellectual capital tends to be voluntary. Therefore, companies have the option to disclose or not to disclose it (Vafaei *et al.*, 2011). However, this problem can be solved if the company realizes the advantages of disclosing its intellectual capital in the published annual reports. According to Kamath (2017), disclosing intellectual capital helps companies reduce information asymmetry between firms and promote stock price. Besides, ICD could also improve transparency in the company's management due to more intangible asset disclosures than tangible assets (Hatane *et al.*, 2019). Therefore, it provides a chance for stakeholders, including investors, to evaluate the company's prospects and the firm's value. It explains this study's objective, which is to verify whether ICD impacts the earnings forecast that the analysts had on a firm.

There are limited numbers of articles that explicitly discuss the impact of disclosures on earning forecasting. Most of them discuss corporate disclosure in general, and some of them specifically discuss corporate social disclosure. Therefore, this study gives additional value to research topics of ICD and earning forecasting. In this study, the analysts' earnings forecast is measured using three measurements: average analysts' consensus recommendation, earnings forecast dispersion and earnings forecast error in listed pharmaceutical firms in the IMT-GT countries. This study finds that the ICD components have mixed results regarding the analysts' earnings forecast. Human capital disclosure (HCD), structural capital disclosure (SCD) and relational capital disclosure (RCD) insignificantly influence average analysts' consensus recommendation and analysts' earnings forecast dispersion. However, relational capital disclosure (RCD) shows a significant negative influence toward analysts' earnings forecast error. In contrast, HCD and SCD have an insignificant influence. The significant negative relationship between RCD and earnings forecast error means that the more disclosure made by the company, the lesser the error would be in the earnings forecast made by analysts for firms. Besides, the insignificant result in average analysts' consensus recommendation and earnings forecast dispersion recommendation might be caused by the fact that analysts in pharmaceuticals in IMT-GT still consider more financial performance aspects rather than non-financial.

The rest of this study is structured as follows: literature review and development of hypotheses in Section 2. Section 3 presents the data and research methodology adopted in this

study. Results, discussion and practical implications are presented in [Section 4](#) and finally closed by concluding remarks and limitations and suggestions for future research in [Section 5](#).

Voluntary ICD
and earnings
forecast

2. Literature review and hypothesis

2.1 Intellectual capital disclosure

ICD is a report intended to convey the information needed by the information users who do not have the authority to report compilation to meet their needs for information about intellectual capital ([Abeysekera, 2011](#)). Also, ICD can be approved as additional information ([Mehrotra, 2018](#)) because these disclosures add complete information to company reports ([Bruggen, 2009](#)). [Ching and Gerab \(2017\)](#) also said that this disclosure could reduce information asymmetry by becoming a communication tool between companies and their stakeholders. Disclosure of intellectual capital can also increase stakeholders' trust because more information is available to the public ([Bruggen, 2009](#)). Furthermore, there is a finding that ICD is irrelevant in the capital market ([Bukh, 2003](#)). The reason is that capital market players focus too much on particular indicators that standard to be compared among companies, even though they differ significantly in some characteristics. These capital market players do not pay attention to the relationship between the ICDs' indicators and the value creation in the intellectual capital report. [Bukh et al. \(2005\)](#) suggest that analysis of items disclosed in the annual report should provide insight into intellectual capital statements' functions, particularly those related to capital market valuation. Because every information disclosed in the annual report aims to form predictions of its fair value, the information presented must provide the best visualization for investors and analysts to use the information to estimate the company's value creation.

[Andreeva and Garanina \(2016\)](#), [Bontis \(2010\)](#), [Abdullah and Sofian \(2012\)](#), [Rehman \(2011\)](#), [Zambon \(2015\)](#), [Guthrie et al. \(2012\)](#) state that in general *intellectual capital* is categorized in three-part: *human capital*, *structural capital* and *relational capital*. *Human capital* is often referred to as *employee competence* ([Nyberg et al., 2015](#)) and is often associated with individuals ([Tseng, 2005](#)). Nowadays, companies are encouraged to pay more attention to their employees' ability and quality to react to the industry's transformation ([Tarigan et al., 2019](#)). *Human capital* is the intelligence, skills and expertise of human resources that provide more value to the company ([Bontis, 2010](#)). Human capital is a total of competencies, skills, innovation, behavior, commitment, wisdom and experience of the company's workforce ([Obeidat et al., 2017](#)).

Structural capital is also often referred to as *internal capital* ([Tseng, 2005](#)) or *organizational capital* ([Obeidat et al., 2017](#)). *Structural capital* is the company's ability to face external and internal challenges ([Gogan, 2015](#)). *Structural capital* comprises of infrastructure, information system, procedure and company's culture ([Gogan, 2015](#)), connection, policy and other abilities possessed by the company, which will be developed to meet the market's demand ([Zangouinezhad, 2009](#)). *Structural capital* is believed to be something that the firm possesses ([Tarigan et al., 2019](#)).

Relational capital is also often called and referred to as *external capital* or *relation capital* ([Hashim, 2015](#)), which is related to parties' relationships outside the organization, along with loyalty, market share and level of trust ([Zangouinezhad, 2009](#)). [Bontis \(2010\)](#) says that *relational capital* is capital regarding corporate relationships with stakeholders outside the company, such as customers, distribution channels, business collaboration, franchise agreements and other external parties' activities.

Prior studies propose that ICD failure could worsen the information asymmetry, resulting in the company's missvaluation ([Lev et al., 2012](#)). It may lead to higher capital costs ([Seow et al., 2016](#)) since the miss valuation of assets values written on the balance sheet related to the

intellectual capital (Günther, 2015). As a result, it may cause the firm's stocks to be less liquid (Boone and Raman, 2011). On the other side, ICD can provide beneficial information for the investors relating to uncertainty in firms' profitability and help calculate firm value accurately (Hatane *et al.*, 2019). Investors have an interest in the earnings forecast of the company. They want to get the security for their investment by attempting the factual and reliable information about the company, including the intangible assets disclosure (Sheikhholeslami, 2011) and the recommendation from the financial analyst about the earnings forecasting. Indeed, forecasting future income growth is believed to be the primary key factor in promising long-term share investing mechanisms (Feldman *et al.*, 2012).

Most researches on intellectual capital disclosures were using the annual report as the media. This study adapted the items used by Yan (2017) and Cabrita (2017) to measure the ICD variable. Disclosure categories and formats are highly dependent on the level of impression from management. Considering that the qualitative disclosure format is better than not disclosing, this study only uses the number of items disclosed without distinguishing the quantitative and qualitative categories in the form of disclosure. This study also did not check intellectual capital information on the website, as Cabrita (2017) did. The consideration is that the disclosures on the website can only be measured in the most recent year. This study carried out observations over several years and three countries with different languages, so the relevant source for use is the annual report. Therefore, the two sources' elaboration results are 66 disclosure items consisting of 21 HCD items, 24 SCD items and 21 RCD items. It gives 1 to each point if the statement item is shown in the annual report and zero if not. It is suggested as follows and applies to all the three indicators of intellectual capital disclosure.

$$ICD = \frac{\sum X}{M} \quad (1)$$

Explanation:

ICD = Company's Intellectual Capital Disclosure

X = Disclosed criterion value (value is 1 if disclosed, value is 0 if not disclosed)

M = The maximum quantity of items that the company should disclose.

