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CSPS STRATEGY & POLICY JOURNAL
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Trends and Emerging Issues: Implications For Brunei Darussalam

Diana Cheong[1], Ivana Milojević and Redhuan Rajak

Abstract

This paper is based on focused research which was conducted by the Centre for Strategic and Policy Studies (CSPS) as part of an ongoing *Foresight Study Project[2]*, in order to: (1) *identify* current and emerging issues as well as trends likely to impact Brunei in the near and medium term future, and (2) *prioritise* emerging issues and trends in order to provide specific future-oriented policy advice on a number of topics of concern.

Increasing socio-ecological and informational complexity in the early 21st century has shattered the assumption of a 'normal' or 'given' future. Rapid change among cultures and with technology means that we can no longer expect the future to be an uneventful continuation of the past or present. Apparently unlikely and marginal events can, and often do, create significant ripple effects not only locally but also globally. Global systems have become interconnected: one relatively small event in one country can be felt across global markets, as well as impact collective thinking on a number of issues. We are faced with disruptive forms of change (technological, ecological, social and political) in a rapidly shifting landscape. Scanning for signals and events that may be significant in the future should thus also be an ongoing effort and activity if policymaking is to be responsive and anticipative.

The outcomes of the CSPS' ongoing *horizon scanning for emerging issues and trends* research summarized here are, therefore, preliminary and should be regularly updated. Given the current rate of change, only a continual scanning process to identify relevant upcoming issues early on can assist governments and businesses to create responsive and anticipatory decision-making. This ensures policymakers and leaders "evaluate the situations strategically in order to reduce 'surprises', to increase the room for manoeuvre, and to improve the overall flexibility of governance" (Habegger, 2010). In addition, the process ensures that policies and strategies are relevant to a landscape of rapid and unexpected change.

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1 Denotes main author

2 Foresight Study Project was led by José Ramos of Action Foresight, Australia. This policy brief makes extensive use of the Train the Trainers Manual for the course in Strategic Foresight and Horizon Scanning produced by Dr Ramos for the CSPS.

As this journal article gives a general overview of identified issues, two main policy recommendations are:

1. Horizon scanning for emerging issues and trends needs to be comprehensive, ongoing and done across governmental sectors;

2. Specific issues and trends, selected after thorough research focused on both identification and prioritization, subsequently need to be addressed in more detail and in terms of their potential impact. This should be followed up with very specific policy recommendations on each issue or trend.

Keywords: *trends, emerging issues, implications, Brunei Darussalam*

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1.0   Introduction: Policy Context

The promotion of social welfare through public policy increasingly requires the incorporation of the discipline of strategic foresight. In Brunei, the national development perspective of Wawasan (Vision) 2035, is the dominant framework which guides government strategy. However, the implementation of Wawasan 2035 faces considerable challenges. Some of these challenges have been identified as:

- Past experience and the current dominant worldview which projects a comfortable future, (easy and convenient) are based on critical assumptions which may not have been sufficiently scrutinized and challenged, and which may very well be outdated. This potentially leads to a static mindset in which certain individuals and groups cannot take responsibility for their own futures.
- There is a lack of economic growth, and diversification efforts have not been successful. At the same time, attendant social problems such as unemployment and or underemployment, poverty and crime are on the increase.
- Brunei will continue to be impacted by globalisation, urbanisation and technological advancements. Some of these developments are likely to significantly challenge 'business as usual' – BAU policymaking.
- The emergence of alternative perspectives and worldviews will continue to grow due to existing subcultures and an increase in counter-cultural influences. Alternative views are already developing under the influence of cross-cultural exchange (during study or work), globalization, and the increasing use of the internet. While a multiplicity of views may, for some people, create confusion, from an agile policy perspective, such diversity is needed to navigate complex challenges.
- Alternative views on policy issues could be utilized to help develop more robust policies and strategies needed to achieve the overall national vision. Business as usual policy making may represent a significant loss in terms of potential insights into policies that are to remain relevant to navigating rapid and unexpected changes

2.0   Identifying Trends And Emerging Issues
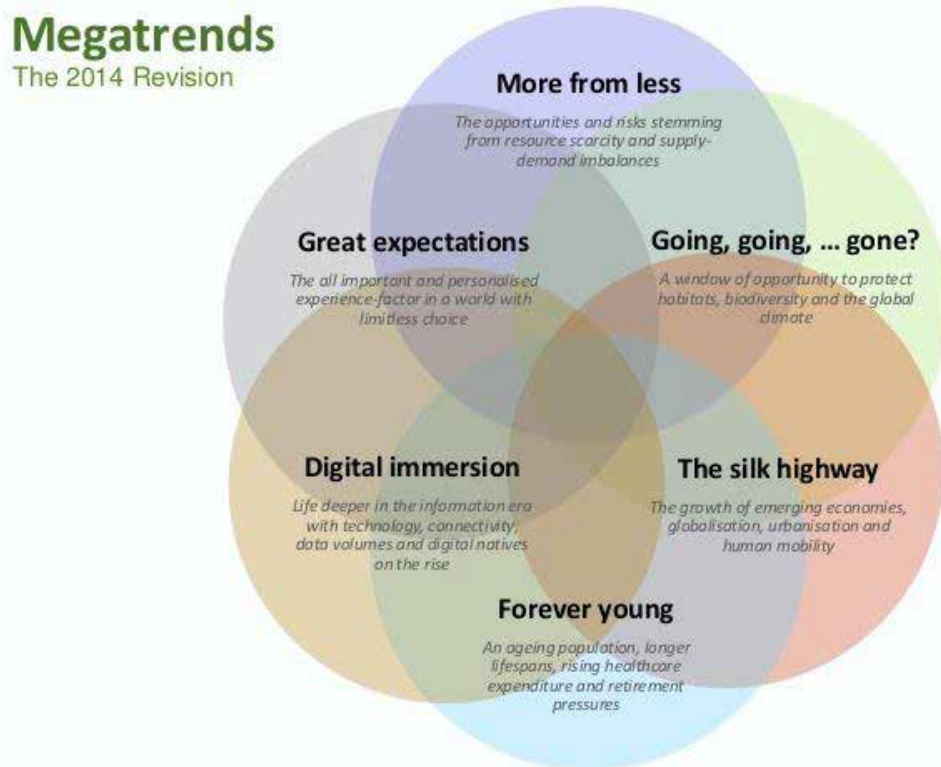
Trend analysis and emerging issues analysis both scan for change. However, these two methods can be differentiated based on the scope and the time of the impact of phenomena. Trend analysis focuses on broad patterns that are already well established and phenomena that have become commonplace. By the time a particular trend is identified, for example an ageing population or

globalisation, it is already impacting societies and organisations. Identification of trends is thus relatively straightforward, as there is plenty of quantitative evidence in the form of empirical data that is available. The empirical data is usually well documented, can be tracked historically and extrapolated/investigated in terms of their potential future impact. An example of a trends analysis, focused on global megatrends, is provided in the image below:

Diagram 1.

Global Megatrends: The 2014 Update, by Dr Stefan Hajkowicz, Commonwealth Scientific and Industrial Research Organisation (CSIRO)[3]

Source: Dr Stefan Hajkowicz (2014), Commonwealth Scientific and Industrial Research Organisation (CSIRO)

Emerging issues analysis, on the other hand, tries to identify issues that are just emerging but that may prove highly disruptive in the future. Most commonly mentioned examples of emerging issues are, the September 11 attacks in New York and the establishment of the internet. Before their occurrence, these events were completely outside of the public awareness, foreseen by only a handful of people and even then considered highly unlikely. Furthermore, emerging issues are commonly seen as disruptive, provocative or even ridiculous. There is no 'general agreement' about what emerging issues may specifically be. By their very definition they are identified on

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3 http://www.slideshare.net/LandcareAustralia/dr-stefan-hajkowicz-landcare

the 'margin' of public discourse. They also question dominant assumptions about the future. Therefore, for an emerging issue to be foreseen, a worldview/value shift or a perspective from the margin is usually required.
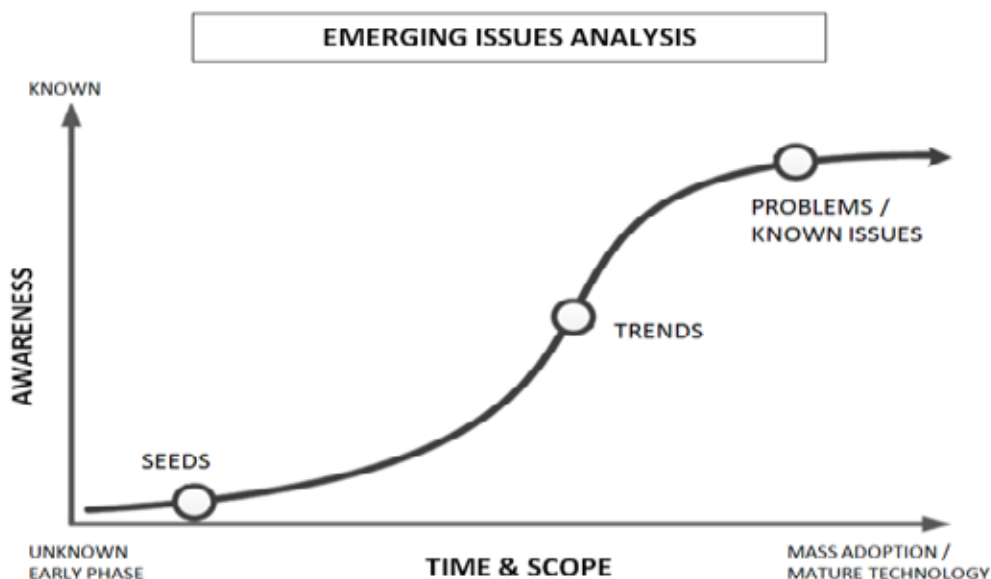
Richard Lum provides a useful differentiation between trends and emerging issues. According to him, a trend is a historical change up until the present, while an emerging issue is "a possible new technology, a potential public policy issue, or a new concept or idea that, while perhaps fringe thinking today, could mature and develop into a critical mainstream issue in the future or become a major trend in its own right" (Lum, 2016). And so while "standing in the present right now and casting our gaze into the futures", examples of emerging issues include: "autonomous corporations that have software and robots instead of human management or staff, the emergence of digital bodyguards for children to combat cyber bullying, and the dismantling/transformation of traditional education institutions as the Millennial generation takes leadership positions" (Lum, 2016). Other examples of emerging issues are: "the rights of robots, genetic engineering ending sexual reproduction, denial of sovereignty to certain nations because of their inability to meet human rights criteria, the triple bottom line [for businesses] and beyond, passports issued by entities other than nation–states, a new United Nations functioning as an effective world government, and the end of capitalism" (Inayatullah, 2007). All these events are currently more or less unlikely; however, if they do occur they will have a dramatic impact.

While it is usually difficult to do, emerging issues analysis is crucial for the early identification of threats and opportunities because even though emerging issues may have a low probability of occurring, once they do occur they usually create a massive change and multiple ripple effects. At the same time, merely being unlikely or potentially having a high impact are not sufficient conditions for something to be identified as an emerging issue. Rather, "there must also be seeds, drivers, and reasons why one thinks the issue is emerging. It is searching for small ripples that might one day become grand waves, tsunamis" (Inayatullah, 2007).

The rise of these waves - from emerging issues (seeds) to trends to tsunamis (huge problems or well-established and known issues) - is visually presented in the chart below:

Diagram 2.

Emerging issues analysis S-curve

EMERGING ISSUES ANALYSIS

KNOWN

AWARENESS

PROBLEMS /
KNOWN ISSUES

TRENDS

SEEDS

UNKNOWN
EARLY PHASE

TIME & SCOPE

MASS ADOPTION /
MATURE TECHNOLOGY

Distinction between trends and emerging issues can also be made based on the number of published materials, as in the chart below:

Diagram 3.

Emerging issues analysis adapted from Graham Molitor by Wildman & Inayatullah (1998)

Emerging Issue Analysis (EIA)
Emergence of an issue

QUANTITY
OF PUBLISHED
MATERIAL

| 1 | 2 | 3 | 4a | b |

Artistic & Visionary Works

Epochal Works, Paradigms/ Macrohistory

Scientific & Technical Literature

Mass Media Coverage

Educational & Historical Materials

TIME

A

B

30 Yrs BP 20 Yrs BP 10 Yrs BP 3-5 Yrs BP Present +3-5 Yrs

Source: Wildman & Inayatullah (1998)   A - B = 35 years   BP = Before Present
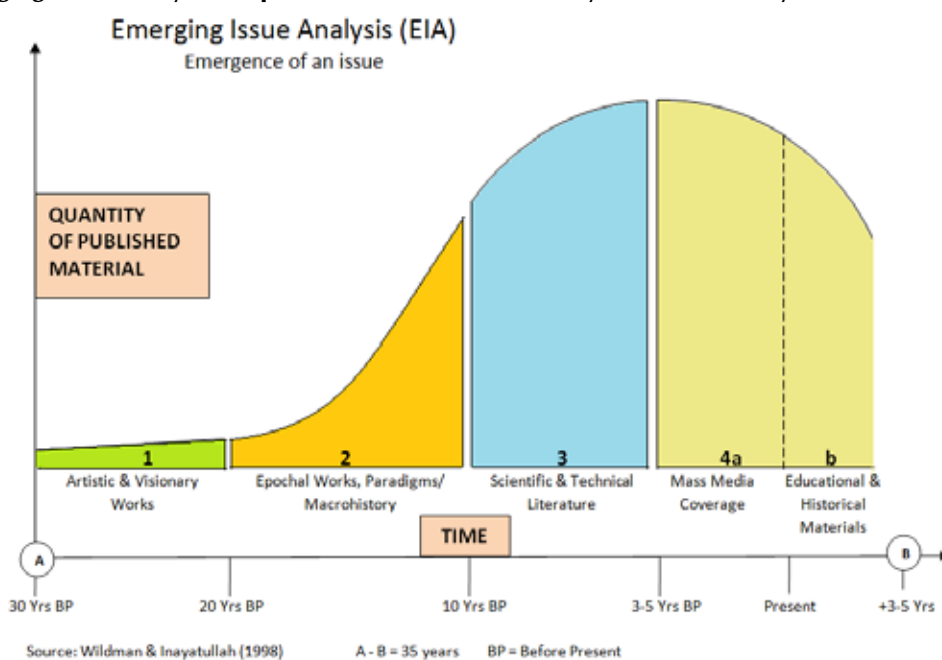
Source: Wildman & Inayatullah (1998)

Emerging issues are identified in stages 1 and 2, while trends are commonly identified in stages 3 onwards. Once a trend is well established, it is no longer a 'future event', but rather, a part of our contemporary/present society. As stated earlier, the CSPS research project focuses on both trend analysis and emerging issues analysis to scan for change. While identified and prioritised, they have not been strictly separated. This is due to the purpose of the project primarily being the investigation of emerging issues' and trends' impact on Brunei in the near and medium term future in order to provide specific future-oriented policy advice on a number of selected issues.

An example of this can be seen in the area of public transport.

For example, the dominant trajectory representing business as usual sees Bruneians continuing to be dependent on cars: indeed a situation where there are more cars than people, very limited public transportation, cheap road taxes, fuel subsidies, and low import tariffs. In this context public transport is seen as unattractive and unreliable, where citizens have limited access to information, where alternatives are limited and costly, and where there is a limited public transport network and connectivity.

Importantly, the functionality of this business as usual trajectory for transport is expected to decline because of the following reasons:

- Changing attitudes and greater acceptance of advanced public transport;
- Environmentally, the impact and threat of climate change, where increases in CO_2 emissions will become more and more problematic;
- Economically, there may be a reform of fiscal measures to reduce car dependency.

Business as usual in Brunei's transport situation is currently being preserved through: (1) a negative public perception of public transport, (2) low import duties on cars and subsidies remaining, (3) the continuing "imagined" lifestyle and image of owning a car, and (4) the overprotection of youth in using public transport.

Despite these factors, business as usual will likely not survive over time, due to, for example, increasingly high population density and diminishing funds in the government to sustain subsidies. The Land Transport Master Plan (2014) by CSPS has shown that Bruneians are prepared to consider changes to their current travel behaviour with 88% of adults and 72% of youths never having used public transport. To facilitate such change they have recommended transport priorities for government as follows:

Table 1.

Top 10 Categories of Transport Survey Responses for Government Transport Priorities

Category	% Adult Responses	% Youth Responses	% Total Responses
New Mode of Transport (MRT, LRT, Monorail, Alternative Mode)	24%	26%	24%
Improve Existing Mode of Public Transport (e.g. Taxi, Bus, Purple Bus)	17%	29%	20%
Road Network Extension (Build new roads, more lane etc)	14%	11%	13%
Improve Road Safety	5%	2%	4%
Reduce Congestion	4%	3%	3%
Improve Facilities for Walking / Cycling	3%	5%	3%
Better manage School Traffic	3%	3%	3%
Introduce Intelligent technology (Journey Time, new technology etc.)	3%	2%	3%
Better Road Management (Car Pool, Bus Land, Trunk Lane etc)	3%	3%	3%
Integrate Transport Planning and Town Planning	3%	2%	3%

Source: Attitude survey data collection, Consultant's Presentation

Source: CSPS Land Transport Master Plan (2014)

Importantly, while the old model becomes less and less viable, new development models will also challenge the driver owned driver occupied (DODO) transport model. New trajectories may consist of driverless transportation systems, low energy or electric cars, and shared non-owned transport. Innovations in the economy for car sharing, peer-to-peer ride platforms like Uber, the fast-tracking of driverless vehicles, and the open sourcing of electric car technology by Tesla, all point to a dramatically different future for transport.

A new transport model could emerge with a variety of new qualities: (1) featuring a decrease in parking issues, (2) less costly – or where no driver's license is needed, (3) more reliable, (4) a lower carbon footprint, (5) better infrastructure, (6) greater awareness and information, (7) decreasing or even removing the hassle of driving, (8) less time on roads, (9), an increase in safety, and (10) the growth of a new industry and demand. In the long term, within the next 15-20 years, the resulting possible future based on new trajectories augurs a higher quality of life, less accidents, a decrease in CO_2 emissions, less traffic, time saving, and an increase in productivity.

Concrete strategies, policies, and actions which can help leverage such new possibilities include: (1) encouraging use of school buses, (2) utilizing technological applications, (3) changing the mindset through awareness campaigns, (4) adding a tax and levy and removing fuel subsidies,

(5) creating and implementing environmental policies (e.g. the United Nations Framework Convention on Climate Change), (6) conducting pilots or experimentation on hybrid/mass rapid transport, i.e. park and ride, (7) organising car free zones, (8) organizing shared cars or car pooling, (9) rebranding the current public transport and network, (10) improving infrastructure through increase of bus stops, adding them to strategic locations, having wider coverage, (11) exploring alternatives, e.g. peer-to-peer ride platforms, and (12) HSSE (health, safety, security & environment) in public transport, to gain public trust.

From there, a comprehensive policy framework, as presented in the Land Transport Master Plan (2014), can then be developed.

Table 2.

Brunei Land Transport Master Plan – Policy Framework.

Brunei Land Transport Master Plan – Policy Framework

Strategic Goals	An Integrated, Efficient, Safe, Clean and Rapid Land Transport System which Offers Choice for All and Supports the Sustainable Economic Development of Brunei Darussalam	

Economic Development and Competitiveness	Environment and Biodiversity	Social Sustainability (Safety, Health and Social Inclusion)	Demographic Change and Quality of Life	Good Governance and Value for Money
Enable multi-modal mobility for passengers and freight	Reduce ownership and use of private motor vehicles	Reduce people killed and seriously injured on roads	Promote a positive user experience and satisfaction	Strengthen transport governance
Tackle congestion, minimise journey times and enhance network resilience	Promote energy efficiency and decarbonisation of transport	Secure safety and personal security for vulnerable groups,	Improve access to employment, training and services	Put Value for Money at the heart of decisions
Provide efficient access and operation for international gateways	Reduce local impacts	Promote walking and cycling as safe, healthy and sustainable modes	Promote safe and sustainable access to school	Develop the private sector as an effective partner to Government
Integrate transport networks and services with land use	Support the Heart of Borneo		Engender Bruneian pride, culture and identity	Raise public awareness of impacts, choices and behaviour
	Design for future resilience to climate and associated change			

Objectives

Providing & Managing Essential Infrastructure	Promoting Public Transport	Tackling Car Dependency and Congestion	Social Sustainability (Safety & Inclusion)	Preserving the Environment & Energy	Effective Regional and International Connections	Strengthening Planning and Delivery

Policies

Public Buses	Bus Rapid Transit	Taxis	Water Transport	Active Travel	School Bus	Roads & Traffic	Parking	Intelligent Transport Systems	Regional Connections	Sustainable Modes of Travel to School	Green Vehicle Technology	Transport and Environment	Governance & Decision Making

Strategy Components

Infrastructure Networks and Facilities	Operations and Management	Technology and Systems	Standards, Regulation and Pricing	Campaigns and Programmes	Governance and Planning

Detailed Planning and Design	Construction and Execution	Maintenance, Operations and Management	Monitoring and Review

Delivery Proposals

Source:CSPS Land Transport Master Plan (2014)

As can be seen from only this one example, the dominant thinking around a particular issue – in this instance an overreliance on cars – needs to be challenged in light of emerging issues and trends. Once the issue is sufficiently scrutinized and investigated, a broad spectrum of alternative strategies arises (see the previously outlined 12 strategies, each of which could then subsequently be investigated as a viable policy recommendation for this specific issue). And so while the challenge to the dominant thinking may be seen as a problem, the challenge also represents an opportunity to design systems and policies which tackle negative future outcomes well ahead of time. Furthermore, alternative strategies and policies which are more likely to succeed can then be devised. Such an approach ensures that a pro-active shift occurs early on, saving resources in time and money, as well as creating long-term positive outcomes.

3.0   Trends and Emerging Issues of Relevance to Brunei

The identification of trends and emerging issues of relevance to Brunei has gone through several phases. The initial phase identified some 30 key trends and issues (May-July, 2016), to which another 30 or so were added later (August-September) – both phases were conducted by the researchers from the CSPS. Finally, participants at the CSPS Forum (22 September 2016) on Applying Strategic Foresight and Horizon Scanning for Policy Making in Brunei offered their own input. The Forum participants included senior government officers, including permanent secretaries, and CEOs and other executive-level participants from the private sector. The participants were presented with a list of 40 trends and emerging issues at the Forum, out of which twelve were prioritised and described in more detail. The participants then voted on issues in terms of their importance and future impact for Brunei.

Some hundred and thirty participants attended the forum, 124 provided feedback. The lists of trends and issues, provided by the CSPS researchers, as well as the participants' input were as follows (Charts 1-4):
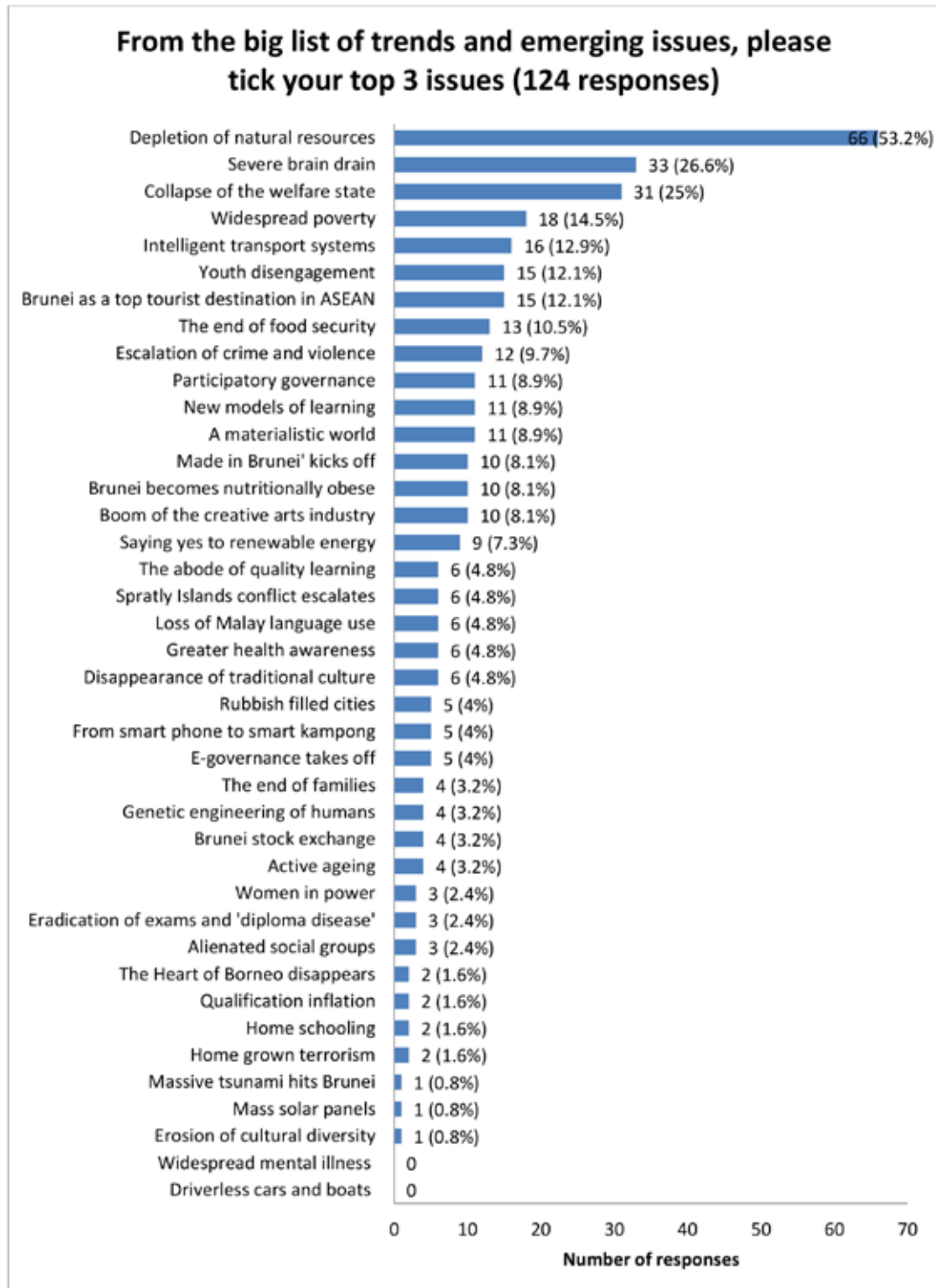
Chart 1.

