An Examination of the Rational Model in Business Education in the Greater Bay Area (Guangdong, Hong Kong, and Macau) for Curriculum Revision and Development Aimed at Improving Graduates' Employability Potential

Dr. Jason Lee Carter1*, Wu, Mrs. Xuemei2

¹Faculty of Business, City University of Macau 4th Floor, Luso-Chinese Building, Avenida Padre Tomás Pereira Taipa, Macau Email 1: jasonjlc@cityu.mo, Email 2: jlcprofessional@gmail.com 2International Business Faculty, Beijing Normal University, Zhuhai No. 18 Jinfeng Road, Tangjiawan, Zhuhai Guangdong 519085 China Email: 13411399773@163.com *Corresponding Author

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Abstract: The rational action models are techniques and processes of decision-making from data for effective decision-making. Business leaders are strategizing for their futures for their future employment needs in the Greater Bay Area region of Hong Kong, Macau, and the Guangdong province. Tertiary business curriculum revision and development efforts are focused on properly preparing graduates' productive decision-making skill sets that ultimately increases their employability. This qualitative study examines the perspectives of regional business leaders for the knowledge and use of rational action in their own companies, the need or not for the rational action model in future employment decisions, and their take on the rational model inclusion in business curriculum. The purpose is determining what entanglements rational action has in delivering on business leaders' expectancies in their employment decisions. The findings indicate a strong use by business leaders of rational action and a desire for new graduates to be proficient in rational decision-making, but without a cohesive expression between the three major areas of how to affect curriculum enhancement efforts. The conclusion is a positive demand for rational models to be included in curriculum revision and development efforts, but dependent on the tertiary institutions themselves for design. Recommendations focus on the rational action model in studies of a similar nature but focused on other regions where emerging economies are focusing on the business education enhancements.

Keywords: business curriculum, curriculum development, decision-making, qualitative research, rational action

1. Introduction

Recent focuses on business curriculum and teaching methodology development has been centered on several factors that query the significance of rational action has on business learning and education (Brunstein, Sambiase, & Brunnquell, 2018; Esfandiar, Sharifi-Tehrani, Pratt, & Altinay, 2019; Hirschauer, Jantsch, & Musshoff, 2018; Kolb, Fröhlich, & Schmidpeter, 2017; Murillo, & Vallentin, 2016; Rahim, Utsha, Bhuiyan, & Miah, 2019; Wrigley, & Straker, 2017; Zapalska, McCarty, Young-McLear, & White, 2018). From the perspective of business education, rational decision-making - or rationality - is the view of objective data via formal process for analysis that omits subjective and

intuitive decisions in favor of decisions based on perfect or near-perfect information for possibilities and alternatives in a time-sensitive, cognitive, and resource capable measurement (Brunstein, Sambiase, & Brunnquell, 2018; Crispin et al., 2016; Lacaden, 2020; Li, 2019). Rationality works on the belief that managers will base their decisions on logical data that maximizes the benefits and minimizes the costs (Albert, 2017; Barth, & De Jong, 2017; Dahlmann, & Grosvold, 2017; Foss, & Weber, 2016; Jones, Harrison, & Felps, 2018; Power, Cyphert, & Roth, 2019).

The issue is whether the performance expectations of business leaders as future employers of graduates and their desires for new managers with the ability to think creatively can be accomplished while maintaining a logical outcome to decision-making based more on reliable evidence rather than emotional or interpretive decision-making; intuition. The issue is compounded by the desires in Asian, especially Chinese, businesses to enhance their international competitiveness, which draws a heavy focus on the business education of new graduates that will help lead their companies into the global future (Davis, & Comeau, 2020; Ding, 2018; Fan, Xu, Su, & Shi, 2018; Liu, 2017; Su, & Meng, 2016; Zhou, 2017). Even more of an issue is whether or not the challenges facing the rational model are applicable to business education in China (Doyle, & Brady, 2018; George, Desmidt, Nielsen, & Baekgaard, 2017; Song et al., 2019; Zhang, Fu, & Xi, 2018), or if a blended approach to rationalization and intuition in business education is more appropriate (Gurevich, 2019; Hart, 2018; Prince, & Priporas, 2018; Zollo, Pellegrini, & Ciappei, 2017).

The study collects qualitative data on the perspectives of targeted business leaders in the Greater Bay Area of Guangdong, Hong Kong, and Macau to search for a deficiency in the comprehension of what rationalization attributes employers seek for in the next generation of business managers, or if rationality is not a significant factor in the recruiting and hiring needs that disqualifies rationality as a component for new graduates' employability in the Greater Bay Area. Outcomes will provide a foundation to outline curriculum development recommendations for tertiary institutions in the Greater Bay Area to improve their business educational programs. The aim is a focus on enhancing new business graduates' employability to focus on awareness, usefulness, and components in the minds of the business leaders in the region that provides a foundation for curriculum revision and development efforts.

2. Review

The priority review is a defining of what rational action is in regards to the concept of a rational model. The key component of rationality is the observance of information with an objective perspective based on facts, statistics, logical inferential processes, etc. instead of intuitive or subjective notions in the decision-making process (Abubakar, Elrehail, Alatailat, & El i, 2019; Cook, & Gonzales, 2016; McManus, 2019; Power, 2016; Power, Cyphert, & Roth, 2019; Tavana, Di Caprio, & Santos Arteaga, 2016; Yang, & Gabrielsson, 2017). The strength of the rational model is the assumption that the data that is under consideration is perfect since it is based on objective data (Calabretta, Gemser, & Wijnberg, 2017; Kaufmann, Wagner, & Carter, 2017; Lieder, Griffiths, & Hsu, 2018), the counter to this being the potential of erroneous information contaminating the data's reliability in making effective decisions. Strength is also in the assumption that the observer of said data has the necessary amount of time, the cognitive skillsets, and the resources to observe said data and evaluate it in a manner that produces effective results (Abubakar, Elrehail, Alatailat, & El i, 2019; Farivar, Turel, & Yuan, 2018; Shah, & Amjad, 2016; Valentine, & Godkin, 2019), the counter being a lack of needed time, skillsets, and resources to utilize the rational model effectively, thusly suggesting that intuitive responses would appear more appropriate (Calabretta, Gemser, & Wijnberg, 2017; Farivar, Turel, & Yuan, 2018; Lieder, Griffiths, & Hsu, 2018). The logical objection to contamination from erroneous data, as well as the lack of appropriate time, skillsets, and resources, is the realization that such arguments are common in any form of decision-making process, including intuitive responses (Linder, & Williander, 2017; Schneckenberg, Velamuri, Comberg, & Spieth, 2017), and should not detract from the examination of the rational model in business curriculum revision and development efforts. And, perhaps most importantly, is that rationality proposes a method for the maximization of benefits from analytical decision-making against the minimization of inherent costs from surface or underlying factors in decision-making (Abubakar, Elrehail, Alatailat, & El i, 2019; Cook, & Gonzales, 2016; McManus, 2019; Power, 2016; Power, Cyphert, & Roth, 2019; Tavana, Di Caprio, & Santos Arteaga, 2016; Yang,

& Gabrielsson, 2017). The outline of a rational model decision-making process includes a step-by-step process of evaluating available data for objective consideration from a scientific method perspective. According to Taylor (1998) and Robbins and Judge (2007), these rational actions, or steps, include:

- 1. Defining the situation and the aims.
- 2. Identifying potential alternative solutions.
- 3. Evaluating the aims and alternatives.
- 4. Implementing plans of action based on rational observations.
- 5. Monitoring of the outcomes of implemented decisions.

