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THE TRENDS, DETERMINANTS, USEFULNESS
AND EFFECTS OF INTELLECTUAL CAPITAL
DISCLOSURE: MALAYSIAN EVIDENCE

BY

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ABSTRACT

In the new economy which is knowledge-based; value creation tends to be based on intangible rather than tangible assets, thus companies' capital and resources depend more on intangible capital. This capital is called 'Intellectual Capital' (IC). The current study focuses on IC disclosure and has five objectives. Firstly, it aims to examine the extent of intellectual capital disclosure in the annual reports of Malaysian listed companies. Secondly, it aims to examine the trend of intellectual capital disclosure in the annual reports of Malaysian listed companies in the years 2002 and 2006. Thirdly, it aims to examine the determinants (i.e. firm size, profitability, leverage, type of audit firm and industry type) of intellectual capital disclosure in the annual reports of Malaysian listed companies. Fourthly, it aims to examine the usefulness of intellectual capital disclosure information from the user's perspective (i.e. management, analysts, banks, and academics). Finally, it aims to examine the effects of IC disclosure on the company's market capitalization. The data was based on secondary data (i.e. the annual reports for the years 2002 and 2006 and Bloomberg database) and primary data (i.e. the questionnaire survey). The study used content analysis based on a disclosure index to measure the extent of intellectual capital disclosure in the annual reports. The main statistical techniques which were conducted in this study are: descriptive statistics, univariate tests (e.g. T-test, correlation) and multivariate analysis (i.e. regression). The study found that there is relatively low IC disclosure although there is a gradual improvement from 2002 to 2006. The listed companies disclosed more external capital information compared to other IC categories, consistent with users finding this information as more useful. Basically, all user groups perceived IC information to be generally useful, which is reflected by the market as this study found that the disclosure of IC information in the annual reports does affect market capitalization. The study also confirmed that in Malaysia, firm size, profitability and industry type are determinants of IC disclosure. These are interesting findings because if Malaysia wants to enhance transparency in its capital market, more IC disclosure should be encouraged, particularly those items which are deemed useful by the users, as identified by this study. Encouraging more IC disclosure is necessary since this study provides evidence that the hidden values of companies seem to be captured by the IC disclosure practices and reflected in companies' market capitalization.

ملخص البحث

في الإقتصاد الجديد القائم على المعرفة، يكون خلق القيمة قائماً على الأصول غير الملموسة مقارنة بالأصول الملموسة، حيث إن موارد و رؤوس أموال الشركات تعتمد على رأس المال الغير ملموس. ورأس المال الغير ملموس هذا يطلق عليه "رأس المال الفكري" (آي سي). تركز الدراسة الحالية على الإفصاح عن المعلومات عن رأس المال الفكري ولها خمسة أهداف. أولاً، تهدف إلى إختبار مدى الإفصاح عن رأس المال الفكري في التقارير المالية السنوية للشركات الماليزية المسجلة في سوق الأوراق المالية. ثانياً، تهدف إلى إختبار الإتجاه (التغير) في الإفصاح عن رأس المال الفكري في التقارير المالية السنوية لهذه الشركات للسنوات 2002 و 2006. ثالثاً، تهدف إلى دراسة العوامل أو المحددات (التمثله في حجم الشركة، الربحية، السيولة، نوعية مراجعي الحسابات، ونوع أو قطاع الصناعة) المؤثره في الإفصاح عن رأس المال الفكري في التقارير المالية السنوية لهذه الشركات. رابعاً، تهدف إلى دراسة منافع أو فوائد الإفصاح عن المعلومات عن رأس المال الفكري من وجهة نظر مستخدمي التقارير المالية (التمثلين في مديري الشركات، المحللين الماليين، البنوك، الأكاديميين). أخيراً، تهدف إلى إختبار مدى تأثير الإفصاح عن رأس المال الفكري على القيمة السوقية للشركة. أتمتت بيانات الدراسة على البيانات الثانوية (التمثله في التقارير المالية السنوية للسنوات 2002 و 2006، بالإضافة إلى قاعدة البيانات بلومبر) وعلى البيانات الأولية (التمثله في الاستبيان). استخدمت الدراسة طريقة تحليل المضمون عن طريق قائمة للإفصاح وذلك لقياس مدى الإفصاح عن رأس المال الفكري في التقارير المالية السنوية. ومن ضمن طرق التحليل الإحصائي الرئيسية التي تم استخدامها في هذه الدراسة: طريقة الإحصاء الوصفي، طرق إختبار العوامل وحيدة التغير، وطريقة تحليل الإنحدار متعدد العوامل. ولقد أظهرت الدراسة أن مدى الإفصاح عن رأس المال الفكري يعتبر نسبياً منخفض على الرغم من وجود تحسن أو تقدم تدريجي من عام 2002 الى عام 2006. بالإضافة إلى ذلك، أظهرت نتائج الدراسة أن الشركات تفصح أكثر عن رأس المال الخارجي مقارنة ببقية فئات رأس المال الفكري. أساساً، أظهرت النتائج أن جميع مستخدمي التقارير المالية وبشكل عام يعتبرون أن المعلومات عن رأس المال الفكري مفيدة لهم، وهو ما عكسه السوق حيث إن النتائج أظهرت أن الإفصاح عن معلومات رأس المال الفكري تؤثر على القيمة السوقية للشركة. كما أكدت الدراسة أن في ماليزيا، حجم الشركة، الربحية، قطاع الصناعة تعتبر من العوامل المؤثره على الإفصاح عن رأس المال الفكري. وتعتبر هذه النتائج مثيرة للاهتمام وذلك لأنه إذا أرادت ماليزيا أن تعزز من الشفافية في سوق الأوراق المالية فإنه لا بدّ من التشجيع على مزيد من الإفصاح عن رأس المال الفكري وبالخصوص البنود التي أعتبرت مفيدة من وجهة نظر المستخدمين. أن التشجيع على مزيد من الإفصاح عن رأس المال الفكري يعتبر ضرورياً حيث إن هذا الدراسة قدمت دليلاً أن القيم الخفية للشركات يمكن إدراكها عن طريق الإفصاح عن رأس المال الفكري وهو ما عكس في القيمة السوقية للشركات.