2.2 Earnings forecast

The prognoses theory supports the forecasting of the firm's earnings' done by the securities analysts. Prognoses theory indicates the intricacy of predicting future events, such as future profitability, using past or present event factors. The analysts use two approaches when analyzing the company, which is through technical or fundamental analysis. Technical analysts usually start with a chart, and they believe that the company's stock price already incorporates all the relevant information (Almujamed, 2013). Contrary, fundamental analysts try to regulate the company's valuation by acknowledging its profit or loss statement, financial position statement and statement of cash flows. The stock price does not accurately reflect all the possible information (Baresa *et al.*, 2013). In addition to the available financial information that both analysts type base their result, they also can access qualitative information from the managers. Prior studies have advised that analysts can build more precise prognoses than a statistical model merely based on a few quantitative information and access to qualitative information (Brown, 2002).

Earnings forecast is the financial analysts' estimate for a company's quarterly or annual earnings per share (EPS) (Bradshaw, 2018). A financial analyst is a professional individual or firm in evaluating the financial and investment information, mainly selling, buying or holding securities. The financial analysts research the economic condition to determine the

most accurate stock recommendation in various business sectors for society to invest in (Orens and Lybaert, 2010).

In this study, the earnings forecast is acting as the dependent variable and is divided into three properties: earnings *forecast error*, *earnings forecast dispersion* and *average analysts' consensus recommendation* (Maaloul *et al.*, 2016).

The Forecast Error (F_ERROR) is calculated as the absolute result of the difference between actual earnings per share (EPS) and the forecasted EPS divided by the actual EPS (Jones, 2007). Due to the integral use of earnings estimates, most financial analysts tend to overestimate earnings leading to falsified and error information. Financial practitioners often rely on the validity of past analysts' forecast information to predict the future result, which consistently contributes more to the earnings forecast error (Myring and Wrege, 2009).

$$F_{\text{ERROR}} = \left| \frac{\text{Actual EPS} - \text{Forecasted EPS}}{\text{Actual EPS}} \right| \quad (2)$$

Forecast dispersion (F_DISP) is calculated by dividing the standard deviation of EPS forecasts between analysts by the absolute result of actual EPS (Simpson, 2010). Even though the consensus estimates are the primary data mostly adopted by the market participants, it loses its relevancy regarding the forecasts' distribution. For instance, *earnings forecast dispersion* is often perceived as an indicator of leading behavior between the analysts (Hu, 2015).

$$F_{\text{DISP}} = \frac{\sqrt{\frac{1}{J} \sum_{j=1}^J (\text{Forecasted EPS} - \text{Median Forecasted EPS})^2}}{|\text{Actual EPS}|} \quad (3)$$

The Average consensus recommendation (Av. CONS_REC) is measured through accumulated the analysts' suggestions into a number metric from 3 (buy), 2 (hold) to 1 (sell), and the average is being taken (Maaloul *et al.*, 2016). The analysts' earnings forecast is often gathered to generate *average analysts' consensus estimates*. It would then be heavily relied on by the public investors to determine their stock investment choice (Liu and Irvine, 2018).

2.3 Control variables

The control variable is a variable that is stable in highlighting the relationship between the independent and dependent variables (York, 2018). This study's control variables are the lagged year, analysts' coverage, loss, size, profitability and growth opportunities.

A *lagged year of forecast dispersion (F_DISP)*, *forecast error (F_ERROR)* and *average analysts' consensus recommendation (AvCONS_REC)* of the current year are being utilized as effect-controlling on next year forecast dispersion, forecast error and average analysts' consensus recommendation. *Analyst Coverage* is defined as the number of analysts examining the following firm (Simpson, 2010). The previous study has shown that higher analyst coverage also indicated greater competition among analysts, causing analysts to perform extensive research for the firm and deliver a more accurate forecasting result (Higgins, 2013). According to prior research (Ghosh, 2012), analysts' earnings forecast is more subjective for a firm with losses than a firm with profits. For control, a control variable that gives one of the companies shows negative EPS and otherwise zero for *firm loss* (Higgins, 2013). *Firm Size* is the ratio of the market value of equity on the total asset. Prior studies advocate that analysts make a better forecast for larger firms (Hope, 2003). *Firm Profitability* is also controlled for explaining the analysts' overreaction to these strong characters. (Simpson, 2010). *Firm Profitability* is measured through the firm's return on assets (ROA).

Voluntary ICD
and earnings
forecast

Growth Opportunities is also controlled for explaining overreaction response from analysts to these company characteristics (Simpson, 2010). For *Growth Opportunities*, it is derived from dividing the equity market value by the book value.

2.4 Hypotheses development

The previous studies have advised that securities analysts have put so much dependency on the companies' disclosed information to calculate their future income (Higgins, 2013). Besides, analysts will care about their forecast accuracy as it is believed to be the crucial dimension that sets off their quality (Lambert, 2004), labels their reputation (Jackson, 2005) and is strongly related to the likelihood of promotion (Groysberg and Healy, 2011). Thus, if the voluntary disclosure serves relevant information and data for the firm's prospects and wealth creation ability, the analyst's forecast accuracy will be enhanced within more ICD (Günther, 2015). As Mouritsen *et al.* (2004) studied, ICD can be used as an internal management tool to communicate the prospect externally, which is a knowledge-based strategy. The *prognoses theory* indicates that the analysts can construct more accurate prognoses than a statistical model based on a few quantitative information and have access to qualitative information. Hence, it is believed that voluntary disclosure has a negative association toward the error in analysts' income forecasts. The more the disclosure is, the lesser the error in the analyst's earnings forecast. This notion is further supported by Orens and Lybaert (2010) that researched non-financial information used by the sell-side financial analysts. They argued that the sell-side analysts who used non-financial information have better earnings forecast accuracy. Besides, research conducted in Taiwan's high-tech industries had proof that firm-specific disclosures on intellectual capital have a negative association with the error of firm revenue forecast (Hsu and Chang, 2011). Dhaliwal (2012) stated that a firm non-financial report's publication could reduce analysts' earnings forecast error. Some prior studies argued that the firm's voluntary disclosure negatively impacts the analysts' error of earnings forecast. However, some researchers also believe that the diverging information quality possessed by voluntary disclosure could exert an erroneous impact on the accuracy of analysts' earnings forecast. It means that the voluntary disclosure may reduce the error in the analysts' earnings forecast (Lang, 2016). Besides, Jones (2007) discovered a restricted effect on the research development area disclosure on the precision negatively impacts before; based on the discussion and analysis, this study's first hypothesis is:

- H1a. Human capital disclosure has a negative association with the error in analysts' earnings forecast.
- H1b. Structural capital disclosure has a negative association with the error in analysts' earnings forecast.
- H1c. Relational capital disclosure has a negative association with the error in analysts' earnings forecast.

