

**DEVELOPMENT OF FINTECH AND ITS POTENTIAL IMPACT ON  
ISLAMIC BANKING IN BRUNEI DARUSSALAM AND MALAYSIA**

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**FACULTY OF ISLAMIC ECONOMICS AND FINANCE  
UNIVERSITI ISLAM SULTAN SHARIF ALI  
BRUNEI DARUSSALAM**

**1440H / 2018M**

بِسْمِ اللَّهِ الرَّحْمَنِ الرَّحِيمِ

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ISLAMIC BANKING IN BRUNEI DARUSSALAM AND MALAYSIA**

**HASSNIAN ALI BIN GULAM HUSSAIN  
16MR501**

**A thesis submitted in the fulfilment of the requirements for the degree of  
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**FACULTY OF ISLAMIC ECONOMICS AND FINANCE  
UNIVERSITI ISLAM SULTAN SHARIF ALI  
BRUNEI DARUSSALM**

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# **SUPERVISION**

## **DEVELOPMENT OF FINTECH AND ITS POTENTIAL IMPACT ON ISLAMIC BANKING IN BRUNEI DARUSSALAM AND MALAYSIA**

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## DECLARATION

بِسْمِ اللَّهِ الرَّحْمَنِ الرَّحِيمِ

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## **ABSTRACT**

### **DEVELOPMENT OF FINTECH AND ITS POTENTIAL IMPACT ON ISLAMIC BANKING IN BRUNEI DARUSSALAM AND MALAYSIA**

The main objective of this research is to study and investigate the potential impact of Fintech on the Islamic banking and finance industry in Brunei Darussalam and Malaysia. This research deals with the qualitative method vis a vis an exploratory method with the literature review to accomplish and fulfill the research objectives. Content analysis and Semi-structured interview was employed throughout the research. The *NVivo 11*, Computer- Assisted Qualitative Data Analysis Software (CAQDAS) is used in this research to analyze and interpret the data. Findings clearly show that Fintech have great potential impact on Islamic finance industry in Brunei Darussalam and Malaysia. Both countries are the pioneers in taking initiatives regarding Fintech. The sectors which can be disrupted due to Fintech are payment sector, consumer banking, crowdfunding and Insuretech. The technologies like Blockchain, smart contracts, artificial intelligence (AI), robo advisors, Internet of Things (IOT's) and cloud computing have great potential in Islamic finance industry. Islamic financial institutions have to deploy these technologies. Islamic financial institutions can promote financial inclusion through Fintech. Fintech poses opportunities for Islamic finance industry. Fintech offers user friendly, timely and affordable services and products and develop better customer experience. Collaboration model is a most suitable option for both traditional financial institutions and Fintech. Islamic financial institutions in Brunei Darussalam and Malaysia should embrace Fintech and find solutions and new business models through Fintech. This study is a mile stone and unique in a sense it provides a comprehensive overview and importance of an emerging industry i.e. Fintech and investigate the potential impact of Fintech on Islamic financial industry in Brunei Darussalam and Malaysia. This research also proposes feasible strategies for Islamic financial institution to remain competitive and sustainable in the era of technological revolution and Fintech.