APPROVAL PAGE

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DECLARATION

I hereby declare that this thesis is the result of my own investigation, except where otherwise stated. I also declare that it has not been previously or concurrently submitted as a whole for any other degrees at IIUM or other institutions.

Ousama Abdulrahman Anam

Signature.....

Date.....

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**THE TRENDS, DETERMINANTS, USEFULNESS AND EFFECTS OF
INTELLECTUAL CAPITAL DISCLOSURE:
MALAYSIAN EVIDENCE**

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This thesis is dedicated to:

*All those who have been instrumental in shaping me the way I am, those,
at home,
at school,
at the university,
to all those who lit a candle on the way of knowledge and science,
especially to IIUM.*

يهدى هذا البحث إلى:

كل من علمني،
في البيت،
في المدرسة،
في الجامعة،
وإلى كل من أضاء شمعة على طريق العلم والمعرفة، وبالخصوص الجامعة الإسلامية العالمية
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LIST OF ABBREVIATIONS

ANOVA	Analysis of Variance
ASB	Accounting Standards Board
ASSC	Accounting Standards Steering Committee
AUDIT	Type of Audit Firm
BSC	Balance Scorecard
BV	Book Value
BVALUE	Book Value
CEE	Capital Employed Efficiency
CEO	Chief Executive Officer
CFO	Chief Financial Officer
CSR	Corporate Social Responsibility
DF	Degree of Freedom
DICM	Dow IC Management
D-W	Durbin-Watson
EICD	Extent Intellectual Capital Disclosure
EICR	European IC Reports
EVA™	Economic Value Added
FASB	Financial Accounting Standard Board
FRS	Financial Reporting Standards
HCE	Human Capital Efficiency
IAM	Intangible Asset Monitor
IAS	International Accounting Standards
IASB	International Accounting Standards Board
IASC	International Accounting Standards Committee
IC	Intellectual Capital
ICD	Intellectual Capital Disclosure
ICI	Intellectual Capital Index
ICT	Information & Communication Technology
IFRS	International Financial Reporting Standards
IICR	Indian IC Reports
IUM	International Islamic University Malaysia
INDUSTRY	Industry Type
IPO	Initial Public Offering
IT	Information Technologies
KE	Knowledge-Based Economy
KEMP	Knowledge-based Economy Master Plan
LSD	Least-Significant Difference
LSE	London Stock Exchange
MASB	Malaysian Accounting Standards Board
MBA	Master of Business Administration
MBV	Market-to-Book Value
MCAP	Market Capitalization
MCCG	Malaysian Code on Corporate Governance