List of trends and emerging issues

	Big List of Trends and Emerging Issues				
1	Depletion of natural resources	15	Brunei stock exchange	29	E-governance takes off
2	'Made in Brunei' kicks off	16	Brunei becomes nutritionally obese	30	New models of learning
3	Severe brain drain	17	Genetic engineering of humans	31	Qualification inflation
4	Brunei as a top tourist destination in ASEAN	18	Escalation of crime and violence	32	From smart phone to smart kampong
5	Boom of the creative arts industry	19	The end of families	33	Home schooling
6	Massive tsunami hits Brunei	20	Widespread poverty	34	Participatory governance
7	Collapse of the welfare state	21	Greater health awareness	35	The abode of quality learning
8	Women in power	22	Disappearance of traditional culture	36	Youth disengagement
9	The end of food security	23	Alienated social groups	37	Widespread mental illness
10	Loss of Malay language use	24	A materialistic world	38	Active ageing
11	Rubbish filled cities	25	Erosion of cultural diversity	39	Home grown terrorism
12	Mass solar panels	26	The Heart of Borneo disappears	40	Spratly Islands conflict escalates
13	Intelligent transport systems	27	Saying yes to renewable energy		
14	Driverless cars and boats	28	Eradication of exams and 'diploma disease'		

Source:Author's chart

Chart 2.

Forum participants' selection of top three issues

From the big list of trends and emerging issues, please tick your top 3 issues (124 responses)

Issue	Number of responses
Depletion of natural resources	66 (53.2%)
Severe brain drain	33 (26.6%)
Collapse of the welfare state	31 (25%)
Widespread poverty	18 (14.5%)
Intelligent transport systems	16 (12.9%)
Youth disengagement	15 (12.1%)
Brunei as a top tourist destination in ASEAN	15 (12.1%)
The end of food security	13 (10.5%)
Escalation of crime and violence	12 (9.7%)
Participatory governance	11 (8.9%)
New models of learning	11 (8.9%)
A materialistic world	11 (8.9%)
Made in Brunei' kicks off	10 (8.1%)
Brunei becomes nutritionally obese	10 (8.1%)
Boom of the creative arts industry	10 (8.1%)
Saying yes to renewable energy	9 (7.3%)
The abode of quality learning	6 (4.8%)
Spratly Islands conflict escalates	6 (4.8%)
Loss of Malay language use	6 (4.8%)
Greater health awareness	6 (4.8%)
Disappearance of traditional culture	6 (4.8%)
Rubbish filled cities	5 (4%)
From smart phone to smart kampong	5 (4%)
E-governance takes off	5 (4%)
The end of families	4 (3.2%)
Genetic engineering of humans	4 (3.2%)
Brunei stock exchange	4 (3.2%)
Active ageing	4 (3.2%)
Women in power	3 (2.4%)
Eradication of exams and 'diploma disease'	3 (2.4%)
Alienated social groups	3 (2.4%)
The Heart of Borneo disappears	2 (1.6%)
Qualification inflation	2 (1.6%)
Home schooling	2 (1.6%)
Home grown terrorism	2 (1.6%)
Massive tsunami hits Brunei	1 (0.8%)
Mass solar panels	1 (0.8%)
Erosion of cultural diversity	1 (0.8%)
Widespread mental illness	0
Driverless cars and boats	0

Source:Author's chart

Chart 3.

List of prioritised trends and emerging issues

	Prioritised Trends and Emerging Issues
1	Failure to diversify
2	High unemployment
3	The future concept of work
4	Brunei's ghost towns
5	Population reaches 1 million
6	The end of jobs and social security
7	Community disintegration
8	Trade globalisation
9	Big data is here
10	Outbreaks of infectious diseases
11	Imported terrorism
12	Whole of government approach

Source:Author's chart

Chart 4.

Forum Participants' selection of top five priorities issues

From the list of prioritised trends and emerging issues, please tick your top 5 issues (124 responses)

Issue	Number of responses
Failure to diversify	113 (91.1%)
High unemployment, underemployment…	107 (86.3%)
Whole of government approach	83 (66.9%)
The end of jobs and social security	62 (50%)
The future concept of work	52 (41.9%)
Brunei's ghost towns	42 (33.9%)
Trade globalisation	41 (33.1%)
Community disintegration	32 (25.8%)
Brunei population reaches 1 million	25 (20.2%)
Outbreaks of infectious diseases	23 (18.5%)
Big data is here	21 (16.9%)
Imported terrorism	19 (15.3%)

Source:Author's chart

All these, as well as issues identified during and after the Forum are in the process of being collated within a CSPS Futures Deck, where each trend/emerging issue is described and summarised. The description is followed by key questions of relevance to Brunei. These questions are to be further discussed at future forums and workshops organised by the CSPS. The twelve prioritised trends and emerging issues are outlined below. They are listed in order of prioritisation by the participants during the Forum

1.   *Failure to diversify*

Summary of the issue

Economic diversification efforts remain challenging. The oil & gas sector still contributes significantly to total exports as well as being the backbone of the government's revenue. As oil and gas reserves are finite, the country's economic well-being lacks sustainability. Furthermore, "Ease of Doing Business" is low compared to other countries in the region (84th in 2016, 4th among ASEAN countries). Failure to diversify leads to foreign investors leaving the country.

Questions for reflection

- How long can oil and gas reserves sustain the economy?
- How can we stimulate entrepreneurship and the growth of the private sector?
- Should we confine economic activities to fulfill a small domestic demand or should we now venture outwards, to tap regional markets arising from ASEAN Economic Integration?

2.   *High unemployment, underemployment and mismatch*

Summary of the issue

The unemployment rate in Brunei is estimated at 6.9%, and at a significant 25.3% among young people. Overall labour underutilization (measuring mismatch between job demand and supply) was estimated at 18%. A skill and education mismatch exists among the low-skilled as well as among graduate work entrants. Unemployment affects both out-of-school youth as well as graduates. Furthermore, it is rising. Job opportunities are low due to lack of diversification, uncertainty in the oil and gas and related sectors, and saturation of public sector employment. Even with economic development, if the education provided does not address the knowledge and skills required by the future economy the issue will persist into the future.

Questions for reflection
- Are our young people ready to make the transition from school to the new world of work?
- How do we equip youth people with future-proof skills and attitudes?
- How do we create more sustainable and meaningful jobs for our youth?

3. *Whole of government approaches*

Summary of the issue

Breaking out of policy silos and doing more with less as well as collaboratively is increasingly seen as important. Whole of government approaches have been shown to reduce duplication, minimise the use of limited resources, help with better alignment of activities and make public policy more effective. Some examples of whole of government approach initiatives include the proposed Land Transport Master Plans 2014, the creation of the one stop SME centre – DARE in 2016, and the establishment of inter-ministry national committees to solve identified policy issues in an integrated fashion.

Questions for reflection
- How can government agencies undertake a concerted effort to collaborate more in implementing policies?
- Will there be a whole-scale transformation to one stop centres?
- What are the key challenges faced in implementing the whole of government approach and initiatives?

4. *The end of jobs and social security*

Summary of the issue

The 'End of Jobs' and 'Brave New World of Work' are established projections of a world where the majority of the population will occupy a grey area between formal employment and unemployment due to automation of work. At the top, there is a class of well paid professional elites, while below, non-standard work and poverty become the norm. There is a likelihood that the majority of the population will be unemployed permanently. In Brunei, unemployment is on the rise. There is oversaturation of middle class white collar jobs and diminishing blue collar jobs due to automation and cheap foreign labour. Conversely, current efforts to improve the environment for doing business and knowledge based industries may attract FDI and more job opportunities may be created. Consequently, novel policy approaches addressing the end of jobs or traditional jobs and a brave new world of work are needed.

Questions for reflection

- Should we consider alternative work structures such as reduced or flexible working hours and Universal Basic Income (or other social security strategies) to address long term or unemployment and new job requirements?
- How do we provide well paid and sustainable jobs in the light of automation and restructuring of industries?
- What should we focus on to nurture a highly skilled workforce that will enhance our competitiveness in a knowledge based economy and a brave new world of work?

5.   *The future concept of work*

Summary of the issue

The growth of more focused digital services and social media sites has given rise to freelancing, subcontracting and online jobs where workers can work for dozens of employers over the span of their careers. The traditional world of work, based on the nine-to-five mentality and lifetime jobs, is fading towards an 'uberisation of the workplace'. Many professions – skilled and unskilled – are now on the verge of extinction. New types of jobs and occupations are continually being created. Such a new world of work characterised by automation and crowd work will likely increase productivity.

Questions for reflection

- What opportunities may flexibility and automation of work bring to Brunei?
- What are the potential jobs of the future and the skills required to fulfil them?
- How can we ensure that the future of work will be attractive for everyone?

6.   *Brunei's Ghost Towns*

Summary of the issue

The sight of tourists wandering aimlessly on the side of the road is unfortunately more common than it should be. In addition, there is a noticeable large scale exodus of locals to the border towns of Miri and Limbang, and neighbouring cities, during the weekends and holidays. A recent CSPS large-scale survey shows that the majority of locals and tourists would choose to spend more of their holidays in Brunei if appropriate leisure and recreational options were developed and offered. Exacerbated by decreasing employment opportunities, it is especially the highly qualified and skilled who consider emigrating abroad not just for better jobs but for better lifestyles as well.

Questions for reflection

- What if a majority of Bruneians eventually choose to live elsewhere?
- How do we encourage locals to choose to spend more of their holidays in Brunei and to increase local tourism?
- How do we increase the livability of our cities?

7. *Trade Globalisation*

Summary of the issue

FTAs such as the Trans-Pacific Partnership, the ASEAN Economic Community and the Regional Comprehensive Economic Partnership will cut down barriers to trade and open up new export and import markets for signatory countries. Overall, the Brunei economy has been projected to be one of the largest net gainers from such FTAs. However, with any FTAs, the free movement of workers and capital and reduced protection for local firms and the local workforce is likely to generate winners and losers. Concerted action must be taken now to ensure that local workers and firms are ready for a more productive and competitive economy tomorrow.

Questions for reflection

- How can local businesses and the workforce be made more internationally competitive?
- Will FTAs change the way Brunei is perceived as a destination for Foreign Direct Investments?
- How can we support th businesses that may be negatively affected during the transition phase and at the same time encourage the others who have the opportunity and motivation to tap into these new regional markets?

8. *Community Disintegration*

Summary of the issue

Brunei's close knit society has been one of the Sultanate's proud attributes. Failure to address the disintegrating effects of rapid social change, including urbanization and modernization, may endanger our integrated social fabric. Examples of community disintegration include: money issues known to turn family and friends against each other; the crime rate rising; abandonment of old people and babies; ex-criminals often shunned by society and unable to find employment; marginalised youth finding it difficult to integrate into society; the lure of modernity accelerated via the internet and global mass media; and new gender power relations challenging the mores of traditional culture.

Questions for reflection
- What if the threads in our social fabric are unravelling?
- Which issues have the highest impact on community integration, or alternatively, disintegration?
- Should we impose more social control programmes to maintain the status quo or is it time to adopt a paradigmatic change in policy to embrace social change?

9. *Brunei Population Reaches 1 Million*

Summary of the issue

A much expanded workforce and market base is required to reach Wawasan 2035 growth objectives. It is estimated that Brunei needs a population of 1 million to achieve those goals. An obvious feasible strategy is to encourage inward migration of overseas people. With an influx of overseas migrants, Brunei will be a multicultural country with a mass market for domestic goods and adequate supply of labour. It will also spur innovation and allow industries to develop, facilitate growth in the economy and bring benefits to the tourism industry. However, society may need to address several issues, such as the loss of a dominant culture and tradition, locals competing for jobs with immigrant communities, and a potential rise in social cohesion issues as society becomes more heterogeneous.

Questions for reflection
- Should Brunei aim to reach a critical mass of 1 million people by 2035 or can we step up our competitiveness and growth levels without the need to resort to inward migration?
- How do we meet our need for an expanding workforce and expanding market base and conversely, how can we focus more on less labour intensive and knowledge based industries?
- Is there a need to liberalize our population and migration policy or should Brunei pursue a more cautious approach?

10. *Outbreaks of Infectious Diseases*

Summary of the issue

There are 354 generic infectious diseases in the world today, with 197 of these are endemic, or potentially endemic, to Brunei. Brunei has successfully contained infectious diseases before they reach pandemic levels, such as SARs, H1N1, dengue, hand foot and mouth disease (HFMD) and swine flu. A new scare, the Zika virus, has now reached pandemic status and the WHO has designated the Zika virus a public health emergency of international concern. As many as four million people may become infected with Zika before the outbreak is resolved.

Questions for reflection
- Is Brunei prepared to combat sudden and exponential outbreaks of diseases?
- What policies are required for sustainable control of infectious diseases?
- How vulnerable is Brunei to outbreaks of diseases as these mutate and become harder to combat?

11. *Big Data is Here*

Summary of the issue

With the Internet of Things (IOT) and with the whole world increasingly online, the volume of data available is growing exponentially. Google, Facebook, telecommunications companies and many business organisations are already leveraging on big data to tailor products and services to suit customer preferences, enhance their competitive edge and increase their market share. The ability to effectively manage big data and extract knowledge is now a key competitive advantage. Big data has the potential to impact all sectors of the economy, as well as the effectiveness of public service provision.

Questions for reflection
- How does big data impact upon the privacy of individuals?
- How ready is the Government for such a revolution, both in terms of infrastructure and analytical capabilities?
- How ready are Brunei businesses to leverage on big data and data analytics to grow their businesses and to improve their competitiveness both locally and overseas?

12. *Imported Terrorism*

Summary of the issue

Brunei has introduced pro-active measurements such as the Anti-Terrorism Order of 2011 and the Anti-Terrorism (Terrorist Financing) Regulations 2013. Due to the close proximity to Indonesia and the southern Philippines, Brunei may one day face some 'spill over' of terrorist activity. Current tensions in the Middle East, Persian Gulf, and the South China Sea may all have an impact on Brunei's security in the near-term future. Indiscriminate terrorist attacks could occur and/or target specific groups of people. The perpetrators could include foreign terrorists entering and passing through Brunei and locally based misguided individuals and disengaged youth who may respond to the online radicalization, illegal recruiting and propaganda tactics aimed at inspiring 'lone wolf' attacks.

Questions for reflection
- What may be some of the root causes of potential terrorism and extremism (e.g. youth disengagement, poverty, misuse of religious teachings, etc.) in Brunei?

- How can Bruneians help prevent radicalization of vulnerable individuals and assist in efforts to deradicalize those already impacted?
- How prepared is Brunei to deal with acts of terrorism?

4.0   Conclusion and Policy Implications

The CSPS research project will attempt to expand and continue to respond to changing environments and conditions, both globally and in Brunei.

- Each issue identified has a large number of policy implications and thus requires attention, more research and a further discussion with key stakeholders. As far as the prioritised issues are concerned some recommendations explored by the researchers of the CSPS and at the Forum are listed below.

- Critically analyse post-oil provisions and policy options immediately. Examples include enhancement of the sovereign wealth fund, diversification of government revenue, fiscal reforms to guarantee intergenerational equity, investment in renewable energy, and fostering growth of other economic clusters and SMEs.

- Address the rise in unemployment, underemployment and the mismatch between job demand and supply (Cheong & Lawry, 2009; Rizzo, 2015). Examples include specific educational reforms and approaches (i.e. investing more into relevant professional and tertiary education, developing skills on the job and technological skills, life coaching, financial literacy programmes), encouragement of creativity and entrepreneurship (i.e. expansion of government policies which enable this sector), and a review of occupations in terms of salary and prestige to address any obsolete hierarchies.

- Enhance existing whole of government approaches, and introduce and test new/pilot initiatives. Develop participatory governance. Agile and anticipatory governance needs to lead the way to make other policy options possible.

- Identify social groups who are and may be in future negatively impacted by social change, their needs and requirements, and make policy adjustments. For example, will the youth, old people, women and rural communities be adversely affected by modernisation and urbanisation?

- Review social welfare policies in light of key future trends. Introduce pilot projects such as universal basic income, flexible or reduced working hours, improvement of childcare and elderly care services. Examples include job share, a 4-day working week, a 6-hour working day etc. Another option to explore is a work-from-home strategy – as an alternative work arrangement in view of the significant loss of productivity caused by traffic congestion and to adapt to women's increasing participation in the labour market and their continuing childcare responsibilities.

- Develop more desired leisure and recreational options locally so that there are less cross border escapes when Bruneians start to view their hometown as a preferred and livable city (Cheong & Rahman, 2015).

- Step up efforts to ensure Brunei businesses and workforce are more internationally competitive. Examples include developing cluster-based industries and more forums on the implications of trade partnerships. Also develop strategies to protect local businesses and workforce that may be negatively affected during the transition (i.e. enhance benefits to local SMEs).

- Build social resilience through community development and the sharing economy approaches, with the government as enabler. Encourage greater acceptance of diversity and, even more, a more competitive spirit as opposed to a culture of entitlement (Cheong, 2013).

- Do longitudinal surveys on the core values of Bruneians and especially of young people and prepare for the future with anticipatory policies. Which core values can be nurtured and sustainable and which need to be discouraged in the framework of Wawasan goals?

- Be alert and continuously scan for potential terrorism and extremism in Brunei. Address issues faced by vulnerable and disengaged social groups. Introduce community based and online preventative strategies aimed at thwarting radicalization.

At this stage, however, these are preliminary recommendations to be further explored. Given that this paper gives a general overview of identified issues, two main policy recommendations are:

1. Horizon scanning for emerging issues and trends needs to be comprehensive, ongoing and done across governmental sectors; and
2. Specific issues and trends, selected after thorough research focused on both identification and prioritization, subsequently need to be addressed in more detail and in terms of their potential impact. This should be followed up with very specific policy recommendations on each issue or trend.

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Alternative Futures for Brunei: Exploratory Development Scenarios

Ivana Milojević[1], Yuzilawati Abdullah and Liew Chee Hau

Abstract

It is well established in theory and practice that one of the key factors preventing adequate and flexible responses to ever changing global and local conditions is the diminished ability to imagine futures beyond "business as usual". Brunei, like most other countries and regions, is in the midst of a challenging global transformation, with a restructuring of its economy, society and human engagement with its environment. The country is experiencing an economic downturn, with falling oil prices substantially affecting the oil-driven economy, coupled with decades-long efforts to diversify the economy which have not significantly materialised. As a response, the Brunei government has recently introduced unusually drastic budget cutbacks which are likely to continue. Even with the possibility of Brunei's sovereign funds moderating the ups and downs of the economy, it is likely that "business as usual" approaches will no longer be adequate in a constantly changing world.

The Centre for Strategic and Policy Studies (CSPS) has therefore embarked on the ambitious and challenging task of infusing proactive and anticipatory approaches into advising policymaking. More concretely, CSPS has engaged in the Foresight Study Project in order to: (1) identify emerging issues and trends likely to impact Brunei in the near and medium term future, (2) conduct thorough horizon scanning processes in order to provide more futures-oriented policy advice, (3) expand the current mindset from "more of the same"/"business as usual" approaches to strategic planning, and, (4) identify specific strategies and policies more likely to lead towards the fulfilment of the overall goals and the eight main strategies of Wawasan Brunei 2035.

This report summarises the outcomes of one section of CSPS's Foresight Study Project: a scenario generating process and the further research and the subsequent application of scenario methodology. The action-learning process was undertaken in 2016, involving most researchers within CSPS.

As a pilot study, this alternative development scenarios process focused on generating innovative and diverse ways to question the future and thereby "open up the future" towards multiple possible

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1 Denotes main author

options and solutions. This has been recognised to enhance planning in times of uncertainty and to enable more robust and informed decisions to be made by policy makers. The main policy implication of this study is to instill the importance and the urgency of infusing scenario development processes within specific policy making areas.

This study has a number of important limitations. First, the likely probability of each scenario is not discussed, as the scenarios are intended to be exploratory, and not predictive. Second, as this is a preliminary study and there are numerous uncertainties as to the future direction of Brunei, specific policy recommendations are beyond the scope of this paper. Its main purpose is to stimulate thinking about Brunei's future and initiate a general discussion of policy initiatives needed in order to go beyond "business as usual" approaches to addressing change.

Keywords: *Alternative futures, exploratory development scenarios, Brunei Darussalam*

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1.0 Introduction: Policy Context

The latest International Monitory Fund World Economic Outlook (World Economic Outlook, 2016) summarises the current state of the world economy as "Too Slow for Too Long". Further to this, the uncertainties and the risks of weaker growth scenarios have increased. Growth in emerging markets and developing economies declined for five consecutive years in the period between 2010 and 2015 and the recent upward trend in 2016 has been modest. A similar economic downturn has occurred in Brunei. The recent decline in the price of oil in the oil-driven economy, where efforts to diversify the economy are yet to manifest, has caused the country's once large current account surplus to reverse into deficit (Roberts & Cook, 2016). This has prompted the Brunei government to introduce budget cutbacks for the first time in many years, affecting almost all sectors of the economy.

While the good news for Brunei is that growth in emerging markets and developing economies, including Brunei, is projected to increase over the next few years, Brunei's continual reliance on oil and gas and the oversupply and low prices projected in the sector for the foreseeable future, may see the country continually mired in deep recession in the years to come. The more optimistic "Emerging Market and Developing Economies" chart below, with data for Brunei, therefore, should not be taken for granted.

The rest of the paper is organised as follows. Section 2 presents a growth accounting framework and a brief discussion of measurement issues. Data sources and the growth accounting calculations are described in Section 3. Section 4 provides a discussion of the results for Brunei as well as a comparison with ASEAN and GCC countries, and Section 5 concludes.

Table 1.

Emerging Market and Developing Economies: Real GDP (Annual percent change)

Table A4. Emerging Market and Developing Economies: Real GDP (Annual percent change)	Average 1998–2007	2008	2009	2010	2011	2012	2013	2014	2015	Projections 2016	2017	2021
Brunei Darussalam	2.0	−2.0	−1.8	2.7	3.7	0.9	−2.1	−2.3	−0.2	−2.0	3.0	6.8

Source: IMF, World Economic Outlook, April 2016.

This projected growth is dependent on a number of assumptions, which may or may not occur. Further, increasingly volatile future environments may significantly challenge this upward trend in economic growth.

During times of diminished economic outlook, diminished possibilities, high volatility and uncertainty, the key task for policymakers is to better manage vulnerabilities and build resilience against potential future shocks to the economy while simultaneously searching for alternative opportunities to stabilise and/or further develop the economy. Brunei's current economic difficulties are both significant and fundamentally linked to what has, paradoxically, previously been its economy's main strength. In changing environments, it is important to look for novel and diverse approaches aimed at aiding strategic planning among policy makers.

2.0   Developing Scenarios

OECD summarises the importance of developing scenarios as follows (OECD, n.d.) :

- They help reveal the dynamics of change.
- They assist in developing insights in order to reach sustainable solutions to the challenges at hand.
- They help stakeholders break through communication barriers and see how current and alternative development paths might affect the future.
- They illuminate issues and break impasses, which makes them extremely effective in opening new horizons, strengthening leadership and enabling strategic decisions to be made.

Scenarios are also recognised as a tool *par excellence* of futures studies, futures thinking and strategic foresight. They can best be understood as narratives or images of the future. Their importance lies in making the present remarkable and allowing futures beyond "business as usual" to emerge. There are numerous scenario methods and approaches. While there are many ways to understand scenarios and how they are best used, the following classification is the most relevant for this article. The first approach is *exploratory*, focused on alternative futures. In this approach, prediction is not the goal; rather a deeper and more robust discussion among stakeholders is of primary importance. The future is thus opened and novel possible pathways can emerge after "business as usual" is challenged. A second approach is *normative*, focused on the desired future, and the ways in which the preferred can be achieved. The third approach is *predictive*, and uses quantitative modelling to articulate the most probable future. In this approach, uncertainty is reduced through data-based models or through expert opinions via methods such as Delphi. This article uses the exploratory approach. It is based on the "four generic alternative futures" method developed by Professor Jim Dator, the founder of the Manoa School of futures studies at the Hawaii Research Center for Futures Studies, University of Hawaii. These four generic futures are recognised as: (1) continued growth, (2) collapse or catastrophe, (3) reversion to the past,

and (4) transformation. The reason why this scenario method works well is based on historical experience and structural reasons (Inayatullah, 1993): either the present continues, collapses or declines, reverts back to a prior state, or transforms. Or in "plain English": things go up, things go down, things return, things transform – there are no other choices (Ibid.).

CSPS has conducted this scenario-generating foresight exercise to better illuminate key possibilities – four scenarios – for Brunei's future development, and to ascertain what can be learned from each scenario. The process included a series of internal meetings and discussions in May 2016 which were attended by a group of twenty people from various backgrounds, where the scenarios were presented and discussed further. In addition to scenario development, a modified STEEP analysis method[2] was also used to generate the features of each alternative future. The segments that were highlighted comprised: Society, Technology, Economy, Environment, Politics and Education. To visually present each scenario, a simple chart of what would be the key focus at the systemic level within each alternative future is provided. As can be seen in the sections that follow, these charts focus on different key indicators of development. As the preferred scenario is the amalgamation of the four generic futures, the chart it uses to measure development is more complex. Lastly, to personalize each future, a "day in the life of a citizen" narrative is articulated. These narratives enable us to think about future implications of each scenario in more concrete detail.