The use of the rational model in business curricula is not centered on only one specific course in business programs, nor is it focused on only a specific set of criteria for skillset enhancements. Rationality in a business program is conceived of integrating key learnings outcomes for critical thinking, innovativeness, and efficiency throughout all courses and subjects in an entire business curriculum (Brunstein, Sambiase, & Brunnquell, 2018; Windsor, 2016). Common types of rational model inclusion are case study exercises that require students to respond based on the quantifiable data provided with the case (Grira, & Jaeck, 2019; Lezaun, & Muniesa, 2017; Murcia, Rocha, & Birkinshaw, 2018), pragmatic exercises in decision-making for specific circumstances rather than generalized scenarios (Stohs, 2016; Warwick, Wyness, & Conway, 2017), and of course the use of analytical processes like quantitative analyses for a weighted-decision governed solely by statistical outcomes (Grira, & Jaeck, 2019; Lezaun, & Muniesa, 2017; Murcia, Rocha, & Birkinshaw, 2018; Stohs, 2016; Warwick, Wyness, & Conway, 2017). The opposing view of the rational model is the identified characteristics in successful companies where attributes such as experience and wisdom (Greenbank, 2017; Murillo, & Vallentin, 2016; O'Neill, 2016), emotional intelligence (Jarvis, & Logue, 2016; Phillips, Hsieh, Ingene, & Golden, 2016), cross-cultural differentiation awareness (Perrotta, 2017; Simis, Madden, Cacciatore, & Yeo, 2016), and bounded rationality (Jung, & Lehrer, 2017; Phillips, Hsieh, Ingene, & Golden, 2016; Stohs, 2016) are evident as key components to the company's apparent success, yet are unattached to the traditional concept of the rational model (Phillips, Hsieh, Ingene, & Golden, 2016). Bounded rationality itself suggests that limitations in data collection, and/or the available time needed to make a rational decision, are sacrificed for an immediate decision that adopts some level of sacrifice in efficient outcomes in order for a greater amount of productive results; the lesser of two evils, essentially (Buşoi, 2017; Drugova, & Kalachikova, 2019; Hong, & Park, 2019; Ohreen, 2019). Regardless of the arguments, the concept of rationality inclusion in a business curriculum encircles the need for logical, facts-driven decision-making. Whether or not the rational model is appropriate for future business curriculum enhancement is the determination that this study aims to assess.

The question for business learning and education becomes whether or not rationality is a factor in current curriculum and teaching methods, and if such rational action concepts are even a significant factor in managerial decision-making in the modern business world. Such questions are a focus for the Greater Bay Area of China, i.e. the Guangdong, Hong Kong, and Macau region, where cultural management styles (known as Guanxi) are prevalent and rely predominantly on personal and professional relationships for employment decision-making rather than qualifications-based employment decisions (Lee, Ooi, Chong, & Sohal, 2018; Li et al., 2019; Lin, Wang, & Si, 2018; Opper, Nee, & Holm, 2017). The focus of this study is on gauging the efficiency of evidence-based decisions (i.e. rationality) compared to instinctive decisions (i.e. intuition) (Brette, Lazaric, & Vieira da Silva, 2017; Folwarczny, Kaczmarek, Doliński, & Szczepanowski, 2018; Hernandez, & Ortega, 2019; Maldonato, 2017; Meisenbach, 2017; Newark, 2018) to ultimately fill the deficiency gap in knowledge for the Greater Bay Area regarding whether or not rationality is a useful component in improving the employability potential of new business graduates in the region. This is anticipated to guide tertiary institutions in their efforts of enhancing their business curriculum revision and development, with the subsequent benefit of attracting new business student customers and strengthen the institutions' growth and profits.

Once the aforementioned business leaders' desire to increase competitiveness is taken into account, a deficiency in available studies for one of the most profitable and growing regions in all of China becomes evident; there simply are no studies examining rationality in business curriculum for the region, or indeed for China, not to mention the lack of attention rationality has in East-Asian and

Southeast-Asian tertiary education. The study therefore becomes of greater usefulness to a larger region outside of the Greater Bay Area in guiding other specific areas in investigating the potential of rationality in business curriculum revision and development.

The region is dominated by notions of Guanxi, and thereby limits the scope of business curriculum revision and development efforts meeting the goals of improving global competitiveness for regional businesses since decisions towards recruitment and hiring are, again, based on the personal and professional relationships between employees and employers rather than actual qualifications (Lee, Ooi, Chong, & Sohal, 2018; Li et al., 2019; Lin, Wang, & Si, 2018; Opper, Nee, & Holm, 2017). In the context of ensuring proper management education for the Greater Bay Area and the future business graduates in the region, the basic motivation is in the determination of rationality as a useful tool in business curriculum revision and development, or if the rational model is not appropriate and thereby calling the need to eliminate it altogether, or perhaps even finding a blended approach with intuition models in the business curriculum (Gurevich, 2019; Hart, 2018; Prince, & Priporas, 2018; Zollo, Pellegrini, & Ciappei, 2017).

Theories on rationality have been developed by such scholars as the German sociologist Max Weber who posited the philosophical perspective on rational action (Klein, 2017; Zielinska, 2018), and the American mechanical engineer Frederick Taylor who improved industrial efficiency with his work on Scientific Management Theory, becoming one of the first management consultants (Kim, 2018; Paris, 2019; Parker, & Jeacle, 2019). From these two principal works, rationality was developed and inclusive in business education for the imparting of such skills as standardizing processes for performance analysis, evidence-based procedures that provide measurable outcomes, and goals that have specific aims for determining the calculable rate for success (Brunstein, Sambiase, & Brunnquell, 2018; Cull, Cai, Heemi, & Dokmanovic, 2018; Rozuel, 2016). Such skillsets of the rational model, rational action, are considered to be historical cornerstones of business education and the expectancies of such graduates' employability throughout western cultures (Duarte Alonso, Kok, & O'Brien, 2019; Godfrey et al., 2016; Guler, & Ozer-Imer, 2019; Krou, Acee, Pino, & Hoff, 2019; Malyuga, Krouglov, & Tomalin, 2018; Murcia, Rocha, & Birkinshaw, 2018; Rindova, & Martins, 2018; Seppälä, 2018). While Asian business, specifically in China, are adept at re-engineering processes and enhancing the effectiveness of existing goods and services (Marquis, Yin, & Yang, 2017; Ou, Zhao, & Zhou, 2018; Tian, Zhang, Yu, & Cao, 2019; Williamson, 2016), the reliance on the Guanxi cultural approach to business decision-making is a significant limitation in their capacity for innovative thought where logical processes should have a higher priority than traditional relationship decision-making (Lee, Ooi, Chong, & Sohal, 2018; Li et al., 2019; Lin, Wang, & Si, 2018; Opper, Nee, & Holm, 2017). The introduction, or enhancement, of rational action models in business curriculum revision and development throughout the Greater Bay Area, China, and the rest of the eastern regions would offer tertiary institutions in Asia a source for enhancing the innovativeness of the next generation of business graduates and their subsequent employability, is the intended result of this study.