The analysts' earnings forecast dispersion is the dispute between the analysts regarding the firm's earnings per share (EPS) (Athanasakos and Kalimipalli, 2003). Indeed, the difference in information will lead to scattered in the analysts' earnings forecast. Each individual will have entry to diverse private data compared to the available one in public. While the information asymmetry exists between these individuals, increased voluntary disclosure is believed to reduce their forecast dispersion due to access to similar information articles (Günther, 2015). The stakeholder theory also supports this notion that disclosing intellectual capital could reduce information asymmetry and encourage stakeholders' rights. Besides, a study in firm-specific disclosure provides evidence that voluntary disclosure of non-financial

assets has a negative connection to the dispersion data in earnings forecast analysis (Hsu and Chang, 2011). However, the diverse analysts' forecasting models' differences might cause higher dispersion in the earnings forecast. Each individual has a unique forecasting model, even if the same public and private information are available. Hence, an increased voluntary disclosure could contribute to the increased dispersion of earnings forecast, as each analyst could get different findings from the same observation. Therefore, while analysts' forecasting models vary, the increased voluntary disclosure is positively related to the analysts' earnings forecast dispersion (Günther, 2015).

Moreover, Athanassakos and Kalimipalli (2003) argued that a firm's stocks with high earnings forecast dispersion tend to possess low returns relative to low forecast dispersion. Although there are contradicting arguments, we are likely to believe that the negative association is logical. Therefore, based on the above discussion and analysis, the second hypothesis of this study is:

- H2a. Human capital disclosure has a negative association with the dispersion in earnings forecasts analysis.
- H2b. Structural capital disclosure has a negative association with the dispersion in earnings forecasts analysis.
- H2c. Relational capital disclosure has a negative association with the dispersion in earnings forecasts analysis.

The analysts' mean recommendation agreement is the analysts' combined estimates in public companies' earnings (Maydybura, 2013). In other words, the analysts provide the data for the company's earnings per share (EPS) and revenue based on the quarter or annual period analysis. The average analysts' consensus recommendation refers to their perspectives on the companies' related stocks. The analysts' argument would be like the following: buy, hold or sell. Therefore, stocks with a "large" average consensus recommendation are perceived as the stocks with the best consensus suggestion. In contrast, stocks with "small" average consensus recommendations are considered the stocks with the least helpful consensus suggestion (Kim *et al.*, 2017). The *signaling theory* suggests that the company's positive signals through disclosures (i.e. non-financial disclosure) could increase investors' confidence and consensus in analysts' stocks recommendation.

Furthermore, as Mouritsen *et al.* (2004) mentioned, ICD as part of non-financial disclosure becomes an essential tool in today's organizations to deliver a positive signal to the public. It is believed ICD can cover the limitation of financial statements by providing information about how intellectual resources create future value. Therefore, the increased voluntary disclosure could decrease the information asymmetry level, which could boost the possibility of analysts' most attractive consensus suggestions. It is because more disclosure means a reduction in the firms' earnings uncertainty. Decreased uncertainty will lead to more agreement on the company's stock recommendation. Therefore, the disclosure of intellectual capital has a positive association with the feasibility of the analysts' fairest consensus recommendation (Günther, 2015). Based on the above discussion and analysis, the third hypothesis of this analysis is:

- H3a. Human capital disclosure has a positive association with the feasibility of the most pleasing consensus recommendation
- H3b. Structural capital disclosure has a positive association with the feasibility of the most pleasing consensus recommendation
- H3c. Relational capital disclosure has a positive association with the feasibility of the most pleasing consensus recommendation

3. Research methodology

3.1 Sample

To achieve this study’s aim, panel data regression that uses crossed time series data by utilizing Gretl software is done by collecting secondary data, testing the hypothesis and identifying correlation. The sample firms involved are pharmaceuticals companies in IMT-GT countries listed in the Indonesia Stock Exchange, Malaysia Stock Exchange and Thailand’s Stock Exchange from 2010 until 2017. The pharmaceuticals sectors in IMT-GT are chosen because they have a high valuation of intangibles, particularly in the research and development activities and represent the economic condition in emerging countries under cooperation development with IMT-GT financial impact of the global financial crisis. This study uses all secondary data sufficiently provided by annual reports, Bloomberg and other reliable sources.

Table 1 shows that the sample observation, which suits the criteria in this research, is 119 firm-year observations from 2010 until 2016.

3.2 Measures

Dependent variable. This measuring the analysts’ earnings forecast divided into three variables consists of earnings forecast dispersion, earnings forecast error and average analyst consensus recommendation. The following year *Forecast dispersion* (F_DISP+1) will be measured through the standard deviation of forecasted EPS from analysts, divided by the absolute actual EPS value (Simpson, 2010). The following year *Forecast error* ($F_ERROR+1$) is calculated as the absolute result from the difference between actual earnings per share (EPS) and the forecasted EPS and then divided by the actual EPS value (Jones, 2007). The following year *Average consensus recommendation* ($Av.\ CONS_REC+1$) will be measured through accumulating the existing practitioner suggestions into a value from 3 (buy), 2 (hold) to 1 (sell), and the average is being taken (Maaloul et al., 2016).

Independent variables. ICD is divided into three variables consist of *HCD*, *SCD* and *relational capital disclosure RCD*. All three components have the same formula. The difference would be in the maximum number of items to be disclosed in the ICD Index list. The formula is explained below.

$ICD = \text{items disclosed in the annual report} / \text{maximum number of disclosure items that should be disclosed and finally multiply by } 100\%$

Control variables. This study’s control variable is the lagged year, analysts’ coverage, loss, size, profitability and growth opportunities. A *lagged year of forecast dispersion* (F_DISP), *forecast error* (F_ERROR) and *average analysts’ consensus recommendation* ($AvCONS_REC$) of the current year will be utilized as effect-controlling on next year forecast dispersion, forecast error and average analysts’ consensus recommendation. *Analyst Coverage* (AN_COV) is defined as the number of analysts examining the following firm (Simpson,

Table 1.
The sample
observation

Criteria	No. of observation
Total of listed pharmaceuticals companies in IMT-GT within 2010–2017	23
Companies with the incomplete annual report within the period in Indonesia	(2)
Companies with an incomplete annual report within the period in Malaysia	(2)
Companies with an incomplete annual report within the period in Thailand	(2)
Total companies as the population	17*
Total planned observation period (in years)	8
Trimmed period due to the existence of a lagged variable	(1)
Total observation period (in years)	7
The total sample used in this research* (17 × 7)	119

2010). *Firm Loss* will be measured through a controlling variable that gives 1 for companies with negative EPS and 0 (zero) for the positive EPS (Higgins, 2013). *Firm Size* is derived from the division between the market equity value to the total assets (Hope, 2003). *Firm Profitability* is measured through the firm's return on assets (ROA). Growth Opportunities will be derived from the market value of equity divided by the book value. Table 2 displays the operationalisation of variables analysed in this study.