## **ABSTRAK**

### **FINTECH DAN IMPAK POTENSINYA PADA PERBANKAN ISLAM DI BRUNEI DARUSSALAM DAN MALAYSIA**

Objektif utama penyelidikan ini adalah untuk mengkaji dan menyiasat potensi impak atau kesan Fintech terhadap industri perbankan dan kewangan Islam di Negara Brunei Darussalam dan Malaysia. Kajian ini menggunakan kaedah kualitatif untuk mencapai dan memenuhi objektif penyelidikan. Analisis Kandungan dan temuduga separuh berstruktur telah digunakan sepanjang penyelidikan. NVivo 11, Computer- Assisted Qualitative Data Analysis Software (CAQDAS) digunakan dalam penyelidikan ini untuk menganalisis dan mentafsir data. Penemuan jelas menunjukkan bahawa Fintech mempunyai potensi impak yang besar terhadap industri kewangan Islam di Negara Brunei Darussalam dan Malaysia. Kedua-dua negara ini adalah perintis dalam mengambil inisiatif mengenai Fintech. Antara sektor-sektor yang boleh terganggu disebabkan oleh Fintech ialah sektor pembayaran, perbankan pengguna, crowdfunding dan Insuretech. Teknologi seperti Blockchain, smart contracts, artificial intelligence (AI), penasihat robot, Internet of Things (IOT's) dan cloud computing mempunyai potensi yang hebat dalam industri kewangan Islam. Institusi kewangan Islam perlu menggunakan teknologi ini. Institusi kewangan Islam boleh mempromosikan kemasukan kewangan melalui Fintech. Fintech mewujudkan peluang untuk industri kewangan Islam. Fintech menawarkan perkhidmatan dan produk yang mesra, tepat masa dan berpatutan dan mengembangkan pengalaman pelanggan yang lebih baik. Modal kolaborasi adalah pilihan yang paling sesuai untuk kedua-dua institusi kewangan tradisional dan Fintech. Institusi kewangan Islam di Brunei Darussalam dan Malaysia harus menerima Fintech dan mencari penyelesaian dan model perniagaan baru melalui Fintech. Kajian ini adalah penanda aras dan unik dalam erti kata ia memberikan gambaran menyeluruh dan kepentingan industri baru muncul iaitu Fintech dan menyiasat potensi impak daripada Fintech ke atas industri kewangan Islam di Negara Brunei Darussalam dan Malaysia. Penyelidikan ini juga mencadangkan strategi yang boleh dilaksanakan untuk institusi kewangan Islam agar kekal berdaya saing dan mampan dalam era revolusi teknologi dan Fintech.

## ملخص البحث

الهدف الرئيسي من هذا البحث هو دراسة وبمبحث في التأثير المحتمل لـ Fintech على الصناعة المصرفية والمالية الإسلامية في بروناي دار السلام وماليزيا. يتناول هذا البحث المنهج النوعي لإنجاز وتحقيق أهداف البحث. يتم استخدام تحليل المحتوى والمقابلة شبه المنظمة طوال البحث. يستخدم برنامج NVivo 11 ، تحليل البيانات النوعية بمساعدة الحاسوب (CAQDAS) في هذا البحث لتحليل وتفسير البيانات. تظهر النتائج بوضوح أن Fintech لها تأثير محتمل كبير على صناعة التمويل الإسلامي في بروناي دار السلام وماليزيا باعتبار أن كلاً منهما رائد في اتخاذ المبادرات المتعلقة Fintech. القطاعات التي يمكن أن تتعطل بسبب Fintech هي قطاع الدفع، الخدمات المصرفية للأفراد، التمويل الجماعي و Insuretech. إن التقنيات مثل Blockchain، والعقود الذكية، والذكاء الاصطناعي (AI)، ومستشاري Robo، و (Internet of Things (IOT)، والحوسبة السحابية، لها إمكانيات كبيرة في صناعة التمويل الإسلامي. يجب على المؤسسات المالية الإسلامية نشر هذه التقنيات. ويمكن للمؤسسات المالية الإسلامية تعزيز الشمول المالي من خلال Fintech. تقدم Fintech فرصاً لقطاع التمويل الإسلامي. تقدم Fintech خدمات ومنتجات سهلة الاستخدام وذات أسعار معقولة وفي الوقت المناسب، وتطوير تجربة أفضل للعملاء. نموذج التعاون هو الخيار الأنسب لكل من المؤسسات المالية التقليدية و Fintech. يجب على المؤسسات المالية الإسلامية في بروناي دار السلام وماليزيا احتضان شركة Fintech وإيجاد حلول ونماذج أعمال جديدة من خلال Fintech. هذه الدراسة هي حجر ميل وفريدة من نوعها بمعنى أنها توفر نظرة شاملة لها أهمية للصناعة الناشئة مثل Fintech وللتحقيق في التأثير المحتمل لـ Fintech على الصناعة المالية الإسلامية في بروناي دار السلام وماليزيا. كما يقترح هذا البحث استراتيجيات مجدية للمؤسسة المالية الإسلامية لتظل قادرة على المنافسة والاستدامة في عصر الثورة التكنولوجية و Fintech.