As these components to managerial decision-making have become normal patterns of companies that have pioneered their processes into recognizable performance benchmarks, such as Henry Ford and the Ford Motor Company's assembly line (Di Minin, Ferrigno, & Zordan, 2019; Link, 2018) and Taiichi Ohno for the Toyota Company's Kanban (看板) scheduling system for lean manufacturing and just-in-time manufacturing (JIT) (Bisovi, Das, Subbarao, & Das, 2019; Budynek et al., 2016; Lolli et al., 2016; Souza, & Alves, 2018), both of which are hallmarks of rational action and scientific management (Böhle, Heidling, & Schoper, 2016; Eskerod, & Larsen, 2018; Gupta, 2016), it becomes a justifiable argument to say that rationality is a core component of contemporary business decision-makers and has been so for over a century. What is significant for the Greater Bay Area is whether or not this system of decision-making is relevant and useful for the regional businesses, or if it is a model that is out of date or in need of a new paradigm such as a blended approach with intuitive decision-making. When a basic comprehension of rational model's applicability in eastern tertiary business education is gained, an outline can be developed to narrow the focus of skills, topics, and teaching methods needed in the Greater Bay Area higher education institutions seeking to produce new business graduates with greater employability and effectiveness for regional goals (Darwish, Singh, & Wood, 2016; Mazza, & Quattrone, 2017; Spender, 2018; Yazdani, Murad, & Shuja, 2017). The key aim in this regard is the establishment of a clear comprehension of the successes of the rationale model in western economies and serving as a cornerstone of business education, which is then examined as either

a critical component for eastern business curriculum development, or a dead issue that can be supplanted and advance eastern curricula beyond archaic notions of business education.

3. Research Questions

The study aims to determine if a need for rationality in business curriculum revision and development exists for actual enhancement efforts. Results can then be evaluated as components of curriculum revision to either include greater rationality in the learning environment, or if rationality should be something outmoded in curriculum development efforts. This determination comes from assessing the participants' comprehension of the rational model in comparison with their own operations to observe if rationality is directly related to their professional lives. If it is found that the rational model is not a significant contribution to their business operations, how much success does the opposite model of intuitive decision-making generate, and what other type of decision-making process do they use. Examining this personal interaction with rationality on their professional aspirations gives a focus to the need, or not, of rationality in their decisions on hiring the next generation of business graduate. Subsequently, this, too, leads to sub-queries of what type of skillsets they would look for in new graduate hiring outside of the rational model, and what other possible types of skills or attributes do they utilize if not using the rational model. At that point, the goals and objectives of business leaders' future endeavors can be counted for specific skills and attributes that such business students would need upon graduation for increased employability to the business leaders in the region, and consequently provide a useful focus of skills and attributes that can be revised or developed to meet those desired skillsets.

In that regard, the following qualitative queries were developed specifically addressing the aforementioned aims, and helped to guide the questionnaires distributed to the participants. They are formatted in three main queries, with two sub-queries each that act as an alternative hypothesis (a) for further clarification of the main query, or as a null hypothesis (b) to oppose the main query. Should outcomes between the main query and its sub-a query prove similar, with the sub-b query proving dissimilar, then the main query becomes a useful component to the efforts of business curriculum revision and development efforts to include rational action models in business education. If the main and sub-a are dissimilar, then regardless of the sub-b outcome, the entire main and sub queries' analysis would invalidate their usefulness in curriculum enhancement efforts.

The research questions for this study are outlined below:

- R1: Given the concept of rationality, does rational action have a significant impact on personal or professional decision-making in the participants' company's operations?
 - R1a: If the rational model is not used, what percentage of success using intuition can be made?R1b: What alternatives to rationality or intuition would the participant use in their business operations?
- R2: Given the concept of rationality, does rational action have a significant impact on new business degree program graduates hiring process?
 - R2a: If the rational model is not used in their hiring decisions and relying more on intuitive hiring decisions, what kinds of skillsets would they be looking for in their hiring decisions of next generation employees?
 - R2b: What other possible type of decision-making process do they use to make hiring decisions beyond rationality or intuition for their desired skillsets in new employees?
- R3: Given the concept of rationality, what are the topics or concerns do business leaders have on rational action in future business leaders stemming from business curriculum components?
 - R3a: If the participant does not feel the rational model is useful, then what other type of model or decision-making process do they recommend to be utilized in business curriculum revision and development?
 - R3b: If the rational model is inappropriate, then what, in their mind, are the recommendations for skills and attributes to improve business curriculum for future graduates and their employment potential?

4. Research Methodology

The study uses a qualitative approach to assess regional business leaders' perspectives on current and future employees' skills and attributes - skillsets - that contribute to positive growth for their businesses, and thereby provide an analytical contribution to the aims of tertiary institutions in business curriculum revision and development. The focus is viewed from the event of rational action in managerial decision-making, how that action is perceived by the business leader, and then how those perspectives can influence the components of rationality in business curricula in the region, or not. Data collection is based on one-on-one interviews as the primary data, with previous literature, documents, and reports as secondary data for review.

The data collection and analysis are intended to be developed together in an iterative process that allows for theory development grounded in the empirical evidence of the target population's (N) attitudes through the sample (n) using a convenience sampling technique. This is appropriate given the indeterminate nature of the body population of business owners and managers identified as the targeted business leaders for the Greater Bay Area, and their often conflicting or limited schedules permitting participation in the study. Participant responses are based on examining, categorizing, and tabulating primary evidence to address the initial propositions of the study for recognizable patterns of circumstance in predicted ways of inclusion of the rational model, or if intuition is the dominating factor in n decision-making opposite to rationality.

Once a pattern of recognition between rationality and intuition is identified in the n, it will be interpreted as outcomes that imply the impact rational action theory has on the hiring decisions, which in-turn impact how curriculum development and teaching methodology should be improved. The anticipated results of the data analysis is explanation building that shows the significance of the rational action element in higher learning by building an explanation about its impact and importance on profitability in a contemporary company's managerial decision-making, the impact rationality has on recruitment efforts by said companies, and whether or not the rational action model is appropriate for business education for future development.

Validity will be enhanced by codifying *n* responses into measureable analysis using a content analysis approach that categorizes the codified responses for classification, summarization, and tabulation for a more coherent and unified vision of *N*. As the data is nominal with the use of indicator variables, the data will be treated as continuous against multiple categories matching the questions and sub-questions, and validity is therefore based on a basic chi-square test (X_2), with a follow-up regression analyses to justify the results. The X_2 formula is as follows:

$$X_{2c} = \sum (O_i - E_i)_2 / E_i \tag{1}$$

Where the subscript "c" are the degrees of freedom, "O" is the observed value, "E" is the expected value, and The subscript "i" is the "ith" position.

