

**ANALYSIS ON FINANCIAL PERFORMANCE OF TAKAFUL
OPERATORS IN MALAYSIA THROUGH CLAIM RATIO, RISK-
BASED CAPITAL AND INTELLECTUAL CAPITAL**

NUR AMALINA SYAFIQA BINTI KAMARUDDIN

UNIVERSITI SAINS ISLAM MALAYSIA

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Thesis submitted in partial fulfillment for the degree of
**MASTER OF SCIENCE IN
RISK MANAGEMENT**

September 2021

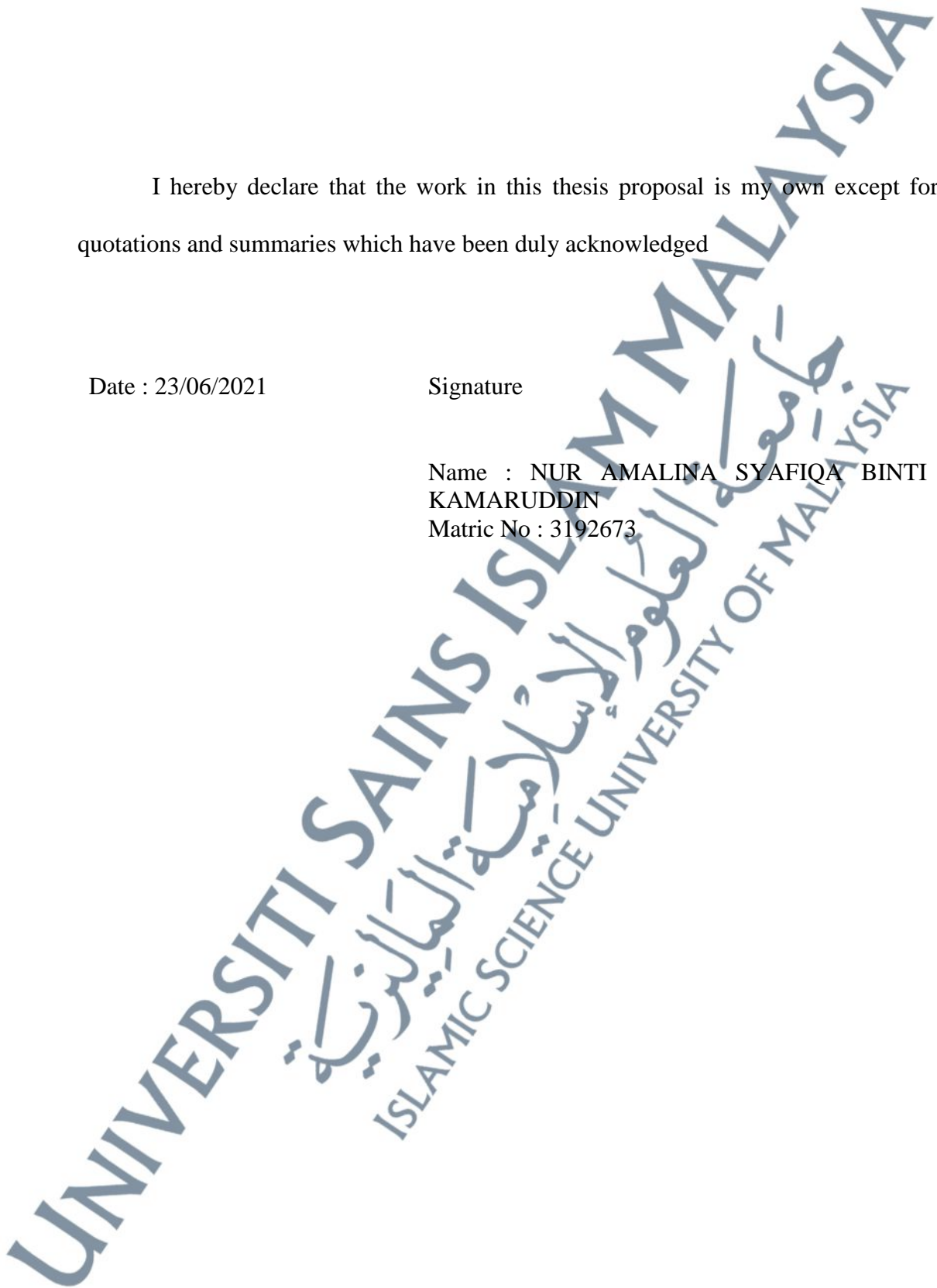
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I hereby declare that the work in this thesis proposal is my own except for quotations and summaries which have been duly acknowledged