MERITUM	Measuring Intangibles to Understand and Improve Innovation Management Project
MIA	Malaysian Institute of Accountants
MICPA	Malaysian Institute of Certified Public Accountants
MMU	Malaysian Multimedia University
MOM	Master of Management
MP	Malaysian Plan
MRDI	Maximum Relevant Disclosure Items
MV	Market Value
NACRA	National Annual Corporate Report Awards
NDP	National Development Policy
NEP	New Economic Policy
NETPROFIT	Net Profit
NVP	National Vision Policy
NZSX	New Zealand Stock Exchange
OECD	Organization for Economic Co-operation and Development
OLS	Ordinary Least Square
PN4	Practice Note 4 Companies
PROFIT	Profitability
R&D	Research and Development
RO	Research Objective
ROA	Return on Assets
ROE	Return on Equity
RQ	Research Question
SCE	Structure Capital Efficiency
SEC	Securities and Exchange Commission
SFAC	Statement of Financial Accounting Concepts
SICMN	Skandia IC Management Navigator
SIZE	Firm Size
SMVS	Skandia Market Value Scheme
SN	Skandia Navigator
SPSS	Statistical Package for Social Sciences
TADS	Total Actual Disclosure Score
TB	Technology Broker
TSR	Transferable Subscription Right
UiTM	Universiti Teknologi Mara
UKM	Universiti Kebangsaan Malaysia
UM	Universiti Malaya
UPM	Universiti Putra Malaysia
VA	Value Added
VAIC™	Value Added Intellectual Coefficient
VDT	Value Distinction Tree
VIF	Variance Inflation Factor
VP	Value Platform
VW	Van der Waerden

CHAPTER 1

INTRODUCTION

1.1 BACKGROUND

In the new economy which is knowledge-based (or the knowledge economy); value creation tends to be based on the knowledge of people rather than on tangible (physical) assets (Whiting and Miller, 2008). According to Al-Ali (2003), companies depend on both their tangible and intangible capital and resources to create value and achieve their goals. Al-Ali argued that formerly companies' resources consisted of 80% tangible capital and resources and 20% intangibles; recently (in the knowledge economy), these figures have changed to become 80% for intangibles and 20% tangibles. Nevertheless, the calculation of the figure for intangibles is based on the differences between the market and book values of the companies, which reflects the hidden values (i.e. hidden resources) that are recognized and valued by the market (Stewart, 2000; Al-Ali, 2003). Based on a broad definition, the hidden values can be called 'Intellectual Capital' (IC) (Ordoñez de Pablos, 2003). This high percentage of IC knowledge-based resources reflects the important role that IC plays in the company's performance and in achieving the companies' objectives and strategies (Abeysekera, 2006; Whiting and Miller, 2008).

Despite their contributions to the value creation of a company, IC as an intangible or invisible resource continues to be disregarded in the current accounting systems and does not appear in the financial statements (Ordoñez de Pablos, 2003; Abeysekera and Guthrie, 2005), even though some recognition is given to certain IC components, such as goodwill (Abeysekera and Guthrie, 2005). Such limitations in

these systems have motivated companies to find out methods to measure and report IC to satisfy the information needs of various stakeholders. The popularity of IC as companies' capital and resource in the new knowledge economy and the lack of recognition and reporting have attracted researchers (both practitioners and academics) to study it. Thus, IC has become an attractive area with a growing number of studies over the last fifteen years. According to Serenko and Bontis (2004), the number of papers on knowledge management and IC has increased at an average annual rate of 50%. However, this large body of the literature on IC has focused: firstly, on informing, describing and exploring IC; secondly, on measuring it, (Ordoñez de Pablos, 2003; Whiting and Miller, 2008), and finally, on disclosing and reporting it.

In looking at the literature on IC, it was found that several definitions and classifications of IC exist. These definitions and classifications are considered briefly here¹. Broadly, IC can be defined as the differences between the company's market and book values (Stewart, 2000; Brennan, 2001; Ordoñez de Pablos, 2005). On the other hand, from the perspective of wealth creation, IC is defined as "intellectual material -knowledge, information, intellectual property, experience- that can be put to use to create wealth" (Stewart, 2000: xi). Generally, IC is found to be classified into three main categories, following one of the most popular classifications by Sveiby (1997), who classifies IC as internal structure, external structure, and employee competence. Sveiby's (1997) classification has been adopted widely by the IC literature (e.g. April, Bosma and Deglon, 2003; Abeysekera and Guthrie, 2005; Wong and Gardner, 2005; Whiting and Miller, 2008), although the terminology of the categories has been slightly modified to be: internal capital, external capital and