3.0   Alternative Scenarios for Brunei

As stated earlier, scenarios highlight various possibilities for the future. Some of these possibilities are more and others less likely. As well, some of the possibilities are more or less desirable. However, all need to be clarified in order to help policy makers minimise risks and enhance opportunities in the context of changing local and global environments. In other words, each scenario gives insight into either aspects of the future to be avoided or to be enhanced. As a result, policy makers are better informed to create solutions which help solve tomorrow's problems today.

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2 To Society, Technology, Economy, Environment, and Politics (STEEP) Education was added as the additional segment, requiring a separate attention given its significance in shaping Brunei's economy.

Scenario 1. Continued Growth: Oil Now, Oil Tomorrow

Image 1.
Are dark clouds gathering over Brunei's main economic strength? Or, is the rain to come and go?

Source: http://capetocape.blogspot.com/2013/08/cycling-brunei.html

Scenario factors:

The **Continued Growth** scenario predominantly focuses on and assumes economic growth. It paints a future where oil and gas resources remain abundant and oil prices remain high and stable. This could be achieved by new technological innovations and under the key assumptions that: 1) the demand for oil and gas remains high in the future, and 2) the threat of climate change will not put significant political restraints on oil exploitation. If crises do occur, they are temporary and will eventually go away. The continued growth scenario is also based on the assumption that Brunei will succeed in diversifying its economy, making way for SMEs (small and medium-size enterprises) and FDI (foreign direct investment) to fully flourish under an enabling environment and infrastructure. The Brunei sovereign fund aids in this diversification.

Outcome for Brunei:

In this future scenario, the national vision of the country, Wawasan 2035, continues to be achieved incrementally. The main goals are met, with high standards of living, near zero poverty, near full employment, a highly qualified and skilled society, a stable political climate with its people enjoying peace and harmony, with cultural integration and support for Malay Islamic Monarchy's

core values. Specific characteristics of this scenario utilising the STEEP method are outlined below:

Economy:

Brunei achieves more prosperity with the help of economic diversification via some of its viable industries. Small and medium enterprises (SMEs), together with foreign direct investments into the country, continue to build momentum. Brunei is still an oil and gas based economy, but oil and gas prices remain high and Brunei has successfully created new growth sectors. Economic growth is the central focus, and it is assumed that there will be an automatic trickle-down effect towards community development. Government services including social services are steadily privatized. Public and private partnerships (PPP) become the norm. The tourism industry achieves modest success. The diversification drive is able to help Brunei generate near full employment.

Society:

Welfare and other benefits continue to be provided by the government, but there is a preference for self-reliance and in fact, corporatisation of key welfare and government services is pursued. Poverty is expected to be eliminated with growth and with the emergence of a middle class society. People live in relative peace and harmony, with very low crime rates – amongst the lowest in the world. Cultural integration is maintained and the support of the country's core values continues. With more and more people becoming highly qualified though, graduate unemployment and qualification inflation increase.

Environment:

There are some attempts to protect the environment, with new technologies which assist in this. However, increasingly rampant industrialization, which is the prime goal, continues to have a significant environmental impact. Liveable cities strategies such as sustainable transportation, leisure and recreational infrastructures are only implemented if there are commercial benefits. Transportation continues to follow the car model; however, automated / driverless cars (less car ownership) and electric car technology help to make this more efficient. Despite this, traffic jams continue as population pressures offset efficiency gains.

Technology:

E-government services are implemented, and successfully enhance productivity in the government sector. FDI is successful in bringing in new technologies and skills. The society is up to date with the latest technologies. However, there is some information overload, the costs of new technology implementation keep on rising and security breaches occasionally occur.

Education:

There is a continued expansion in the university sector, together with vocational and technical education, which supports the economy and social development. The population increasingly becomes highly qualified.

Politics:

A stable and legitimate political structure exists, and the government is able to deliver the required services to the nation. With this, there is certainty and predictability for the future.

The key measurement, an indicator of progress and development, is summarized in the following diagram:

Scenario 1 Diagram.

Hypothetical projection of GDP growth.
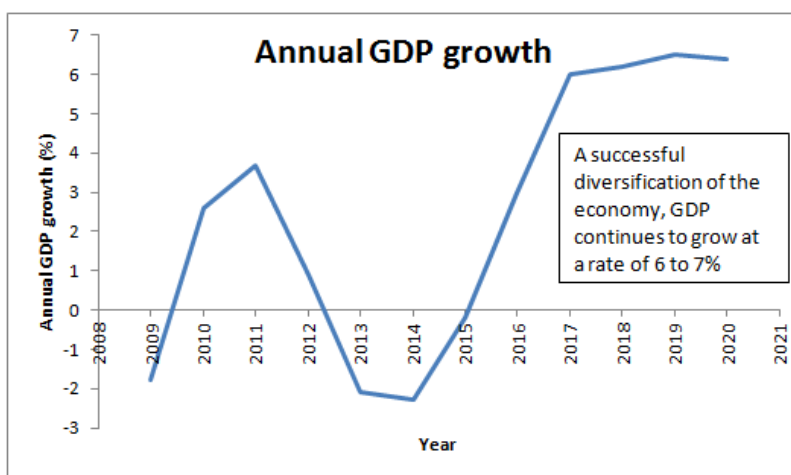
Source: Author's calculations

Lastly, a day in the life of a citizen may look like this:

Lina, a teenager from a wealthy family, would like to continue her studies in a higher education institution. Her options are many. She is able to either go abroad or study at the local university; in both cases her studies are paid for by the government under the available scholarship schemes. As she is still thinking about her options, she decides to take up a part-time job in a local retail shop as a procurement assistant organising stocks for sales. Her friends take similar paths, as part-time jobs are widely available in the increasing number of SMEs in the country. While Lina thinks that going abroad to further her studies is a great idea, she does not want to leave her ill mother behind. Lina's mother underwent multiple surgeries in the last few months, where

all medical bills are being paid for by the government. Her mother encourages her to study abroad and tells Lina not to worry as she would be taken care of by other family members. Six years later, after completing her degree and internships abroad, Lina returns home and obtains employment in one of the top companies in Brunei and becomes a high flyer. Many of her friends too return home and are able to obtain jobs easily as employment opportunities are abundant but increasingly competitive. In addition, consumerism take over the lives of the people, and for Lina and her friends, the highlight would be getting the latest designer bags and driving the most expensive cars.

Scenario 2. Collapse: Diversification Fails to Materialise

Image 2.

What if there is a major and swift collapse of fossil-fuel based economies in the future?

Source: Author's image

Scenario factors:

Although a Collapse scenario would seem undesirable, this scenario was generated to picture what could happen if Scenario 1 fails to materialise. The collapse scenario could be spawned due to oil and gas resources fast depleting and/or no workable energy alternatives being developed, or alternatively because of severe political restrictions on fossil fuel exploitation due to climate change. In addition to the prospect of depleting resources, climate change thus may also drive disruption. The Brunei sovereign fund is not sufficient to arrest the collapse.

Outcome for Brunei:

In this future scenario, Brunei's diversification efforts become largely unsuccessful. Unable to diversify, and facing the reality of depleted resources, Brunei finds itself economically stranded,

with poor energy systems, uncompetitive in non-oil industries and facing sharp declines in revenue. As well, major regional and global climate disasters increase. Specific characteristics of this scenario utilising the STEEP method are outlined below:

Economy:

In this situation, oil and gas resources are either quickly becoming exhausted or the production of oil and gas is no longer viable, and there are limited energy alternatives that have been established. Brunei's diversification efforts did not take off and SME-supported industries failed to thrive. The country is unable to attract FDI inflows, and the existing FDI is leaving the country. The country faces a high budget deficit. There is serious unemployment among graduates and non-graduates, massive brain drain, and mass labour emigration. Underground activities and black markets emerge to help people make ends meet; various forms of environmental and social exploitation thrive.

Society:

There is a mass poverty and the standard of living as well as all of the other indicators of human development – as summarized in the human development index – drop, some of them drastically. Crime becomes rampant and there is public disorder, social and civil unrest. Social security becomes unavailable; there is widespread sickness and diseases, and high mortality rates. Cultural disintegration takes place, accompanied by apathy, nihilism / drug use and increasing violence and social disruptions (such as riots).

Environment:

Environmental catastrophes and disasters become commonplace. The Heart of Borneo is increasingly threatened and becomes non-existent. Clean air, water and quality food can no longer be taken for granted. Outbreaks of infectious diseases are common. There is little funding for environmental preservation strategies, disease prevention or for properly disposing of industrial by-products. The environment is compromised by illicit or pragmatic money making strategies. Without well established smart and clean technologies there is a reliance on the diminishing returns of dirty industries.

Technology:

A technology revolution fails to take off, and most services remain manually based. Technological innovation does not occur in Brunei and even the take up/consumer adoption of new technologies remains severely limited, due to economic constraints and social apathy.

Education:

Schools and higher education institutions experience high drop-out rates, and the country fails to provide universal or mass education, let alone quality education. Many schools do not have the resources to take students for free, and the costs of education are too high for the average Bruneian. People drop out of education to do basic jobs to survive. The Education Act can no longer be enforced. The mainstream population in general and young people in particular become less concerned with education.

Politics:

Social and civil unrest takes place. The existing political structure becomes unstable and lacks legitimacy. There is great disparity in wealth between Brunei's elite and mass poverty and this drives widespread resentment and conflict. A mature political culture deteriorates in many aspects. The results are high uncertainty and the lack of political predictability.

The key measurement is still the annual GDP growth, but in this future scenario, all that can be measured is a free fall:

Scenario 2 Diagram.

Hypothetical projection of GDP growth
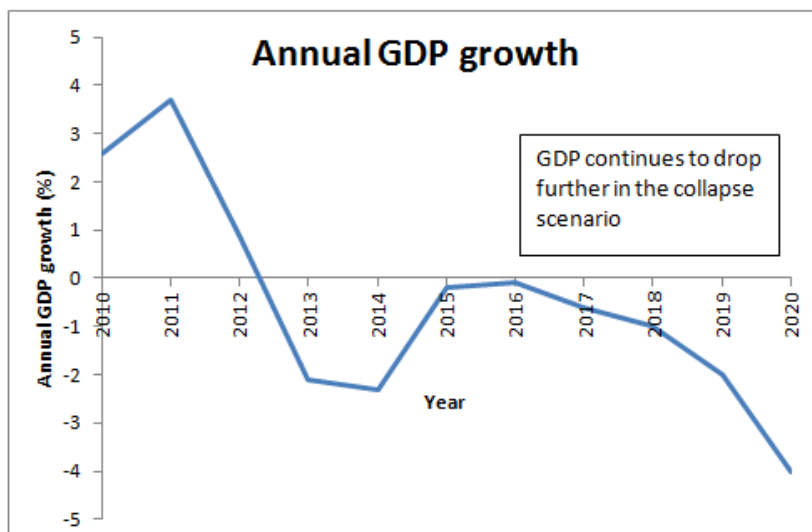
Source: Author's calculations

A day in the life of a citizen could look like this:

Lina, a teenager graduating from secondary school wishes to continue her studies at college; however, as competition is fierce she is struggling to obtain scholarships. Her family is unable to provide education funding, so the other option is to obtain a student loan. But this option too is quite difficult, and she is thinking of getting a job instead, even though her chances of getting a job are slim during a recession. Still, she has to try because her parents are no longer able to work and support the family. Her ill mother is dying as they are unable to pay for the medications she needs. There is limited support or welfare from the government. A week ago, her brother was arrested again for attempting to traffic a half kilo of marijuana. If convicted this time, he will face the death penalty. Furthermore, their house has recently been damaged by constant flooding, and limited help has been provided to affected households in their town. The damage has also affected their electricity supply and water, which is worsening the wellbeing of the family. Not able to access clean air, food or water, and with not much hope of improving their lives, Lina's whole family is experiencing worsening physical and mental health.

Scenario 3. Finding inspiration in the past: A Disciplined and Sustainable Society

Image 3.
What would a green and clean "Kingdom of Unexpected Treasures" look like?

Source: Author's image

Scenario factors:

In this scenario, societies around the world experience a gradual increase in resource and ecological constraints, putting limits on economic growth. However, the decline in economic

growth is not rapid and allows societies to find a variety of ways to maintain wellbeing and further social progress. The Brunei sovereign fund is used to moderate economic decline. Newer more sustainable energy and production technologies become widespread; simultaneously, they require more modest lifestyles. Living in excess and consumerism is frowned on, and people are obliged to live more disciplined, if not wholesome, lives. Rather than the one size fits all of the neo-liberal model, different countries find radically different solutions.

Outcome for Brunei:

Unlike Scenario 1, the Disciplined Future scenario predominantly advocates community development over growth. In this future, community development and sustainability are the primary concerns of government, in order to foster the overall wellbeing of its citizens. It is a paternalistic approach based on the assumption that when the needs of the community are met, economic growth will find its appropriate expression. Specific characteristics of this scenario utilising the STEEP method are outlined below:

Economy:

The country goes into a "back-to-basics" way of life. Consumerism is shunned as decadent, and people are encouraged to use their spare time to engage in healthy and productive lifestyles and volunteer to support the needy. Traditional environmental preservation and conservation efforts are highly valued. Economic activities are concentrated on green and self-sustaining activities. The sharing economy plays a major role, helping citizens to mutualise redundant resources, share skills and knowledge and get basic needs met. Much of the sharing economy is facilitated by the government, who give prizes and honours to outstanding citizens.

Society:

The emphasis is to carry out community development projects, for example public transportation, community based healthcare, welfare and leisure which can be accessed by all of society. Social security for the people is obtained through a careful audit of core needs, which supports and provides for them in times of crisis. Families are supported, while maternity leave is increased. People generally disavow materialism and embrace basic needs; however it is generally understood that it is for a greater cause. Paradoxically, while society disavows materialism, poverty levels and income inequalities are reduced, which improves the overall feeling of quality of life. Cultural diversity and alternative lifestyles are tolerated so long as they do not challenge the existing political structure. The government remains paternalistic in emphasizing and encouraging healthy values and practices, while disciplining and ostracizing those that do not conform.

Environment:

Major efforts are carried out to clean up the environment, and the Heart of Borneo (HoB) initiative is preserved. Strict environmental regulations are enforced in order to sustain a healthy environment. Alternative energy sources are pursued on an appropriate scale, and energy smart buildings are enforced. It is hard work, but preserving a clean environment provides a sense of pride and satisfaction to citizens.

Technology:

Technological innovation is not emphasised in this scenario, as many of the new technologies have proven to create more harm than good. Therefore, a careful selection of technologies is observed and where necessary, their use must be justified. The sharing economy is embraced; sharing skills and knowledge between citizens is a common practice. Sustainable energy production is also encouraged, and Bruneians feel a responsibility to become a post-fossil fuel state. But virtual reality technology, which is seen to promote escapism and which is energy intensive is shunned.

Education:

Quasi-liberal education is encouraged, and life-long learning is emphasised over elite and vocational education. Traditional arts and crafts are relearned. The Kampong becomes one of the places where learning of old ways is passed on to subsequent generations. Further, education which emphasises materialism and possessiveness, non-traditional viewpoints and non-ecological views is censured.

Politics:

The political structure is paternalistic and quasi-authoritarian, and high censorship is imposed, on the basis of protecting society. Some citizens welcome this as it gives them a sense of security and they see the need for a disciplined society in the context of environmental and other challenges. Others feel stifled and unable to innovate, emigrating to other regions.

The key measurement is no longer the annual GDP growth, but quality of life as measured by the overall well-being of citizens.

Scenario 3 Diagram.

Hypothetical projection measuring quality of life
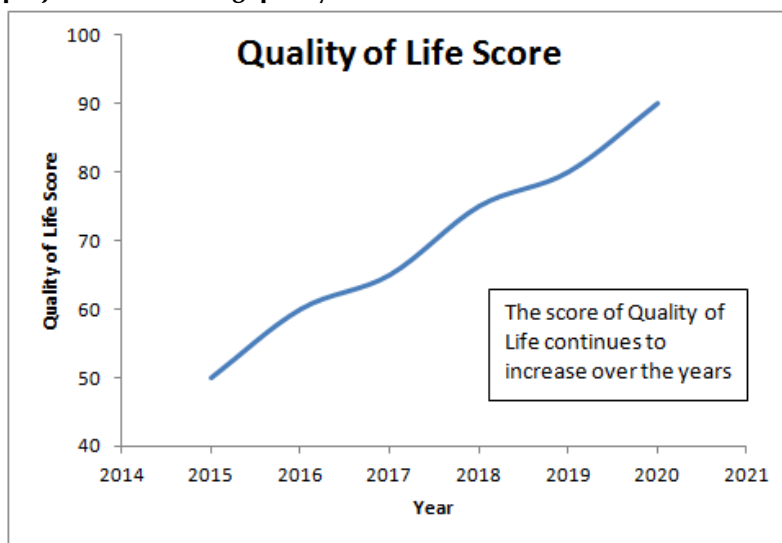
Source: Author's calculations

A day in the life of a citizen might look like this:

Lina wakes to her daily spiritual journey and is thankful that she has been given another day to live and be happy. Worldly possessions do not concern her too much. Her main goal in life is to help her community towards sustainable development, and to lead a peaceful life. TV, radio or the internet do not fill the lives of her community. Richness is observed in moral values and ethics, and being environmentally conscious is a norm for Lina and the community. Brunei's heritage and traditional values are emphasised and the Brunei identity continues to be preserved. Lina does not have to worry about education and healthcare as it is being provided by the government and community free-of-charge. Lina aspires to become an environmentalist and herbal pharmacist seeking new natural solutions to boost energy and pursue natural healing. Her mother is gravely ill, but illness is perceived as a natural part of life and in her last days she is tended gently by her family and community.

Scenario 4. Transformed, Hi-Tech Future: Discovering Virtual Brunei

Image 4.

What if a major transformation of economy and society takes place in the future?

Source: Brunei Times (2016)

Scenario factors:

The Transformed Hi-Tech future focuses on tapping major breakthroughs in technology and transforming the economy into a hi-tech enabling environment. In this scenario real breakthrough technologies driven by the global centres for technological innovation have become widespread. 3D printing of most products has become widely available and cheap, transforming manufacturing and creating micro-manufacturing hubs in every country. New bio- and medical technologies allow for comprehensive early diagnosis of disease and treatment, extending lives and health. Automation coupled with artificial intelligence is able to replace half of the workforce, creating a wave of redundancies and layoffs. Energy production is transformed as new technologies driven by global innovation create a variety of energy options. The Brunei sovereign fund is used to kick-start these initiatives. Subsequent funding is crowd-sourced.

Outcome for Brunei:

In this scenario, Brunei prospers with an economic diversification strategy that is based on social development. Energy technology diversification means that the world is less dependent on oil and oil prices remain low. However, Brunei has found key niche areas to compete, developed SMEs, and FDI and growth remain strong. This leads to a transformation from traditional community social structures, e.g. family, education and traditional values into high-tech communities and global citizens. There is extremely high productivity due to the transformation of work structures

and distributed production technologies (in energy and manufacturing). The general public is given a choice to either not work but receive a basic income, or work and earn more, on top of the basic income received. Liberal arts and spiritual development are encouraged. There is near zero poverty with people enjoying high standards of living. Green technologies are adopted while still being able to preserve, if not enhance, the Heart of Borneo (HoB).

Specific characteristics of this scenario utilising the STEEP method are outlined below:

Economy:

The economy is completely transformed, with automation as part of people's lives. Global markets and high tech industries (e.g. additive manufacturing/3D printing, nanotechnology, virtual reality, artificial intelligence, robotics, biotechnology, and neural-enhancement) take over the economy. These high tech industries are self-sustaining and globally oriented. The concept of work is transformed and work is flexible. As automation takes over, mass unemployment takes place. The employment option is retained mostly for professionals in key skilled areas such as computer and information sciences, engineering, management, finance and health.

Society:

Stratification exists between elites who control technology and those who do not. Society becomes just another part of the global community and global citizenry, and the disappearance of family and tradition occurs. People continue to enjoy welfare provided by the government, but this has transformed into a basic income. Jobs become largely non-existent or meaningless for people. People work not for survival, but because it provides meaning and purpose in their lives. Culture is engineered with allowance for some diversity of lifestyles. Simultaneously, the society is constantly being monitored from within.

Environment:

The environment is abundantly green and clean, with strict environmental regulations, and the Heart of Borneo continues to be preserved and enhanced. Hi-tech innovations are put in place to monitor preservation of the environment and to ensure repercussions for those that break the rules. Drone technology, remote photography and satellite imagery eliminate ecological criminal activity. The smart cities concept is widely adopted throughout the country.

Technology:

Technologies used are green technologies, and high criteria ensure they remain clean and sustainable. High-tech technologies enable a move towards a knowledge economy, the "internet of things" and the virtuality of common spaces. Clean tech is a powerful industry sector that provides robust energy solutions within ecological constraints. Peer-to-peer technologies that allow "Design Global Manufacture Local" become common.

Education:

Lifelong education is emphasised, whereby liberal arts and spiritual development are encouraged. Importantly, there is borderless access to education. Brunei's institutions of higher learning diversify; they provide MOOCs (Massive Open Online Courses) and virtualised learning spaces for people both inside and outside Brunei.

Politics:

An authoritarian political structure is in place; everything is policed as in the book "1984". Overall, there is high certainty and predictability. This leads people to feel secure about the future although some complain about the boredom and the lack of freedom. Surveillance is common, both by people and public camera surveillance systems. Hackers, however, find ways out of surveillance. New technologies are also used to join alternative online communities and niche interest groups.

The key measurement in this future is the number of successful technological innovations:

Scenario 4 Diagram.

Hypothetical projection measuring technological breakthroughs
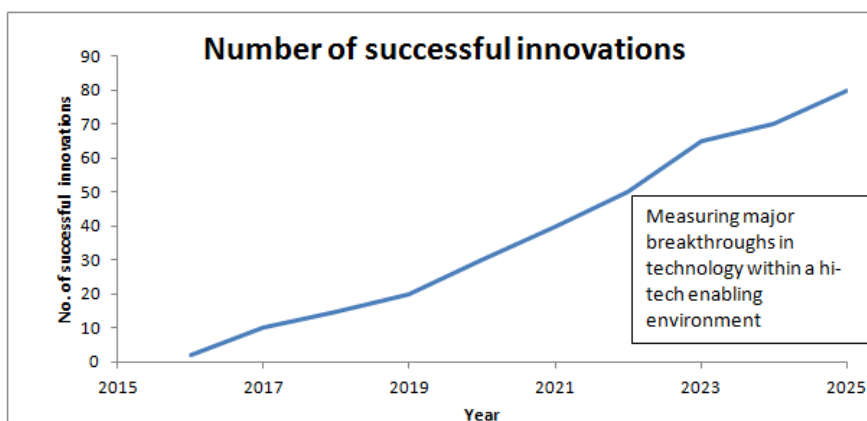
Source: Author's calculations

A day in the life of a citizen could look like this:

Lina wakes up in the morning after spending yet another night in virtual reality - under the stars. She presses a button, and her techno-revolving chair takes her to the bathroom in the next room. She has a shower and gets ready in ten minutes, as her clothes are readily available by the press of a button. She has her breakfast - where its energy and calories have already been formulated according to her weight and activity for the day. Lina does not need to leave home to obtain a university degree - everything is learnt from home - via a virtual classroom, and access available to online teachers and friends, as well as other learning resources. Her once terminally ill mother is now cured thanks to breakthroughs in medicine and technology. But a couple of her friends had their identity stolen and are now struggling to reinstate some sense of normalcy into their offline lives. Others are struggling with social alienation, frustration and boredom. Lina's nearby neighbours worry about not being able to prevent their children's access to harmful online content. They also sometimes feel their children are becoming overly dependent on high tech, turning them into 'brainless zombies'.

Learning from Scenarios: Preferred Future for Brunei

Image 5.
Bruneians flying high whilst remaining connected to the roots.

Source: https://shantiodyssey.wordpress.com/tag/brunei/

The four scenarios outlined represent a concentrated effort to investigate future possibilities, so that some possible occurrences can be prevented and others created. It is highly unlikely that any given scenario will become the predominant one in the future. Rather, a combination of all four

could be anticipated. The key for the successful combining of multiple future options lies in: (1) the clarity of articulating the preferred future; and (2) the subsequent development of policy responses to help such preferred future to come into being.

After development and the lengthy discussion on the four generic alternative futures model, the preferred future, favoured by most participants, represents a hybrid of scenarios 1, 3 and 4. This preferred future draws from the "desirable" features of these three scenarios:

> **From Scenario 1:** The emphasis on economic diversification and economic growth, e.g. using the cluster approach to foster a competitive environment. Some examples of developing industries include: knowledge-based industries, downstream and upstream oil and gas, tourism, Islamic finance and halal industries. SMEs and FDI are still encouraged, especially in the knowledge-based sector.

> **From Scenario 3:** Industries carefully selected based on the ability to give back to society and to take into the account the sustainability of the environment. Economic growth must therefore be sustainable and balanced. The emphasis is on the importance of an overall sense of safety, peace and harmony, and low crime rates. Economic development is important, but community development and caring for the social fabric even more so.

> **From Scenario 4:** Industries carefully selected in terms of their competitive edge and the ability to provide gainful employment and entrepreneurship. Government services are privatised where possible. Social stratification still exists but there is a move towards a middle class society where poverty is eliminated and the meritocratic reward system is established. Therefore the standard of living increases for all, i.e. inclusive growth.