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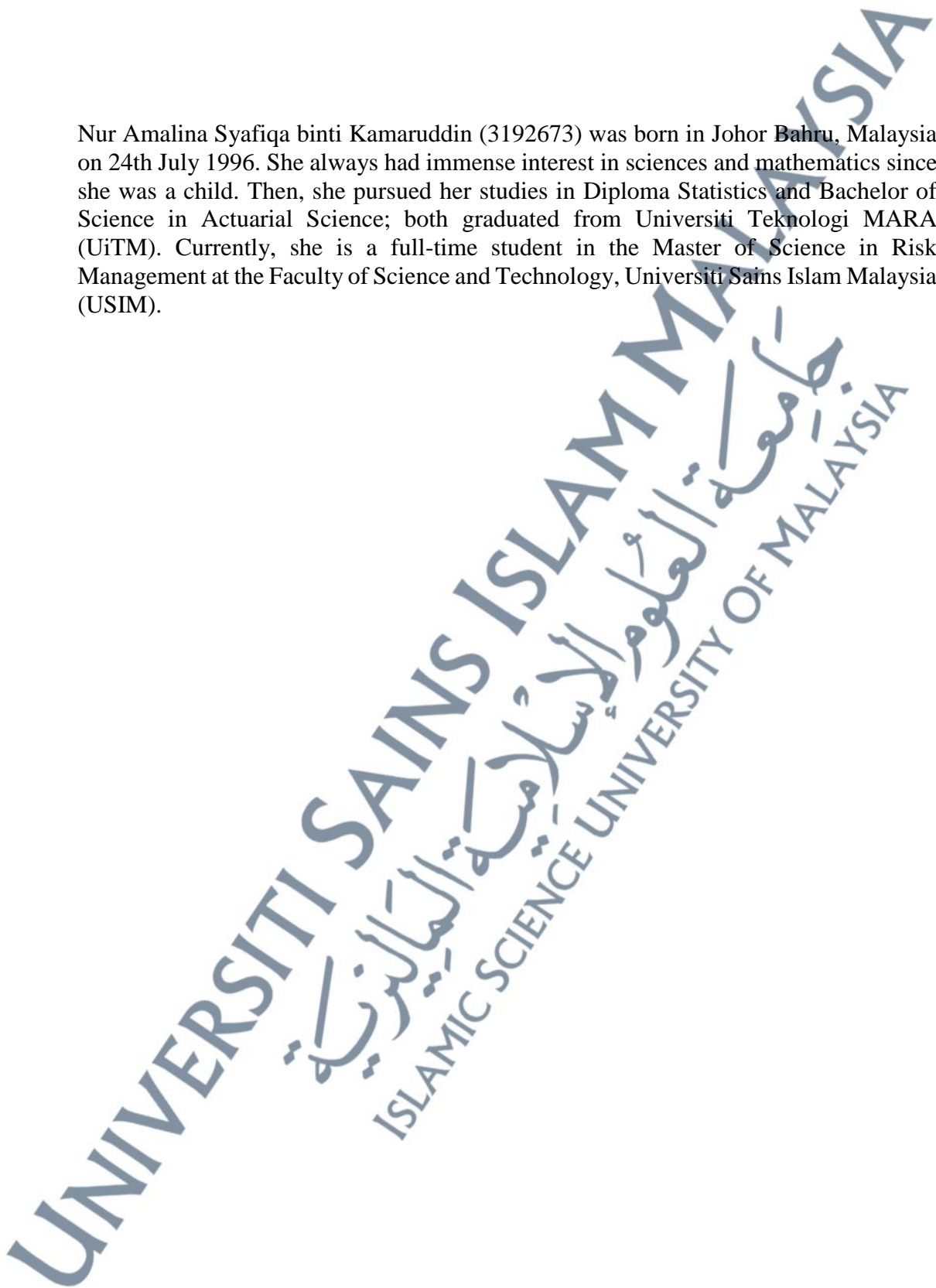
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Nur Amalina Syafiqa binti Kamaruddin (3192673) was born in Johor Bahru, Malaysia on 24th July 1996. She always had immense interest in sciences and mathematics since she was a child. Then, she pursued her studies in Diploma Statistics and Bachelor of Science in Actuarial Science; both graduated from Universiti Teknologi MARA (UiTM). Currently, she is a full-time student in the Master of Science in Risk Management at the Faculty of Science and Technology, Universiti Sains Islam Malaysia (USIM).