The purpose in a regression analysis as validation is to produce outcomes that determine the nature of the rational model in modern regional business activities, the subsequent impact rationality has on hiring procedures, and how those impacts can be utilized in business curriculum revision and development against the notion that such priorities of the rational model do not exist in region's business activities that ultimately lead to intuitive models or alternative models for curriculum improvements. The regression form employed for this purpose is the Two-Way ANOVA test calculating the two subquestions as independent variables, one alternative and one negative for hypotheses testing, for each main RQ as a dependent variable. As the ANOVA analyzes data from a continuous classification permitting a more thorough dive into less-than-whole numbers, the results might be slight compared to the categorical results with the X_2 testing but could alter the outcomes enough to make a more comprehensive examination.

5. Data Sources

Participants for the study are business leaders in the Greater Bay Area comprised of managers, supervisors, consultants, and owners or executives. The study targets a population chiefly concerned with the legitimacy of decision-making at a managerial level using the rational action theory, which inturn affect their recruitment efforts of future employees from a base of business graduates educated in

traditional rationality, and whether or not this is a needed element of future employee candidates that subsequently impacts higher educational institutions business curriculum improvement efforts. Specific demographic characteristics such as age, gender, ethnicity, etc. are all irrelevant to this study since N does not draw from any one or few characteristic(s). The only pertinent demographic of n is their occupation that validates their role as targeted managers, supervisors, consultants, and owners or executives.

The data from participants were collected via face-to-face interviews, or via online surveys if preferred by the targeted participant, which was necessary due to the significance of their duties and responsibilities as leaders in their respective companies. Both Chinese (Mandarin and Cantonese) and English languages were utilized during these interviews and online surveys depending on participant preferences. Each questionnaire, whether face-to-face or online, was presented with a statement of participant rights, as well as a statement of confidentiality in which no personal or professional information would be revealed with the study; only their responses would be exposed. Data was collected during their periods of July 2019 to October 2019 according to the respondents' available schedules. Of the 251 n targeted, a return of 147 responses were collected for analysis, and adequate enough for a justification of outcomes on the study's aims.

6. Findings & Discussion

Data analysis begins with the codification of the responses into categories based on similarity of responses. As stated, a content analysis approach was employed for the categorization, tagging, and thematic analysis of the data examining behavioral data for deeper comprehension of the core skills and attributes business leaders find necessary in the next generation of business graduates for the hiring decisions. The *Thematic* software was used for automated qualitative data analysis to generate the codices (see Table 1).

Table 1.	Codices	based	on Participant Responses to RQs
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RQs	Participant Response Collated Patterns	Thematic Coding	%
RQ1:	n/a	CO-ACPT-RA-NULL	3
	Data collection is rational, but final analysis decisions reject the	CO-ACPT-RA-RJCT	3
	rational model.		
	Data collection and analysis use the rational model including	CO/RA-ACPT-FNL	88
	final decisions.		
	Data collection and analysis use the rational model, but final	CO/RA-ACPT-MX	3
	decisions are based on appropriate mix of rationality and		
	intuition.		
	Data collection and analysis use the rational model, but final	CO/RA-ACPT-IN	3
	decisions rely more on intuition rather than rationality.		
RQ1a:	Mostly rational decision-making, but prone to	RA-DM-IN-DM	9
	intuitive/emotional decision-making.		
	Primarily rational decision-making, with only rare instances of	RA-DM-IN-RA	73
	intuitive decision-making.		
	Mostly rational decision-making, but adapted to intuitive	RA-DM-IN-CN	11
	decisions depending on nature of customer interaction.		
	Only rational decision-making; no instances of intuitive	RA-DM-IN-RJCT	4
	decision-making.		
	Equal balance between rational and intuitive decision-making.	EQL-RA/IN-DM	3
RQ1b:	No/non-applicable.	RA/IN-ALT-NULL	72
	Brainstorming/collective.	BRNSTM/CLLCTV	11
	Randomization; chance/whim	RNDM-CHNC	3
	Consulting with an expert; external advice.	CNSLT-EXP-ADV	12
	Voting; centralism in decision-making for company planning.	VOT-CNTRL	2
RQ2:	Yes; essential for operations that new hires have rational	HRNG-RA-ESSNTL	72
	decision-making skills and attributes.		

	Yes; important for rational skillsets for new hires, but also ability for intuitive decision-making	HRNG-RA/IN-MX	18
	Not necessarily required but useful	HRNG-RA/IN-USF	6
	No recruitment is not based on educational factors	HRNG-RA/IN-NULL	1
	Yes, if focus is on Big Data and AI	HRNG-RA/IN-BD/AI	3
RO2a.	n/a	ALT-RA/IN-NULL	61
	Critical thinking and communication skills.	ALT- RA/IN-CRCM	22
	Conflict handling skills.	ALT- RA/IN-CNF	10
	Emotional intelligence and inherent soft skills.	ALT-EMNINTL-SS	3
	Real-world work experience.	ALT-RW-WRK	4
RO2b:	n/a	ALT-HRNG-NULL	78
	Probationary period, mentoring system and other ways to	ALT-HRNG-PBTN	5
	consider recruiters through professional evaluation.		-
	External recruitment contractors.	ALT-HRNG-EXTCN	3
	Collective decision-making; decision making based on	ALT-HRNG-CLLCT	10
	department policies.		
	Non-structured recruitment; adapted for each individual	ALT-HRNG-CZTM	4
	candidate.		
RQ3:	n/a	RCMD-CD-NULL	3
	Logical analysis, combining theory with practice;	RCMD-CD-LOG	67
	cognitive/critical-thinking skills.		
	Emotional intelligence; soft skills.	RCMD-CD-EM/SS	11
	Big Data, AI.	RCMD-CD-BD/AI	11
	Financial management software, Blockchain.	RCMD-CD-FM/BC	8
RQ3a:	n/a	RCMD-ALT-NULL	81
	Rational decision-making is fine by itself.	RCMD-ALT-RA	7
	Rational decision-making should be combined with intuitive	RCMD-ALT-RA/IN	3
	decision making.		
	Rational decision-making should be less important than intuitive	RCMD-ALT-IN	3
	decision making.		
	Rational models should not be used in business education.	RCMD-ALT-RJCT	5
RQ3b:	n/a	RCMD-APRA-NULL	3
	More emphasis on real-world applications (i.e. case studies).	RCMD-APRA-RW	30
	More emphasis on emotional intelligence; soft skills.	RCMD-APRA-EM/SS	19
	More emphasis on Big Data and AI.	RCMD-APRA-BD/AI	18
	More emphasis on data analysis, report writing, and critical	RCMD-APRA-DA/CR	30
	thinking.		