These and other specific characteristics of the preferred future scenario utilising the STEEP method are outlined below:

> **Economy:**
> Economic growth is pursued through robust diversification strategies where the government provides full support by executing the necessary policies, with proper monitoring and adjustment mechanisms in place. Government services are privatised where possible to boost efficiency and effectiveness, but not where perverse incentives (or monopolies) are created that work against development goals. Productivity is emphasised in systems and wastage is eliminated. Employment opportunities and meaningful work made available for citizens are one of the key criteria for foreign direct investments. Flexible employment options and flexible working hours are common, and

there is allowance for voluntary exit from the job market by providing support systems (e.g. universal basic income). The sharing economy helps to mutualise community resources, skills and knowledge. Reward systems are restructured according to more relevant universal KPIs (key performance indicators) and genuine progress indicators.

Society:

Community development is emphasised amidst the pursuit of economic growth. Traditional values and the Bruneian heritage are preserved and further enhanced. Cultural diversity is respected, and religious tolerance is practiced. The government significantly intervenes to reduce poverty levels via sustainable mechanisms and programmes, such as practical educational pathways, which lead to higher standards of living and the elimination of poverty. A basic universal income for the unemployed and disadvantaged is provided. There is less discrimination on the basis of cultural backgrounds and gender, and higher acceptance of cultural diversity and highly skilled foreign workers. This becomes the seed for the creation of cosmopolitan Brunei.

Environment:

The adoption of green technologies is enforced in order to preserve the environment and at the same time achieve a higher standard of living. A clean environment is seen as the key factor in preserving a good quality of life and also in attracting tourism. Smart cities living and liveability is of utmost importance. Brunei becomes internationally recognized for its leadership in developing proactive environmental policies and practices.

Technology:

Technological advancements are pursued and carefully selected based on clear criteria for wellbeing (rather than technology for technology's sake). FDI brings in new technologies and enhances productivity, boosting economic growth. At the same time, technological innovation develops locally, which is stimulated by various governmental initiatives, for example by using the "Design Global, Manufacture Local" model (Ramos, 2016).

Education:

Equitable and inclusive quality education and lifelong learning are achieved. The focus is on creating a highly qualified population, not only in mainstream education but also in liberal arts, natural sciences and adult education. Brunei not only teaches itself its native heritage and traditional knowledge through peer-to-peer education but the society has embraced its own unique strengths and shares them with the world through virtualised learning opportunities.

Politics:

A Whole of Government Approach (WGA) is adopted in order to create transparency in governance and participatory decision making. Public policy becomes integrated and holistic; each public service is no longer only practiced within the boundaries and silos of a particular ministry or department. Rather, the services are well connected and a high level of cooperation takes place. Governance becomes more efficient, agile and anticipatory – solving problems before they become big – whilst simultaneously seizing emerging opportunities for investment.

Such a complex future cannot be simply summarized in a two by two table. That is, a more holistic and interactive measurement mechanism is introduced:

Diagram 5.

Modified STEEP analysis-based indicators for the preferred future of Brunei
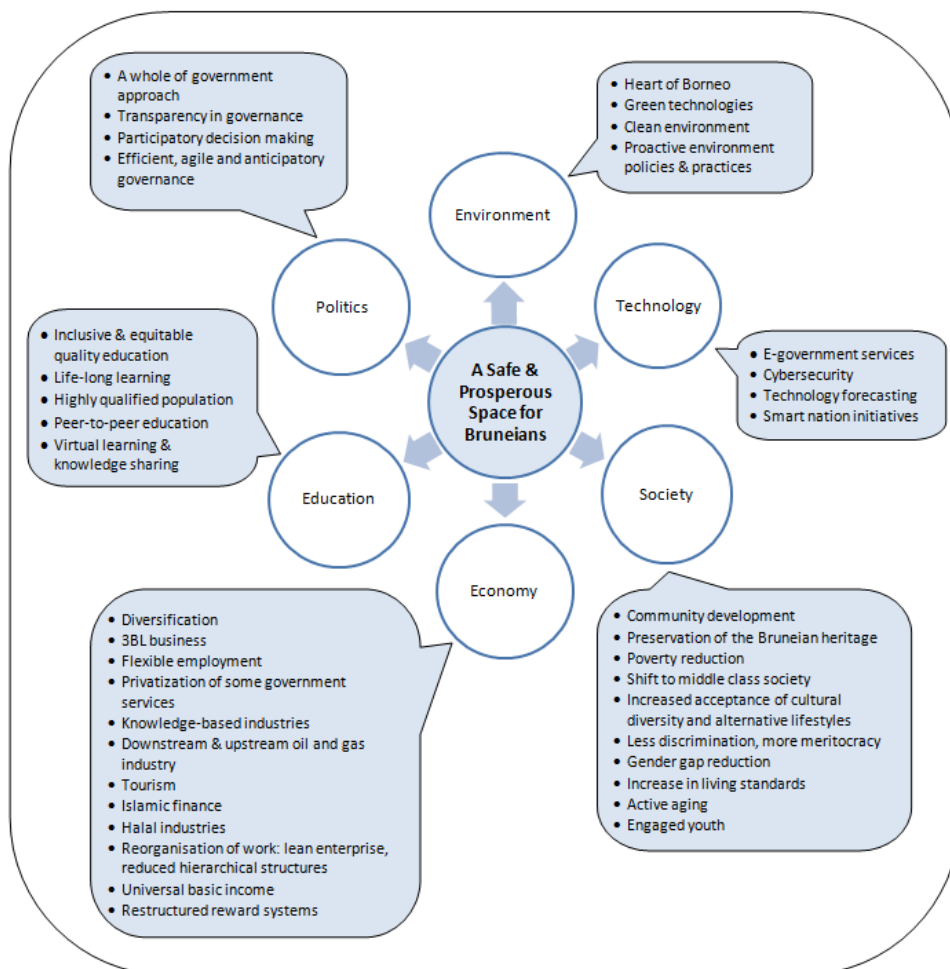
Source: Author's diagram

Finally, a day in the life of a citizen could look like this:

The future is bright for young people like Lina. The economy is growing and there are many business and employment opportunities, including in the high-tech and environmental sectors. Community development and environmental conservation are emphasized more than ever, and the accompanying values are instilled in young children in various educational environments and embraced by adults in their lives and working environments. As Lina is graduating from school, she is considering multiple options for her future. She can choose to pursue further training and education. She could either look for more traditional work and focus on productivity to generate more income, or choose not to engage in the formal economy and receive a basic (minimal) income from the government whilst pursuing other interests (such as family care, community development, environmental preservation or ongoing learning). Whichever way she chooses to go, the government system in the country will support her. Recently created anticipatory and whole of government approaches are efficient, eliminate wastages, and uphold meritocracy. Cultural and lifestyle diversity is encouraged, and helping the community eliminate poverty is the norm in the country. Lina appreciates that she can meet all of her basic needs effortlessly and that she can focus on developing her strengths for the benefit of others. She feels that she belongs and she feels safe in knowing that whatever challenges she and her family may face, they will be assisted by the community and the government, which solve problems in their earliest stages.

4.0   Policy Implications and Recommendations

While it is common knowledge that the future is unknown, by investigating current trends and emerging issues it is possible to have enhanced insight into some plausible future developments. Further, it is possible to become more proactive about creating the future preferred by most. So, what can be learned from the scenario development process which is relevant for policy makers in Brunei?

Several key conclusions can be drawn from the underlying research behind this article:

1. The future is not static and will not occur along a straight line, merely extrapolating based on past events.
2. Current disruptions and uncertainties, including economic restrictions, are likely to continue in the future.
3. At any given moment in the present there are multiple possibilities for the future. Policy makers would benefit from clarifying these possibilities in their specific areas of interest.
4. Policy makers can utilize insights from scenario generation processes to introduce policies designed to prevent or minimize undesirable features which may occur and

enhance desirable characteristics of the preferred future. Such an approach will have very concrete implications for the lives of Bruneian citizens, in the short, medium and long-term future.

From these conclusions, the key recommendations are as follows:

1. A generic scenario development method should be implemented across the board to better inform decision making processes, including in the context of very specific policy issues.
2. Our pilot study has shown that there was an overall agreement with regard to the preferred future for Brunei. However, this pilot study should be expanded to include more diverse participants and larger groups. In addition, a feasibility study should focus on specific strategies needed to move closer to such a preferred future.
3. Based on our preferred scenario for the future of Brunei, policy responses should simultaneously take into account a (diversified) economy, an (inclusive and diverse) community, (social and economic) security and a (protected) environment. For this to occur, a new way to measure successful development which moves beyond "business as usual" and traditional GDP growth charts needs to be developed and more widely utilized. Thus, new measurements are required to measure new futures.

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Strategic Planning in Brunei Darussalam: History, Experience and Lessons Learned

Haji Mohd Rozan bin Dato Paduka Haji Mohd Yunos & Ivana Milojević

Abstract

This paper provides an overview of strategic planning in Brunei Darussalam. It is based on an 'insider's view' – including participating in the formulation of the first strategic plan for the Brunei Prime Minister's Office and nearly three decades of experience with planning in Brunei. First, the history of planning both globally and in the context of Brunei is summarised. Second, the paper then proceeds to outline the benefits and challenges of strategic planning processes and outcomes as well as to define and simplify what strategic planning is and could potentially be. Third, the 5D model of strategic planning, which is aimed specifically at Brunei's civil service, is described, so that it can be used by civil servants to prepare their strategic plans. Fourth, the paper concludes with some crucial lessons learned whilst engaging in the process of strategic planning. These lessons are intended to further enhance the benefits and positive outcomes obtained from strategic planning in Brunei in the future.

Keywords: *history of national development planning, strategic planning, policy making, implementation, Brunei Darussalam.*

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1.0   Introduction: Planning History in Brunei

The literature review shows that very few academic articles overview or analyze the history and practice of strategic planning in Brunei. This is mostly due to the fact that strategic planning is very recent in Brunei. It emerges from the successes and failures of national development plans. It was not until the year 2000 that proper strategic plans started to be developed by some of the larger Ministries. For example, the first Strategic Plan for the Prime Minister's Office at the 'Ministry' level was put forward in August 2004, covering a period of ten years (2005-2014) (PMO, 2004). However, the history of planning in Brunei began before that. It is important to understand this history as it provides the context for the current and future strategic planning in Brunei. Indeed, it is important to remember that "the results of past strategies create the context for future ones. History helps shape the future." (Othman, 2010. p. 8). Or, in other words, a knowledge of history helps to "avoid repeating mistakes made in the past, think of the ways to surmount problems [of today] and plan the future wisely" (EPB, 2010, p. i). The overview of planning history in Brunei is thus critical for overcoming past and present failures in policy making and implementation as well as for moving forward.

This article first summarises the history of planning both globally and in the context of Brunei. It articulates the four main periods of national plans, the significance of national development plans and how vision was used to enhance the long term view of these plans. Second, the paper proceeds to outline the benefits and challenges of strategic planning processes and outcomes as well as to define and simplify what strategic planning is and could potentially be. It thus outlines the move from the plan and vision to strategy. Third, the 5D model of strategic planning is articulated. This approach is intended specifically for Brunei's civil service to help civil servants prepare their strategic plans. Fourth, the paper concludes with some crucial lessons learned whilst engaging in the process of strategic planning.

1.1 The Four Main Periods

The history of planning in Brunei follows the overall political and economic history of the country, which can generally be segmented into the four main periods: 1. Pre-1906, 2. between 1906 and 1959, 3. between 1959 and 1983, and 4. post-independence (Othman, 2010, p. 12). Historical records for the first historical period are sparse (Yunos, 2011, p. 223; Hussainmiya, 1995, p. ix) but they do indicate that Brunei was a "well administered and developed country in the 16th Century with its people enjoying prosperity" (Othman, 2010, p. 13). Indeed, in order to manage and administer the vast Brunei thalassocracy of the 15th century, a strong government accompanied by administrative machinery was in existence (Yunos, 2011, p. 276; Yunos, 2013, p. 137). For a variety of reasons (de Vienne, 2015; Leake, 1990; Saunders, 1994; Singh, 1984;

Yunos, 2011), the prosperity of Brunei deteriorated towards the end of the 19th Century when "the power of Brunei's empire started to weaken and the era of territorial shrinkage began" (Othman, 2010, p. 17). The deterioration was both a result and a cause of power battles and power abuses by local and foreign players. This led to "almost terminal decline" (Saunders, 1994, p. 87). Even in 1904, the impression of Brunei was "one of poverty at all levels with little hope of improvement in the future" (ibid, p. 104). Importantly, during this deterioration phase, there was "no overall planning but a mere landlord-tenant relationship [within the customary feudalistic administrative system] (Othman, 2010, p. 17). Left to function by itself for a long period, the system resulted in "Brunei [falling] into dire straits … where power abuses and corruption in tax and revenue collection prevailed" (ibid). This is but one example showing that 'ad-hoc' and reactive measures (as well as the lack of clarity over direction towards the future) significantly weaken the state and its governing bodies.

This situation changed in the second historical period, during the time of the British Residence (1906-1959). Due to a combination of demographic, political and economic factors, between 1906 and 1941 only around 20,000 people (Brunei Annual Reports) resided in the whole country. Remarkably, it was not until 1960s that "the population [caught] up with its mid-1850s level (estimated at 25,000 inhabitants)" (de Vienne, 2015, p. 208). The British re-introduced administrative planning, for example, Malcolm Stewart McArthur, the first British Resident in Brunei, assisted in the process of restoring "political and territorial stability to Brunei" while simultaneously introducing "a wide-ranging program of financial and administrative reform" (Ooi, 2004, p. 868). Indeed, in his effort to "develop Brunei towards modernization", McArthur (re)introduced planning by developing the necessary infrastructure, including "the establishment of civil and criminal courts, police station, postal office, customs office and wharf" (Othman, 2010, p. 20). As a result, even before the commercial exploitation of oil began, Brunei had started to show signs of economic recovery with the subsequent British Resident "proud to report that trade was 'growing by leaps and bounds' … and that Brunei has now safely embarked on a course of real prosperity" (Horton, cited in Othman, p. 23).

The discovery and beginnings of commercial exploitation of oil marked another turning point for Brunei. The numbers of Bruneians returning to the country slowly started to increase in the 1930s, and by the 1930s Brunei was one of the largest producers of oil in the world and in the British Commonwealth especially. This is when Brunei started its ascent from "rags to riches" (Leake, 1990, p. 43). Until WWII, Brunei continued to make steady economic progress. This would have continued had it not been for the war and the destruction of Brunei by both the Japanese and the Allied Forces. The British and the Allied Forces bombed the Japanese installations as well as razing the remains of Brunei Town. When Australian forces moved in, in 1945, the only building left standing in the town was a Chinese temple (Yunos, 2014, p. 105). Everything else in Brunei

Town was ruined; oil wells in Seria Town were also set ablaze and engulfed with fire (ibid). Other conflicts throughout Brunei's long history as well prevented Brunei from properly developing (Yunos, 2014, p. 150).

These previous experiences have not been lost within the subsequent planning efforts in Brunei. For example, the Strategic Planning Framework for the Prime Minister's Office of Brunei Darussalam (2005-2014) highlights "peace and security [having been] ensured for all" as one of the key past achievements for the previous three decades (1984-2004). This achievement is second only to "the international recognition [of Brunei Darussalam] as a capable sovereign state" (PMO, 2004, p. 14). Maintaining peace and security via a host of internal and external/diplomatic measures remains one of Brunei's top priorities for the future. As stated in the opening sentence of the Brunei's "Vision of National Success", such vision prioritises "a nation that is peaceful and secure, at peace with its neighbours and respected by the world community" (PMO, 2004, p. 35).

The role of planning was crucial to help Brunei come out of the previously mentioned and enormous crisis post WWII. Indeed, "[d]espite the dire condition of Brunei at the end of the War, conditions in Brunei improved much faster than was thought possible" (Yunos, 2011, p. 118). Of course, the very first duty of the post-war Brunei government was to feed and restore the bare necessities of the people. In the period after WWII the rehabilitation of Brunei Town started; nearly 200 shop houses as well as new government offices were (re)built. As a result of these efforts, by early 1953, Brunei showed few signs of the war. The increased emphasis on planning coupled with the proper management of the economy propelled by the oil revenues saw the financial position of the Brunei Government improve by leaps and bounds. The complexity and the change were not lost on the government of the day, which realized that a longer term development structure was needed. This led to the creation and launching of the first five-year national development plan in Brunei in 1953.

1.2 National Development Plans and Their Significance

The significance of the first National Development Plan (NDP or RKN) cannot be overstated. Since the introduction of the first five year NDP Brunei Darussalam has progressed from "being a backwater, underdeveloped and impoverished third world country to a country straddling the developed and the less developed - with a high level of per capita gross domestic product (per capita GDP) and a high quality of life" (Haji Hashim, 2010, p. 30). Observers of the time "were astounded by the magnitude of the task initiated", describing the progress under the first NDP as a "bloodless revolution unmatched anywhere else in the world" (Hussainmiya, 1995, p. 120). The success is all the more remarkable when having in mind the small size of the Brunei population at the time (ibid.).

The first national development plan was launched in 1953 and covered the five year period from 1953 to 1958. With "the foresight of Sultan Omar Ali Saifuddin III, the State Council in 1953 allocated $100 million to be spent during the following five years, seeing the birth of Brunei's 5 Year Development Plan" (Othman, 2010, p. 3). The main objectives of the plan were to: 1. bring Brunei out of its lowly status in Southeast Asia; 2. modernize Brunei within the framework of the Malay Islamic Monarchy; 3. improve the living standards of Bruneians; and, 4. develop non-oil and gas industries (EPB, 2010, p. 159). A British expatriate, Mr. E.R. Bevington from the Fiji Colonial Office, was appointed as the Commissioner of Development. As Commissioner, it was his responsibility to carry out the new plan worth $100 million with the funding voted by the State Legislative Council.

The first National Development Plan gave special emphasis to the expansion of education and medical services; the implementation of resettlement schemes; the provision of water supplies; the improvement of agricultural methods and fisheries; the extension of roads and communications; the construction of bridges, buildings and electrical stations; and the installation of broadcasting and telephone systems (Yunos, 2014, p. 106). More than 59% of the budget went to infrastructure development whilst Health, Education and Welfare received 21.77% of the funding (ibid). As summarized by Saunders (1994, p. 129) the first NDP:

> "…included provisions for Brunei development of an infrastructure, without which commercial investment would not be attracted; thus roads and communications were to be improved, and water and electrical supplies extended. Social provisions included the expansion of education and medical facilities, and non-contributory pensions for the aged and disabled … local crafts were to be revived, and agriculture was to be improved and diversified."

Crucially, the plan also focused on improving the social welfare of Bruneians. As a result, the living standards of Bruneians improved tremendously. A pension scheme was granted under the plan to persons over 60 and the disabled (Yunos, 2014, p. 106-107). Once again, the importance of such planning for the beneficial future outcomes cannot be overstated. The scheme is still in place and enjoyed by many Bruneians despite not having to contribute anything to the scheme. The scheme which originally paid $20 per month in 1957 now pays $250 a month to any Bruneians who have reached the age of 60 and to those who are disabled.

Furthermore, many of the important buildings and infrastructure in Brunei were conceived and built during the first national development plan (Yunos, 2011; Yunos, 2013; Yunos, 2014). This

includes the trunk road from Brunei Town to Tutong to Belait with all its bridges. The new wharves at Brunei Town and Kuala Belait were also built. Muara was studied as a potential port for the future. The first airport at what is now known as the Old Airport was conceived. Automatic telephone exchanges were put up in Brunei Town and Kuala Belait. More than 30 new schools were also built during these times. Finally, a new hospital at Kuala Belait was constructed[3]. The foresight of the first NDP is apparent in already identifying that Brunei should start diversifying its economy and not be dependent on the oil industry. The plan highlighted several schemes including better use of waste gas; improving agricultural methods; the replanting of rubber and a higher focus on the fishing industry.

Despite its many successes, one area from the first and subsequent National Development Plans has remained problematic. Unfortunately, most of the plans to diversify the economy did not work well. The waste gas was supposed to help start an aluminium industry and the manufacture of cement and nitrogen fertilizer but the projects did not materialize. Rubber prices fell drastically after the Korean War and the plan to replant rubber immediately failed. The goal of making "the necessary transition to a new diversified economy" (PMO, 2004, p. 14) remains an imperative to this day. Each subsequent NDP has aimed to overcome the "Dutch disease" (Lawrey, 2010; Mahadi, 2011) of overreliance on a fossil fuel economy – it is to be expected that the future NDPs and strategic plans will need to somehow address this issue further.

The second national development plan for 1962 – 1966 succeeded the first one with the aims of developing the economy and improving social conditions of Bruneians. The first two national development plans did not immediately follow each other. It was not until the third national development plan that the five year plans followed immediately after the last one ended (Yunos, 2014, p. 107). The third national development plan began in 1975 and ended in 1979 and this was followed by the fourth national development plan (1980 to 1984). In a nutshell, the 2nd NDP (1962-1966) "continued its orientation towards the provision of economic and social infrastructures as foundations for future development" (Othman, 2010, p. 290). To do so it focused on three principal targets: 1. diversification of the economy from oil, 2. maintaining a high level of employment and, 3. promoting the participation of the private sector (ibid). Such planning certainly helped with the overall development of Brunei. For example, "during the interim period between the 2nd and 3rd NDPs, national income continued to rise, nearly double in 1971 … while GDP per capita rose by nearly 50%" (ibid, p. 33). The fourth and the last NDP in the pre-independence historical period (1980-1984) continued to aim at achieving high employment levels, reducing income inequalities, and diversifying the economy – "the same national goals as stipulated in the previous NDPs" (ibid, p. 37).

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3 For more detailed historical accounts, consult Yunos 2011, 2013, and 2014.

The planning in this pre-Independence historical period was difficult for several reasons. First, the colonization, coupled with internal weakening of the Sultanate during the 19th Century (Singh, 1984, p. 33), interrupted the traditional system of the governance in Brunei. The history of Brunei civil service can be traced back to "more than 600 years ago to Sultan Muhammad Shah, Brunei's first Sultan" (Yunos, 2011, p. 276). And, if the "pre-Islamic Sultanate is included, the Brunei civil service in whatever form must have been functioning more than a thousand years ago" (ibid.). The colonization officially ceased in 1984 with the ending of rule by the British, who had administered Brunei since 1906 (Yunos, 2011, p. 289), and whose influence provided both dependency and "salvation" from extinction (Singh, 1984, p. 34). But all the way up until WWII, the rulers' preoccupation was to "get a viable and financially independent government and a modern administration and [they were] not much focused on planning and development" (Yunos, 2014, p. 51). It was not until Brunei's first NDP (1953-1959) that there was a departure from the general ad hoc manner in which British Residents spent money (Yunos, 2014, p. 52). Second, it was not until 1959 when Sultan Omar Ali Saifuddien obtained and signed Brunei's written constitution that Government became more or less run by the people of Brunei. In 1959, the 1906 Treaty was replaced by the Brunei Agreement, which resonated to the theme of "Brunei for Bruneians" and enabled internal self-government (Yunos, 2014, p. 44). Third, the early civil service or civilian government after the constitution "virtually collapsed at the onset of the [1962] rebellion" (Hussainmiya, 1995, p. 309). For example, there was a failure to inform the people of Brunei of the crisis the country was experiencing. This has been regarded as a classic case of "the near breakdown of an immature civil service and an information machine which had never been trained in mass dissemination of news or opinion" (ibid. p. 310). Fourth, there was no 'proper' modern civil service then resulting in an over reliance on foreign experts, primarily British and Malaysia expatriates. During the time of post-WWII reconstruction, for example, there was not only a shortage of all kinds of materials, machinery, shipping, labour and artisans but also a shortage of professionals, including town planners (Yunos, 2014, p. 51). At the same time, politically, during the British residency, the British were more interested in maintaining the status quo than helping Brunei properly develop. As well, there was a discord between Brunei and Malaysia in the 1970s which resulted in the departure of most Malaysian expatriates, creating a big vacuum in the Brunei Government at the time. Fortunately, the Brunei government started sending people overseas to obtain needed qualifications in the 1960s – the graduates started coming back to Brunei in the 1970s and joining the Government. While technical colleges started in the 1970s as well, it was not until post-Independence that the establishment of the University of Brunei Darussalam enabled Brunei to start developing a capacity to train its own policy makers and planners. At around the same time, during the 1970s and 1980s, the need for a "comprehensive framework to guide the process of physical development became evident" (Yunos, 2014, p. 54).

It was then that "population growth, traffic volumes, public utilities and urban housing [started] to dominate the needs of the populace" (ibid.). Such growth, coupled with the previous history of dependence on external experts, created a situation in which some level of reliance on foreign expertise remained. This too is another issue that needs to be addressed now and in the future.

The fourth historical period of planning in Brunei – 1984 to present – saw the formation of ministries and a number of cabinet changes, major ones taking place in 1986 and 1988. With Brunei's independence in 1984, the system of government, which was "carried out in the traditional Malay manner of advice tendered through a Chief Minister and senior officials established in 1959, was replaced by a move to a Cabinet style of government" (Yunos, 2013, p. 139). But it took a number of years for ministries to start to function properly. For example, in 1987 there were only eight people in the Ministry of Communications – a Minister, a Permanent Secretary and six officers. Nowadays, there are five big divisions within the ministry and some hundred people employed. In those early days, ministers kept on changing so it was difficult to develop strategic plans both due to the very small number of people working at the ministries as well as due to ministers themselves not staying long enough within specific ministries. It was only after the second cabinet reshuffle in 1988 that most ministers were appointed for a longer period, for example, the Minister of Communications held his post from 1988 until 2005. This enabled more ministers to become interested in strategic plans and long(er) term planning. Once again, it is important to stress (and apparent from this previous example) that the stability of government and long-term planning go hand in hand.