ACKNOWLEDGEMENT

In the name of Allah, the Most Gracious and the Most Merciful, peace and blessings of Allah are upon Prophet Muhammad. All praises to Allah for the strength He gave to me in completing this research study. Firstly, I would like to express my sincere gratitude to the wonderful supervisors, Dr. Norizarina binti Ishak and Dr. Ahmad Fadly Nurullah bin Rasedee for their continuous support, patience, motivation, knowledge and advice throughout this research project. Their guidance has helped me during the period of this research study and the writing of this thesis. Next, I would like to thank my kind panels from the beginning of presenting my research proposal until this thesis, Dr. Karmila Hanim binti Kamil, Dr. Sharifah Fairuz binti Syed Mohamad, Prof Madya Dr. Nurul Sima binti Mohamad Shariff, and Dr. Munira binti Ismail for continuously sharing their insightful comments and for guiding me the steps required in completing this research thesis. My next appreciation is to thank my beloved and supportive parents, siblings, family members, and friends for supporting me physically and emotionally throughout my master's degree, this research project, and my life in general. Last but not least, I am thankful to everyone important and has contributed to the successful completion of this research. I am extremely grateful for your existence.

ABSTRAK

Industri insurans memainkan peranan penting di dunia terutama di negara maju. Industri ini dianggap penting kerana berfungsi untuk memberi perlindungan kepada pengguna dan juga operasi perniagaan dari sebarang risiko. Takaful yang semakin popular di sektor insurans mesti mengekalkan pertumbuhan pasaran yang baik. Oleh itu, kajian ini bertujuan untuk menilai prestasi kewangan pengendali takaful melalui nisbah tuntutan, modal berasaskan risiko (RBC) dan modal intelektual terhadap dua nisbah keuntungan, iaitu pulangan asset (ROA) dan pulangan ekuiti (ROE). Kajian ini dilakukan dengan menggunakan set data panel dari 15 pengendali takaful tersenarai di Malaysia sepanjang tempoh tersebut 2015-2019 dan data sekunder yang digunakan diambil dari penyata kewangan yang diaudit oleh pengendali. Hasilnya diperolehi dengan mengira nisbah tuntutan, tahap modal minimum yang diperlukan dalam modal berasaskan risiko (RBC), skor modal intelektual tambah nilai (VAIC) dan peratusan tahap pulangan asset (ROA) dan pulangan ekuiti (ROE) setiap pengendali takaful. Model regresi data panel dan korelasi Pearson digunakan untuk menentukan kesan serta hubungan yang nisbah tuntutan, modal berasaskan risiko (RBC) dan skor modal intelektual tambah nilai (VAIC) terhadap keuntungan pengendali takaful. Hasil nisbah tuntutan menunjukkan bahawa dana takaful keluarga mempunyai nisbah tuntutan yang lebih tinggi yang menunjukkan keuntungan rendah berbanding dengan dana takaful am. Hasil modal berasaskan risiko (RBC) juga menyokong takaful am lebih baik daripada kebanyakan takaful keluarga dengan memenuhi tahap modal sasaran penyeliaan 130% seperti yang dikehendaki oleh Bank Negara Malaysia (BNM). Bagi skor modal intelektual tambah nilai (VAIC), kebanyakan pengendali takaful menunjukkan skor VAIC positif yang bermaksud mereka dapat menggunakan sepenuhnya sumber syarikat yang membawa kepada pengurusan yang cemerlang. Kedua-dua tahap pulangan asset (ROA) dan pulangan ekuiti (ROE) rata-rata menunjukkan hasil positif yang menunjukkan kebanyakan pengendali takaful keluarga dan am dapat menjana keuntungan yang baik dengan menggunakan tahap sumber mereka. Implikasi kajian ini dapat membantu masyarakat mendapatkan gambaran yang lebih jelas mengenai pasaran takaful Malaysia dan seterusnya membantu pengendali takaful ke arah peningkatan yang lebih baik dalam menilai prestasi masa depan mereka dengan menggunakan kaedah modal intelektual.