6.1. Chi-squared Tests (X₂)

6.1.1. RQ1 and subs: X₂ Tests

For RQ1: Given the concept of rationality, does rational action have a significant impact on personal or professional decision-making in the participants' company's operations?, the X_2 of independence was performed to examine the relation between the variations of business leader perspectives on the use of rationality in their business operations between Hong Kong, Macau, and the Guangdong province and the RQ1 thematic outcomes. The X_2 statistic is 2.5878, with a *p*-value of 0.957512. The relation between these variables was not significant at p < 0.05 (see Table 2). **Table 2.** Participant Responses to RO1

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	CO-ACPT-RA-NULL	CO-ACPT-RA-RJCT	CO/RA-ACPT-FNL	CO/RA-ACPT-MX	CO/RA-ACPT-IN	Totals
Hong Kong	1 (1.20) [0.03]	1 (1.20) [0.03]	36 (35.20) [0.02]	1 (1.20) [0.03]	1 (1.20) [0.03]	40
Macau	1 (1.29) [0.07]	1 (1.29) [0.07]	39 (37.84) [0.04]	1 (1.29) [0.07]	1 (1.29) [0.07]	43
Guangdong	1 (0.51) [0.47]	1 (0.51) [0.47]	13 (14.96) [0.26]	1 (0.51) [0.47]	1 (0.51) [0.47]	17
Totals	3	3	88	3	3	100

* $\alpha = 95\%$

The indication in the outcome of RO1 is that there is little difference in the usage of the rational model in business leaders throughout the Greater Bay Area. The result is indicative of a commonality of the use rationality in business operations in the region and suggesting a comprehension of the rational model that lends credence to the perspectives offered by *n* that outline the ultimate aim of this study; verifying whether or not ration models should be emphasized in business curriculum revision and development efforts, as well as which skillsets from the rational model should be enhanced in this effort. The X_2 test of independence for RQ1 shows a common use rationality in Greater Bay Area business leaders.

For RQ1a: If the rational model is not used, what percentage of success using intuition can be *made*?, the X_2 of independence was performed to examine the relation between the variations of business leader perspectives on the use of intuition as an alternative to the rational model in their business operations between Hong Kong, Macau, and the Guangdong province and the RO1a thematic outcomes. The X₂ statistic is 4.1697, with a *p*-value of 0.841496. The relation between these variables was not significant at p < 0.05 (see Table 3).

		Table 3. Par	ticipant Respons	es to RQ1a		
	RA-DM-IN-DM	RA-DM-IN-RA	RA-DM-IN-CN	RA-DM-IN-RJCT	EQL-RA/IN-DM	Totals
Hong Kong	6 (3.96) [1.05]	30 (32.12) [0.14]	5 (4.84) [0.01]	2 (1.76) [0.03]	1 (1.32) [0.08]	44
Macau	2 (3.42) [0.59]	31 (27.74) [0.38]	3 (4.18) [0.33]	1 (1.52) [0.18]	1 (1.14) [0.02]	38
Guangdon	1 (1.62) [0.24]	12 (13.14) [0.10]	3 (1.98) [0.53]	1 (0.72) [0.11]	1 (0.54) [0.39]	18
g						
Totals	9	73	11	4	3	100
* $\alpha = 95\%$	1					

As with RQ1, the results for RQ1a indicate a common view among Greater Bay Area business
leaders that the rational model is the primary mode for decision-making with a statistically insignificant
variation less than the whole at only $p = 0.841496$ marking an almost unanimous perspective on the use
of rationality over intuition in business operations. The intuitive mode is a lower result among all three
cities in the area at only nine percent of n.

For RQ1b: What alternatives to rationality or intuition would the participant use in their business operations?, the X_2 of independence was performed to examine the relation between the variations of business leader perspectives on possible alternative systems to a rational or intuitive model in their business operations between Hong Kong, Macau, and the Guangdong province and the RQ1b thematic outcomes. The X_2 statistic is 17.6359, with a *p*-value of 0.024128. The relation between these variables is significant at p < 0.05 (see Table 4).

	Table 4. Participant Responses to RQ1b						
	RA/IN-ALT-NULL	BRNSTM/CLLCTV	RNDM-CHNC	CNSLT-EXP-ADV	VOT-CNTRL	Totals	
Hong Kong	28 (23.52) [0.85]	1 (3.59) [1.87]	1 (0.98) [0.00]	2 (3.92) [0.94]	1 (0.98) [0.00]	33	
Macau	32 (28.51) [0.43]	3 (4.36) [0.42]	1 (1.19) [0.03]	3 (4.75) [0.65]	1 (1.19) [0.03]	40	
Guangdon	12 (19.96) [3.17]	7 (3.05) [5.12]	1 (0.83) [0.03]	7 (3.33) [4.06]	1 (0.83) [0.03]	28	
g							
Totals	72	11	3	12	3	101	
$* \alpha = 0.50/$							

able 4. Participant Responses to RQT	to RQ1b	esponses to	Participant	able 4.
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* $\alpha = 95\%$

The results in Table 4 indicate a variance between Hong Kong and Macau business leaders with Guangdong province business leaders. Between the three cities, Hong Kong and Macau leaders had little or no consideration of alternative models to rationality or intuition. In the Guangdong province, however, business leaders showed a greater consideration for the use of alternatives to rational or intuitive models for a more collectivist, groupthink paradigm, or for consulting with experts or voting on decision-making. As noted, the Hong Kong and Macau cities are focused industries on consumerism and financing, dealing with customers face-to-face, whereas the Guangdong province is primarily industrial sector operations and not accustomed to face-to-face customer interaction, relying more on lower-skilled workers and lower demand for cognitive or creative thinking processes. This is the most probably explanation for the variance in the outcomes with such a large X_2 statistic variation of 17.64.

The overall interpretation of the X₂ results between all RQ1 and its sub-RQ1a and sub-RQ1b is a generally unanimous perspective in the awareness of the participants on rationality and its function and usefulness in their own operations. This can be understood from the main RQ1 outcome with RQ1a and its alternative implication that is emphasizing a direct relationship with the main. The RQ1b serving as the null implication with the main RQ1 further justifies the relationship between RQ1 and RQ1a with no significant difference. It can be confidently assumed that the RQ1 set of queries have a direct association to the aim of the study in determining the importance of the rational model to the future development of the Greater Bay Area aims of its business leaders in deciding on the future employability of business graduates.

6.1.2. RQ2 and subs: X₂ Tests

For RQ2: Given the concept of rationality, does rational action have a significant impact on *new business degree program graduates hiring process?*, the X_2 of independence was performed to examine the impact the rational model potentially has on their recruiting and hiring decisions between Hong Kong, Macau, and the Guangdong province and the RQ2 thematic outcomes. The X₂ statistic is 24.5663, with a *p*-value of 0.001841. The relation between these variables is significant at p < 0.05 (see Table 5).

	Table 5. Participant Responses to RQ2					
	HRNG-RA-ESSNTL	HRNG-RA/IN-MX	HRNG-RA/IN-USF	HRNG-RA/IN-NULL	HRNG-RA/IN-BD/AI	Totals
Hong Kong	35 (32.47) [0.20]	8 (8.12) [0.00]	1 (2.71) [1.08]	1 (1.35) [0.09]	1 (1.35) [0.09]	46
Macau	34 (31.06) [0.28]	7 (7.76) [0.08]	1 (2.59) [0.97]	1 (1.29) [0.07]	1 (1.29) [0.07]	44
Guangdong	3 (8.47) [3.53]	3 (2.12) [0.37]	4 (0.71) [15.37]	1 (0.35) [1.19]	1 (0.35) [1.19]	12
Totals	72	18	6	3	3	102
$* \alpha = 95\%$						

RQ2 results indicate a strong variation in the impact of rationality on hiring decisions. Both Hong Kong and Macau leaders showed a heavily reliance on rationality in recruitment and hiring decisions, citing it as being essential for operations that new hires have rational decision-making skills and attributes. As with RQ1b, the Guangdong province a stark difference in perspective on the use of the rational model in recruiting and hiring efforts, repeatedly referring to rationality skillsets being useful but unnecessary, or outright not a consideration at all. Again, this can only be attributed to the industrial nature of the industries in the Guangdong province where lower-skilled workers are required and a rational or intuitive skillset is not an important factor in their employment needs and validated with the X₂ statistic of 24.5663 showing a strong variance between the cities.