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## ABBREVIATIONS

AMBD	Autoriti Monetari Brunei Darussalam
AuM	Asset under Management
AI	Artificial Intelligence
AWM	Asset and Wealth Management
ASEAN	Association of Southeast Asian Nations
BIBD	Bank Islam Brunei Darussalam
BNM	Bank Negara Malaysia
BND	Brunei Dollar
CFPs	Crowdfunding Platforms
CAGR	Compound Annual Growth Rate
CAQDAS	Computer- Assisted Qualitative Data Analysis Software
CSPs	Cloud Service Providers
DLT	Distributed Ledger Technologies
DIFC	Dubai International Financial Centre
EID	Energy and Industry Department at the Prime Minister's Office
ETF	Exchange Traded Fund
EY	Ernst & Young
GAFA	Google, Apple, Facebook, Amazon and Alibaba
GDP	Gross Domestic Product
GFIR	Global Islamic Finance Report
GRE	Government-Related Entity
GSMA	Global Special Mobile Association
IAP	Investment Account Platform
ICM	Islamic Capital Market
IDC	International Data Corp
IFSB	Islamic Financial Services Board
IFSI	Islamic Financial Services Industry
IFIs	Islamic Financial Institutions
IaaS	Infrastructure as a Service
IOSCO	International Organization of Securities Commissions
IOTs	Internet of Things
MENA	Middle East and North Africa
MFIC	Malaysia International Islamic Financial Centre
MCC	Mobile Cloud Computing
n.d.	No Date
NIST	National Institute of Standards and Technology
PP.	Page Number
PWC	Price Waterhouse and Coopers
PaaS	Platform as a Service
PSISs	Profit-Sharing Investment Accounts
REITs	Islamic Real Estate Trusts
SaaS	Software as a Service
SEB	Sweden Bank
SMEs	Small Medium Enterprises

SMR	Securities Markets Regulations
SMO	Securities Markets Order
SRI	Sustainable, Responsible and Impact
UAE	United Arab Emirates
UMNO	United Malays National Organization
UK	United Kingdom
USA	United States of America
VOL	Volume
WEF	World Economic Forum

# **CHAPTER 1:**

## **INTRODUCTION TO THE RESEARCH**

### **1.1. Introduction**

Fintech is becoming a big disruptor of existing banking and finance industry due to the provision of same but more innovative financial services as those provided in traditional banking and finance industry except with lower fee costs and with high margins. Islamic banking and finance industry also subject to immense pressure especially due to the fee costs in the Islamic banks is higher than conventional banks. Fintech has circled the whole finance space.

The history has seen four stages of the industrial revolution; the First Industrial Revolution used steam power and water to mechanize and increase production. The Second revolution used electric power to create bulk production. The Third used advanced electronics and information technology to make the production autonomous. Now we are in the second phase of the third Industrial Revolution, the digital revolution that started and has been occurring since the middle of the last century. It is typified by a fusion of technologies and cyber-physical systems that are blurring the lines between the economical, physical, biological, and digital spheres.

In this postindustrial stage 4.0 or named as technological revolution era, Fintech has become one of the most dynamic, engaging, and energetic segments of the financial services marketplace. New and innovative Fintech business models exclusively offer one or more specific financial products or services in an automated way through the use of the internet and digital channels. By adopting digital channels, they unleash the various financial products and services traditionally served by service providers formal incumbent banks, brokers or investment managers. Here for example, robo-advisers offer automated investment advice, equity crowdfunding platforms intermediate share placements; peer-to-peer lending platforms intermediate loans; and social trading platforms offer brokerage and

investing services. Emerging and advanced technologies such as machine learning, artificial intelligence, cognitive computing, and distributed ledger technologies (DLT) can be used to supplement both Fintech new entrants and traditional incumbents and having the potential to materially change the financial services industry. (International Organization of Securities Commissions (IOSCO), 2017).<sup>1</sup> According to World Bank, (2016)<sup>2</sup> report Fintech can provide access to financial solutions for the estimated two billion adults who are currently unbanked.

Fintech is growing at an exponential rate which leads to the emergence of innovative business models. The segments of Fintech that attracted the most investments in 2016 were Insuretech, with \$2.2 billion, followed by Direct Lending with \$1.9 billion and peer to peer (P2P) lending (\$1.1 billion). In the Infrastructure and Enabling Technologies category, main investments went into business tools (\$697 million) a strong sign of the digital transformation of enterprises and cryptocurrencies (\$374 million) (Su, 2016).<sup>3</sup> During Q3'17, fintech investment in the America continued to be dominated by deals being conducted in the US. Of the \$5.35 billion invested across the Americas, the US accounted for over \$5 billion. In Q3'17, investment in fintech companies in Europe hit \$1.66B across 73 deals (KPMG & H2, 2017).<sup>4</sup> In 2017, global Fintech financing hit a new record of \$16.6 billion as compare to 2016 (it was \$13.3 billion) (CB Insights, 2018).<sup>5</sup>

KPMG and H2 Ventures jointly published the second annual report “Fintech 100” and highlighted best hundred Fintech innovators from nineteen countries around the globe. These hundred best Fintech innovators have included those