Kata kunci: Insurans, Takaful, Nisbah Tuntutan, Modal Berasaskan Risiko, Modal Intelektual, Modal Intelektual Tambah Nilai, Pulangan Asset, Pulangan Ekuiti

ABSTRACT

The insurance industry plays an important role in the world, especially in well-developed countries. This industry is considered crucial because it functions to protect people and business operations from any risks. Takaful, which has been growing in popularity in the insurance sector, must maintain good market growth. Thus, this study aims to assess the financial performance of takaful operators through claim ratio, risk-based capital (RBC), and intellectual capital towards two profitability ratios, which are return on asset (ROA) and return on equity (ROE). This study was conducted using a panel data set of 15 listed takaful operators in Malaysia over the period 2015-2019; meanwhile, the secondary data was taken from the operators' audited financial statements. The results were obtained by computing the claim ratio, the minimum capital level required in RBC, the value-added intellectual capital (VAIC) score, and percentages of ROA and ROE level of each takaful operator. A panel data regression model and Pearson correlation were used to determine the effects as well as the relationships that claim ratio, RBC, and VAIC have towards the profitability of takaful operators. The result of the claim ratio showed that family takaful fund has a higher claim ratio, which indicated low profit compared to general takaful fund. The RBC result also supported general takaful better than most family takaful by fulfilling the supervisory target capital level of 130% as required by Bank Negara Malaysia (BNM). As for the VAIC score, most of the takaful operators showed positive VAIC scores, which implies they are able to fully utilize the companies' resources that lead to an outstanding management leader stewardship. Both average levels of ROA and ROE showed positive results, indicating most family and general takaful operators are able to efficiently generate good profits using their resources' level. The implications of this study can help the public obtain a clearer picture of the Malaysian takaful market and further assist the takaful operators towards better improvement in assessing their future performance by applying the intellectual capital method.

Keyword: Insurance, Takaful, Claim Ratio, Risk-Based Capital, Intellectual Capital, Value Added Intellectual Capital, Return on Assets, Return on Equity

AL-MULAKHKHAS

تلعب صناعة التأمين دورًا مهمًا في العالم خاصة في الدول المتقدمة. تعتبر هذه الصناعة مهمة لأنها تعمل على توفير الحماية للمستهلكين وكذلك العمليات التجارية من أي مخاطر. يجب أن يحافظ التكافل الذي يتزايد شعبيته في قطاع التأمين على نمو جيد في السوق. لذلك، تهدف هذه الدراسة إلى تقييم الأداء المالي لمشغلي التكافل من خلال نسبة المطالبات، ورأس المال والعائد على (ROA) ورأس المال الفكري إلى نسبتي ربح، وهما العائد على الأصول (RBC) القائم على المخاطر أجريت هذه الدراسة باستخدام مجموعة بيانات لوحة من 15 شركة تكافل مدرجة في ماليزيا خلال (ROE) حقوق الملكية الفترة 2015-2019، وتم أخذ البيانات الثانوية المستخدمة من البيانات المالية المدققة من قبل المشغل. يتم الحصول على (RBC) النتائج من خلال حساب نسبة المطالبات، ومستوى رأس المال الأدنى المطلوب في رأس المال القائم على المخاطر والعائد على حقوق (ROA) والنسبة المئوية للعائد على الأصول (VAIC)، ودرجة رأس المال الفكري المضاف للقيمة مستويات كل شركة تكافل. تم استخدام نموذج انحدار بيانات اللوحة وعلاقة بيرسون لتحديد تأثير وعلاقة (ROE) الملكية على (VAIC) ودرجة رأس المال الفكري المضاف للقيمة (RBC) نسبة المطالبات، ورأس المال المعتمد على المخاطر أرباح مشغلي التكافل. تظهر نتائج نسبة المطالبات أن صناديق التكافل العائلي لديها نسبة مطالبات أعلى مما يشير إلى ربح تدعم التكافل العام بشكل (RBC) أقل مقارنة بصناديق التكافل العامة. كما أن مكاسب رأس المال القائمة على المخاطر أفضل من معظم شركات التكافل العائلية من خلال تلبية مستوى رأس المال الخاضع للإشراف 130٪ كما هو مطلوب من ، فإن (VAIC) أما بالنسبة لدرجة رأس المال الفكري المضاف إلى القيمة (BNM) Negara Malaysia قبل بنك مما يعني أنهم قادرون على الاستفادة الكاملة من موارد الشركة VAIC معظم مشغلي التكافل يظهرون درجة إيجابية في (ROE) والعائد على حقوق الملكية (ROA) مما يؤدي إلى إدارة ممتازة. يظهر كل من مستوى العائد على الأصول المتوسط نتائج إيجابية تشير إلى أن معظم مشغلي التكافل العائلي والعامة قادرون على تحقيق أرباح جيدة من خلال استخدام مستويات مواردهم. يمكن أن تساعد الآثار المترتبة على هذه الدراسة المجتمع في الحصول على صورة أوضح لسوق التكافل الماليزي، وبالتالي مساعدة مشغلي التكافل نحو تحسين أفضل في تقييم أدائهم المستقبلي باستخدام طريقة رأس المال الفكري.