¹ The IC definitions and classifications will be discussed in detail in Chapter 2 (i.e. IC: A theoretical background).

human capital. Internal capital consists of innovations, technological infrastructure, internally generated intangible assets (e.g. patents, brand names, trademarks, copyrights), quality, processes, and management philosophy (Sanchez, Canibano, Covarsi, Chaminade, Olea, Escobar and Pacheco, 2000; Guthrie and Petty, 2000; Bontis, 2002; Seetharaman, Low and Saravanan, 2004). On the other hand, external capital consists of business partnering and alliances, business combination, information about customers (e.g. information about the customers number or market share), customers' satisfaction, suppliers (e.g. information about suppliers), distribution channels, marketing, market value and share price, and shareholders (Sanchez et al., 2000; Brennan, 2001; Bontis, 2002; Seetharaman et al., 2004; Olsson, 2004), whereas, human capital refers to the individual's education, skills, training, values, and experience (Sanchez et al., 2000; Guthrie and Petty, 2000; Bontis, 2002; Seetharaman et al., 2004).

After a brief introduction about IC, which included some background information and definitions, the following sub-sections will provide the objectives and research questions of the study. Furthermore, it will elaborate on the motivation and contribution of the study. Finally, it will give an overview of the organization of the study.

1.2 STUDY OBJECTIVES

The study aims to examine the issues of disclosure of IC information. There are three main objectives of this study. The first main aim is to investigate the extent, trend, and

determinants of IC in the annual reports of Malaysian listed companies in Bursa Malaysia². Therefore, the specific objectives of this part are:

- (1) To examine the extent of IC disclosure in the annual reports of Malaysian listed companies.
- (2) To examine the trend of IC disclosure in the annual reports of Malaysian listed companies in the periods 2002 and 2006.
- (3) To examine the determinants (i.e. firm size, profitability, leverage, type of audit firm and industry type) of IC disclosure in the annual reports of Malaysian listed companies.

The second main aim of the study is to investigate the issue of usefulness of disclosing IC information. More specifically, the objective of this part is (i.e. the fourth objective of the study):

- (4) To examine the usefulness of the disclosure of IC information from the user's perspective.

The third main aim of the study is to investigate the effects of IC disclosure on Market Capitalization (MCAP). More specifically, the objective of this part is (i.e. the fifth objective of the study):

- (5) To examine the effect of the disclosure of IC on a company's market capitalization in the periods 2002 and 2006.

1.3 RESEARCH QUESTIONS

Based on the above objectives, the following research questions are formulated:

- (1) What is the extent of IC disclosure in the annual reports of Malaysian listed companies?

² Bursa Malaysia (Bursa Malaysia Berhad), formerly known as Kuala Lumpur Stock Exchange (KLSE), is the Malaysian Stock Exchange.

- (2) Is there any improvement in the IC disclosure in the annual reports of Malaysian listed companies in the years 2002 and 2006?
- (3) What are the determinants (i.e. firm size, profitability, leverage, type of audit firm and industry type) of IC disclosure in the annual reports of Malaysian listed companies?
- (4) What are the user's perceptions of the usefulness of IC information?
- (5) What is the effect of the disclosure of IC on a company's market capitalization in the years 2002 and 2006?

1.4 MOTIVATION OF THE STUDY

IC has grown in significance as an important component of a company's value, hence there has been a rapid increase in the literature on IC disclosure (e.g. Guthrie and Petty, 2000; Brennan, 2001; Williams, 2001; Bontis, 2002; Olsson, 2004; Ordoñez de Pablos, 2005; Vergauwen and Alem, 2005; Abeysekera and Guthrie, 2005; Abdolmohammadi, 2005; Whiting and Miller, 2008). All potentially useful information has to be disclosed in the annual reports or other forms of reports. As a result, many companies, especially in the West (e.g. the USA, UK, Australia, Canada, Ireland, and Sweden) have started to disclose information about their IC in the annual reports or IC reports. However, there is a dearth of similar literature in Asian countries, including Malaysia.

Even though IC disclosure may have been researched in other countries and a few studies in Malaysia, there is a need to continually research this area. This is because the disclosure practices in Malaysia differ from developed countries (although most adopt the international financial accounting standards). Also, disclosure