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<sup>1</sup>International Organization of Securities Commissions (IOSCO). (2017). *IOSCO Research Report on Financial Technologies (Fintech)*. pp. 47-64. Retrieved from <https://www.iosco.org/library/pubdocs/pdf/IOSCOPD554.pdf>

<sup>2</sup>World Bank. (2016). *Fintech and Financial Inclusion*. p. 2. Retrieved from

<http://pubdocs.worldbank.org/en/877721478111918039/breakout-DigiFinance-McConaghy-Fintech.pdf>

<sup>3</sup>Su, J. B. (2016). The Global Fintech Landscape Reaches Over 1000 Companies, \$105B In Funding, \$867B In Value: Report. Retrieved February 3, 2017, from

<http://www.forbes.com/sites/jeanbaptiste/2016/09/28/the-global-fintech-landscape-reaches-over-1000-companies-105b-in-funding-867b-in-value-report/>

<sup>4</sup>KPMG & H2. (2017). The Pulse of Fintech – Q3 2017 | KPMG | GLOBAL. p.26. Retrieved from <https://assets.kpmg.com/content/dam/kpmg/xx/pdf/2017/07/the-pulse-of-fintech-q3-report.pdf>

<sup>5</sup>CB Insights. (2018). *Fintech Trends to Watch in 2018*. p. 11. Retrieved from </research/report/fintech-trends-2018/>

emerging companies which are using technology to the best and effective advantage and competing within financial services industry by driving disruption (KPMG and H<sub>2</sub>Ventures, 2016).<sup>6</sup>

The global Islamic financial service industry reached an overall total value of USD1.88 trillion as of 2015, by sector, the global *sukūk* outstanding (based on par value at issuance) has declined by 1.4% to USD290.6 billion (FSR2015: USD294.7 billion). While Islamic funds' assets have decreased by 6.3% to USD71.3 billion (FSR2015: USD75.8 billion). In contrast, the *takāful* industry is estimated to have expanded by 8.4% to USD23.2 billion (FSR2015: USD21.4 billion), while the dominant Islamic banking industry has moderately grown at 1.4% to USD1.5 trillion (FSR2015: USD1.48 trillion). The share of Islamic banking in Brunei Darussalam has increased substantially, to 49% in 1H2015 (FSR2015: 41%), bringing it to a level similar to Saudi Arabia, which is also estimated to hold a 49% share in 1H2015 (FSR2015: 51%).

The Brunei's financial system has been gradually transitioning into a Sharī'ah-compliant one, including offering both Islamic banking and *takāful* (Islamic insurance services). Also, the country's central bank runs a regular *sukūk* issuance program to support the liquidity management of the country's Islamic financial sector (Islamic Financial Service Board, 2016).<sup>7</sup> The growth in Malaysian Islamic banking assets, which represent more than 9% of the global industry, was over 16% between 1H2014 and 1H2015 in local currency terms, while the comparator US Dollar figure is also negative. The market share of Islamic banks in the Malaysian banking sector has increased to 23% as of 1H2015 (FSR2015: 21.9%).

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<sup>6</sup>KPMG and H<sub>2</sub> Ventures. (2016, March 8). *Fintech 100: Announcing the world's leading fintech innovators for 2015*. Retrieved from <https://home.kpmg.com/xx/en/home/media/press-releases/2015/12/fintech-announcing-the-world-leading.html>

<sup>7</sup>Islamic Financial Services Board IFSB. (2016). *Islamic Financial Services Industry Stability Report 2016*. Malaysia: Bank Negara Malaysia. p. 10. Retrieved from <http://www.ifsb.org/docs/IFSB%20IFSI%20Stability%20Report%202016.pdf>

In Malaysia, the growth and expansion of Islamic finance are part of the broader government agenda where it targets a 40% share of Islamic financing in the country's banking sector by 2020. Among the traditional issuers, despite BNM's absence, Malaysia has maintained its position as a key issuer, accounting for more than half of the sovereign *sukūk* volume in 2015 (11M15: USD23.8 billion; 2014: USD64.3 billion) (Islamic Financial Services Board, IFSB, 2016).<sup>8</sup> It is no doubt that Brunei Darussalam and Malaysia have well organized and established Islamic financial services industry. But the emergence and growth of the Fintech and its potential impact on Islamic financial industry cannot be overlooked and neglected. So, this study examines the different aspects of Fintech and its potential impact on Islamic banking and finance sector in Brunei Darussalam and Malaysia. Everyone is now expecting different results and has different assumptions about the impact of Fintech on Islamic banking and finance. A review of the present literature does not provide a clear-cut answer to this question. The work, thus, attempts to fill this gap in the literature on the potential impact of Fintech on Islamic banking and finance in Brunei and Malaysia by using scientific research methodology and investigation tools.