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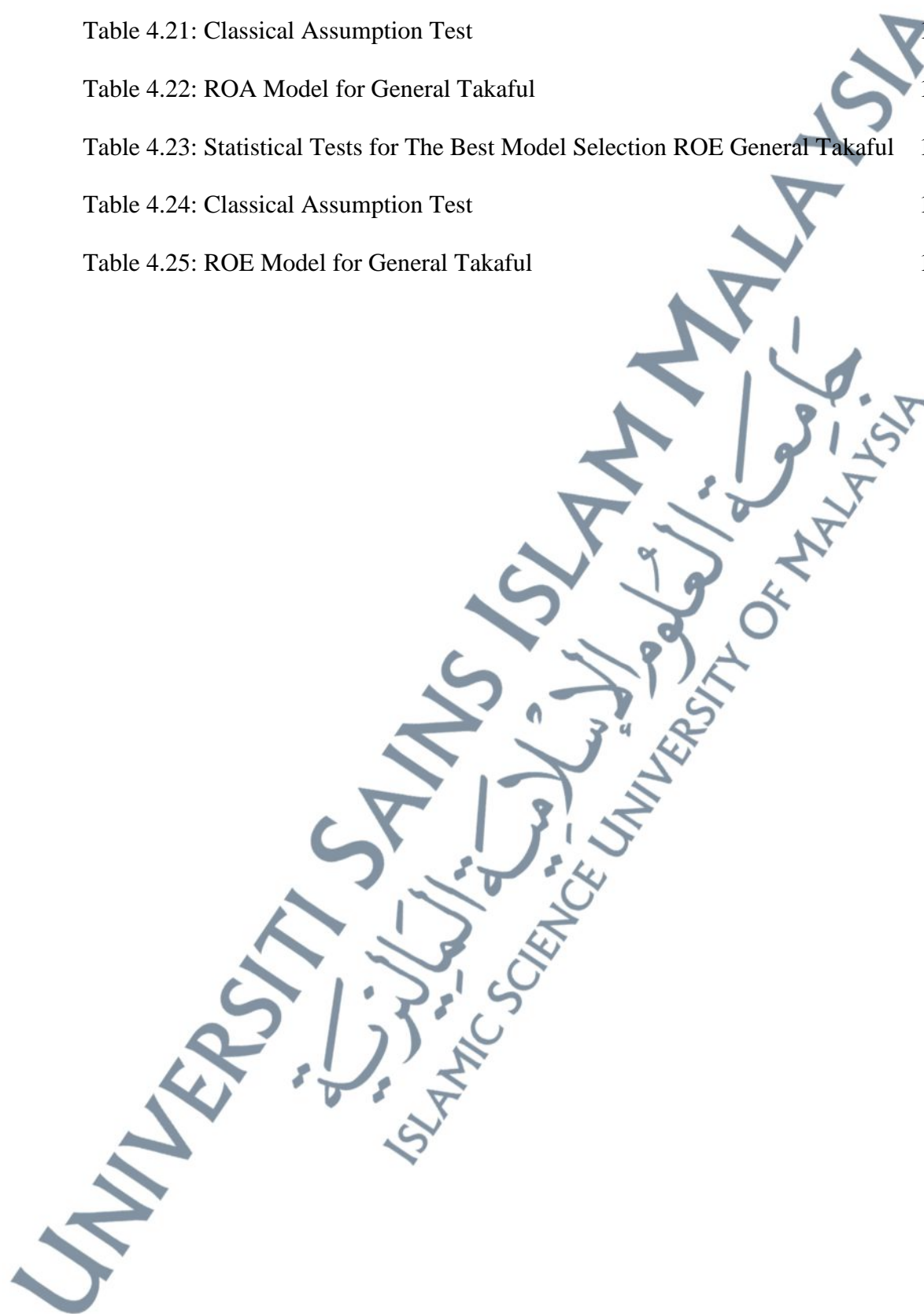
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LIST OF SYMBOLS