Voluntary ICD
and earnings
forecast

3.3 Model

This study would like to show whether the three ICD components affect analysts' earnings forecast properties. A detailed examination is conducted to see the correlation between the characteristics and disclosure. Regression models are formulated as follows.

$$\begin{aligned} F_ERROR_{i,t+1} = & \beta_0 + \beta_1 HCD_{i,t} + \beta_2 SCD_{i,t} + \beta_3 RCD_{i,t} + \beta_4 F_ERROR_{i,t} \\ & + \beta_5 AN_COV_{i,t} + \beta_6 LOSS_{i,t} + \beta_7 SIZE_{i,t} + \beta_8 PROF_{i,t} \\ & + \beta_9 GR_OPP_{i,t} + \varepsilon_{i,t+1} \end{aligned} \quad (4)$$

$$\begin{aligned} F_DISP_{i,t+1} = & \beta_0 + \beta_1 HCD_{i,t} + \beta_2 SCD_{i,t} + \beta_3 RCD_{i,t} + \beta_4 F_DISP_{i,t} \\ & + \beta_5 AN_COV_{i,t} + \beta_6 LOSS_{i,t} + \beta_7 SIZE_{i,t} + \beta_8 PROF_{i,t} \\ & + \beta_9 GR_OPP_{i,t} + \varepsilon_{i,t+1} \end{aligned} \quad (5)$$

$$\begin{aligned} AvCONS_REC_{i,t+1} = & \beta_0 + \beta_1 HCD_{i,t} + \beta_2 SCD_{i,t} + \beta_3 RCD_{i,t} + \beta_4 AvCONS_REC_{i,t} \\ & + \beta_5 AN_COV_{i,t} + \beta_6 LOSS_{i,t} + \beta_7 SIZE_{i,t} + \beta_8 PROF_{i,t} \\ & + \beta_9 GR_OPP_{i,t} + \varepsilon_{i,t+1} \end{aligned} \quad (6)$$

where:

F_ERROR_{t+1} = Error in earnings forecast analysis for year $t+1$;

F_DISP_{t+1} = Dispersion in earnings forecast analysis for year $t+1$;

$AvCONS_REC_{t+1}$ = The mean of consensus suggestions from analysts for year $t+1$;

Variable(s)	Definitions
Human Capital Disclosure (HCD)	Human capital items disclosed by the company
Structural Capital Disclosure (SCD)	Structural capital items disclosed by the company
Relational Capital Disclosure (RCD)	Relational capital items disclosed by the company
Forecast Error (F_ERROR+1)	Next year's absolute value of the difference between actual and forecasted EPS divided by actual EPS
Forecast Dispersion (F_DISP+1)	Next year's standard deviation of forecasted EPS
Average Analysts' Consensus Recommendation (AvCONS_REC _{t+1})	Next year of average analyst's suggestion aggregation
Lagged Forecast Error (F_ERROR)	Current year's absolute value of the difference between actual and forecasted EPS divided by actual EPS
Lagged Forecast Dispersion (F_DISP)	Current year's standard deviation of forecasted EPS
Lagged Average Analysts' Consensus Recommendation (AvCONS_REC)	Current year of average analysts suggestion aggregation
Analysts Coverage (AN_COV)	The number of analysts examining the following firm
Firm Loss (LOSS)	A controlling variable that gives one for companies with negative EPS and zeroes for those who do not
Firm Size (SIZE)	The market value of equity over the total asset of the firm
Firm Profitability (PROF)	The net income over the total asset of the firm (ROA)
Firm Growth Opportunities (GR_OPP)	The market-to-book value of equity ratio

Table 2.
Variable lists and
source of the data

- F_ERROR_t = Error in earnings forecast analysis for year t ;
 F_DISP_t = Dispersion in earnings forecast analysis for year t ;
 $AvCONS_REC_t$ = The mean of consensus suggestions from analysts for year t ;
 HCD_t = Human Capital Disclosure for year t ;
 SCD_t = Structural Capital Disclosure for year t ;
 RCD_t = Relational Capital Disclosure for year t ;
 AN_COV_t = Analyst coverage for year t ;
 $LOSS_t$ = Company loss for year t ;
 $SIZE_t$ = Company size for year t ;
 $PROF_t$ = Company profitability for year t ;
 GR_OPP_t = Company growth opportunities for year t ;
 $\varepsilon_{i,t+1}$ = the residual
 β_0 = constant of the linear regression
 $\beta_1, \beta_2, \beta_3, \beta_4, \beta_5, \beta_6, \beta_7, \beta_8, \beta_9$ = regression coefficient of each variable
 t denotes periods.

3.3.1 Validity and reliability. Assessing the classical assumption test in the regression model is crucial. The reliability of variables must be conducted by examining the collinearity variance inflation factor (VIF) values. A multicollinearity test is performed to examine the linear correlation between independent variables and the regression model. Besides, a high correlation between the independent variables will cause a disturbance that threatens data reliability (Wooldridge, 2012). VIFs must be less than 10 in a more relaxed criterion (Wooldridge, 2012). As pictured below in Table 3, all variables have passed the multicollinearity.

Heteroscedasticity is another situation when the variances of errors are not the same with all observations (Wooldridge, 2012). Heteroscedasticity might become a problem in a study. When the p -value is less than 5%, the implication is the model contains heteroscedasticity. If there is a heteroscedasticity issue, the weighted least square must be conducted to overcome the problem. As shown below in Table 4, the first and second regression models have a heteroscedasticity issue.

Panel diagnostic is used to determine the regression model used in this research. Panel diagnostic yields fixed effect estimator and Hausman test. The panel diagnostic results are shown in Table 5. From the table below, the output indicates that the fixed-effect is suitable for the model. However, the previous test shows that the regression models have a heteroscedasticity issue. It means that a fixed effect cannot be used. Therefore, to overcome heteroscedasticity, this study applied the Weighted Least Squares model (WLS).

4. Research results and analysis

4.1 Sample description

Table 6 provides each variable’s descriptive statistics, comprising the minimum, maximum, mean and standard deviation values.

In Table 6, the HCD as an independent variable shows an average value of 0.52 and a standard deviation of 0.15. It means that the average disclosure for human capital items in

Full collinearity	VIFS	HCD	SCD	RCD	F_ERROR	F_DISP	AvCONS_REC	AN_COV	Loss	Size	Prof	GR_OPP
Model 1		1.379	1.741	1.629	1.108	–	–	1.575	2.9	2.45	3.021	1.239
Model 2		1.35	1.736	1.627	–	1.068	–	1.576	2.955	2.423	3.096	1.252
Model 3		1.346	1.749	1.7	–	–	1.486	2.069	2.902	2.455	3.006	1.231
Source(s): Author's compilation												

Voluntary ICD
and earnings
forecast

Table 3.
Collinearity test

pharmaceuticals companies in IMT-GT is 52%, which is slightly above 50%. A standard deviation of 15% means that the annual reports' HCD data do not disperse much. A low standard deviation indicates that most of the data numbers are very close to the average. The minimum value of 0.19 is obtained from TSPC Indonesia in 2010, the maximum value of 0.86 is derived from INAF Indonesia in 2016.