### 1.1.1. Definitions of Terms

#### Fintech

Fintech in the etymological way is the compound of two independent words i.e. finance and technology, so it is not a buzzword. According to Oxford dictionary Fintech can be defined as "Computer programs and other technology used to support or enable banking and financial services" (Fintech, 2016).<sup>9</sup> This new and recent term is given to those firms and companies, which are providing highly innovative and pioneering financial services or products with the combination of IT ventures or by using the latest technology itself. New and ultra modern models of business are being introduced in the market instantly and continuously. Fintech has

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<sup>8</sup> IFSB. (2016). *Islamic Financial Services Industry Stability Report 2016*. Op.cit. p. 14.

<sup>9</sup>Fintech Def. 1e (2016), In Oxford English dictionary online, Retrieved from <https://en.oxforddictionaries.com/definition/fintech>

become one of the most engaging, dynamic and energetic segments of the financial services marketplace (“Fintech: A Revolution in the World of Finance,” 2015).<sup>10</sup> The most active areas of Fintech are data and analytics, artificial intelligence, digital payments, digital currencies and crowdfunding and other forms of P2P financing, etc. (Allen & Overy, 2015).<sup>11</sup>

### Impact

In the business dictionary, ‘impact’ is defined as measure of the tangible and intangible effects (consequences) of one thing or entity's action or influence upon another (Impact, 2016).<sup>12</sup> According to Oxford Dictionary, ‘impact’ can be defined as: The actions of one object coming forcibly into contact with another or a marked effect or influence (Impact, 2016).<sup>13</sup> There are different types of impact are being studied environmental impacts, the impact of policies, and impact of technology, etc. The impact of a thing on another thing can be positive or negative. In both situations, different strategies, planning, and policies can be implemented.

### Islamic Banking

Islamic banking is a system of banking which is based on shariah-ethical and moral principles which are, in many ways, different from the conventional banking system and principles (Kettell, 2011).<sup>14</sup> It is also defined as the banking which is based on prohibition of riba (Millar & Anwar, 2009).<sup>15</sup> Another clearer definition of Islamic Banking is that Islamic banking, the more general term is expected not merely to

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<sup>10</sup>FinTech: A Revolution in the World of Finance. (2015). Retrieved from [http://webcache.googleusercontent.com/search?q=cache:PMNJRADvPU4J:www.nira.or.jp/pdf/e\\_vision15.pdf+&cd=1&hl=en&ct=clnk&gl=pk](http://webcache.googleusercontent.com/search?q=cache:PMNJRADvPU4J:www.nira.or.jp/pdf/e_vision15.pdf+&cd=1&hl=en&ct=clnk&gl=pk)

<sup>11</sup>Allen & Overy. (2015). Fintech Markets, Retrieved from <http://annualreview2015.allenoverly.com/fintech-marketplaces/>

<sup>12</sup>Impact (2016), In Business dictionary online, retrieved from <http://www.businessdictionary.com/definition/impact.html>

<sup>13</sup>Impact Def. 2e (2016), In Oxford English dictionary online, Retrieved from <https://en.oxforddictionaries.com/definition/impact>

<sup>14</sup>Kettell, B. (2011). *Introduction to Islamic banking and finance*. John Wiley & Sons. Vol.1. p.31. Retrieved from

[https://books.google.com/books?hl=en&lr=&id=PURRL4Aw\\_wC&oi=fnd&pg=PR13&dq=Introduction+to+Islamic+Banking+and+Finance+by+kettell&ots=4Bad6yB7Px&sig=ICheUY5rpXvnTHCu6neSqpBbAp4](https://books.google.com/books?hl=en&lr=&id=PURRL4Aw_wC&oi=fnd&pg=PR13&dq=Introduction+to+Islamic+Banking+and+Finance+by+kettell&ots=4Bad6yB7Px&sig=ICheUY5rpXvnTHCu6neSqpBbAp4)

<sup>15</sup>Millar, R., & Anwar, H. (2009). *Islamic finance: A guide for international business and investment*. Blue Ibox. p. 3. Retrieved from <http://www.assaif.org/content/download/33135/174220/file/Islamic%20Finance.pdf>



avoid interest-based transactions, prohibited in the Islamic Law, but also to prevent unethical practices and participate actively in achieving the objectives of an Islamic economy (State Bank of Pakistan, SBP, n.d).<sup>16</sup>

### Islamic Finance

Islamic finance is the term that reflects the financial services industry that offers finance compliant with *Sharī'ah*, the underlying principles, and codes of conduct of Islam. It is also described as a financial system which is based on asset-based financing (Usmani, 2002).<sup>17</sup> Islamic finance is a broader term than Islamic banking. In other words, Islamic banking is also one of the main components of Islamic Finance.