The fourth historical period of planning saw development of six NDPs: the fifth (1986 to 1990); the sixth (1991 to 1995); the seventh (1996 to 2000); the eighth (2001 to 2005); the ninth (2007-2011) and the tenth (2012-2017). All these plans reaffirmed the Government's commitment to involving and developing the private sector, developing a healthy, educated and skilled workforce, and, diversifying the economy. The investment in the implementation of the plans has recently been significant and increasing. For example, starting from BND100 million allocated in 1953, BND 5.5 billion was allocated for the implementation of the sixth national plan in 1991 and BND 6.5 billion for the implementation of the tenth national plan in 2012 (Othman, 2010, p. 49; PMO, 2012, p. xvi)[4]. During this period, GDP in Brunei rose from the record low of USD 0.11 billion in 1965, reaching an all-time high of USD 19.04 billion in 2012 (Trading Economics, 2017). Since that all time high, the GDP has been decreasing each year (USD 18.1 billion in 2013, USD 17.1 billion in 2014 and USD 12.9 US billion in 2016). This indicates that yet another major shift in planning and managing both internal and external challenges is currently required.

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4 Note: Figures in this paragraph are not adjusted for inflation.

1.3 Enhancing Planning via Long-term Vision

Perhaps such a major shift in planning already started with the Ninth National Development Plan for 2007-2011. The argument has been proposed by Othman that this was the first national plan to move away from the traditional approach of five year development plans and provide a long-term development framework for 30 years (Othman, 2010, p. 64). However, Othman's argument is not entirely valid. The long-term 20-year development plan started already in 1985 (Economic Planning and Development, 2017). This 20-year long-term Development Plan, which started just a year after the country gained independence, aspired to further "improve the quality of life of the people, while at the same time seeking to widen and further enhance the country's economic base" (Europa Publications, 2003, p. 210). Its overall aims included:

> "the achievement of balanced and sustained socio-economic development through a more outward-looking economic diversification strategy; the continued development of physical infrastructure and public facilities; the implementation of effective human resource development; the implementation of social development projects; the utilization of appropriate technologies; and the continuous protection of the environment" (ibid.).

But this plan also highlights a crucial issue that accompanied most of Brunei's NDPs – the issue of implementation. For example, during the seventh NDP, out of the total of 1,501 development programmes and projects approved for implementation within this plan, "53% were completed, 12% were approaching completion and 12% were being implemented by the end of the Plan period, whilst the remainder were either still at preliminary stages, suspended or cancelled for various reasons" (ibid.). This is one of the key lessons that Bruneians can learn from the past and attempt to improve in the future - a further focus on how to actually successfully implement strategic plans as well as long-term visions and goals is needed. Some suggestions on how to better implement the existing strategic plans and national long term development visions are discussed in the last section of this paper.

Despite some difficulties with implementation, Brunei is one of a very few countries in the world that provide, at a national level, a bold and long-term vision for the future. Indeed, it is "one of the great benefits of the political stability inherent in Brunei […] that it allows long-term planning so that given the right institutional environment and clear vision, everything from education to energy and land can be brought together to achieve national goals" (Lawrey, 2010, p. 26). The Brunei Darussalam Long-Term Development Plan contains the following: the National Vision, also known as Wawasan Brunei 2035, the Outline of Strategies and Policies for Development (OSPD) and the National Development Plan (RKN). Through the Wawasan Brunei 2035 the government

of Brunei aspires to achieve "a nation with a well-educated, highly skilled and accomplished people as measured by the highest international standards; enjoying a high quality of life among the top ten countries in the world; and having a dynamic and resilient economy which is ranked among the world's top ten countries in terms of per capita income" (PMO, 2012, p. xxix). Or, in a nutshell, to achieve: 1. Educated and highly skilled population, 2. High quality of life, and 3. Conducive business environment. In order to do so, eight strategies have been identified to "ensure that all aspects of development can be implemented in an organized and effective manner" (ibid). They include: education, economic, security, institutional development, entrepreneurship and local business development, infrastructure development, social security and environmental strategies. The first OSPD (2007-2017) aimed to further assist with the implementation of the National Vision by elaborating the eight strategies through 50 policy directions. This direction for development is to "continuously be coordinated and developed by the government, the private sector and relevant organizations" (PMO, 2012, p. 7). This means that the process is not a 'one off' static event, but, and this should be emphasised, an ongoing process of moving forward via 'trial and error'. Furthermore, an overarching national development plan is crucial as it brings the nation together: "it is not just planners, everyone in the country needs to share the roles in national planning and development" (Yunos, 2014, p. 54). This is important because, understandably, "it takes focus, unity, creativity and commitment to attaining goals and achievements in our efforts to build the nation" (ibid).

Certainly, in order to carry out such an ambitious vision as outlined in Wawasan 2035 and large projects such as RKNs strategic planning is necessary. As previously stated, 'proper' strategic planning in Brunei is very recent, starting at the beginning of the 21st Century. What pushed the need for strategic planning forward was the development of Pensejajaran Programmes or Alignment Programmes in early 2000. These programmes have shown that most Ministries in fact did not have strategic plans and even the Prime Minister's Office was criticized for not having one. The PMO, however, quickly addressed those concerns and was probably one of the first to engage an external consultant. Professor Chee of Universiti Brunei Darussalam became the first such consultant assisting the PMO to develop a proper strategic plan. He did so by using the "balanced score card" approach (Kaplan & Norton, 1992; Kaplan & Norton, 1996). Since then, most ministries repeated the same process and the same methodology for their respective areas. Currently, the main task for policy makers in Brunei is to further refine these approaches and address a set of issues related to weaknesses in strategic planning up until now.

2.0 The Strategic Planning Context

For all practical purposes, National Development Plans served as strategic plans for the country in the past. As previously discussed, Brunei did not have the proper resources to develop detailed strategic plans within government and ministries until very recently. But even in countries with a longer history of strategic planning, for example, in the USA, detailed strategic planning did not properly enter the government until the 1980s (Blackerby, 1994). Before that, strategic planning remained mostly a private sector undertaking. It may be pertinent to remember that the very early history of strategy was mostly linked to military enterprises. "Strategy", deriving from Greek "strategos" meaning "general of the army", was in itself a shift from narrow technical and tactical advice on how to manage troops to win battles (ibid). "Strategos" were to have a bigger picture view – helping manage battles to win wars. Instead of focusing on products and outputs, strategos were to focus on results and outcomes. Eventually, their role evolved to include civil magisterial duties as well. However, before such duties fully extended into the realm of the political, they first entered the realm of business. In the 1920s, for example, Harvard Business School developed the Harvard Policy Model which defined strategy as a pattern of purposes and policies characterizing the company and its business (ibid). Strategy became the common thread of underlying logic that holds a business together as well as determines its organizational structure. In the 1950s the focus shifted away from organizational policy and structure towards the management of risk, industry growth, and market share (ibid). This is where strategy, once again, looked at the "bigger picture" rather than narrowly focusing on organizational structure. The 1960s were the period when the so-called Industrial Economic Model took off, focusing on analysis of competitive power relationships – such as the relative power of customers and suppliers, threats posed by substitute products and services, new industry entrants and market rivals (ibid). All these power relationships and competitors were investigated in order to develop distinct and competitive business strategies.

To conclude with this brief overview of the history of strategy, strategic planning evolved from its earlier military origins to become a standard tool for businesses. All or most of the companies in the Fortune 500, for example, use strategic planning to enhance their businesses. Finally, strategic planning in the business context also evolved: from the early Harvard Policy Model in the 1920s towards the Portfolio Model in the 1950s and Industrial Economic Model in the 1960s. More recently, strategic planning started to evolve towards integrated or systems thinking approaches. For example, Haines' Systems Thinking Approach to Strategic Planning was developed to better manage "strategically day to day, month to month, and year to year" by integrating planning with change and management with leadership (Haines & McKinlay, 2009, p. i).

Such novel approaches are really important for the present and the emerging practice of strategic planning. First, policy making within the context of the government is neither about winning battles in wars nor about winning against other competitors. And while these may be occasional functions that government will take part in – in the areas of foreign policy or economic development and trade agreements – governments are about groups of people who govern communities and their relationships with other communities. The role of government is to provide and administer public policy which is about "communities trying to achieve something as communities" (Stone, 2012, p. 20). In that sense, while the competitive model works for winning battles and profits, the function of the government is – or should be - more unifying and integrative. If, for example, policy making is to be successful, it must include a whole range of community members, rather than privileging one group over another. No government is perfect in this regard; however, the inclusion of as many stakeholders as possible has become an imperative in contemporary policy making.

Parallel to this, there is indeed an increasing demand for governments to "run more like businesses" – getting more "bang for the buck" via "evidence based" policies. In our current VUCA (Volatile, Uncertain, Complex and Ambiguous) global world, such demands are likely only to increase (Mack et al, 2016). What is also to increase, and has been increasing, is the complexity of strategic planning itself. In Brunei and elsewhere, governments in the past mostly wrote comprehensive plans that dealt with the efficiency of land use and services or developed programme plans, usually limited to narrow chains of authority on the organizational chart. But there has been a steady movement away from organizational planning within governments towards understanding the world of markets, customers and stakeholders, and organizational cultures, as well as potential present/future threats and opportunities. This is why one of the key steps of strategic planning, as refined by the Haines systems thinking approach for example, is to assess the current state and as many potential "strengths, weaknesses, opportunities and threats" (via SWOT analysis) as possible. Such a process is important as it enables organisations to build on strengths, eliminate or cope with weaknesses, exploit the opportunities and ease or lower the threats (Haines & McKilnay, 2009, p. 177). The assessment is directed internally, towards the organisation, as well as externally, towards the environment. In a nutshell, the analysis is conducted in order to identify any element or characteristic which will either help or hinder the organisation in its attempt to achieve its ideal future vision (ibid) – as previously outlined through the visioning process.

The overall goal of strategic planning, of course, is to reach a desired future, 5 to 10 or even 20 and 30 years ahead. The "ideal future vision" step's main task is to "formulate those dreams that are worth believing in and fighting for" (Haines & McKinlay, 2009, p. 101). This is where the desired outcome of becoming a "customer [or stakeholder]-focused, high-performance learning

organization" is set up, and where the cry of "It can't be done!" becomes both irrelevant and unacceptable (ibid). Rather, instead of discussing limits, the focus should be on discovering what the possibilities for the organization engaged in strategic planning are, as well as how to turn the desired vision into reality once it is created (ibid). Previouse failures should thus not become an obstacle in envisioning further and in finding new ways to implement the vision.

This seems easier said than done, as the process from moving from point A to point B is never simple. However, whether A to B is achieved in a straightforward way, which is fortunate, but rather rare, or, more likely, achieved in a complicated and roundabout way, the main point is to move, or attempt to move towards better states of being and functioning. As previously discussed, one of the key issues in regards to planning in general, whether at the national level, ministerial level or organisational level, is the issue of implementation. The failures in implementation in Brunei can be connected with several factors. First, many plans have been done by external consultants, especially in the past when capacity amongst local Bruneians was lacking. By the very definition, consultants are usually commissioned for limited periods of time. However, as we could see from the history of planning, continuity in implementation is one of the key factors for its success or uptake and longevity. So instead of leaving plans "half done" Bruneians need to persist in seeing plans already put in process through. It is important that Brunei now has institutions such as Institute of Policy Studies (IPS) at Universiti Brunei Darussalam or, indeed, the Centre for Strategic and Policy Studies (CSPS), a government funded but independent think tank. IPS, for example, provides invaluable degree programmes which are centred on public policy, public management and Islamic governance (IPS, 2017). CSPS focuses on undertaking independent and objective policy research and analysis of strategic issues concerning Brunei Darussalam – "especially those outlined in Brunei's long term development plan" or Wawasan 2035 (CSPS, 2017). The significance of such local institutions cannot be overstated as they are institutional key players in providing the maintenance of local capacity and its continuity. And so, if strategic planning and its implementation are to be strengthened in the future, so should Brunei's local institutions which enhance the ongoing local capacity.

Other factors which have impacted on the lower rate of successful implementation of strategic plans in Brunei could be identified as follows: limited engagement of stakeholders; not sufficiently wide input from various community groups and government departments; lack of rigorous process of envisioning the future via the implementation of a host of foresight tools and methods; lack of thorough and accurate review of the current situation as well as future challenges; and finally, a lack of commitment by senior leaders in the organization itself.

3.0 The 5D Model of Strategic Planning

To counteract these issues, those involved in planning need to understand the process of strategic planning. There are a number of strategic planning models that can be used and one such model is the 5D Model of Strategic Planning. In a simplified format, the method focuses on the five interconnected processes of discovering, dreaming, designing, documenting, and delivering. The process is systematized in the following chart:

Strategic Planning Simplified

Where are we now?	Where do we want to be?	How will we get there?
• Compelling Need • Review Mission • What's happening in the Environment	• Review Vision • Review Programs • Review Organizational Capacity • Review Capital & Revenue needs	• Program Strategies • Capacity Strategies • Money Strategies • Evaluation Strategies

Discover ⟩ Dream ⟩ Design ⟩ Document ⟩ Deliver

Table 1: 5D Strategic Planning Process

Even though it is about achieving a future vision, strategic planning has to start with the here and now, i.e. with the 'discovery' phase. That is, if the plans are to be successful, they must address a specific compelling need or needs, review thoroughly what is happening in the organization, be clear about the mission or "who we are/why we exist" and investigate changes in the external environment. This then has to be linked with the desired vision of the future which takes into account people's needs and concerns. Existing vision, programmes, capacity and finances are also to be considered in detail. "Where we want to be" has sometimes been limited to basically being an extension of the present and sometimes it has not been sufficiently cognizant of future threats and possibilities. Foresight processes – focused on 'dreaming' and 'visioning' -thus need to precede strategic planning processes. This should be done in order to ensure strategic planning is "future proof", i.e. not outdated even before the plans are written, let alone implemented. Most importantly, the public, as the government's main stakeholder, needs to somehow be involved,

especially in the 'design' phase. Such lack of involvement by the broader community has been one of the key reasons behind failures of strategic planning programmes in the past. As summarized by Stephen Haines and James McKinlay (2009, p. 5) "people support what they help create". This is really critical because it has been recognized that policy makers and analysts often "unintentionally frame policy problems from a narrow world view, and often it is their own" (Terranova, 2015, p. 372). For example: "Government policy analysts in Australia are generally white, middle-aged and financially secure, so there is a tendency for policy responses to be designed accordingly. [But] for a community that is increasingly multicultural and globally connected, the risks of this approach are obvious" (ibid). Similarly, it has been recognized that, for example closer to Brunei, in Singapore:

> The role of Government will need to broaden from one of "regulator, arbiter and provider", to a more facilitative role by convening and providing the platforms for citizens to explore, initiate and collaborate. The mindset will also need to shift from one of control to one of influencing for outcomes. While the government remains largely the steward of the public commons, there will be a need to rethink authority over and accountability of the collective interests of the community and country. (Kuah, Chin & Huifen, 2015, p. 335).

Certainly, Brunei is a very different society to both Australia and Singapore; however, the lesson of including as many stakeholders as possible in the planning process, especially people who are going to use government services, is the same. This is where many strategic planning efforts failed to yield desired outcomes in the past - they reflected more what policy makers wanted to do rather than what the public needed. The Brunei government sector employs over half the local working population (Oleynik, 2004, p. 220), which means that the other half of the population, both working in the private sector as well as officially unemployed, needs to be consulted. The 5D model of strategic planning assumes stakeholder engagement in all 3 main boxes and 5 phases. In order to 'own the process' the public can assist with assessing the current state (1st phase), dreaming specific visions for areas not otherwise covered and agreed upon (2nd phase), and then finally get consulted during design, document and delivery (3rd – 5th) phases. Indeed, there is an increasing demand globally, to address the "collective voice of citizens and stakeholders" in order to "improve both accountability and performance" of policy makers (Paul & Steedman, 1997, p. 27). For example, the most important institutional factor underlying the dramatic growth in the "East Asian miracle economies" has been identified as the presence of a 'deliberation council', or "a collaborative arrangement linking government, business and civil society" (Campos & Gonzales, 1997, p. 7). Even with all its specific historical, developmental and cultural features, nothing prevents the Bruneian civil service from enhancing its linking with business and community groups, for the benefit of all Bruneian citizens.

Simultaneously, the importance of the role of capable leaders cannot be overstated: "wise leadership and a supportive and capable government and civil service … are complimentary and necessary to each other to bring about the development, to which the nation aspires" (Yunos, 2013, p. 140). Specifically, good – clear, consistent, understanding of the other's worldview, dialogical – communication is needed between permanent secretaries, deputy permanent secretaries, directors, senior and financial officers – as each group has an invaluable role in strategic planning processes. There should be an alignment between units and officers actually designing strategic planning and senior leaders to ensure their successful implementation. And, financial officers also need to advise about the financial feasibility of strategic plans. Without the financial backing, a strategic plan will almost inevitably "fall victim to the dreaded SPOT [Strategic Plans On Top Shelves … gathering dust!] Syndrome" (Haines & McKinlay, 2009. p. iv and p. 4). On the other hand, the implementation will be more likely if these different groups share the same ideas and visions. In summary, involving as many groups and stakeholders as possible who need to 'own' the process of strategic planning as well as the outcomes, both within and outside of the organization, remains one of the key elements for the successful implementation of strategic plans in the future.

Finally, none of the above will be relevant if a long-term commitment from the collective leadership of the organization is not obtained (ibid, p. 5). This means getting the minister to commit to the strategic plan, getting permanent secretaries to commit to it, getting directors to commit to it, and finally, ensuring that everyone in the organization is aware of the existence and the importance of the strategic plan. Ideally, most of the employees in the organization will participate in the creation of the strategic plan, making the ownership, the commitment and the implementation all the more likely. Broadening the input via community engagement will also help with the implementation – given that the 'ownership' of the plan will widen.

4.0 Conclusion: Trialing and Evaluating Effectiveness

Brunei has made remarkable strides not only to survive incredible historical challenges threatening its very existence, but to also become, in a relatively short period, a developed nation. Much more needs to be done, especially when it comes down to implementing Brunei's national long-term development vision Wawasan 2035. Strategic planning, properly done, can assist in this process. The 5D model of strategic planning is one simplified process which may be used to address the previous shortcomings of planning in Brunei, given the country's specific social context and history. The next step is to trial it with governmental agencies and a range of stakeholders so its effectiveness can be evaluated. The evolution of planning in general and strategic planning in particular, in Brunei and elsewhere, shows that public policy making arena is often "fraught

with confusion, contradictions, and consternation" (Gerston, 1997, p. 3). This is why strategic planning needs to be understood as a policy-making process – continually to be trialled and improved. It is to be expected that a similar trajectory awaits the proposed 5D model of strategic planning – the readers of this article and policy makers are invited to trial it and improve on it, taking it out of "orderly boxes and precise diagrams and into the universe of issues and policies that float in and out of the policy-making arena" (ibid., p. ix).

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Assessing Online Interaction of Bruneian Children

Sophiana Chua Abdullah & Halimaturradiah Metussin

Abstract

With emerging technologies and ubiquitous 'anytime, anywhere, any device' internetting, global connectivity can either disseminate opportunities or threats to Internet users regardless of identity and age. This present study assesses the risks and opportunities experienced by Bruneian children as a result of their Internet use. It aims to provide insights into the types of online activities of this vulnerable group of the population. This study utilises a convenience sample of 308 children to complete a 'Brunei Children Online Survey (BCOS)' in order to identify the ways in which the children engaged with the Internet and online or digital technologies in their daily lives, under four areas of investigation: access and use, activities and digital skills, risks and outcomes, and mediation by parents, teachers and peers. The key findings of the study indicate that 1) the children access the Internet and own smartphones at a young age; 2) engage in more risk-prone activities than actively seek online opportunities for learning and development; 3) possess low levels of digital and coping skills; and 4) receive little mediation from parents, teachers and peers. The main policy recommendations of this study include the need to introduce strategies to empower children with better self-management and coping skills, to empower parents, guardians and teachers to be more aware and up-to-date in protecting and educating children, and for government agencies and relevant stakeholders to regularly review the situation. This should be done with the help of empirical evidence and taking into account national-level policies.

Keywords: *Internet use, digital skills, online risks, online opportunities, mediation, Bruneian children.*

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1.0   Introduction

Since the invention of the Internet, our culture, society, economy, politics and life have been revolutionised technologically ('History of the Internet', 2013). Not only does it significantly affect the way we live, work and play, but it also increases the scale of technological communication – from two people communicating simultaneously to thousands, millions and even billions of people at the same time.

There is a further shift to the concept of the 'Internet of Things (IoT)', which is a system of "interrelated computing devices, mechanical and digital machines, objects, animals or people that are provided with unique identifiers and the ability to transfer data over a network without requiring human-to-human or human-to-computer interaction" (Rouse, 2016). In addition, a wide variety of organisations are already harnessing "Big Data" by analysing granular information about products, people and transactions in order to reduce costs, improve efficiency and make better decisions, and be more effective in meeting customer needs (Villars, Olofson, & Eastwood, 2011). However, this also raises the issue of security, privacy and trust as the level of heterogeneity in the IoT systems widens (Sicari, Rizzardi, Grieco, & Coen-Porisini, 2015). Consequently, the interest in cybersecurity increases over time and its cost is predicted to escalate to \$101 billion in 2018, and to hit \$170 billion by 2020, with the primary focus on mobile and cloud security (Morgan, 2016).

The nature of the Internet allows its users to achieve a global connectivity whatever their identity or age (OECD, 2012). It is reported that approximately 1 in 3 of all Internet users in the world are under 18 years old (Collier, 2016). As Internet use extends to children, there is an increasing number of studies on children's online opportunities, such as in learning, creativity, communication and self development (Hasebrink, 2014; Ólafsson, Livingstone, & Haddon, 2014) as well as on Internet risks and emerging threats surrounding the Internet experience, such as the effectiveness of Internet helplines, cyberbullying, sexual content, personal misuse or fraudulent use of data, to mention a few (Helsper, Kalmus, & Hasebrink, 2013; Livingstone, Mascheroni, & Ólafsson, 2014; Vincent, 2015).

Meanwhile, the UN Convention on the Rights of the Child states three kinds of rights for children up to the age of 18, where: 1) children have access to Internet resources, 2) they are protected and 3) they are allowed to participate, in order to effectively function in society (Bardy, 2000). The outcome of Internet governance remains an open debate, particularly for the children themselves and the progress of protecting children online globally (Livingstone & O'Neill, 2014). The UN Convention on the Rights of the Child also covers children's provision, protection and participation rights whether they are online or offline. Therefore, the role of parents and guardians as 'digital

immigrants' is to protect and provide for their children who are the 'digital natives', to effectively participate as 'netizens' or 'digital citizens' (Prensky, 2001) as well as to inculcate a strong sense of 'digital ethics' (Leonhard, 2014) in the digital environment or cyberspace.

In addition, while there are guidelines for parents, guardians, children and industry on Child Online Protection (ITU, 2016; OECD, 2012), parents and guardians are usually the first line of defence in protecting their children online against cybercrime or threats. As technology progresses rapidly, it becomes increasingly challenging for parents and guardians to raise children "in a world of ubiquitous screen media" (Shapiro, 2016, para. 1) where they have to constantly strategise, mediate, monitor and manage the media use of their children (Lauricella, Cingel, Beaudoin-Ryan, Robb, Saphir & Wartella, 2016). These challenges are also recognised by the UN Convention on the Rights of the Child, whereby policy enforcement and implementation are required to rectify the potential conflicts between protection, provision and participation of children in Internet use in terms of its opportunities and risks (Livingstone & O'Neill, 2014). Additionally, previous studies indicate that there is still a minority of parents who are incapable of balancing their child's rights and needs, and consequently, digital rights should be implemented rather than self-regulation in Internet governance. A conceptual overview of child online protection is illustrated in Figure 1.

Figure 1.

Child Online Protection – Conceptual overview
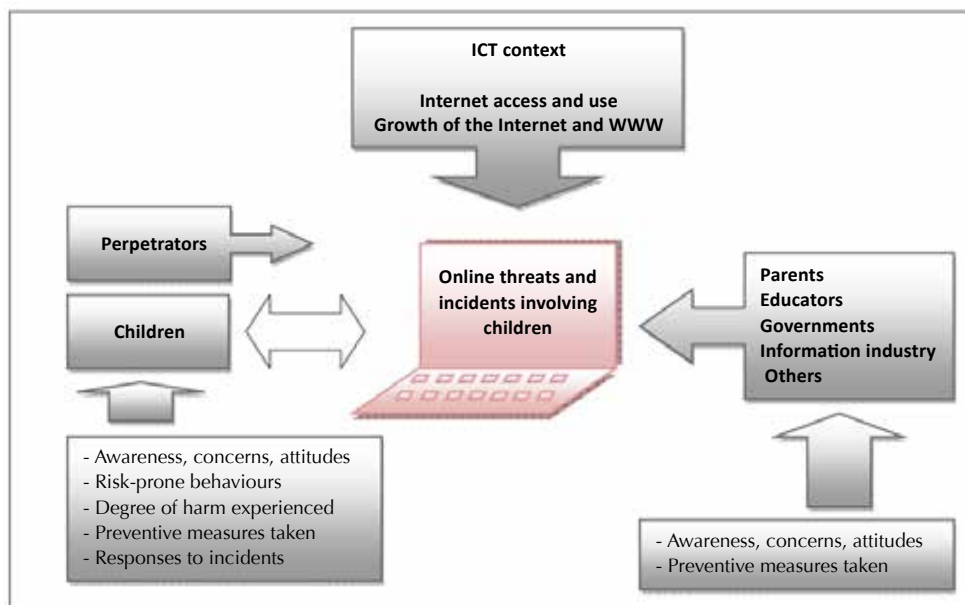
Source: (ITU, 2010).

2.0 Relevant stakeholders in protecting Bruneian children online

There are different stakeholders in Brunei who focus on protecting Bruneian children online: government, industry, parents/guardians and teachers, and children. The role of each is discussed below.