In comparison, SCD has an average value of 0.57 and a standard deviation of 0.11. As same as HCD, the average value in SCD is relatively higher, above 50% and indicates that the pharmaceuticals companies in IMT-GT have disclosed as much as 57% on average for the structural capital items, such as the company's vision and mission, R&D, ethical codes in their annual reports. The minimum value is 0.21 belongs to AHEALTH Malaysia in 2010 and 2011, respectively, and the maximum value is 0.75 belongs to KLBFI Indonesia in the year 2014–2016. Besides, as the last independent disclosure variable, RCD has an average value of 0.70 and a standard deviation of 0.13. The average disclosure for relational capital items by

Table 4.
Heteroscedasticity test

	Model 1	Model 2	Model 3
<i>p</i> -value	0.000001 (hetero)	0.000001 (hetero)	0.925 (homo)
Source(s): Author's compilation			

Table 5.
Panel test

	Model 1	Model 2	Model 3
Fixed Estimator	0.0598936	0.0471	0.0069
	OLS	Fixed effect	Fixed effect
Breusch–Pagan test	0.0836262	0.142387	0.991351
	OLS	OLS	OLS
Hausman test	6.52149e-005	3.59043e-005	1.14644e-005
	Fixed effect	Fixed effect	Fixed effect
Conclusion	OLS	Fixed effect	Fixed effect
Source(s): Author's compilation			

Table 6.
Descriptive statistics

Variable	Mean	Min	Max	Standard Deviation
HCD	0.52	0.19	0.86	0.15
SCD	0.57	0.21	0.75	0.11
RCD	0.70	0.43	0.95	0.13
ICD	0.60	0.37	0.83	0.10
F_ERROR	0.50	0	14.98	1.61
F_ERROR _{<i>t</i>+1}	0.55	0	14.98	1.69
F_DISP	2.87	0.02	93.60	11.17
F_DISP _{<i>t</i>+1}	3.26	0.16	93.60	11.67
AvCONS_REC	0.97	0.00	3.00	1.29
AvCONS_REC _{<i>t</i>+1}	1.04	0.00	3.00	1.32
AN_COV	1.82	0.00	27.00	4.82
LOSS	0.08	0.00	1.00	0.27
SIZE	1.66	0.36	10.80	1.63
PROF	8.10	−36.78	45.36	8.75
GR_OPP	4.12	−6.48	184.55	17.32
Source(s): Author's compilation				

pharmaceuticals companies in IMT-GT is the highest compared to HCD and SCD, 70% on average. The minimum value of 0.43 is derived from PYFA Indonesia in the year 2010 and 2011 consecutively.

On the other hand, the maximum value of 0.95 belongs to INAF and MERK in Indonesia for 2016 and S&J in Thailand for 2015 and 2016. The maximum value even reached out to 95%, which is the highest than any other disclosures items made in the human and relational capital. Also, ICD, as the accumulative independent disclosure variable, has an average value of 0.60 and a standard deviation of 0.10. The minimum value of 0.37 is obtained from one company in Malaysia, CCMD BIO, in 2010. In contrast, the maximum value of 0.83 is detected only in one company in Indonesia: INAF, within 2016.

4.2 Hypothesis and research result

Each hypothesis is divided into 3, which are a, b and c. A represents disclosure in human capital assets, b represents disclosure in structural capital assets and c represents disclosure in relational capital assets.

For hypothesis one, according to the regression results, as shown in Table 7, the relational capital disclosure has a partial negative association with the analysts' earnings forecast error. This negative relation is mainly supported by the relational disclosure component (p -value = 0.0961) at the 10% statistical significance level. Simultaneously, other items such as human and structural are not associated with the error in the firm's earnings forecast. Thus, hypothesis 1(a) and 1(b) are rejected while hypothesis 1(c) is accepted. The result of hypothesis 1(c) is consistent with prior studies that believe these disclosure components negatively affect analysts' earnings forecast error (Orens and Lybaert, 2010; Hsu and Chang, 2011; Dhaliwal, 2012). It is also in line with the prognoses theory that states analysts can compose more accurate prognoses than a statistical model based on a few quantitative information and access qualitative information. The more intellectual capital items are disclosed, the lesser the error in the analysts' earnings forecast as the comprehensive information, both financial and non-financial, is readily available in the annual report.

For hypothesis two, according to the regression results, as illustrated in Table 7, the three components of the ICD are statistically insignificant on the dispersion in an earnings forecast analysis. Thus, hypotheses 2(a), 2(b) and 2(c) are rejected. The result is contrary to the prior

Independent variables	F_ERROR1	Dependent variables	
		F_DISP1	AvCONS_REC1
Constanta	0.00092	0.6847	0.9496
HCD	0.0160	-0.1400	0.6648
SCD	0.4619	-0.4410	1.4160
RCD	-0.2300*	-0.0295	0.8830
F_ERROR	0.2541***	—	—
F_DISP	—	0.5116***	—
AvCONS_REC	—	—	0.6118***
AN_COV	-0.0063	-0.0021	0.0483*
LOSS	0.6245	5.5356***	-0.1610
SIZE	0.0146	0.1024	-0.0749
PROF	-0.0080*	-0.0022	0.0014
GR_OPP	0.0002	-0.058	-0.0011
Adjusted R-square	0.2241	0.2498	0.4662

Source(s): Author's compilation

Note(s): statistical significance at the following levels: *** = 1% (highly significant); ** = 5% (significant); * = 10% (weakly significant)

Table 7.
Panel regression result
summary

studies that believe these disclosure components negatively affect analysts' earnings forecast dispersion (Vanstraelen *et al.*, 2003; Hsu and Chang, 2011; Günther, 2015). This finding contradicts the stakeholder theory that disclosing intellectual capital could reduce information asymmetry and encourage stakeholders' rights.

For hypothesis three, based on the regression results, the three indicators of the ICD are statistically insignificant to the mean of consensus suggestion between the analysts. This finding is incoherent with previous studies that believe these disclosure components negatively affect average analysts' consensus recommendation (Günther, 2015). This result is also not parallel with the signaling theory that suggests that the company's positive signals through disclosures (i.e. non-financial disclosure) could help increase investors' confidence and consensus in analysts' stocks recommendation.

In the first regression model results (Table 7), the outputs depict that the earnings forecast error of the current year, as the control variable, possesses a significant positive association with the firm forecasted revenue error of the subsequent year. It is parallel with studies from Jones (2007) and Simpson (2010). The firm's loss and the firm's revenue forecasted error also include a positively significant association. This result is in the same boat as previous studies (Gu and Wang, 2005; Dhaliwal, 2012) and suggests that analysts' earnings forecast error has more tendency and not too accurate for companies with losses than profits. Moreover, the results show that the relationship between firm growth opportunities and firm revenue forecasted error is positively significant. Higher overreaction among analysts will lead to a higher probability of error in the analysts' earnings forecast.

The second regression model in Table 7 also depicts that the earnings forecast dispersion of the current year and control for their effects next year significantly impact the earnings forecast dispersion in the subsequent year. It is following the research from Jones (2007) and Simpson (2010). The relationship between the firm's loss variable and earnings forecast dispersion is positively and statistically associated.

For the third regression model, it shows that the average consensus suggestions of the analysts in the recent year, as the control variable, has a significant positive effect on the average consensus suggestions of the analysts in the subsequent year, which is parallel with studies from Jones (2007) and Simpson (2010). Moreover, the relationship between the firm's analyst's coverage variable and average consensus suggestions among the analysts is also positively associated (Simpson, 2010).

5. Managerial implication

Most intellectual capital disclosure's components and analysts' earnings forecasts have an insignificant relationship. ICD is a voluntary disclosure by the company to convey the information needed by the information users who do not have the authority to report compilation to meet their needs for information about intellectual capital. Toward the analysts, these kinds of information could be incorporated when forecasting the firm's earnings and could increase accuracy due to lower forecast error and dispersion. However, for the intellectual capital disclosure, only relational capital disclosure has a significant negative influence toward the earnings forecast error, while human capital and structural capital do not. The ICD also appears insignificant toward the earnings forecast dispersion and average analyst's consensus recommendation in this study.