For RQ2a: If the rational model is not used in their hiring decisions and relying more on intuitive hiring decisions, what kinds of skillsets would they be looking for in their hiring decisions of next generation employees?, the X₂ of independence was performed to examine what other models potentially has on their recruiting and hiring decisions between Hong Kong, Macau, and the Guangdong province and the RQ2a thematic outcomes. The X₂ statistic is 17.6951, with a *p*-value of 0.023632. The relation between these variables is significant at p < 0.05 (see Table 6).

		Table 6. Par	ticipant Respons	es to RQ2a		
	ALT-RA/IN-NULL	ALT- RA/IN-CRCM	ALT- RA/IN-CNF	ALT-EMNINTL-SS	ALT-RW-WRK	Totals
Hong Kong	29 (27.01) [0.15]	10 (9.58) [0.02]	3 (4.36) [0.42]	1 (1.31) [0.07]	1 (1.74) [0.32]	44
Macau	32 (30.08) [0.12]	9 (10.67) [0.26]	6 (4.85) [0.27]	1 (1.46) [0.14]	1 (1.94) [0.46]	49
Guangdong	1 (4.91) [3.11]	3 (1.74) [0.91]	1 (0.79) [0.05]	1 (0.24) [2.45]	2 (0.32) [8.94]	8
Totals	62	22	10	3	4	101
$\frac{1}{2} \alpha = 0.50/$						

Table 6.	Participant Res	sponses to RO2a
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* $\alpha = 95\%$

While the Hong Kong and Macau business leaders showed a lesser perspective for alternative skillsets to rational models, they did show some degree of consideration of hiring decisions towards graduates with enhanced critical thinking, communication skills, conflict handling skills, emotional intelligence and inherent soft skills. The Guangdong business leaders showed a greater perspective for new hires with real-world work experience. The X₂ of 17.6951 indicates a significant level of variation between the cities in the area, strong enough to indicate a significant difference in perspectives on the need for alternative preferable skillsets to rationalization in their recruitment and hiring decisions that shows Guangdong business leaders' lack of preference to rational models.

For RQ2b: What other possible type of decision-making process do they use to make hiring decisions beyond rationality or intuition for their desired skillsets in new employees?, the X₂ of independence was performed to examine what other models potentially has on their recruiting and hiring decisions besides rational or intuitive models between Hong Kong, Macau, and the Guangdong province and the RQ2b thematic outcomes. The X₂ statistic is 8.8338, with a *p*-value of 0.356507. The relation between these variables is not significant at p < 0.05 (see Table 7).

		Table /. Part	licipant Response	s to KQ2D		
	ALT-HRNG-NULL	ALT-HRNG-PBTN	ALT-HRNG-EXTCN	ALT-HRNG-CLLCT	ALT-HRNG-CZTM	Totals
Hong Kong	32 (30.42) [0.08]	1 (1.95) [0.46]	1 (1.17) [0.02]	4 (3.90) [0.00]	1 (1.56) [0.20]	39
Macau	33 (31.98) [0.03]	1 (2.05) [0.54]	1 (1.23) [0.04]	5 (4.10) [0.20]	1 (1.64) [0.25]	41
Guangdong	13 (15.60) [0.43]	3 (1.00) [4.00]	1 (0.60) [0.27]	1 (2.00) [0.50]	2 (0.80) [1.80]	20
Totals	78	5	3	10	4	100

Table 7 Doutisinant Da to DON

* $\alpha = 95\%$

There is a slight variation in outcomes between the three cities with a X_2 statistic of 8.8338, and once again stemming from the differences in perspective of desirable skillsets between the Hong Kong and Macau business leaders against the Guangdong province business leaders. Hong Kong and Macau business leaders almost equally showed no consideration for alternatives to a rational or intuitive model approach to their new business graduate hiring decisions, whereas the Guangdong business leaders showed a strong preference for collective decision-making and based on departmental policies. And, again, this is assumed to be attributable to the nature of the industrial sector that the Guangdong province relies on requiring less developed skillsets compared to the preferred highly developed cognitive and creative thinking skills in the Hong Kong and Macau cities.

The overall interpretation of the X₂ results between all RQ2 and its sub-RQ2a and sub-RQ2b is inherently similar to the results of the RQ1 queries, but in a reverse fashion, yet still equally consistent. RQ2a can be viewed as a direct relationship with RQ2 as they are both similar in alternative implication and show a direct relationship, which ultimately resulted with a support of the use of rationality in hiring decisions. As RO2b was the null implication, it does not show a relationship to the main RO2 query that supports the relationship between RQ2 and RQ2a, and the RQ2b is therefore rejected.

6.1.3. RQ3 and subs: X₂ Tests

For RQ3: Given the concept of rationality, what are the topics or concerns do business leaders have on rational action in future business leaders stemming from business curriculum components? the X_2 of independence was performed to examine business leader perspectives on business education curriculum successfully preparing the new graduates with the desired skillsets they need that impact their recruiting and hiring decisions between Hong Kong, Macau, and the Guangdong province and the RQ3 thematic outcomes. The X_2 statistic is 6.0766, with a *p*-value of 0.638656. The relation between these variables is not significant at p < 0.05 (see Table 8).

Table 8. Participant Responses to RQ3							
	RCMD-CD-NULL	RCMD-CD-LOG	RCMD-CD-EM/SS	RCMD-CD-BD/AI	RCMD-CD-FM/BC	Totals	
Hong Kong	1 (1.62) [0.24]	35 (36.18) [0.04]	4 (5.94) [0.63]	8 (5.94) [0.71]	6 (4.32) [0.65]	54	
Macau	1 (0.99) [0.00]	24 (22.11) [0.16]	5 (3.63) [0.52]	2 (3.63) [0.73]	1 (2.64) [1.02]	33	
Guangdon	1 (0.39) [0.95]	8 (8.71) [0.06]	2 (1.43) [0.23]	1 (1.43) [0.13]	1 (1.04) [0.00]	13	
g							
Totals	3	67	11	11	8	100	

 $* \alpha = 95\%$

If comparing the perspectives of business leaders on a null consideration of business curriculum in all three cities of the Greater Bay Area, then the region has a collective perspective as the outcome of *n* is a significantly low three percent. The variations start with the perspective for enhancing business curriculum to emphasize logical analysis, combining theory with practice, as well as cognitive/criticalthinking skills specifically for the Hong Kong and Macau cities. This is a stark contrast to the Guangdong province leaders' perspectives having almost no preferences towards such skills, and rather

spread out their preferences between various other skillsets leaning towards soft skills and fundamental technical skills. Yet, combined, the variations in skills' focus for enhancement in curriculum revision and development impacting new graduates' employment potential ends with a X_2 of 6.0766 and a *p*-value less than a whole at 0.638656, validating that there is no significant difference and concluding with an independence of RQ3 variables.