2.1 Government

On 15 July 2012, His Majesty Sultan Haji Hassanal Bolkiah Mu'izzadin Waddaulah, the Sultan and Yang Di-Pertuan of Brunei Darussalam, consented to the implementation of the fibre-to-the-home project and advised all users, especially children, to reap the benefits but also to be aware of the misuse of such technologies, and for relevant parties to step up their capabilities and vigilance in matters pertaining to control, prevention and enforcement. In May 2012, Her Royal Highness Paduka Seri Pengiran Anak Isteri Pengiran Anak Sarah, during the occasion of World Telecommunication and Information Society Day, reminded us to be "mindful of the negative impact that ICT may bring… and to play an active role in educating and protecting everyone online especially the younger generation".

In August 2014, His Majesty the Sultan again reminded us about the dangers of cyber threats, especially to children, and highlighted the role of the Child Online Protection (COP) National Strategy Framework in its efforts to protect children from negative influences and online threats.

Brunei also revised its legislation to further safeguard children against online risks. The Attorney General's Chambers (AGC) amended the Penal Code, which includes sexual offences affecting a child under the Amendment Order 2012. The amendments include possession and distribution of indecent photographs of a child (293A and 293B), aggravated outraging modesty by a person in a position of trust or authority (354A and 354B), portraying a sexual act in the presence of a person under 16 (377B), causing a person under 16 to watch a sexual act (377C), commercial sex with a person under 18 either inside or outside Brunei (377E & 377F), and sexual grooming of a person under 16 (377G).

Awareness and outreach programmes on Internet safety and risks are regularly held at government and private schools for students, teachers and parents by the Authority for Info-communications Technology Industry of Brunei (AITI), Attorney General's Chamber (AGC), Royal Brunei Police Force (RBPF), Brunei Computer Emergency Response Team (BruCERT) of IT Protective Security Services Sdn Bhd (ITPSS) and the Ministry of Education (MOE). There is also an awareness website called 'SecureVerifyConnect' developed by ITPSS to address different target groups of the Bruneian public through education, seminars and workshops. Efforts to protect Bruneian children online will continue to be a high priority on Brunei's national agenda, as has been emphasised at Legislative Council meetings (Izah, 2015).

2.2   Industry

The Internet penetration rate in Brunei is 81%, equivalent to 319,000 active Internet users on both fixed and mobile connections (Bandial, 2016). According to data published in 2015 by We Are Social, a global digital media consultancy, Brunei has the highest social media penetration in the Association of Southeast Asian Nations (ASEAN) at 69% of the population, more than double the global average (Bandial, 2016), an increase of nearly 8% since 2014. It was reported in 2012 that Brunei ranked top in Facebook usage in Asia (Hayat, 2012) and statistics recorded in 2015 indicated that the largest demographic of Facebook users in Brunei was within the age group of 20-29 (Bandial, 2016), making young people proportionally the major users of the Internet.

Enforcing Internet safety for all, especially children, is of prime concern at international, regional and national levels. International bodies like the United Nations' specialised agency – the International Telecommunication Union (ITU) - and its cybersecurity executing arm, the International Multilateral Partnership Against Cybercrime (IMPACT), have developed a statistical Child Online Protection or COP Framework, complete with guidelines for children of different age groups, parents, educators, policymakers and industry. Regional bodies like the Organization for Economic Co-operation and Development (OECD), the European Commission, Asia-Pacific Economic Cooperation (APEC) and non-governmental organisations (NGOs) have increased their efforts to standardise Internet safety indicators, conducted empirical studies, and aligned their strategies at regional levels.

At the national level, Brunei has made great strides. In 2013, AITI of the Ministry of Communication, with the cooperation of ITU and IMPACT and national-level stakeholders, developed a Brunei COP National Strategy Framework, making Brunei the first country in the region to build such a framework. The COP framework is based on five pillars: 1) legal measures; 2) technical and procedural measures; 3) organisational structures; 4) capacity building; and 5) international cooperation. The stakeholders comprise the Ministry of Health, Ministry of Communications, Ministry of Education, Ministry of Culture Youth and Sports (MCYS), Ministry of Religious Affairs, Attorney General's Chamber (AGC), Royal Brunei Police Force (RBPF), AITI and BruCERT. The custodianship of the framework was handed over to the MCYS in 2014 to lead and coordinate the strategies and initiatives of the relevant stakeholders. An example of such initiatives is the ongoing roadshows at schools, where students, parents and teachers are given guidelines on the safety usage of the Internet.

2.3   Parents/Guardians and Teachers

At present, there is a lack of research or empirical evidence on the role of parents/guardians and teachers in children's Internet use and safety. Internet penetration in Brunei households continues to increase. The AITI Household ICT Survey 2013 report found that 2 out of 3 individuals in

Brunei use the Internet, an increase in personal usage when compared to 2010 (AITI, 2013). While this might mean that Bruneian people are more Internet-savvy than ever before, this does not necessarily imply that they are better equipped in coping or guarding against cyber threats and risks. More research should be done on this matter to know the status and progress of this particular group of stakeholders.

2.4   Children

Children in Brunei are not exempt from the dangers of cybercrime and threats. Statistics from the RBPF in 2012 revealed that 60% of abuse or rape victims met their attackers online, with 82% of the victims under the age of 16. Figures of unreported cases are likely to be even higher based on the recent increase rate of cyber-related victims. By March 2015, 90 Bruneian teenagers had fallen prey to cybercrimes and are now under the government's protection and rehabilitation under the Children's and Young Person's Act (CYPA), at the Welfare Housing Complex where they are given counselling, advice and after-care monitoring services.

3.0   The current situation regarding protecting Bruneian children online

In order to effectively assess the impact of policies, legislation and strategies which enforce Internet safety for children, there is a need for an empirically based approach to regularly review and improve on the strategies and policies in place. To date, no large-scale national-level empirical study has been conducted on a regular basis to help inform and coordinate the efforts of the stakeholders in the Brunei COP National Strategy Framework. In addition, there is no standardised set of indicators to measure child online safety, nationally, regionally or internationally, with the exception of a regional study by the EU Commission which examined several European and non-European countries on child online practices based on a common set of online safety indicators ("EU Kids Online," 2016). There is generally a lack of internationally comparable data (ITU, 2010).

As mentioned earlier, when the MCYS took over the custodianship of the Brunei COP National Strategy Framework in 2014, apart from the ongoing awareness campaigns in schools, there has been no formal reporting on the progress of the COP. Nevertheless, there is an urgent need to continually monitor and protect Internet use by children. For this reason, the present study aims to provide some insights into online activities of Bruneian children and to consider whether there are any areas of concern which need to be addressed.

4.0   Objectives of the study

The main objective of the present study is to assess the balance of risks and opportunities experienced by Bruneian children as a result of their Internet use. It aims to provide insights into the types of online activities of this vulnerable group of the population.

5.0   Methods

5.1   Design

The present study adopted the field survey approach to investigate the problem. Using this procedure, the researcher personally went to primary and secondary schools to directly collect the data from the participants. This design was chosen over other methods, such as interviews, ethnography and action research, as it enabled the researcher to collect the required data in a relatively shorter time without compromising the response rate.

5.2   Samples

A non-random sample of 309 students aged between 9 and 16 years old was taken from 4 urban schools, stratified by age and gender. The rationale behind using convenience sampling in this study is for easy accessibility, geographical proximity and the availability of the participants at the given period of time (Etikan, Musa, & Alkassim, 2015; Nueman, 2006). In addition, the general assumption is that the children who attend urban schools are more likely to have access to the Internet and may possess higher English proficiency than those who attend schools in rural areas. Sampling weights were used to avoid over or under representation. Only one student, a nine-year-old female student, claimed that she had never surfed the Internet and was thus omitted from the study.

5.3   Instruments

The data for the present study was collected by an instrument called the 'Brunei Children Online Survey (BCOS)' which was conducted with 309 children, aged between 9 and 16 years old, from 4 selected schools in the capital over a period of 2 weeks in February and March 2015. A questionnaire was taken from the EU Commission study ("EU Kids Online", 2016) and was revised to suit the Brunei context, with the help of the Brunei COP stakeholders.

5.4   Procedures

Permission to conduct the study in primary and secondary schools was obtained from the respective Heads of Schools. Ethical requirements for involvement in the study were explained to

all the participants. Only students who voluntarily agreed to participate in the study were recruited as participants. The researchers and their research assistants monitored the participants to ensure that they understood the questions and could answer the survey properly. The English language used in the survey was matched to their level of understanding. Names of the 4 participating schools and participants remained anonymous.

5.5 Data analysis

The study identified the ways in which the children engaged with the Internet and online or digital technologies in their daily lives, in four areas: access and use, activities and digital skills, risks and outcomes, and mediation by parents, teachers and peers.

6.0 Results

The findings of the study are discussed according to the four areas of investigation below:

6.1 Access and Use

Information was elicited on places and devices used by children when accessing the Internet. The study showed that children go online mainly at home (86%), with 61% when 'out and about' and 52% at school. Eighty four percent of the children who access the Internet at home do so in their bedrooms or other private rooms in their homes.

Mobile devices are most commonly used to access the Internet – 65% via smartphones and over 40% via laptops, game consoles and tablets. Desktop computers are no longer a common means of Internet access (25%). The children are, on average, around 8 years old when they first used the Internet and around 13 years old when they first owned a smartphone. A similar study in the UK found that there is an increasing use of mobile phones and tablets at home compared to any other devices such as a PC/laptop or game console ('Children and Parents: Media Use and Attitudes Report', 2014).

The average time spent online by the children is 1.7 hours on a normal school day and 3.5 hours on a non-school day such as weekends and holidays. A small proportion of 4.4% admit to spending more than 7 hours a day accessing the Internet on a normal school day.

6.2 Activities and Digital Skills

Under this area of investigation, the study sought to examine the types of digital skills the children have and the types of online activities which the children spend their time on, differentiating between potentially risky activities and opportunities for learning and development (Refer to Figure 2).

Around 60-70% of the children report being able to block messages, find information on Internet safety, protect computers and gadgets from malware, change private settings on social network service profiles, delete records of sites visited and upload photos, videos and music on social media. Only over a third (37%) say they can change filter preferences and slightly over a quarter (26%) know what Intellectual Property means.

Top activities are using the Internet for watching video clips (72%), instant messaging (72%), using search engines (68%) and listening to music online (66%), as shown in Figure 2. The top two activities – watching video clips and instant messaging – can be considered as potentially risky online activities. The ITU (2010) has highlighted different classifications of risks by different bodies, like the ITU, OECD and European Commission, and individual countries.

Receiving content is more common than creating content for sharing with others. While 72% have watched video clips online, only around 20% actively upload photos or videos or post messages on social media, and a mere 6% blogged.

The most commonly used social network services are Whatsapp, Instagram and Facebook while the less popular ones are Twitter, Kik, Vine, WeChat, Baidu, Telegram, Snapchat, Tumblr, Pinterest, Line and Viber.

Figure 2.

List of Online Activities by Children
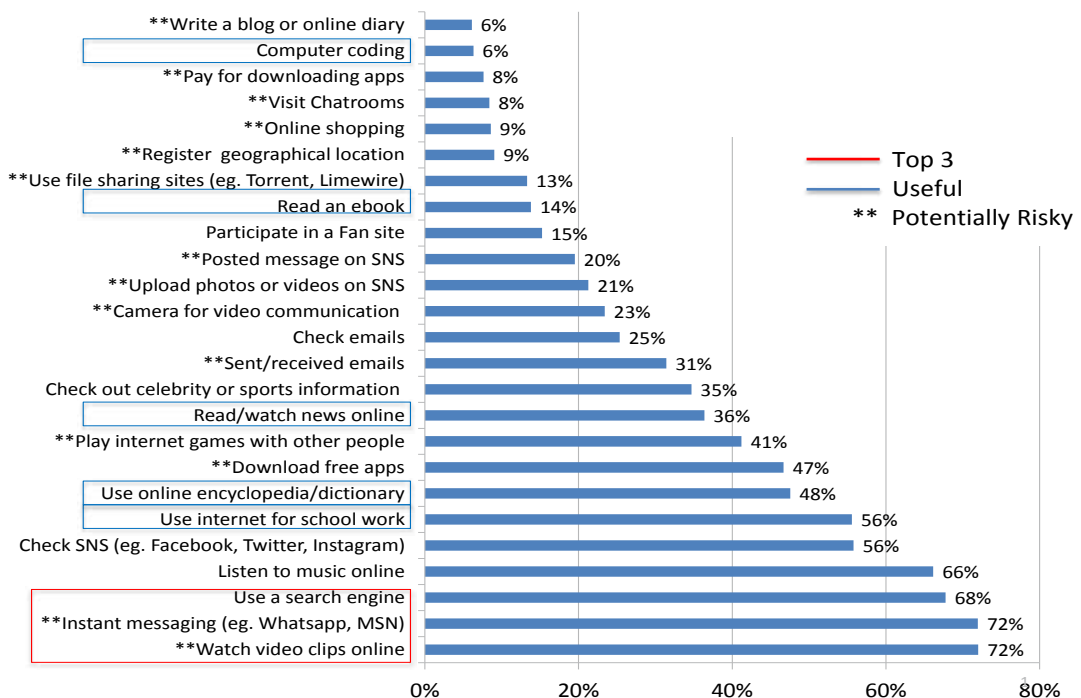
6.3   Risks, Harm and Coping

The study examined the types of risks which the children were exposed to, whether they were bothered or harmed and how they coped afterwards.

Risks do not necessary lead to harm. As defined by Livingstone (2010), a risk is a 'calculation based on probability and the likely consequences of harm' and harm is a 'distinct outcome, whether measured objectively or subjectively'. In this study, harm is defined as a level of distress caused when a child is bothered about something he or she has seen or experienced on the Internet.

Children have different coping skills when harmed. In this study, a child is said to have coped well if he or she gets over the harm within a day, as opposed to over a week, a month or a few months. These definitions of 'risk', 'harm' and 'coping' will be used in the study, although this approach has its limitations as it can be argued that how a child copes depends on the levels and types of harm which can be further classified as 'trauma' or 'damage' and whether the child can judge the harm done to them, especially as it may take years to be revealed, or even whether they are telling the truth (Livingstone, 2010).

A review of the literature shows several different ways of classifying online risks. The EU Kids Online Project suggested four groups of risks cross-classified by the mode of communication: child as recipient, child as participant and child as actor (Livingstone & Haddon, 2009). The OECD (2010) offers a typology of online risks classified under three broad categories: Internet technology and content risks, consumer-related risks, and information privacy and security risks. The ITU (2010) classified online risks into six categories: content, contact, conduct, commerce, excessive use, and societal (Refer to Figure 3).

Figure 3.

Online risks classification

Content	Illegal and age inappropriate content on the Internet.
Contact	Exposure to sexual predators via the Internet.
Children's conduct	Facilitation by the Internet of risky sexual interactions, posting compromising content, exposure to bullying and opportunity to bully others.
Commerce	Internet-enabled acquisition of age-inappropriate goods and services, exposure to scams, identity theft, fraud and similar threats that are economic in nature or are rooted in inadequate data protection or privacy laws.
Excessive use	Internet facilitated excessive use or obsessive behaviour, e.g. gaming online.
Societal	Internet digital divide, exacerbation of existing disadvantage.

Sources: ITU (2010).

This study will discuss risks from this classification in terms of content, contact, conduct and excessive use.

In terms of content risks, the study found that more than half of the children claimed to have seen sexual images in the past 12 months.

In terms of contact risks, 26% of the children used SNS (social network services) such as Facebook or Whatsapp to contact their 'Internet friends', whom they have only come to know through the Internet but did not know or meet face to face before. Around 17% contacted their 'Internet friends' through conversations on mobile phones, 16% via SMS (short message services) or MMS (multimedia messaging services) and 8% via emails. Eleven per cent of the children went on to meet their 'Internet friends', an example of a conduct risk.

In terms of conduct risks, the study revealed that risky sexual interactions and cyberbullying did occur. For example, there were incidents of 'sexting' where twelve children (2 males and 10 females) were asked for a photo/video showing their private parts and one female child admitted to sending someone a photo/video showing her private parts. Different forms of cyberbullying did take place, ranging from receiving nasty or hurtful messages online to being threatened online. The study also found that about 30% of those who were bullied also bullied others online. This implies that children or minors, not just adults, can also be perpetrators.

Another example of conduct risk is 'identity play', where 27% of the children in the study admitted to registering a false age on their profiles, despite published age restrictions imposed by social network services. For example, the minimum age to have an account on Facebook, Instagram, Twitter, Pinterest, Tumblr, Kik and Snapchat is 13, while it is 17 for Vine, Tinder and Yik Yak. In a study by knowthenet.org.uk, it was found that about 59% of children have already used a social network by the time they are 10, with Facebook having the highest number of users under the age of 13; 52% of 8-16 year olds admitted that they ignored the age restriction imposed by Facebook.

In terms of the risk of excessive use, 4.4% of the children reported that they use the Internet on a normal school day for 7 hours or more. This can be examined further to identify the types of online activities of these children, whether these activities were risk-prone or opportunities for learning.

The study also attempted to link self-efficacy to distress and coping levels of the children. Self-efficacy is defined as the belief in one's own ability to complete tasks and reach goals (Wikipedia) or the ability to produce a desired result (Oxford Dictionary). Eighty per cent of the children believe that they do have some to high levels of self efficacy. Eighty-one per cent of these children

claimed that they were 'harmed', that is, that they were bothered by something they saw or experienced on the Internet and 62% claimed that they were distressed from those experiences – from feeling a bit upset to very upset. Forty-three per cent of these children reported that they coped well, that is, that they got over feeling distressed straightaway as opposed to a few days, weeks or months afterwards.

Based on the findings, it can be assumed that a majority of the children might have developed a 'learned helplessness' in the digital world, especially in dealing with cyber-related stress or coping mechanisms and this was emphasised by (Collier, 2016). The psychological implication of 'learned helplessness' is a very worrying negative psycho-social phenomenon in young children because, instead of being proactive, these children tend to ignore the harm and move on. This also corresponds with the research findings from 'A Good Project' by the Harvard School for Education, which aims to explore digital ethics in young people aged 15 to 25 qualitatively (Collier, 2016).

6.4   Mediation

Under this area of investigation, the levels of mediation, in terms of restrictive controls and support, by parents, teachers and peers are examined, parents, teachers and peers being the most common points of contact for the children.

Parents or guardians provide the first line of defence but the study shows that they exert little control over their children on the use of the Internet or smartphones. For example, only 12% of the children reported that their parents blocked websites or limited the time spent by their children on the Internet; only 8% reported that their parents blocked websites on their smartphones and 13% said that their parents limited the time they spend on their smartphones.

The children also perceived that their parents are, in general, not as Internet-savvy as themselves - 69% think that they know more about the Internet than their parents and 65% think that they know more about smartphones than their parents. This implies that parents may lack the know-how to impose restrictions on their children's use of the Internet and smartphones.

With schools being one of the most common places for accessing the Internet, teachers are another potentially major line of defence for children. However, only 31% of the students say that their teachers made rules on the use of the Internet at school, 44% say that their teachers suggested ways to use the Internet safely, 41% say that the teachers have helped students with something difficult on the Internet and only 8% stated that the teachers have helped them when something had bothered them on the Internet.

With the 'no mobile phones allowed at schools' rule enforced by the MOE, the study shows that only 31% of the children reported that teachers made rules on the use of smartphones at school, 38% reported that teachers checked to see if students' phones were switched on or off and 10% reported that teachers took their phones to check what they were doing.

In terms of seeking advice or support, an interesting finding is that 81% of the children said that they would talk to their peers when bothered about something, followed by parents (69%), siblings (53%), teachers (28%), another adult (38%), professional help (13%), 'Internet friends' whom they have never met face to face before (9%), or no one (26%). However, the findings also showed that peers are better at helping with something the children have found difficult to do or find on the Internet (53%) than they are at helping when the children are bothered with something on the Internet (10%).

7.0   Discussion

This study provides a number of insights into the online Internet behaviour of children. It has several implications for the online protection of children by stakeholders and policymakers in Brunei. Consider the implications in relation to each of the following actions:

- Empowering the Child;
- Empowering Parents and Teachers;
- Empowering the Industry;
- Reviewing Policies and Strategies Compared to the Brunei Child Online Protection Framework;
- Developing an international Child eSafety Index.

7.1   Empowering the Child

The findings showed that children go online independently of adult supervision, with the majority of Internet use taking place at home, especially in the privacy of bedrooms. Locating desktop computers in a public space at home to enable adult monitoring is no longer a workable solution as they are replaced by more mobile and smaller screened devices, making it an increasing challenge for adults to supervise Internet use.

Furthermore, children access the Internet or own mobile devices at a young age. They engage in more risk-prone activities than online opportunities for learning and development (see Figure 2). When harmed or bothered about something on the Internet, many of these children did not cope well, even those with some degree of self efficacy.

At the same time, while children are exposed to different risks and threats on the Internet, the children's opinions or voices deserve to be heard by the relevant stakeholders and NGOs who enforce Internet safety for children, rather than implementing policy that is based on fear of adults. This is exactly what Finkelhor (2011) highlighted and he called this 'juvenoia' – which can be defined as the exaggerated fear of the influence of social change on young people, including technology. As a result, their behaviours are affected and expected to be worse than the previous generations, if no interventions are enforced.

There is therefore a need to empower children to become responsible 'digital citizens' by developing digital skills emphasising self-protection and self-responsibility, rather than relying solely on active and restrictive mediation strategies of adults. Children can be taught critical evaluation skills and better coping skills in order to build resilience in order to combat both online and offline harm. Children should also be given the freedom and capacity to act and make changes based on what is right as they themselves are stakeholders, who protect each other, not just potential victims as a purely Internet safety approach views them all this while (Collier, 2016). This implies that the Brunei COP guidelines should be reviewed to not just provide awareness of online safety and security issues to children but also to consider initiatives which empower Bruneian children.

7.2   Empowering Parents, Guardians and Teachers

The role of parents, guardians and teachers is central in providing mediation and support for safer Internet use for children. They present the first line of defence when children experience difficulties online and are best positioned to detect at-risk children and to offer mediation and support.

However, the findings show that the majority of the children turn to peers, rather than parents or teachers, when they are bothered about anything. More than two-thirds of the children consider they know more about the Internet or smartphones than their parents. The low use of restrictive controls by both parents and teachers implies a lack of awareness and digital literacy, and a trust in the role of the industry, such as Internet service providers and policymakers, to provide such protection for the children.

There is therefore a need to empower parents and teachers to increase their awareness, understanding and alertness of the risks and online safety for children. The ITU (2010) have listed preventive measures for parents, guardians and teachers, such as: parents, guardians and teachers can be encouraged to actively seek sources of information on Internet safety; such sources can be those of schools, media, friends and family, Internet safety providers and online sources. They should be aware of the services and websites children use frequently, and the contact lists in their

online chats, social media profiles or emails. Parents should also exert more control, such as making or finding a list of recommended sites for their children and at the same time, checking the history of the Internet browsing pages after their use every time. It is also recommended to use filters or block aids on the Internet to prevent the viewing of any inappropriate content.

Strategies should also be in place to encourage better dialogue and communication between parents, teachers and children in relation to children's online activities and habits. More importantly, there is also a need for strategies to empower parents and teachers, not just to detect potential risks but also how to handle and care for those harmed.

Examples of portals to raise awareness and provide information and guidelines on Internet safety have been developed by many countries. Examples include the United States of America (USA) with ConnectSafely, SafeKids.com, and Anne Collier of The Net Safety Collaborative, NetFamilyNews; Codes of Practice and Guidelines for infocomm and Media from Singapore; CyberSAFE from Malaysia; and SecureVerifyConnect from Brunei. It is therefore recommended that parents and teachers keep updated about Brunei COP guidelines and to regularly check for potential cyber threats or risks to which children can be prone to.

7.3   Empowering the Industry

Better links and support need to be established with the industry in order to update parents and teachers about the latest technologies, emerging online risks and opportunities. Provision should be made for training programmes, online portals, hotlines and helplines. Relevant stakeholders should improve take-up of industry solutions by developing practical advice and resources for parents and teachers. An extensive list of measures for industry for COP is provided by the ITU (2010).

7.4   Reviewing Polices and Strategies Compared to the Brunei Child Online Protection Framework

Several policies and strategies are already in place within the Brunei COP framework which attempt to maximise online opportunities for children to learn and develop and to minimise the risks faced by them. Internet safety awareness campaigns are being carried out nationwide. There is an awareness website for children, guidelines for parents and children on Internet safety and a national curriculum on Internet safety is currently being developed by the Ministry of Education. The Penal Code has been revised to deal with emerging risks and the Royal Brunei Police Force, with the support of ITPSS, now undertake digital forensic investigation for cybercrime cases.

A major challenge for stakeholders and policymakers is to regularly review current policies and initiatives, in order to stay ahead and provide timely advice and strategies against risks and threats

for children. An empirically based strategy, conducted on a regular basis, can help support the review process as well as develop different guidelines for children, parents/guardians, educators, industry and policymakers, and also to focus on providing age-appropriate and gender-specific training and advice.

7.5   Developing an International Child eSafety Index

In order to protect children in cyberspace, Brunei needs to collaborate and work more closely with international bodies like the ITU, the International Criminal Police Organization (INTERPOL) and the United Nations International Children's Fund (UNICEF). The ITU highlighted a lack of data from individual countries, especially developing countries, and to date there is no internationally comparable data due to the absence of a standardised set of indicators.

There is therefore a need to develop an internationally standardised set of indicators which can be used by different countries, in their quest to measure child online safety and work towards an international Child eSafety Index.

8.0   Conclusion

The study presented in this paper shows that Bruneian children are not exempt from the dangers of Internet risks and threats. Several policy initiatives were considered, such as empowering children, parents, guardians, teachers and industry in line with international standards and practices. There is also a call for the standardisation of an international Child eSafety Index so that the vulnerability of children in cyberspace can be better monitored and protected. If these policy initiatives were implemented, it is recommended to measure digital citizenship amongst children, parents/guardians and teachers, in order to understand the appropriate and responsible way of using technology as well as to determine the effectiveness of these initiatives.