Through this study, the investors may better understand the company's voluntary disclosure and factors that influence analysts' earnings forecast. Therefore, this study is expected to provide useful information for investment decision-making and avoid information asymmetry in the company. While ICD can give related information to the investors of the company's reliability of profit in the on-going period, financial analysts' forecast on firm earnings is a valuable tool for analyzing the promising probability in their stock investment option.

This study indicates that the more disclosure of relational capital, the more accurate the analyst's profit forecasting. It implies that analysts in the pharmaceutical industry emphasize information in management reports relating to external parties, such as buyers, investors, the public and other stakeholders. Producing and selling pharmaceutical products is not only physical products but also information about these products because buyers of pharmaceutical products hope to obtain health and improve quality of life. Pharmaceutical products are products with a slow sales life cycle and are closely related to technological developments. Indonesia, Malaysia and Thailand are developing countries that have limitations in new drug discovery skills. Pharmaceutical companies in developing countries generally establish strategic alliances to build reengineering skills to have the ability to independently develop new products in producing bulk drugs and ultimately be able to produce active pharmaceutical ingredients. Pharmaceutical company transparency in disclosing its activities with consumers, partners and other stakeholders signals that it can generate profits and maintain its business sustainability. The quantity and quality of this external relationship informations help analysts produce more accurate predictions; therefore, investors will be expected to prevail in the market with their investment decisions.

6. Conclusion and limitation

This paper aims to examine further the association of ICD using content analysis toward the analysts' earnings forecast for 117 annual reports of pharmaceuticals companies listed in IMT-GT. The period is from 2011 to 2017. ICD is being examined in detail based on three components, which are HCD, SCD and RCD. The main earnings forecast analysis features are average analysts' consensus recommendation, earnings forecast dispersion and earnings forecast error.

Eventually, several characteristics, such as RCD, are significantly associated with earnings forecast error, as presented in H1 (c). However, some other elements, such as HCD and SCD, are not significant with the earnings forecast error properties. The figures of 0.52 for HCD and 0.57 for SCD are relatively lower than relational capital, which has an average of 70% disclosure in the annual reports of pharmaceuticals companies in IMT-GT countries. The minimum disclosure reaches 19 and 21 % for disclosure in human capital and structural capital. That is why it means that the HCD and SCD of pharmaceuticals companies in IMT-GT countries cannot explain the analysts' earnings forecast error, making an insignificant relationship.

ICD delivers the same insignificant results when associated with the dispersion in the earnings forecast and average analysts' consensus suggestion. Besides, this may suggest that the analysts for pharmaceuticals companies in the IMT-GT countries might still consider their analysis based on financial information in the annual report rather than non-financial information (i.e. intellectual capital) determine their earning forecasting result. Although profitability as the financial control variable used in this study is insignificant, the single metric of profitability, which is the return on assets (ROA), could not be justified not to explain the financial information used for observation between the analysts. Besides, analysts might use other financial metrics to see the dispersion in their earnings forecast and recommend favorable stocks for a particular company. It can be leverage, return on equity (ROE), current ratio and other metrics not covered in this study.

This research contributes to previous studies related to Intellectual Capital (IC), especially in the pharmaceuticals sector that has not been adequately highlighted, though having high intellectual capital assets. This research used several years for observation, thus contributing to previous research that used only a single year in the S&P 500 (Maaloul *et al.*, 2016). It can be seen from the highest number of relational capital disclosures compared to other ICD components; the results of this study suggest that pharmaceutical companies are very

concerned about their relationships with external parties. Pharmaceutical products are products that are closely related to human health and quality of life. The accuracy of profit forecasting from analysts in the pharmaceutical industry is influenced by the size of the company's relational capital disclosures. The trust of consumers and society in general and partnerships with other organizations are positive signals for pharmaceutical companies' profitability.

Finally, the findings in this study are subject to certain limitations, which can be a reference for improving future research. This study covers a limited time, which is seven years from 2010 to 2017, the observed period after the global financial crisis happened. Future studies might want to study for a more extended period, which might lead to different results. This study observes the pharmaceutical industry in IMT-GT countries categorized as industries with high intellectual capital assets. Therefore, it is possible to earn different results if the study observed other sectors. Several ICD measurement methods can be carried out by further research, such as using the word count method, tone and disclosure through the company's website. These recommendations can enrich the research results in this area of intellectual capital.

References

- Abdullah, D.F. and Sofian, S. (2012), "The relationship between intellectual capital and corporate performance", *Procedia-Social and Behavioral Sciences*, Vol. 40 No. 3, pp. 537-541.
- Abeyssekera, I. (2011), "The relation of intellectual capital disclosure strategies and market value in two political settings", *Journal of Intellectual Capital*, Vol. 12 No. 2, pp. 319-338.
- Almujamed, H.I. (2013), "An investigation of the role of technical analysis in Kuwait", *Qualitative Research in Financial Markets*, Vol. 5 No. 1, pp. 43-64.
- Andreeva, T. and Garanina, T. (2016), "Do all elements of intellectual capital matter for organizational performance? Evidence from Russian context", *Journal of Intellectual Capital*, Vol. 17 No. 2, pp. 397-412.
- Athanassakos, G. and Kalimipalli, M. (2003), "Analyst forecast dispersion and future stock return volatility", *Quarterly Journal of Business and Economics*, Vol. 42 Nos 1/2, pp. 57-78.
- Avianto, B.R. (2010), "Distortion of capacity on inter-regional trade of IMT-GT: study cases on four selected provinces in Sumatra, Indonesia", *Journal of Indonesian Economy and Business*, Vol. 25 No. 3, pp. 308-324.
- Baresa, S., Bogdan, S. and Ivanovic, Z. (2013), "Strategy of stock valuation by fundamental analysis", *UTMS Journal of Economics*, Vol. 4 No. 1, pp. 45-51.
- Bontis, N. (2010), "Intellectual capital and business performance in the pharmaceutical sector of Jordan", *Management Decision*, Vol. 48 No. 1, pp. 105-131.
- Boone, J. and Raman, K. (2011), "Off-balance sheet R&D assets and market liquidity", *Journal of Accounting and Public Policy*, Vol. 20 No. 2, pp. 97-128.
- Bradshaw, M.T. (2018), "Analysts' GAAP earnings forecasts and their implications for accounting research", *Journal of Accounting and Economics*, Vol. 66 No. 1, pp. 46-66.
- Brown, P. (2002), "Analyst's dividend forecasts", *Pacific-Basin Finance Journal*, Vol. 10 No. 4, pp. 371-391.
- Bruggen, A. (2009), "Determinants of intellectual capital disclosure: evidence from Australia", *Journal of Management Decision*, Vol. 47 No. 2, pp. 233-245.
- Bukh, P.N. (2003), "The relevance of intellectual capital disclosure: a paradox?", *Accounting, Auditing and Accountability Journal*, Vol. 16 No. 1, pp. 49-56.
- Bukh, P.N., Nielsen, C., Gormsen, P. and Mouritsen, J. (2005), "Disclosure of information on intellectual capital in Danish IPO prospectuses", *Accounting, Auditing and Accountability Journal*, Vol. 18 No. 6, pp. 713-732.