For RQ3a: If the participant does not feel the rational model is useful, then what other type of model or decision-making process do they recommend to be utilized in business curriculum revision and development?, the X_2 of independence was performed to examine alternative methods of decision-making process(es) would they consider important in revising and developing business curriculum that impact their recruiting and hiring decisions between Hong Kong, Macau, and the Guangdong province and the RQ3a thematic outcomes. The X_2 statistic is 13.4278, with a *p*-value of 0.097952. The relation between these variables is not significant at p < 0.05 (see Table 9).

Table 9. Participant Responses to RQ3a							
	RCMD-ALT-NULL	RCMD-ALT-RA	RCMD-ALT-RA/IN	RCMD-ALT-IN	RCMD-ALT-RJCT	Totals	
Hong Kong	36 (34.44) [0.07]	3 (2.94) [0.00]	1 (1.26) [0.05]	1 (1.26) [0.05]	1 (2.10) [0.58]	42	
Macau	39 (36.90) [0.12]	3 (3.15) [0.01]	1 (1.35) [0.09]	1 (1.35) [0.09]	1 (2.25) [0.69]	45	
Guangdong	7 (10.66) [1.26]	1 (0.91) [0.01]	1 (0.39) [0.95]	1 (0.39) [0.95]	3 (0.65) [8.50]	13	
Totals	82	7	3	3	5	100	
* $\alpha = 95\%$							

Table 9. Participant Responses to RQ3a

The *X*² statistic of 13.4278 shows a slightly high independence between variables, but not enough to be statistically significant. The variations that do exist are, yet again, seen in the perceptions between Hong Kong and Macau against the perceptions of the business leaders in the Guangdong province. Eighty-one percent of respondents had no alternative suggestions for models outside of rationality, for most of that eighty-one percent is shared almost equally between Hong Kong and Macau business leaders, with thirty-six percent in Hong Kong and thirty-nine percent in Macau, but only roughly seven percent in the Guangdong province. Of the perception towards a hybrid approach of rationalization and intuition, Hong Kong and Macau showed stronger support than Guangdong. But, in the perception of rationalization being inconsequential to business education, the Guangdong province showed an overwhelming support compared to Hong Kong and Macau business leader perspectives. Here, again, we see the difference in business leader perspectives between the Guangdong province with Hong Kong and Macau that indicates a significant difference in objectives of business operations that impacts the employability of business graduates, where industrialized skillsets are preferable in Guangdong compared to the cognitive skillsets of the rational model are more preferred.

For RQ3b: If the rational model is inappropriate, then what, in their mind, are the recommendations for skills and attributes to improve business curriculum for future graduates and their employment potential?, the X_2 of independence was performed to collect recommendations on skillsets that they would consider important in revising and developing business curriculum that impact their recruiting and hiring decisions between Hong Kong, Macau, and the Guangdong province and the RQ3a thematic outcomes. The X_2 statistic is 8.734, with a *p*-value of 0.36523. The relation between these variables is not significant at p < 0.05 (see Table 10).

Table 10. Participant Responses to RQ3b							
	RCMD-APRA-NULL	RCMD-APRA-RW	RCMD-APRA-EM/SS	RCMD-APRA-BD/AI	RCMD-APRA-DA/CR	Totals	
Hong Kong	1 (1.17) [0.02]	14 (11.70) [0.45]	8 (7.41) [0.05]	6 (7.02) [0.15]	10 (11.70) [0.25]	39	
Macau	1 (1.35) [0.09]	13 (13.50) [0.02]	10 (8.55) [0.25]	10 (8.10) [0.45]	11 (13.50) [0.46]	45	
Guangdong	1 (0.48) [0.56]	3 (4.80) [0.68]	1 (3.04) [1.37]	2 (2.88) [0.27]	9 (4.80) [3.68]	16	
Totals	3	30	19	18	30	100	
* $\alpha = 95\%$							

 Table 10. Participant Responses to RO3b

A low percentage of respondents resulted in a null value of recommendations for skillsets they seek in new graduates' employability. The highest recommendations were equal considerations towards emphasis on real-world applications (i.e. case studies) and emphasis on data analysis, report writing, and critical thinking, but mostly in the Hong Kong and Macau business leaders' perspectives and very little in Guangdong. The next level of recommendations include emphasis on emotional intelligence;

soft skills and emphasis on Big Data and AI, again mostly in the Hong Kong and Macau business leaders' perspectives and very little in Guangdong. Further, the respondents' perspectives on skillsets recommendations that enhances new graduates' employability is almost non-existent in the Guangdong province business leaders. This is further evidence that the interests of Guangdong business leaders is considerably different than the interests of Hong Kong and Macau business leaders due to the nature of their business models of industrial versus service and finance, respectively, which ultimately affects the nature of business curriculum imparted on new graduates and their employability depending on the city they chose to live.

The end result of the RQ3 set of queries shows no direct relationship. All three variables of RQ3, RQ3a, and RQ3b are have dependent natures and no discernable differences between the alternative implication of RQ3a and the null implication of RQ3b. As RQ3b represents the null comparison, and given its similar nature to the supposed direct relationship variables of RQ3 and RQ3a, the implication is that the knowledge and awareness of the rational model in curriculum revision and development is outside the range of comprehension of business leaders in the Greater Bay Area. The reliance all three variables have upon each other, the null included, does not give any sort of reliability to the perspectives the business leaders have that can be useful to tertiary institutions conducting business curriculum revision and development as far as discerning specifically the skillsets, rational or intuitive, or not, that they could reliably recommend with a reliably efficient result for the tertiary institution's aims, as well as the overarching employability the study aims to enhance with this examination. The only useful outcome of the RQ3 set of queries is the larger percentage of Hong Kong and Macau business leaders' perspectives on rationality being an important component to business curriculum enhancement for their future needs. Yet, with such similar values between alternative and null hypotheses, this usefulness is not strongly reliable, regardless.

6.2. ANOVA Testing

The X_2 reveals the goodness of fit and removes chance as a factor in the analysis, but the X_2 results shows that the dependent and independent outcomes differ between each of the main RQs and their associated sub-RQs. To validate the X_2 outcomes as being statistically significant or not, the ANOVA tests were needed between each of the main RQs associated sub-RQs to verify if the relation between main and sub RQs are inherently related, or if there is no relationship between them and making them irrelevant to the aim of the study. Furthermore, the ANOVA tests are conducted from a continuous classification that uses a regression test's ability to take into account less-than-whole raw data that the categorical requirements of the X_2 needs that, as seen in Tables 2 to 10, resulted in some outcomes being slightly greater than 100. The ANOVA testing therefore gives a further validation of the raw data collected to be more exacting and further removed from a chance outcome potential with X_2 by calculating decimal results of less-than-whole numbers. A cross-comparison between the X_2 results and the ANOVA results will then be possible to determine if the results are consistent and relevant, which can then be used to confirm the study's aim at determining business leaders' perspectives on business curriculum revision and development.

6.2.1. RQ1 and subs: ANOVA Test

For RQ1 and its sub-RQs, an ANOVA test was conducted for reliability, with the main RQ1 being assumed as the dependent variable against its sub-RQ1a and sub-RQ1b variables (see Table 11).