In addition, there is a need for a large scale national-level study, based on a standardised set of indicators, to be conducted on a regular basis, which would benefit Brunei COP stakeholders and policymakers in their efforts to combat emerging threats and risks and to enforce online safety for children.

9.0   Limitations

The sample of children used in the study was drawn from four schools in the capital city and is not representative of children in the country. Additional psychometric work will need to be done using more diverse and representative samples. Parents and teachers should also be considered and included as study participants to improve data findings. Findings of the present study may also be related to or influenced by unmeasured variables such as social desirability and socio-economic differences, and future research should include these possibilities. It is therefore recommended that future research approaches the study of online interaction within this broader context.

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Unemployment Issues among University Graduates in Brunei Darussalam

Giuseppe Rizzo[1], Diana Cheong and Koh Wee Chian

Abstract

In recent years the issue of unemployment among university graduates in Brunei Darussalam has attracted considerable attention. Acknowledging the lack of research on employment and unemployment issues among university graduates, in 2012 CSPS conducted a national survey of university graduates. The purpose of this working paper is to illustrate the main findings of the survey, with specific attention to unemployment issues. The paper estimates a logit model to identify the main factors affecting the probability of unemployment. Our findings suggest that several characteristics have an impact on the probability of unemployment, acting both through the individual labour supply and preferences – shifting the reservation wage – and through the signals sent to the employers – shifting the distribution of the potential wage offers.

Keywords: graduate unemployment, higher education

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1.0   Introduction

The first of the three key objectives of the vision for Brunei Darussalam, Wawasan 2035, is "to be recognised everywhere for the accomplishments of its well-educated and highly skilled people". The same document already recognised the challenges affecting the labour market, in particular the "widening gap between the expectations and capabilities of the nation's youth and the employment opportunities currently being created", and the inability of the local business community "to create the employment opportunities now required".

The public debate on higher education has been largely dominated by the relationships between higher education and the world of work, not only in Brunei but all around the world. Teichler (2007) identifies among the main issues the danger of "overeducation" and the mismatch between demand and supply, the diversity of higher education and employment opportunities, and the rise in graduate unemployment and precarious employment.

These three issues seem particularly relevant in Brunei as well; in a study of unemployment issues among registered job-seekers (including non-graduates), Cheong and Lawrey (2009) note that there is a significant mismatch between skills and desired employment and a serious mismatch of job expectations and actual requirements in the job market. Bhaskaran (2010, p. 5), regarding the factors ailing the enabling environment, notes that although "basic education is good, (…) too few students reach the tertiary level, (and) of those who reach the tertiary level, too few are choosing subjects which would attract investors". Furthermore, the dominance of the public sector in the labour market contributes to the weakness of the private sector in attracting the local skilled workforce. Haji Hashim (2010, p. 41) notes that "well-educated Bruneians shied away from (private) establishments and opted for the Government in their bid to secure a more reliable and sustained source of income".

Acknowledging the lack of research on employment and unemployment issues among university graduates in Brunei Darussalam, in 2012 CSPS conducted a national survey of 816 university graduates from 2006 to 2011. The objectives of the survey were to (a) measure the degree of unemployment and underemployment among university graduates, (b) understand the dominant factors related to unemployment and under-employment, (c) understand levels of job satisfaction among university graduates, and (d) recommend actions to alleviate employment problems.
The purpose of this paper is to illustrate the main findings of the survey, with specific attention to unemployment issues. In particular, it will try to (i) describe the characteristics of the graduate population surveyed, (ii) identify the main differences in the unemployment rate among different groups, (iii) analyse the determinants of the unemployment rate among university graduates

in Brunei Darussalam, and (iv) describe the most common perceptions and behaviours among unemployed graduates. The paper is structured as follows: section 2 describes the sample surveyed; section 3 examines the differences in the unemployment rates among different groups and identifies the potential determinants of the unemployment rate; section 4 describes the main characteristics in terms of perceptions and behaviours of the unemployed graduates; section 5 concludes by suggesting some policy recommendations.

2.0   Survey and sample profile

The data used in this study was collected through an online survey conducted in 2011. The survey was available from June to October, and Brunei citizens and permanent residents who graduated over the last five years and were actively looking for a job were invited to participate through direct phone calls and emails, using data provided by the educational institutions.

Around 1500 university graduates participated in the survey. However, some participants failed to fully complete the questionnaire and were subsequently excluded from the analysis. After filtering out potential duplicates and questionnaires filled in by foreigners without permanent residency, the total number of valid responses stood at 816.

Considering the methodology adopted for the survey, the non-probability sampling technique cannot guarantee that the sample is representative of the population of Brunei recent graduates. Although those taking part were invited through direct calls and emails to ensure maximum participation of different types of graduates, voluntary participation could introduce a self-selection bias in our data. The representativeness of the sample is discussed below, by analysing the background characteristics of the respondents.

Table 1 shows the participants' demographic characteristics. Around two-thirds of the sample were female, reflecting the actual proportion of female graduates in Brunei Darussalam[2]. This proportion is stable over the year of graduation.

Table 2 shows the highest academic qualifications of the respondents. Most of the participants had a Bachelor's degree; however more than one quarter had at least one Master's degree.

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2 According to UNESCO's data, from 2007 through 2011, 8328 students graduated in Brunei Darussalam, of whom around 65% were female. (UNESCO Institute for Statistics, 2013).

Field of study for the survey respondents is reported in Table 3, according to the ISCED classification[3]: a large proportion of the participants obtained their degree in either arts and humanities (20%) or education (17%). Comparing this distribution with official data from UNESCO, graduates from humanities background are overrepresented in the survey sample. We also classify the participants according to the broad categories of arts & sciences – including the liberal arts, such as humanities, social and natural sciences – and vocational studies – including professional studies, such as engineering, education, business, and health professions. Fifty-three percent of our sample are from vocational studies.

Finally, Table 4 shows the distribution by country of the degree-awarding institution. Fifty-five percent of the graduates in the sample received their highest degree in Brunei, whereas one third graduated in the United Kingdom.

Table 1.

Demographic characteristics from survey results

Demographics	N	%
Sample size	816	100
Gender:		
Female	531	65
Male	285	35
Age:		
20-24	193	24
25-29	433	53
30 and above	190	23
Year of graduation:		
2007 and earlier	231	28
2008	99	12
2009	151	19
2010	230	28
2011	105	13
Ethnicity:		
Malay	679	83
Chinese	118	15
Others	19	2
Household size:		
1-4	201	25
5-9	484	59
10 and above	131	16
Household monthly per capita income:		
Low (Less than B$ 600)	263	32
Average (B$600 – B$1400)	317	39
High (B$1400 and above)	236	29

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3 The International Standard Classification of Education (ISCED) is a standard framework, designed and updated by UNESCO, used to categorise education programmes and qualifications by levels and fields of study.

Table 2.

Highest academic qualification

Degree Classification	N	%
Bachelor's - 3rd/Pass	182	22
Bachelor's - 2nd Lower	198	24
Bachelor's - 1st/2nd Upper	180	22
PGDip	46	6
Master's/PhD	210	26
Total	816	100

Table 3.

Field of study distribution

ISCED Fields of Education and Training	N	%
Arts & sciences	382	47%
Arts and humanities	159	20%
Natural sciences, mathematics and statistics	81	10%
Social sciences, journalism and information	142	17%
Vocational	434	53%
Business, administration and law	125	15%
Education	138	17%
Engineering, manufacturing and construction	86	11%
Health and welfare	28	3%
Information and Communication Technologies (ICTs)	42	5%
Others	15	2%
Agriculture, forestry, fisheries and veterinary	3	
Services	12	
Total	816	100

Table 4.

Country of awarding institution

Country of awarding institution	N	%
Brunei	450	55
United Kingdom	265	33
Australia	66	8
Others	35	4
Total	816	100%

3.0   Unemployment rate

3.1   Descriptive analysis

Turning our attention to the labour market outcomes of the university graduates, in particular to the employment status, in this section we investigate the main covariates of the unemployment rate. We define the unemployment rate as the proportion of graduates that is not employed but is actively seeking work. In our sample, 215 or 26.3% of the graduates are unemployed.

One of the main covariates of the unemployment rate is the field of study (Figure 1). We can see, for example, that arts and humanities graduates have a particularly high unemployment rate, at 44%, whereas only 16% of the Engineering and Construction graduates and 14% of the ICT and Health graduates are unemployed. This is similar to results from other countries: unemployment rates are generally higher among graduates from arts and sciences than graduates from vocational fields.

Figure 1.

Unemployment rate by Field of Study
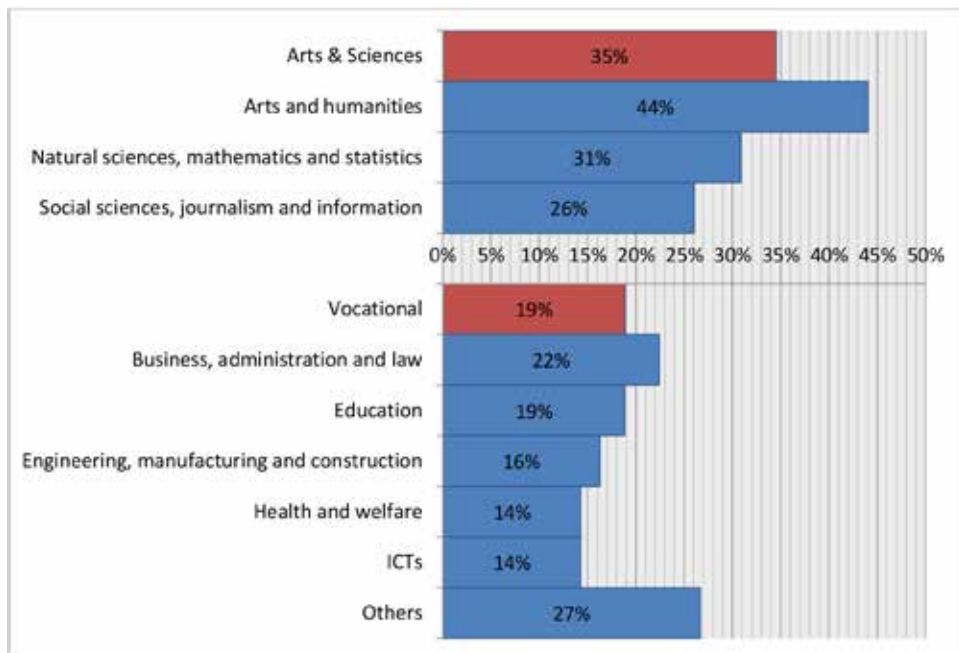
Figure 2.

Unemployment rate by country and University ranking
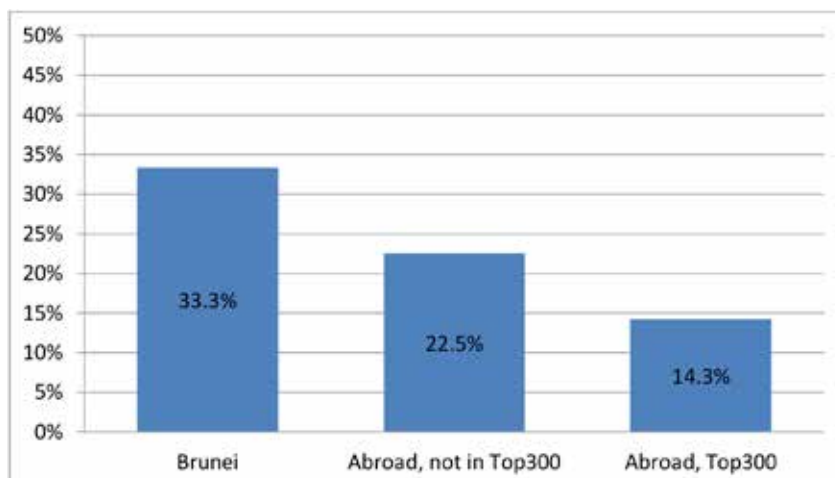
Figure 2 shows another interesting fact regarding the unemployment rate: graduates from foreign universities are less likely to be unemployed, especially if the degree was obtained in a top university. In this paper, we categorize the awarding institutions based on location (Brunei vs. abroad) and ranking. For the ranking, we follow one of the criteria proposed by the Ministry of Education for the award of a scholarship and eligibility for loan application (Thien, 2014): using data from the QS World University Rankings (WUR) (QS, 2011), we classify the universities, distinguishing those in the Top 300 from the others. We can see that the unemployment rate is at 33.3% for local graduates, 22.5% for graduates from a foreign university not in the Top 300, and 14.3% for those from a Top 300 institution.

Table 5 reports unemployment rates by gender, age, year of graduation, ethnicity, household size, and per-capita income. Some important facts can be easily observed:

The unemployment rate is significantly higher among females than males: this is a common fact widely observed in the literature. Female unemployment remains higher across every age, year of graduation, and household size groups. In the Chinese ethnic group, however, there is no significant difference between females and males. Furthermore, there is no significant gender difference in the high income group. Such difference may be due to gender discrimination in the labour market, or to differences in the individual labour supply between males and females, reflected in the reservation wage.

Older graduates have a significantly lower unemployment rate. This may be due to the correlation with the year of graduation (see following point), or to an increased social pressure to find a job.

Table 5.

Unemployment rate by demographic characteristics

Demographics	% Unemployment
Gender:	
Female	29.2
Male	20.7
Age:	
20-24	43.5
25-29	26.8
30 and above	7.4
Year of graduation:	
2007 and earlier	6.9
2008	12.1
2009	21.2
2010	41.3
2011	56.2

Ethnicity:	
Malay	28.9
Chinese	11
Others	26.3
Household size:	
1-4	15.9
5-9	27.9
10 and above	36.6
Marital status:	
Married	11.4
Single	33.5

a. The unemployment rate increases for recent graduates, as they are probably still waiting for their first job experience.

b. Chinese graduates have a significantly lower unemployment rate. The Chinese unemployment rate remains lower across every other graduate characteristic, including the field of study. The causes of such difference may be, as for gender, either discrimination or differences in the individual labour supply and preferences.

c. The unemployment rate increases with the household size.

d. Married graduates have a significantly lower unemployment rate. This is especially true among male graduates, whereas the difference is not significant among females.

3.2 Multivariate analysis

Most of the variables analysed in the previous sections are clearly correlated with each other, making it difficult to identify which factors affect the probability of being unemployed. Therefore, in this section we move to a multivariate analysis of the determinants of working status.

To this end we will rely on a binomial logit model explaining the employment status of the participants. In our model, the dependent variable takes value one if an individual is unemployed, and zero otherwise. Therefore our marginal effects are interpreted as increasing (if positive) or decreasing (if negative) the probability of being unemployed relative to being employed.

Most of the explanatory variables were already presented in the previous section, and include some demographic characteristics relative to the individual or the household (such as gender, age, ethnicity, and marital status) and some educational variables (field of study, educational attainment, number of years since graduation, country and rank of the awarding institution, and educational funding). In particular, as we did in the previous section, we will distinguish between two broad categories of field of study, arts & sciences and Vocational. The awarding institutions

are classified as local, foreign not in the Top 300 QS WUR, and foreign in the Top 300 QS WUR. The educational funding variable indicates whether the graduate was self-funded or received a scholarship. It must be noticed that most of the graduates from local universities (90% in our sample) are fully funded by the government, whereas only 75% of those studying abroad were awarded a scholarship. In the proposed model, we will include some significant interaction terms as well, in order to identify any possible effect modifiers.

The results of the logistic regression are included in the Appendix. Since the interpretation of the coefficients of a logistic regression in terms of log-odd ratios is rather complex, in what follows we will present the results in terms of marginal effects. Figure 3 shows the main marginal effects of the variables included in the regressions, ignoring the interactions included in models B and C (discussed further below) and the ISCED field of study (presented in Figure 6). We can see that most marginal effects are very close to each other, and no significant difference can be observed between the three models; Model C, however, will allow us to discuss some interesting interactions between the graduate characteristics.

Figure 3.

Marginal effects from binomial logit regression for the probability of being unemployed
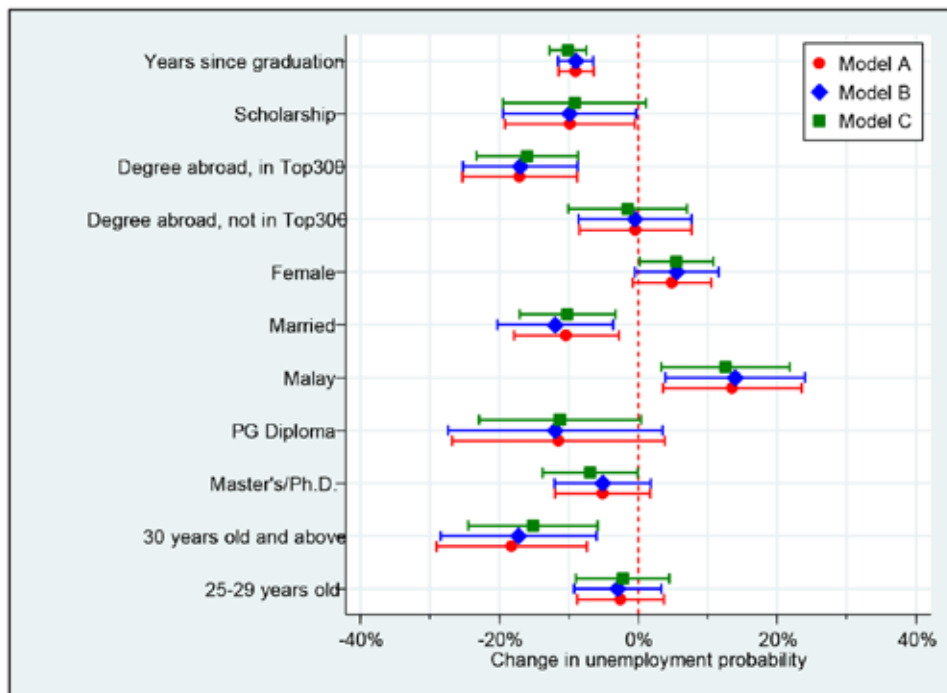
Notes: The chart shows the 95% confidence interval for the marginal effects of each predictor on the probability of being unemployed. The reference individual is 20 to 24 years of age, male, single, not Malay, with a Bachelor's degree in a vocational field of study obtained in Brunei, without scholarship, and with the average number of years since graduation.

As we have seen with the descriptive analysis, the age variable is important in determining the probability of unemployment. Even after taking into account the number of years since graduation, graduates older than 30 have a significantly lower probability of being unemployed with respect to a graduate younger than 25 (-13.3%). On the other hand, the difference between a graduate younger than 25 and one between 25 and 29 is not statistically significant. The age factor may reflect the greater social pressure to find a job experienced by older graduates, therefore affecting the individual labour supply.

Gender and marital status are significantly correlated with the employment status. Females have a significantly higher probability of being unemployed (+5.5%), even after taking into account the other demographic and educational characteristics. Married graduates are less likely to be unemployed (-10.2%), probably reflecting the increasing responsibility associated with heading a household.

Figure 4.

Predicted unemployment probability by gender and marital status
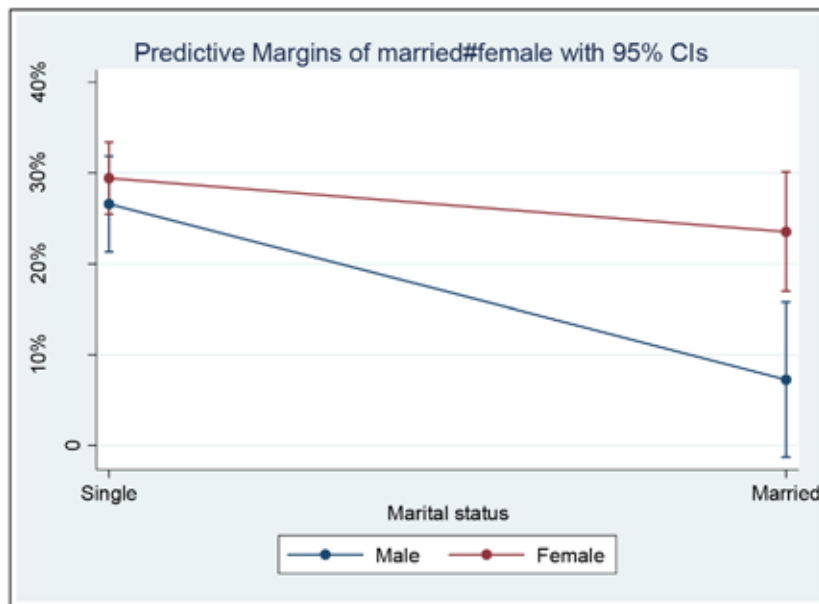
Furthermore, when we consider the interaction between gender and marital status, we can identify a significant feature of the graduate labour market. Figure 4 shows the predicted probability of unemployment for males and females, controlling for their marital status. We can see that although there is no significant gender difference among singles, males have a significantly lower probability of being unemployed if they are married (16.3% lower than females). In other words, we can observe two different patterns among graduates: for males, marriage significantly

reduces their probability of unemployment (by 19.3%), whereas for females we cannot observe a significant reduction in unemployment (although the point estimate is negative as well). This feature can be explained by the gender differences in responsibility associated with marriage, consequently affecting the individual labour supply.

Graduates of Malay ethnicity have a significantly higher probability of being unemployed, +12.6%, as compared to non-Malay graduates. Since the model is already controlling for several characteristics correlated with the unobserved graduate ability, this effect may signal a significant difference in the individual labour supply, due to different social pressures across the ethnic groups.

The type of degree has a significant effect in reducing the probability of unemployment: graduates with a PG Diploma, Master's, or PhD are more likely to be employed as compared to a Bachelor's. The point estimate is larger for PG Diplomas (-11.3%) than for Master's and PhDs (-6.9%), although such a difference is not statistically significant.

Getting a degree abroad, by itself, does not significantly decrease the probability of unemployment, although the ranking of the awarding institution is an important factor: graduates from a university in the Top 300 QS have a significantly lower probability of being unemployed (-16%). This finding has important implications for the funding policy recently enacted by the government: graduates from a top university are significantly more likely to find a job in the local labour market, therefore increasing the probability of loan repayment, and the effectiveness of the funding policy.

Turning our attention to the funding variable, graduates who received a scholarship have a significantly lower probability of being unemployed (-9.2%) as compared to self-funded graduates. This correlation is likely to reflect the higher probability of finding a job in the public sector, due to the link between scholarships and government employment.

The interaction term between funding and the number of years since graduation allows us to analyse the different unemployment probability patterns for self-funded and sponsored graduates. In Figure 5 we can see that graduates with a scholarship have a significantly lower probability of being unemployed after 3 years since graduation. Five years after graduation, the model predicts an unemployment rate of 7.4% for sponsored graduates versus 26.8% for the self-funded ones.

Figure 5.

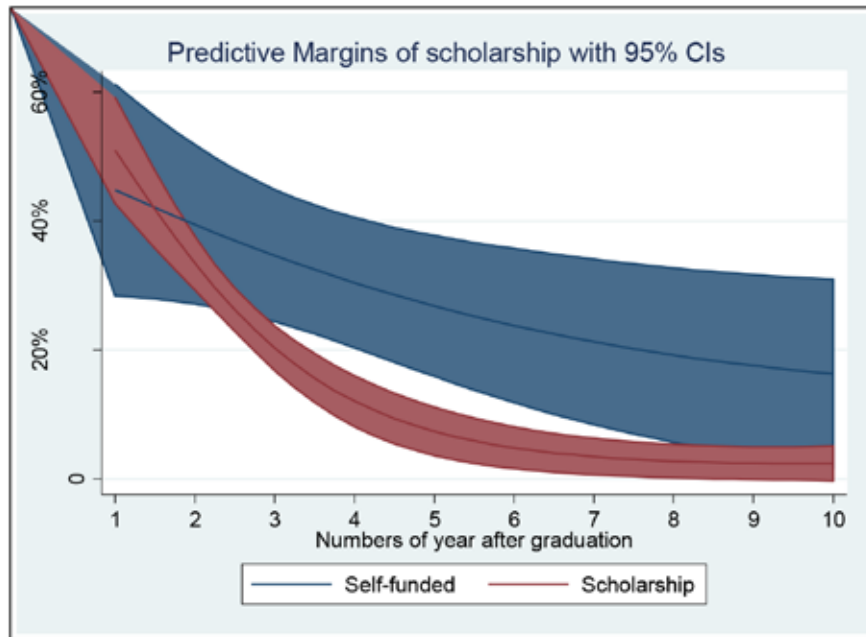**Predicted unemployment probability by funding and years since graduation**

Figure 6.

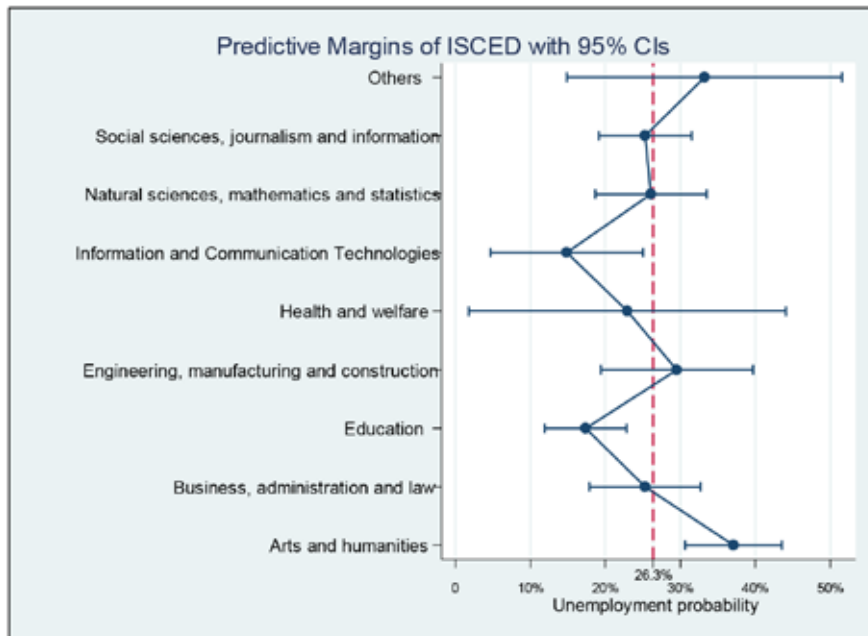**Predicted unemployment probability by field of study**

Figure 6 shows the predicted unemployment probability, using model C, by ISCED field of study. Basically, this chart shows which fields of study have a significant effect on unemployment by itself, after taking into account the other characteristics of the graduate. For example, although

graduates in Engineering, manufacturing and construction have a particularly low unemployment rate, at 16% (see Figure 1), the field of study by itself does not have a significant effect on the unemployment probability, and the former difference is mainly due to the other graduate characteristics (noticeably gender, ethnicity, and the ranking of the awarding institution).