σ	value of standard deviation
x	each value in the dataset
\bar{x}	mean of all values in the dataset
i	takaful fund
CA_{SF}	Capital available in shareholder's fund
CA_i	Capital available in takaful fund i
$SVCC_i$	Surrender value of capital charges in takaful fund i
CR_i	Capital required from takaful fund i
$SVCC_{SF}$	Surrender value of capital charges in shareholder's fund
CR_{SF}	A summation of capital charges on shareholder's fund for credit, market, expense liabilities and operational
$creditexposure_i$	credit exposure for takaful i
$credit\ risk\ charge_i$	credit risk charge for takaful i
$marketexposure_i$	market exposure for takaful i
$market\ risk\ charge_i$	market risk for takaful i
CL_i	claim liabilities for takaful i
$risk\ charge_i$	risk charge for takaful i
URR_i	unexpired risk for takaful i
V^*	adjusted best estimate value of family takaful liabilities
Y_{it}	value of each dependent variable for each takaful fund on a particular year
t	year

α	Y-intercept
β'	slope of the independent variables
X_{it}	model of each independent variable for each takaful fund on a particular year
ε_{it}	error term for each takaful fund on a particular year
β_0	constant
β_1, \dots, β_3	coefficient of independent variables
$\hat{\beta}_{FE}$	Actual estimated value of fixed effects model
$\hat{\beta}_{RE}$	Actual estimated value of random effects model
n	number of observations
k	number of regressors
$R_{\hat{u}}^2$	coefficient of determination regression
RSS_p	combined regression line
RSS_1	regression line before break
RSS_2	regression line after break
a_t	tabulated coefficients
y_t	value of the ordered sample
\bar{y}	mean of the ordered sample
y_i	y value for observation i
\hat{y}_i	the predicted value of y for observation i
R^2	coefficient of determination

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LIST OF ABBREVIATION

RBC	Risk-Based Capital
IC	Intellectual Capital
VAIC	Value-Added Intellectual Capital
ROA	Return on Asset
ROE	Return on Equity
CAR	Capital Adequacy Ratio
BNM	Bank Negara Malaysia
ERM	Enterprise Risk Management
NAIC	National Association of Insurance Commissioners
TCA	Total Capital Available
TCR	Total Capital Required
OJK	Financial Services Authority
FTO	Family Takaful Operator
RBCT	Risk-Based Capital Takaful
VA	Value added
HCE	Human Capital Efficiency
SCE	Structural Capital Efficiency
CEE	Capital Employed Efficiency
ROI	Return on Investment
EPS	Earnings Per Share
OLS	Ordinary least squares
NIM	Net Interest Income Margin

PRF	Participant's Risk Fund
SF	Shareholders Fund
CRCC	Credit Risk Capital Charges
MRCC	Market Risk Capital Charges
GCC	General Takaful Liabilities Capital Charges
FCC	Family Takaful Liabilities Capital Charges
ECC	Shareholder's Fund Expense Liabilities Capital Charges
ORCC	Operational Risk Capital Charges
SVCC	Surrender Value Capital Charges
URR	Provision for unexpired risk
VACA	Value added Capital Employed
VAHU	Value added Human Capital
SCVA	Value added Structural Capital
HU	Human capital
SC	Structural capital
VIF	Variance inflation factor
CEM	Common effect model
FEM	Fixed effect model
REM	Random effect model
GLS	Generalized Least Squares Model
PCSE	Panel Corrected Standard Error Model

CHAPTER I: INTRODUCTION

1.1 Background of Study

This chapter will discuss the concept of financial performance and provide brief explanations on the structure of the insurance industry being developed in Malaysia. In addition, it also reveals the importance of performance evaluation in Malaysian insurance operators and the methods that have been generally used to measure the financial strength of insurance companies.

One of the crucial aspects of financial performance is to determine the overall financial condition of a company over a given period. To be more precise, this measure is used to observe how effectively a company can utilise assets from its main business source and generate revenues for the growth of the company. This indicator can be used generally to compare related companies within the same industry or group of industries or sectors. In order to measure financial performance, the primary instruments that will be used by financial analysts are financial statements such as cash flow statements, income statements, or balance sheets. By running analysis towards financial statements, financial ratios can be derived to assess the performance and highlight comparative judgements towards a company. The financial ratios are classified into five categories, which are liquidity, solvency, efficiency, market value, and profitability. A company's financial success is critical for gaining analysts' interest, financial analysts, and other corporate management. Therefore, a complete evaluation of a company's productivity and financial soundness can be determined to maintain good financial health.