-
- Buyssse, I.M., Laing, R.O. and Mantel-Teeuwisse, A.K. (2010), "Impact of the economic recession on the pharmaceutical sector", available at: <http://apps.who.int/medicinedocs/en/m/abstract/Js17419e/> (accessed 15 August 2019).
- Cabrita, M.d. (2017), "Competitiveness and disclosure of intellectual capital: an empirical research in Portuguese banks", *Journal of Intellectual Capital*, Vol. 18 No. 3, pp. 486-505.
- Ching, H.Y. and Gerab, F. (2017), "The quality of sustainability reports and corporate financial performance: evidence from Brazilian listed companies", *Journal of Sustainability Reporting*, Vol. 7 No. 2, pp. 1-9.
- Crotty, J. (2009), "Structural causes of the global financial crisis: a critical assessment of the new financial architecture", *Cambridge Journal of Economics*, Vol. 33 No. 4, pp. 563-580.
- Dhaliwal, D.S. (2012), "Nonfinancial disclosure and analyst forecast accuracy: international evidence on corporate social responsibility disclosure", *The Accounting Review*, Vol. 87 No. 3, pp. 723-759.
- Feldman, R., Livnat, J. and Zhang, Y. (2012), "Analysts' earnings forecast, recommendation, and target price revisions", *The Journal of Portfolio Management Spring*, Vol. 38 No. 3, pp. 120-132.
- Ghosh, D. (2012), "The effect of positive and negative financial and nonfinancial performance measures on analysts' recommendations", *Behavioral Research in Accounting*, Vol. 24 No. 2, pp. 47-64.
- Gogan, L.M. (2015), "Structural capital - a proposed measurement model", *Procedia Economics and Finance*, Vol. 23, pp. 1139-1146.
- Gray, S.J. and Skogsvik, K. (2004), "Voluntary disclosures of quoted pharmaceutical companies in Sweden and the UK: the development over the period 1984-98", *European Accounting Review*, Vol. 13 No. 4, pp. 787-805.
- Groysberg, B. and Healy, P.M. (2011), "What drives sell-side analyst compensation at high-status investment", *Journal of Accounting Research*, Vol. 49 No. 4, pp. 969-1000.
- Gu, F. and Wang, W. (2005), "Intangible assets, information complexity, and analysts' earnings forecast", *Journal of Business Finance and Accounting*, Vol. 32 Nos 9/10, pp. 1673-1702.
- Günther, F.S. (2015), "The relationship between recognised intangible assets and voluntary intellectual capital disclosure", *Journal of Applied Accounting*, Vol. 16 No. 2, pp. 240-264.
- Guthrie, J., Ricceri, F. and Dumay, J. (2012), "Reflections and projections: a decade of intellectual capital accounting research", *The British Accounting Review*, Vol. 44 No. 2, pp. 68-82.
- Haji, A.A. and Ghazali, N.A. (2012), "The influence of the financial crisis on corporate voluntary disclosure: some Malaysian evidence", *International Journal of Disclosure and Governance*, Vol. 9 No. 2, pp. 101-125.
- Hashim, M.J. (2015), "Effect of intellectual capital on organizational performance", *Procedia - Social and Behavioural Sciences*, Vol. 211, pp. 207-214.
- Hatane, S.E., Rembulan, D. and Tarigan, J. (2019), "Intellectual capital disclosures and audit components in non-discretionary income", *MIX Scientific Management Journal*, Vol. 9 No. 1, pp. 124-140.
- Higgins, H. (2013), "Can securities analysts forecast intangible firms' earnings?", *International Journal of Forecasting*, Vol. 29 No. 1, pp. 155-174.
- Hope, O. (2003), "Disclosure practices, enforcement of accounting standards, and analysts' forecast accuracy: an international study", *Journal of Accounting Research*, Vol. 41 No. 2, pp. 235-272.
- Hsu, W.-H. and Chang, Y.L. (2011), "Intellectual capital and analyst forecast: evidence from the high-tech industry in Taiwan", *Taylor and Francis Journals*, Vol. 21 No. 15, pp. 1135-1143.
- Hu, C. (2015), "The measurement of analysts' earnings forecast uncertainty", *Journal of Modern Economy*, Vol. 6, pp. 430-435.
- Iannuzzi, E. and Berardi, M. (2010), "Global financial crisis: causes and perspectives", *EuroMed Journal of Business*, Vol. 5 No. 3, pp. 279-297.

- Jackson, A.R. (2005), "Trade generation, reputation, and sell-side analysts", *The Journal of Finance*, Vol. 60 No. 2, pp. 673-718.
- Jones, D.A. (2007), "Voluntary disclosure in R&D-intensive industries", *Contemporary Accounting Research*, Vol. 24 No. 2, pp. 489-522.
- Kamath, B. (2017), "Determinants of intellectual capital disclosure: evidence from India", *Journal of Financial Reporting and Accounting*, Vol. 15 No. 3, pp. 367-391.
- Kim, K.S., Park, J. and Park, Y.W. (2017), "Differential informativeness of analyst reports by investor types: evidence from the Korean stock market", *Managerial Finance*, Vol. 43 No. 5, pp. 567-594.
- Lambert, A.R. (2004), "Discussion of analysts' treatment of non-recurring items in street earnings and loss function", *Journal of Accounting and Economics*, Vol. 38 Nos 1/3, pp. 205-222.
- Lang, K. (2016), "Voluntary disclosure and analyst forecast", *European Accounting Review*, Vol. 27 No. 1, pp. 23-36.
- Lev, B., Sarath, B. and Sougiannis, T. (2012), "R&D reporting biases and their consequences", *Contemporary Accounting Research*, Vol. 22 No. 40, pp. 977-1026.
- Liu, T. and Irvine, P.J. (2018), "Analysts' forecast dispersion and stock market anomalies: the role of forecast bias (March 18)", doi: [10.2139/ssrn.3045479](https://doi.org/10.2139/ssrn.3045479).
- Maaloul, A., Amar, W.B. and Zeghal, D. (2016), "Voluntary disclosure of intangibles and analysts' earnings forecasts and recommendations", *Journal of Applied Accounting Research*, Vol. 17 No. 4, pp. 421-439.
- Maydybura, A. (2013), "A study of analyst forecast reliability in Australia", *Journal of Applied Research in Accounting and Finance*, Vol. 8 No. 2, pp. 32-48.
- Mehrotra, V. (2018), "Intellectual capital disclosure by the Indian corporate sector", *Journal of Intellectual Capital*, Vol. 19 No. 2, pp. 376-392.
- Mouritsen, J., Nikolaj Bukh, P. and Marr, B. (2004), "Reporting on intellectual capital: why, what and how?", *Measuring Business Excellence*, Vol. 8 No. 1, pp. 46-54.
- Myring, M. and Wrege, W. (2009), "Analysts' earnings forecast accuracy and activity: a time-series analysis", *Journal of Business and Economics Research*, Vol. 7 No. 5, pp. 88-96.
- Nyberg, Wright, A. and Patrick (2015), "50 Years of human capital research: assessing what we know, exploring where we go", *Academy of Management Perspectives*, Vol. 29, pp. 287-295.
- Obeidat, B.Y., Tarhini, A., Masa'deh, R. and Aqqad, N.O. (2017), "The impact of intellectual capital on innovation via the mediating role of knowledge management: a structural equation modelling approach", *International Journal of Knowledge Management Studies*, Vol. 8 Nos 3-4, pp. 87-96.
- Orens, R. and Lybaert, N. (2010), "Determinants of sell-side financial analysts' use of non-financial information", *Journal of Accounting and Business Research*, Vol. 40 No. 1, pp. 39-53.
- Rehman, W.U. (2011), "Intellectual capital performance and its impact on corporate performance: an empirical evidence from Modaraba sector of Pakistan", *Australian Journal of Business and Management Research*, Vol. 1 No. 5, pp. 8-16.
- Russell, M. (2016), "The valuation of pharmaceutical intangibles", *Journal of Intellectual Capital*, Vol. 17 No. 3, pp. 484-506.
- Seow, G., Shangguan, Z. and Vasudevan, G. (2016), "Intangible investments and the cost of equity capital", *International Journal of Finance*, Vol. 18 No. 2, pp. 3980-4012.
- Sheikholeslami, M. (2011), "The importance of earnings forecasts, sales forecasts, and cash flow forecasts to stock price forecasts of internet companies", *International Business and Economics Research Journal*, Vol. 2 No. 1, pp. 41-46.
- Simpson, A. (2010), "Analysts' use of nonfinancial information disclosures", *Contemporary Accounting Research*, Vol. 27 No. 1, pp. 249-288.