We can notice that three fields of study significantly differ from the sample average of 26.3%: (a) Arts and humanities graduates have a significantly higher probability of being unemployed, at 37.1%, (b) Education graduates have a significantly lower probability of being unemployed, at 17.4%, and (c) ICT graduates have a significantly lower probability of being unemployed, at 14.9%.

4.0   Characteristics of the unemployed graduates

The survey questionnaire included several other questions regarding the characteristics, perceptions and behaviour of the unemployed graduates. The answers to these questions will allow us to further analyse the features of the graduate labour market in Brunei.

Although the respondents in this study are mainly fresh graduates, some of the unemployed have already had some work experience, either before or after their graduation. Figure 7 shows the distribution of the amount of work experience among the unemployed graduates included in our sample: only one out of five unemployed graduates has never worked before, whereas 17.8% of them have at least 1 year of work experience. However, it must be emphasized that only 18.8% of the unemployed have some work experience after graduation; therefore we may deduce that most of the prior work experience is in relatively low-skilled, short-term jobs.

Figure 7.
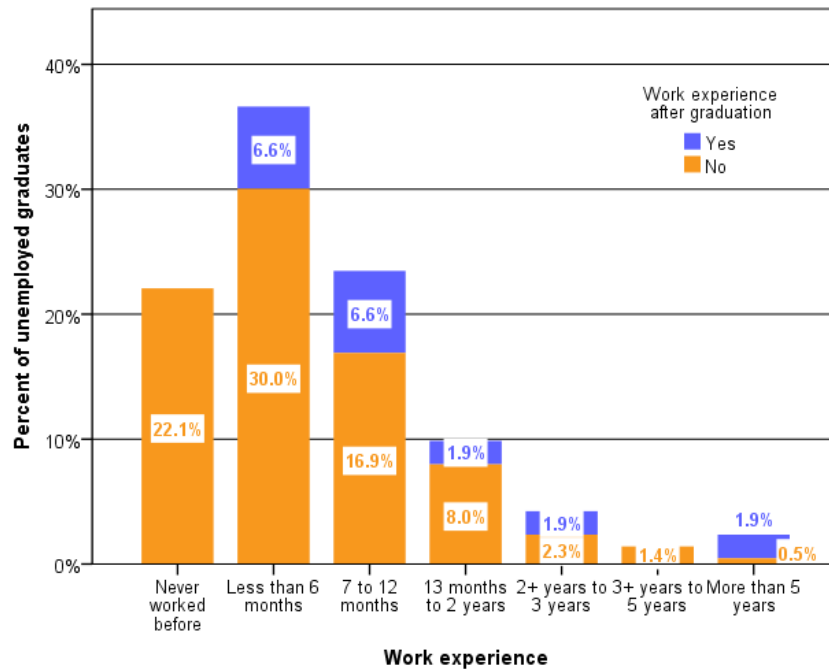
Work experience of the unemployed graduates

Figure 8.
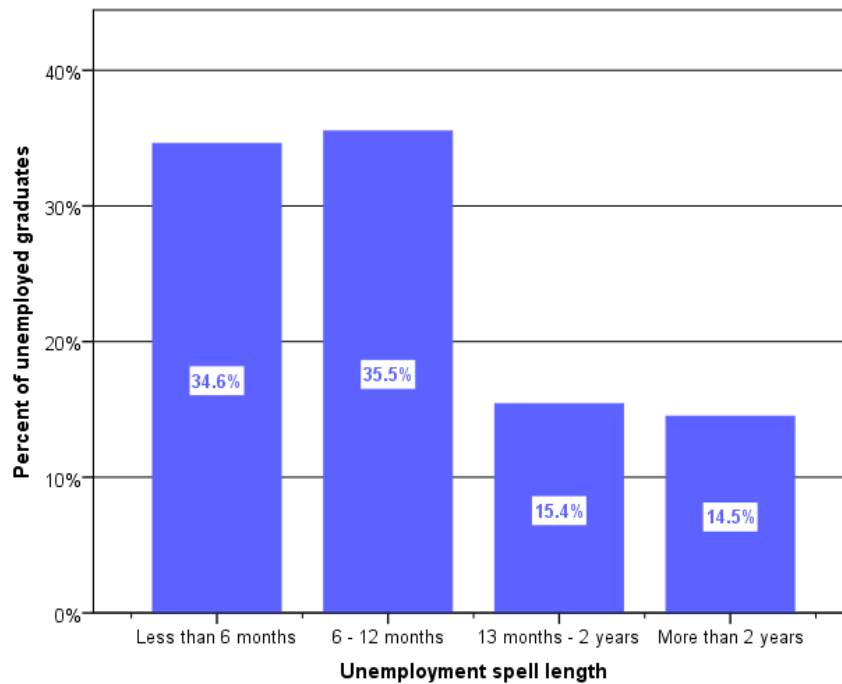
Length of the unemployment spell
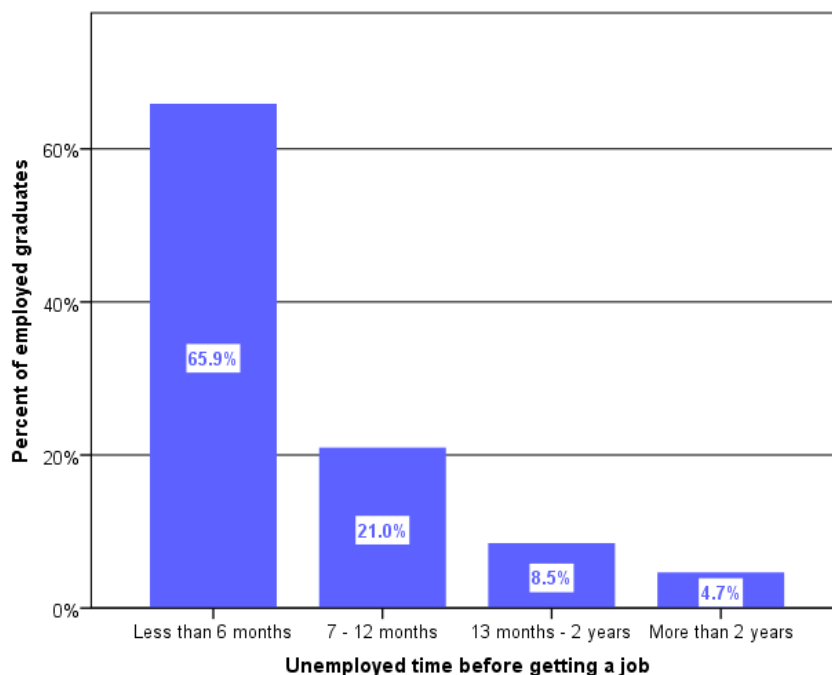
Figure 9.

Length of unemployment spell before getting a job

Figure 8 shows the distribution of unemployment spell: roughly 70% of the unemployed graduates have been unemployed for less than one year. However a significant 14.5% of them have been unemployed for more than two years. To better understand the importance of such result, it is useful to compare it with the distribution of the unemployment spells among the employed graduates. Figure 9 shows how long the employed graduates have waited to get their first job: we can see that two out of three employed graduates found their job after less than 6 months from their graduation, and less than 5% waited for more than two years. The comparison of these two charts suggests that the group of unemployed graduates actually includes a large number of long-term unemployed, perhaps having a low probability of finding a job, either because of the characteristics of the graduate or because of the stigma effect associated with the unemployment duration.

The unemployed graduates were also asked about what they were doing to try to get a job (see Figure 10). Almost everyone regularly looks through job advertisements, but only about 8% try to advertise themselves; the use of both type of advertisements slightly increases with age. About 80% of the unemployed graduates ask relatives and friends about job vacancies.

Only 41% of the unemployed graduates are registered with the Labour Department, implying that not all unemployed graduates are tracked by the national statistics. The registration with

the Labour Department is even less frequent among non-Malays and self-funded graduates, respectively at 22% and 25%.

Approaching potential employers is a strategy adopted by 40% of the unemployed graduates. This strategy is more common among non-Malays, as 61% of them try to directly approach the employers.

Figure 10.

Job search method
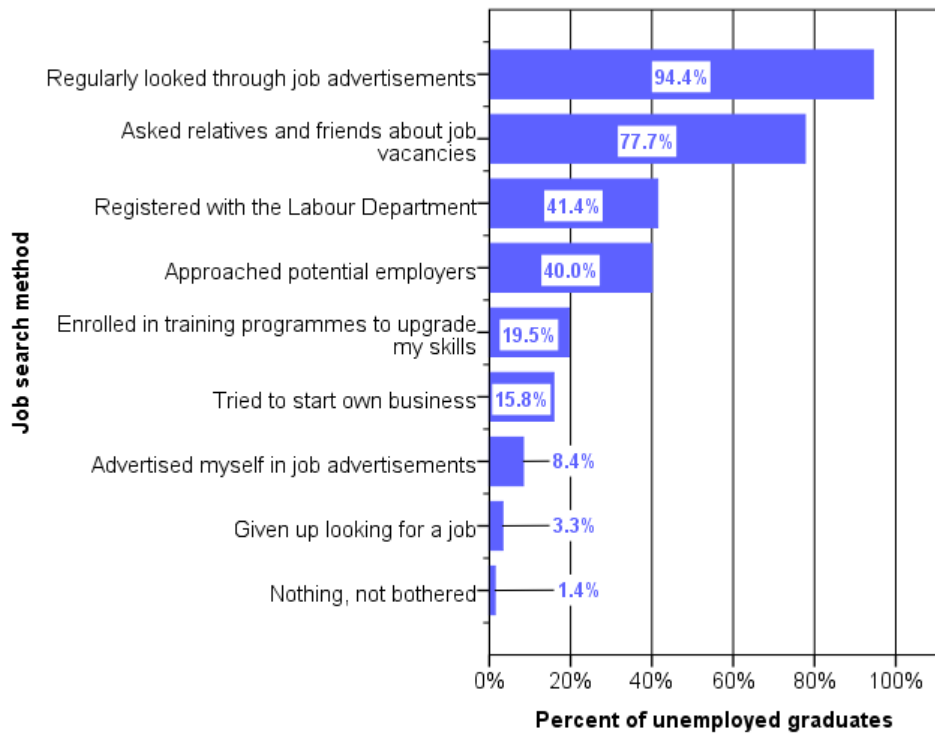
Almost one out of five unemployed graduates enrols in training programmes, and this behaviour becomes more frequent after one year of unemployment (27%). About 16% have tried starting their own business: this behaviour is positively correlated with the amount of work experience and with the household income.

In order to understand the perceptions of the unemployment graduates regarding their status, the questionnaire asked about the reasons why they are unemployed in their opinion. Figure 11 shows the percentage of unemployed graduates agreeing with the various reasons suggested.

The vast majority (about 80%) of the graduates in the sample considers the lack of opportunity in the market as the main reason for their current unemployment; this type of reasoning is especially

prevalent among older graduates and graduates with a long spell of unemployment. The lack of right social connections and some form of discrimination in favour of overseas graduates and foreigners are the second group of reasons, shared by 55-70% of the unemployed graduates, particularly from the low income households and graduates with a long spell of unemployment. Other important reasons, shared by 30-45% of the sample, are related to the graduate's own characteristics, such as lack of skills, experience or qualifications, or inability to communicate during interviews. These conditions are particularly prevalent among graduates with little work experience.

A minority of the sample would not accept a salary lower than expected (35%) or a job they do not like (21%). These reasons are more common among unemployed recently graduated or from high income households.

Figure 11.

**Reasons for being unemployed**
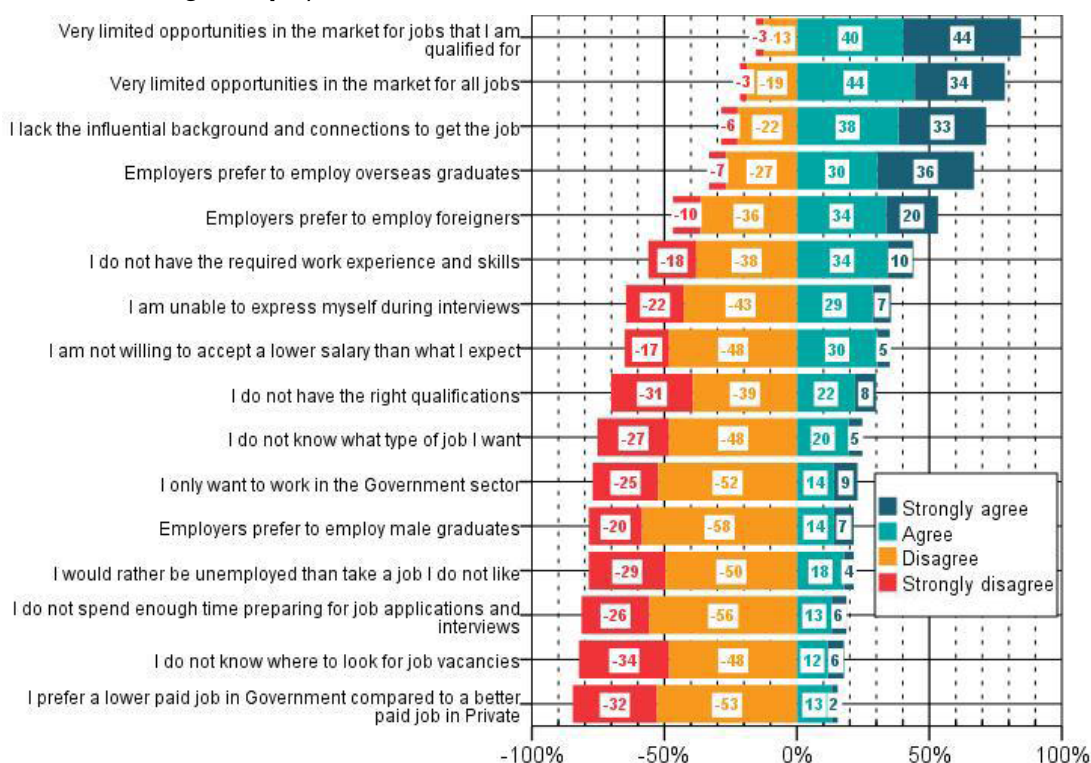
Almost one out of four unemployed graduates wants to work in the government sector only, and 15% would accept a lower paid/qualified job in the government sector rather than working in the private sector. This attitude is more common among graduates with little work experience and Malays: among non-Malays, only 5% of the unemployed are willing to work for the government only.

Finally, the questionnaire asked both employed and unemployed graduates which areas of training they need to improve to get their preferred job (up to three areas). The first noticeable finding (Figure 12) is that the unemployed tend to concentrate relatively more on the hard skills (ICT, languages, and other basic skills), whereas the employed consider the soft skills relatively more important (leadership, project management, supervision and management, team-building, diversity).

The training areas attracting more attention among the unemployed are presentation and communication skills (46%), ICT (44%), leadership (37%), and project management (36%). Entrepreneurship training is considered important by 28% of the unemployed versus 19% of the employed, reflecting the propensity of some unemployed to start their own business (see Figure 10).

Figure 12.

Training areas perceived as important
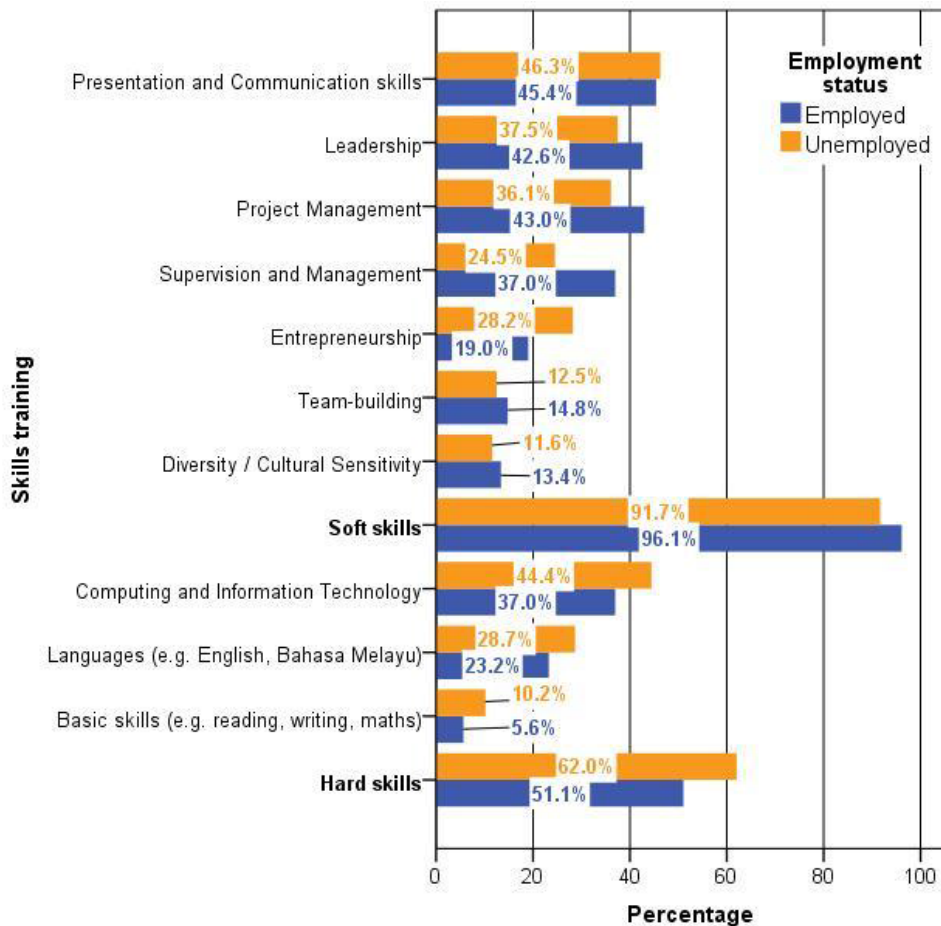
5.0   Conclusion

In recent years the issue of unemployment among university graduates in Brunei Darussalam has attracted considerable attention from the general public, higher education communities and institutions, and researchers. The topic has been examined in several other countries, identifying several factors playing a role.

In this article we have assessed the impact of several graduate characteristics on their employment status, and discussed the main perceptions and behaviours of the unemployed graduates, using data from a survey conducted by CSPS in 2012.

Our findings suggest that several characteristics have an impact on the probability of unemployment, acting both through the individual labour supply and preferences – shifting the reservation wage – and through the signals sent to the employers – shifting the distribution of the potential wage offers.

In the first set of factors, we can include age, ethnicity, and gender/marital status. We found that younger graduates have a higher probability of being unemployed, even after controlling for the year of graduation. This suggests that other factors, for example social pressure, may affect the need of the graduates to find a job. However, the literature suggests that a long spell of unemployment at an early stage of your career may affect the later probability of finding a job. This aspect seems to be confirmed by the different distribution of the length of the unemployment spell before the first job between employed and unemployed: we noticed that a relatively large group of unemployed have been waiting for more than one year, whereas two out of three employed graduates found their job within six months from graduation. We would recommend policies aimed at stimulating early participation in the labour market, through for example active labour market policies (ALMPs). These actions would help improve the job search efforts and skills of the unemployed graduates, increasing the probability of accepting a job, while at the same time making the job searchers more attractive to employers. The recent introduction of the i-Ready Apprenticeship Programme, aiming at giving graduates the opportunity to gain skills and work experience, can be considered a first move in this direction. The effectiveness of the programme should be continuously monitored and evaluated, in order to improve its design and potentially extend it to other categories of unemployed.

We have observed that there is a significant difference in the unemployment probability between Malays and non-Malays, after controlling for several other characteristics. This may reflect different social pressure across ethnic groups. We have also seen that Malays tend to rely more

on passive job search methods, such as registering at the Labour Department, rather than active methods, for example contacting employers directly. Malays are also more inclined to wait for a Government job offer, although the majority are willing to work for the private sector as well. All these observations tend to suggest the need for a mindset change, but also a change in the structure of public incentives and subsidies.

A large part of the gender difference in the unemployment rate is explained by its interaction with marital status: married women have a 16% higher probability of being unemployed than married men. In order to reduce such differences, and to increase the female participation in the labour force, without undermining the fertility rate, we would recommend policies aimed at easing the burden of combining work and family, such as parental provisions, subsidised day-care for children and elderly people, and stimulation of the growth of personal care service sectors.

Among the factors affecting the signals sent to employers, we can acknowledge the field of study, the type of awarding institution, and the type of funding. We found that graduates in arts and humanities have a significantly higher probability of being unemployed, whereas graduates in ICT and education are more likely to be employed. This fact may reflect the current demand for skilled workers; therefore it should be taken into account by the public authorities and the education institutions when they are making funding decisions.

We found that graduates from the Top 300 QS WUR universities have a significantly higher probability of being employed as compared to graduates from the local universities. This finding has important implications for the funding policy recently enacted by the government: graduates from a top university are significantly more likely to find a job in the local labour market, therefore increasing the probability of loan repayment, and the effectiveness of the funding policy. On the other hand, improving the ranking of the local universities and the quality of local tertiary education, also through a process of internationalization of the institution aimed at attracting large number of foreign students as well, may increase the probability of employment for the large number of local students attending the local universities.

Finally, we found that graduates who received a scholarship have a significantly lower probability of being unemployed as compared to self-funded graduates. This fact is likely to reflect the higher probability of finding a job in the public sector, due to the link between scholarships and government employment. The recent change in scholarship policies enacted in early 2016, weakening such a link between scholarship and public sector employment, together with the reduction in government hiring resulting from the fiscal consolidation process, is likely to affect the employment outcome of scholarship-funded as compared to the self-funded graduates.
The data used for this study was collected in 2011. Since then, the economic climate in Brunei has

changed considerably, due to the plummeting oil price, which significantly affected the economy, mostly reliant on the energy sector and Government expenditure. Employment opportunities for most graduates have been declining, both in the public, as mentioned above, and in the private sector, particularly in the oil and gas industry, but also in many other industries which are directly or indirectly dependent on Government expenditure. At the same time, new employment opportunities are expected, due to the Government's efforts to attract new FDIs, accelerate economic diversification, and improve the ease of doing business.

These rapid changes require a dynamic, flexible, and evidence-based approach to education and labour market policies. Efforts to regularly collect, maintain, and share labour market data (such as the Labour Force Survey and tracer studies compiled by the education institutions) need to be strengthened in order to improve the policy-making process, by grounding it on a solid foundation of empirical research.

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APPENDIX

VARIABLES	A	B	C
25-29 years	-0.184 (0.230)	-0.213 (0.229)	-0.154 (0.230)
30 and above	-1.304*** (0.409)	-1.236*** (0.420)	-1.211*** (0.423)
Master's/PhD	-0.365 (0.251)	-0.366 (0.255)	-0.511* (0.266)
PGDip	-0.821 (0.564)	-0.859 (0.572)	-0.877* (0.532)
Malay	0.968*** (0.376)	1.002*** (0.380)	0.918*** (0.356)
Married	-0.741*** (0.276)	-1.686** (0.701)	-1.913** (0.771)
Female	0.348* (0.206)	0.191 (0.223)	0.194 (0.224)
(Married) * (Female)		1.157 (0.724)	1.499* (0.793)
Degree abroad, not in Top 300	-0.0289 (0.296)	-0.0346 (0.298)	-0.101 (0.290)
Degree abroad, Top 300	-1.222*** (0.312)	-1.219*** (0.314)	-1.219*** (0.311)
Scholarship	-0.703** (0.345)	-0.711** (0.355)	1.089 (0.698)
Numbers of years after graduation	-0.883*** (0.135)	-0.896*** (0.138)	-0.323* (0.191)
(Scholarship) * (No. of years after graduation)			-0.806*** (0.251)
(No. of years after graduation)^2	0.0436*** (0.00732)	0.0451*** (0.00791)	0.0114 (0.0111)
(Scholarship) * (No. of years after graduation)^2			0.0475*** (0.0143)
Fields of study			
Arts and humanities	0.362 (0.719)	0.345 (0.718)	0.246 (0.645)
Business, administration and law	-0.275 (0.734)	-0.295 (0.736)	-0.533 (0.655)
Education	-1.038 (0.734)	-1.012 (0.733)	-1.151* (0.661)
Engineering, manufacturing and construction	-0.148 (0.744)	-0.146 (0.748)	-0.239 (0.680)
Health and welfare	-0.558 (1.019)	-0.563 (1.022)	-0.704 (1.000)
Information and Communication Technologies	-1.403 (0.875)	-1.423 (0.876)	-1.382* (0.770)
Natural sciences, mathematics and statistics	-0.289 (0.734)	-0.288 (0.733)	-0.475 (0.666)
Social sciences, journalism and information	-0.417 (0.714)	-0.433 (0.712)	-0.532 (0.639)
Constant	1.777** (0.864)	1.903** (0.868)	0.764 (0.866)
Observations	816	816	816
Log-likelihood	-348.933	-347.292	-342.074
McFadden R^2	0.258	0.262	0.273

Notes: * significant at 10%; ** significant at 5%; *** significant at 1%. Huber-White robust standard errors in parentheses.