The insurance industry plays an important role in developing countries by serving as an intermediary and financial services provider. Insurance also acts as a risk management tool that provides protection against possible risks such as unexpected financial losses. Generally, insurance can give protection to everyone, including society, industry, local authorities, and government. The government itself invests a greater insurance fund in its shares and securities in supporting its financial status. From an economic point of view, insurance makes it possible for investors and capitalists to avoid saving capital when an emergency happens as they only have to pay a fixed amount called a premium to obtain financial security towards covered risks. The insurance industry is indeed a crucial mechanism that needs sharp and persistent observation, especially by the central bank, because it ensures the safety of industrialists and society from unpredicted risks. Hence, it is essential to monitor the productivity of the insurance industry in growing sustainable financial sectors in a country.

The origins of insurance in Malaysia are from the medieval era between the 18th and 19th centuries. Back then, British brokerage houses were working as brokers of insurance providers registered in the United Kingdom. The nation encountered the formation of a few health insurance providers by early 1960 but encountered an early shut down due to inadequate talent and limited technical basis. The government then intervened in the Insurance Act 1996, which brought several important improvements to the regulatory structure for strengthening the industry's management and supervision in terms of organisational and financial control, accountability of policies and procedures, and policyholder security. The insurance industry has been regulated by Bank Negara Malaysia (BNM) since 1988. Alias, Hussein, and Mohammad (2012) stated that the insurance business in Malaysia is the main producer to the major contributor of economic growth. Here, the services sector subsidised about 20.1 percent

of the sector's output in 2011. Moreover, financial and insurance services seemed to contribute the third highest in the GDP composition by sector for the year 2019. The top contributions were made by wholesale retail, accommodation and restaurants, and manufacturing sectors with both 21% each (Bank Negara Malaysia, 2019).

Commonly, there are four categories of insurance undertakings in Malaysia, including life insurance, general insurance, takaful insurance, and reinsurance. Conventional or general insurance is a contract agreement between two parties, the insurer and insured, whereby the insured will pay a negotiated payment (premium) to the insurer in order to get compensation or coverage in terms of money in return when risky events occur (Ferguson, 2006). This type of insurance involves risk transfers from the insured to the insurer. Meanwhile, takaful is an Islamic insurance form in which participants contribute money to a pool scheme. This is to guarantee each other against liability or injury with regards to the Islamic principle called Shariah. The pool of donations received creates the takaful fund. Any claims submitted by participants are compensated out of the takaful fund. After taking into consideration future claims estimation, the remaining surplus will be shared together among the participants. A takaful operator is entrusted to manage the fund, who runs the operation commercially as a business venture for profit. The takaful industry in Malaysia is regulated through the Takaful Act 1984. There are two primary products available in Islamic insurance, which are general and family takaful insurance, while conventional insurance offers general and life insurance products (Omar et al., 2012).

As financial performance is the key indicator to maintain strong financial development in a country, there is much relevant importance towards many sectors in assessing the financial health of the insurance industry. Besides securing an organisation or society from any losses, insurance also serves as one instrument in

investment. Investors must allocate their investment funds in a worthy market to guarantee profitable returns on their investments. Within a healthy financial performance of that insurance company has, investors will be confident enough to make higher and risky investments. Other than that, society is more likely to put their trust in an insurance company that provides affordable and adequate coverage for their wellbeing and financial needs against those unforeseen risks. With regard to this convincing matter, the society will first survey the financial performance of that particular company to avoid any complications in the future as the insurance company is responsible for risks insured. The performance of an insurance company will boost up when many people are insured under it, so it is essential to keep up stable financial performance.

In order to assess the financial strength of insurance companies, many popular methods have been widely introduced. Often, some of the methods that analysts, investors, and Central banks commonly use are by implementing various kinds of rating techniques, financial ratio analysis, Net Premium Growth, Claim Reserve Ratio, or Risk-Based Capital (RBC) framework. Different methods exposed different outcomes and interpretations on the financial performance of that particular insurer. Altman (1984) also conducted a study using various financial ratios derived from certain distressed companies' balance sheets and accounts. He examined the association between financial ratios and the probability of a company loss through regression techniques. Besides, the insurance company must also consider net premiums written and claim ratio. Net premium is written to reflect how many of the company's premiums it gets to retain for liability presumption; meanwhile, the claim expense ratio justifies how much total the total collected insurance premiums can cover incurred losses.