### Islamic Banking and Finance

Islamic banking and finance can be explained as a system through which finance is provided in the shape of money in return for either rights or equity to share in future business profits, or in the form of services and goods delivered in exchange for a commitment to repay their value at a future date (Al-Jarhi, 2006).<sup>18</sup> Islamic banking and finance system has three main components which are: Islamic banks, *takāful*, and Islamic Capital Markets. Islamic Capital Market has three main sectors namely *sukūk*, *Sharī'ah* compliant equity, and Islamic funds. There are many products and services provided by Islamic Banking and finance such as Musharakah (Joint Venture), Mudarabah (Profit Sharing), Investment Wakala (Agency), Murabaha to the purchase order (Cost plus or markup sale), Ijarah, and Bay al – Salam (Future Delivery Sale).

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<sup>16</sup> <http://www.sbp.org.pk/ibd/Handbook-IBD.pdf>

<sup>17</sup> Usmani, M. T. (2002). *An introduction to Islamic finance*. Brill. Vol.20. p. 9. Retrieved from <https://books.google.com/books?hl=en&lr=&id=S6AUNVo4eHAC&oi=fnd&pg=PR9&dq=an+introduction+to+Islamic+Finance&ots=oOWZ2rmraA&sig=SGoszjRPzLmnRKh6kypAT-Hj7cY>

<sup>18</sup> Al-Jarhi, M. A. (2006). Islamic banking and finance: Philosophical underpinnings. *Islamic Banking and Finance: Fundamentals and Contemporary Issues*. Jeddah: Islamic Development Bank (IDB). p. 13. Retrieved from: [http://www.isfin.net/sites/isfin.com/files/islamic\\_banking\\_and\\_finance\\_fundamentals\\_and\\_contemporary\\_issues.pdf#page=23](http://www.isfin.net/sites/isfin.com/files/islamic_banking_and_finance_fundamentals_and_contemporary_issues.pdf#page=23)

## Brunei Darussalam

Brunei Darussalam is situated on the northern part of the Borneo Island in Southeast Asia. It is in the Southeast Asian region with a land area of 5765 km<sup>2</sup>. The country gained its full political independence in February 1984. The Constitution of Brunei promulgated in 1959, enshrined Brunei as a Malay-Muslim-Monarchy with Malay cultural and Islamic values underpinning the structure of government administration. The Brunei Darussalam is divided into two parts - the Eastern part which is the Temburong district while the western part consists of three districts; Brunei-Muara, Tutong, and Belait districts. Bandar Seri Begawan is the national capital of Brunei Darussalam. The total population of Brunei Darussalam in the 2016 census was 422,678 persons comprising of 216,832 males and 205,846 females. The majority of the populations are Muslims. The largest race group is Malay comprising of 277,700 persons, followed by Chinese 43,554 persons, and other races 101,424 persons. The annual rate of increase in population was 1.4 percent (Department of Economic Planning and Development, 2016).<sup>19</sup> The Brunei dollar, abbreviated as BND or B\$, is the local currency of the Negara Brunei Darussalam.

## Malaysia

The official name of Malaysia is "Malaysia." Its capital is Kuala Lumpur in which about 1.6 million people reside. Land area is about 330,000 km<sup>2</sup>, about 90% of that of Japan. While Malaysia is a multi-ethnic state with a population of around 30 million in year 2016, the size of the population is relatively small among the ASEAN countries. It is the 6th largest after Indonesia, Philippines, Vietnam, Thailand and Myanmar. Since independence, the ruling coalition led by UMNO (United Malays National Organization) consistently remained in power and had established a stable political regime in Malaysia. The political stability has significantly contributed to the development of Malaysia. Malaysia is a federal country consisting of 3 Federally Administered Areas (Capital Kuala Lumpur, Labuan Island and Putrajaya) and 13 provinces (11 provinces of the Malay

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<sup>19</sup>Department of Economic Planning and Development - Population. (2016). Retrieved February 7, 2018, from <http://www.depd.gov.bn/SitePages/Population.aspx>

Peninsula plus Sabah and Sarawak provinces). Malaysia is a typical multi-faith/multi-ethnic country with over 60% of the population is Malays; over 20% is Chinese, and about 10% Indians. The official language of Malaysia is “Bahasa Malaysia” (Japan Science and Technology Agency, JST, 2016).<sup>20</sup>

## 1.2. Research Scope and Limitations

This part highlights the specific components and areas that are expected to be the focused in this study.