- Tarigan, J., Listijabudhi, S., Hatane, S.E. and Widjaja, D.C. (2019), "The impacts of intellectual capital on financial performance: an evidence from Indonesian manufacturing industry", *Indonesian Journal of Business and Entrepreneurship*, Vol. 5 No. 1, pp. 65-76.
- Tseng, C.Y. (2005), "Intellectual capital and corporate value in an emerging economy: empirical study of Taiwanese manufacturers", *Journal of Intellectual Capital*, Vol. 35 No. 2, pp. 187-201.
- Vafaei, A., Taylor, D. and Ahmed, K. (2011), "The value relevance of intellectual capital disclosures", *Journal of Intellectual Capital*, Vol. 12 No. 3, pp. 407-429.
- Vanstraelen, A., Zarzeski, T.M. and Robb, W.G.S. (2003), "Corporate nonfinancial disclosure practices and financial analyst forecast ability across three European countries", *Journal of International Financial Management and Accounting*, Vol. 14 No. 3, pp. 249-278.
- Wooldridge, J. (2012), *Introductory Econometrics: A Modern Approach*, 5th ed., South-Western Cengage Learning, Mason, Ohio.
- Yan, X. (2017), "Corporate governance and intellectual capital disclosures in CEOs' statements", *Nankai Business Review International*, Vol. 8 No. 1, pp. 2-21.
- York, R. (2018), "Control variables and causal inference: a question of balance", *International Journal of Social Research Methodology*, Vol. 21 No. 6, pp. 675-684.
- Zambon, S. (2015), "Intellectual capital and innovation. A guideline for future research", *Journal of Innovation Economics and Management*, Vol. 2 No. 17, pp. 13-26.
- Zangouezinezhad, A. (2009), "The role of structural capital on competitive intelligence", *Industrial Management and Data Systems*, Vol. 109 No. 2, pp. 262-280.

Appendix

Human capital (HC)

HC 1 Professional skills	Qualified employees	Number of employees per position level (1) Number of employees per education status (2) Number of employees per salary level (3)
	Continuous training	Number of training hours (4) Training Themes (5) Number of training participants (6)
	Contract	Number of new employees (7) Number of permanent employees (8) Number of non-permanent employees (9) Number of intern employees (10)
HC 2 Social competencies	Social/cultural activities	Social/cultural activities in the company (11) Social/cultural activities with the community (12)
HC 3 Motivation	Promotions and incentives	Number of promoted employees (regional, national and international) (13) Incentives and bonus for employees (14) Incentives plan to maintain employees (15) Employees' salary increase (16) Employees' satisfaction and attachment (17)
	Stability	Job rotation level (18) Employees' absence level (19) Average employees' ages (20) Employees' identification based on average age (21)

Table A1.
The items of human
capital disclosure

Structural capital (SC)

SC 1 <i>Corporate culture</i>	<i>Mission and strategic objectives</i>	Vision, Mission, Strategic Objective (1)	
		Organization's Functional Structure (2)	
		<i>A best practice</i> used in the company (3)	
	<i>Operational objectives</i>	Company ethical codes and Declaration of missions or principles (4)	
		Company's management condition (5)	
		Company's performance evaluation existence (6)	
	<i>Investigation and development recognition</i>	Company's performance indicator (7)	
		Research and development expenses (8)	
		Existing project on research-development (9)	
SC 2 <i>Internal cooperation and transference of knowledge</i>	<i>Team work and cooperation between departments</i>	<i>Formal recognition</i> in the company and description of the context of the received bonuses (10)	
		Company's <i>Market share</i> (11)	
		Number of projects (12)	
	<i>Sharing of tacit knowledge</i>	Employees' flexibility in working (13)	
		Plans for competencies management and development of leadership (14)	
		Informal activity to share knowledge (15)	
	SC 3 <i>Technologies of information and explicit knowledge</i>	<i>Internal systems of communications and control</i>	Programs for internal mobility and working flexibility (16)
			Internal communication media (17)
			External communication media (18)
<i>Protocols and partnerships with other organisms</i>		Audit system and internal control (19)	
		Information technology and communication (20)	
		Information technology development and communication (21)	
<i>Quality evaluation</i>		Certification and achievement obtained (22)	
		Internal evaluation methods and results for goods/services (23)	
		Results of external evaluation of goods/services (24)	

Table A2.
The items of structural capital disclosure

Relational capital (RC)			Voluntary ICD and earnings forecast
RC 1 Customer relations	Accessibility and client support	Total branches and location of the branch (1) Online customer service media (2) Other customer service media (3) Offered products /services for clients (4)	
	Group relations	The countries' location of company group (5) Goods/services offered by companies in a group of companies (6) Strategic alliances for the group (7)	
	Client satisfaction	Number of clients (8) Information about systems for managing suggestions and complaints (9) Measurement of customer satisfaction (10)	
RC 2 Relations with investors	Future-oriented information	Company growth (11) Projects in the future (12)	
	Importance of the investor	Company's investor network (13) Investor relationship (14)	
RC 3 Relations with other stakeholders	Actions in social and environmental fields	Company's organizational connection (15) Social responsibility activities and human rights protection (16) Commitment to protecting the environment (17)	
	Protocols and partnerships with other organisms	Description of the company's cooperative relations (18) Form of the partnership developed or will be developed (19)	
	Other stakeholders	Identification of stakeholders (20) Form of communication and company relationships (21)	

Table A3.

The items of relational capital disclosure

Table A3.
The items of relational
capital disclosure

Corresponding author

Saarec Elsy Hatane can be contacted at: elsyehat@petra.ac.id

For instructions on how to order reprints of this article, please visit our website:

www.emeraldgroupublishing.com/licensing/reprints.htm

Or contact us for further details: permissions@emeraldinsight.com