RBC is a method of determining the required amount of capital necessary for a reporting agency to finance its overall business activities, considering the scale and level of risks. RBC restricts the level of risk a business can face since it applies the concept greater amount of risks comes with a greater amount of capital that a business entity must hold. RBC formula has been developed as an analytical method to support insurance authorities in analysing its financial status. The level of required capital varies in different countries as set up by the insurance association or the central bank in that particular country. In Malaysia, BNM imposed frameworks for both conventional and takaful operators to assess the amount of capital they must reserve in order to survive during any financial crisis. The level of capital required by BNM is set at 130%. Whichever insurance operators do not fulfil the level of capital required by BNM will undergo stricter supervisory actions or restructuring measures.

Other than that, intellectual capital is another technique that has been a hot topic nowadays as it can help improve a company's financial performance. Intellectual capital is the ownership of employee knowledge, expertise, business training, or other proprietary information that can provide a competitive advantage for a corporation or organisation. In comparison, a management team willing to optimise the utilisation of human resources would adopt a systematic roadmap for the development of concentrated expertise and recruitment of staff, yet simultaneously turning it into unique potential benefits. The value of developing intellectual capital is extracted through a remarkable recruitment process and also a profound commitment to employee training. Term costs are perceived to be the expenses of recruiting and training, and hence the budget is regarded as incurred.

1.2 Problem Statement

Takaful is now becoming a popular interest in the insurance sector worldwide. It has already been accepted and yet is promoted for both Islamic and non-Islamic countries as a substitute for common conventional insurance coverage. Most takaful businesses are corporate institutions, extremely similar to insurance providers, and they sell identical products. Therefore, they ought to keep competing with well-established insurance providers, and even though working within the Shariah structure, they ought to be profit-oriented corporations. However, the takaful operators in Malaysia confronted fundamentally different constraints according to the separation of takaful line business, either family or general, as mandated by the Islamic Financial Services Act 2013 in 2018 (Mohamad et al., 2017). Since the data used to evaluate their financial performance is in a composite form of business. It is highly required that the financial information reported in the takaful operator's annual report be analysed. According to their area of business, in order to improve the takaful industry's performance by acknowledging which factors may influence both family and general takaful business in a positive and negative way.

Data pertaining to insurance firms' financial stability has become a collective asset that ultimately benefits all insureds. Assessing financial performance takes a level of skill where few insurance firms have. This study chooses claim ratio as one of the approaches because the most common method used was financial ratio analysis to analyse financial performance. The claim ratio is another ratio that is among the most appropriate for the insurance industry to keep an update since the claim is one of the key parts which can significantly impact the insurance industry's financial circumstance (Feinman, 2015). Therefore, it is important for takaful operators to carefully consider how takaful claims will be affected specifically since the regulation separation of

business lines has been authorised. It is an urge to discover the factors that contributed to the level of claim ratio in terms of family and general takaful to avoid any issues regarding fraud in claims or illogical coverage protection, which may cause a deficit in their takaful funds. With regards to consequences, if takaful operators are still unable to resolve this issue, it could have a long-term impact on the firms' profitability owing to large claims, unappealing coverage as a consequence of increased pricing, and loss of consumer trust (Muhamat et al., 2017).

RBC is a well-known factor that needs major concern by takaful operators to allow them to operate according to the minimum solvency regulations made by Bank Negara Malaysia (BNM). This study selects RBC as another main method since the RBC formula has been developed as an analytical method to support insurance authorities in analysing its financial status. This factor also enables them to gain consumers' confidence in their ability to give coverage protection against unexpected losses. A higher RBC ratio contemplates better market share since takaful operators can easily spread the advantages of takaful insurance protection, which then will lead to good profitability achievements (Nasution et al., 2019). However, failure to maintain the minimum RBC level imposed by BNM, which is 130%, will lead to supervisory action taken towards the operation of takaful operators. Thus, they will be considered incompetent to forecast the potential losses emerging through asset or liability management.

Realising the relevance of intellectual capital to a company as well to a country as a profit generator, there are certain problems that seem to be questionable. The creation of calculation frameworks that better describe the intangible preferences of financial institutions which represent values overlooked by existing accounting practices is among the major concerns. Although physical capital is vital to successful