This study only focuses on two countries i.e. Brunei Darussalam and Malaysia. First reason of selection of these two countries is that researcher is based in Brunei Darussalam for the study purpose and with respect to location Malaysia is close to the Brunei Darussalam. And secondly both countries have well developed Islamic banking and financial system. Thirdly, both countries have started their journey towards Fintech in 2016. Thirdly, researcher have not chosen outside these two countries, due to time limitation, lack of monetary support and also problems in travelling for researcher. Moreover, these countries are the pioneer in taking steps towards Fintech among all Islamic countries.

This research will focus on two main components of Islamic banking and finance i.e. Islamic banks and *takāful* companies in the region of Brunei and Malaysia, because these two principal components - Islamic banks and *takāful* companies deal largely with general public including individuals, organizations, SME's and students. This research will not cover the third main component of Islamic banking and finance system i.e. Islamic Capital Market, because, it deals with the high level of institutions and investment agencies. Mostly governments are directly involved in ICM.

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<sup>20</sup>Japan Science and Technology Agency, JST. (2016). *Current Status on Science and Technology in ASEAN Countries*. p. 3. Retrieved from [https://www.jst.go.jp/crds/pdf/en/CRDS-FY2014-OR-02\\_EN.pdf](https://www.jst.go.jp/crds/pdf/en/CRDS-FY2014-OR-02_EN.pdf)

This research will address the potential impact of Fintech on Islamic banking and finance. Thus, it will not focus only a single area of Fintech as it will look into main areas of Fintech such as blockchain, p2p lending, and crowd funding, etc. This research is also not limited to find out only positive impact or only adverse impact of Fintech but it will cover both types and will show the findings by pieces of evidence.

Since this research intended to find out the potential impact of Fintech on Islamic banking and finance in Brunei and Malaysia only, the focus will be on the Islamic banks cover one Islamic bank of Brunei Darussalam<sup>21</sup> and sixteen Islamic banks of Malaysia comprising six foreign<sup>22</sup> and ten local Islamic banks<sup>23</sup>, and *takāful* companies including two *takāful* companies of Brunei Darussalam<sup>24</sup> and eleven *takāful* companies of Malaysia including two foreign<sup>25</sup> and nine local *takāful* companies<sup>26</sup>.

When looking at the overview of the Islamic financial services industry, Islamic finance industry personals often have large workloads and busy work schedules so there was limited availability for interviews. Researcher has made enough effort to achieve the target of interviews. However, due to ambiguous of the word Fintech, as currently it is considered a new trend in Islamic finance industry. The level of awareness of Islamic bankers of Fintech industry is also not very appreciated. So, they showed reluctance in giving interviews and apologize for entertaining the interview questionnaire. This lead to the researcher to get limited research interviews especially from Malaysia. To cope and compensate the targeted

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<sup>21</sup>Bank Islam Brunei Darussalam

<sup>22</sup>Al Rajhi Banking & Investment Corporation, Asian Finance Bank Bhd., HSBC Amanah Malaysia Bhd., Kuwait Finance House (Malaysia) Bhd., OCBC Al-Amin Bank Bhd., Standard Chartered Saadiq Bhd

<sup>23</sup>Affin Islamic Bank Bhd., Alliance Islamic Bank Bhd., AmIslamic Bank Bhd., Bank Islam Malaysia Bhd., CIMB Islamic Bank Bhd., Bank Muamalat Malaysia Bhd., Hong Leong Islamic Banking Bhd., Maybank Islamic Bhd., Public Islamic Bank Bhd., RHB Islamic Bank Bhd

<sup>24</sup>Insurans Islam TAIB, Takaful Brunei Darussalam Sdn Bhd.

<sup>25</sup>AIA Takaful International Bhd., Great Eastern Takaful

<sup>26</sup>AmFamily Takaful Etiqa Takaful Berhad, Hong Leong MSIG Takaful Berhad, Prudential BSN Takaful Berhad, Syarikat Takaful Malaysia Berhad, Takaful IKHLAS, Sun Life Malaysia Takaful Berhad, HSBC Amanah Takaful (Malaysia) Berhad, Zurich Takaful Malaysia Berhad

number of interviews researcher made an attempt to do content analysis of annual reports of targeted Islamic banks of Malaysia.

This research will not cover all the branches of Islamic banks and *takāful* companies located in Brunei Darussalam and Malaysia. In Brunei Darussalam, this research will only focus on the headquarter of BIBD and *takāful* companies located in Bandar Seri Begawan while in Malaysia, this research will concentrate on Islamic banks and *takāful* companies located in Kuala Lumpur due to limited resources and timing.

### **1.3. Problem Statement**

Fintech is empowering the people such as allowing transparency and cutting middleman fees for example money transfers applicatios. Fintech is enabling the individuals to have to control their own money. So, Fintech creates a tremendous social impact especially with respect to the internet and smartphone-savvy generation.

The conferences held on Islamic finance, e.g. the World Islamic Banking Conference 2015 held in Manama, Bahrain; the International Forum on Islamic Finance 2016 held in Khartoum, Sudan; the Euromoney Islamic Finance and Investment Conference, also held in London, as well as the upcoming Islamic Banking & Investment Asia/Middle East Congress 2016 also held in Singapore in April all are focusing on new financial technologies featuring “out-of-the-box, forward-looking visionaries” from beyond the traditional confines of the Islamic finance industry. In all these, this problem and agenda have been discussed with different names and forms. This agenda with the title of “Future of Islamic banking and finance and the Impact of Fintech” was also discussed in a meeting between a delegation of Dubai International Finance Centre (DIFC) and UAE-Luxembourg Council for Cooperation and Development for Islamic Banking and Finance

(WAM, 2016).<sup>27</sup> Global Management Consulting technology powerhouse Accenture recently published a paper on a current area i.e. "The Rise of Fintech." This paper discussed that financial institutions including all banks are under pressure because Fintech has assured the provision of lower costs and drive growth opportunities which have come about from the Fintech revolution (Accenture, Rise of Fintech, 2014).<sup>28</sup>

Non-banking players have started their entering into the financial service markets to close and reduce the gap between the products of banks and the customers' needs. It is expected that they will disrupt the financial industry by lower costs and improving the quality of financial services by using technology, and by assessing risk in new ways (Naukkarinen, j., 2015).<sup>29</sup>

The world has become and is becoming increasingly interconnected, both socially and economically, the adoption of technology is remaining one the prominent factors in human progress. The combination of automation and digitalization is revolutionizing manufacturing and services alike, as well as blurring the lines between them. This process is increasing efficiency, optimizing logistics, and making prices more transparent. At the same time, it is reinforcing the need for firms to remain ahead of the innovation curve. More and more, technological forces are pushing companies to either innovate or disappear: 88 percent of firms in the 1955 Fortune 500 were not on the 2014 list, and the rate of turnover is accelerating (WEF, 2016).<sup>30</sup> Deutsche Bank to shut 188 German branches cut 3,000 staff (Thomas Reuters, 2016).<sup>31</sup> In the UK, 650 bank branches were shut down in 2015 compared to 500 in 2014 and 222 in 2013. JPMorgan Chase

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<sup>27</sup>WAM. (2016, March 16). DIFC joins Luxembourg Islamic finance talks. *Gulf News*. Retrieved from <http://gulfnews.com/business/economy/difc-joins-luxembourg-islamic-finance-talks-1.1688928>

<sup>28</sup>Accenture. (2015). *The rise of fintech: New York's Opportunity for Tech Leadership*. Retrieved September 2016 from <http://news.fintech.io/post/102bzoi/accentures-recent-report-on-the-rise-of-fintech-new-yorks-opportunity-for-tech>

<sup>29</sup>Naukkarinen, J. (2015). Business Ecosystem Change in Financial Services—Case Study. p. 34. Retrieved from <http://www.doria.fi/handle/10024/117351>

<sup>30</sup>World Economic Forum. (2016). *The Global Competitiveness Report 2016–2017*. Geneva. World Economic Forum. pp. 51-77.

<sup>31</sup>Thomas Reuters. (2016, June 23). Deutsche Bank to shut 188 German branches and cut 3000 staff. *Reuters*. Retrieved from <https://www.reuters.com/article/us-deutsche-bank->