Table 11. RQ1 and subs: ANOVA Test							
	df	SS	MS	F	Prob.		
Regression	2	237.9184389	118.9592195	0.681905263	0.524210384		
Residual	12	2093.414894	174.4512412				
Totals	14	2331.333333					
* α = 95% Adj.R ₂ : -0.047605395 SE: 13.20799914							

The ANOVA results in Table 11 show a *p*-value of less-than-whole at 0.524210384, indicating that there is no significant difference between the main RQ1 and the sub-RQ1a variables. The perspectives of the business leaders between all three categories of Hong Kong, Macau, and Guangdong are fairly unified in the impact of the rational model on personal or professional decision-making in the participants' company's operations, the success it has on said decisions, and the use of alternatives to rational or intuitive models. As RQ1 and its subs are tasked with determining the familiarity and knowledge of *n* towards the rational model, with RQ1b representing the null hypothesis and RQ1a being the alternative hypothesis, a direct relationship between RQ1 and RQ1a is apparent and validated (see Figure 1) against no relationship between RQ1 and RQ1b, the null hypothesis (see Figure 2). The results of the RQ1 queries' ANOVA test, therefore, is a validation of the *X*² results that business leaders in the Greater Bay Area are familiar enough with the concept of rationality to impart their perspectives on enhancement of curriculum to produce better business graduates for employability in the region.







Fig 2. From data generated in "RQ1 and subs: ANOVA Test" for ANOVA test of RQ1 and RQ1b, by Carter and Wu, 2020.

6.2.2. RQ2 and subs: ANOVA Test

For RQ2 and its sub-RQs, an ANOVA test was conducted for reliability, with the main RQ2 being assumed as the dependent variable against its sub-RQ2a and sub-RQ2b variables (see Table 12).

Table 12. RQ2 and subs: ANOVA Test							
	df	SS	MS	F	Prob.		
Regression	2	1805.821828	902.9109139	296.2130232	6.12391		
Residual	12	36.57817218	3.048181015				
Totals	14	1842.4					
$* \alpha = 0.50/1 \text{ Ad}$	5 Day 0 076	22752 SE+ 1 74500	1069				

* α = 95% | Adj.R₂: 0.97683753 | SE: 1.745904068

The ANOVA results indicate a strong difference between the variables. With a *p*-value of 6.12391, it is safe to assume that the lack of interest in rationality amongst new graduate hiring processes in the Guangdong province (see Figure 4) is in direct conflict with the desire for rationality in hiring processes in Hong Kong and Macau (see Figure 3) and the source for the significant variation in the RQ2 queries. This is due to the assumption that RQ1a represents the alternative hypothesis that is, as seen in Table 5 and Table 6, directly associated with one another, while RQ2b represents the null hypothesis. But, as the ANOVA test shows a distinct difference in outcomes, there is no validation of

the X_2 results that a rational model perspective is a significant factor in the hiring process within the Greater Bay Area as a greater regional whole. It falls upon the individual tertiary institution to determine if the rational components or their suggested alternatives from RQ2b are appropriate for their curriculum improvement efforts based on the individual location with the greater N.



Fig 3. From data generated in "RQ2 and subs: ANOVA Test" for ANOVA test of RQ2 and RQ2a, by Carter and Wu, 2020.



Fig 4. From data generated in "RQ2 and subs: ANOVA Test" for ANOVA test of RQ2 and RQ2b, by Carter and Wu, 2020.

6.2.3. RQ3 and subs: ANOVA Test

For RQ3 and its sub-RQs, an ANOVA test was conducted for reliability, with the main RQ3 being assumed as the dependent variable against its sub-RQ3a and sub-RQ3b variables (see Table 13).

Table 13. RQ3 and subs: ANOVA Test						
	df	SS	MS	F	Prob.	
Regression	2	511.7596846	255.8798423	3.64859108	0.057826126	
Residual	12	841.5736487	70.13113739			
Totals	14	1353.333333				
* α = 95% Adj.R ₂ : 0.274505475 SE: 8.374433556						

The ANOVA probability comes in at 0.057826126, indicating that there is not a significant difference between outcomes in RQ3 with the subs RQ3a and RQ3b. Comparing the perspectives analyzed between RQ3 and RQ3a (see Figure 5), this appears to be consistent since there is no differentiation, but comparing RQ3 and RQ3b (see Figure 6), this does not seem consistent because of the stark difference in outcomes. However, considering the RQ3 queries as a whole, the difference in RQ3b with RQ3 and RQ3a is not enough and the outcome is still considered as not significantly different. The underlying implication with the RQ3 queries is a greater consistency with the X_2 results, and serves a validation of the hypothesis that the rational model components are inherently important to business curriculum revision and development according to the perspectives of the business leaders in the Greater Bay Area. The rationale for the variation in RQ3b with RQ3 and RQ3a results is, as pointed out with the X_2 results, due to the difference in goals and objectives of the industrialized Guangdong province with the financial and service focused Hong Kong and Macau, respectively.



Fig 5. From data generated in "RQ3 and subs: ANOVA Test" for ANOVA test of RQ3 and RQ3b, by Carter and Wu, 2020.



Fig 6. From data generated in "RQ3 and subs: ANOVA Test" for ANOVA test of RQ3 and RQ3b, by Carter and Wu, 2020.

7. Conclusions and Recommendations

The results from the X_2 and ANOVA tests should be considered separately first and then together to understand the consistency and subsequent usefulness, or not, to the aim of rationality utilization by tertiary institutions in the Greater Bay Area business curriculum revision and development efforts. The resulting comparisons will better identify if the proposed rational model is indeed a significant factor for inclusion in such efforts that improves the new business graduates' employability in the region. Such results can then be judged as a worthy effort to fill the deficiency gap in knowledge for Asian business curricula enhancement efforts of a similar nature when considering the use of rationality components.

The key takeaway from the X_2 results is the consistency of the main RQs with the sub-RQs that determine if the RQ set of queries specifically clarify the applicability of the rational model in business curriculum, or not. This, in-turn, impacts the recommendations of participants for enhancing the business curricula for regional tertiary institutions.

7.1. **RQ1** *X*² Conclusions

For the RQ1 set of queries, the consistency is apparent in determining if rational action has a significant impact on personal or professional decision-making in the participants' company's operations. The alternative RQ1a has the same similarity dependence with the main RQ1, and the null RQ1b's independent nature being opposite to the RQ1 and RQ1a relationship supports said relationship. The result for the RQ1 set of queries is therefore seen as useful information before the ANOVA outcomes.

7.2. RQ2 X2 Conclusions

For the RQ2 set of queries, the RQ2 and RQ2a were, again, seen as having a direct relationship, with the null RQ2b dissimilar nature supporting the alternative RQ2a with the main RQ2. This, again, gives credibility to the usefulness of the RQ2 set of queries' results with the aims of this study.

7.3. RQ3 X2 Conclusions

For the RQ3 set of queries, there was no reliability found between the main RQ3 and its sub-RQ3a alternative and sub-RQ3b null implications. As both the null and alternative outcomes were found to be too similar in nature, there can be no reliance on the main RQ3 results or its subs for efficiently guiding tertiary institutions into specific skills and attributes that can be incorporated into curriculum enhancement efforts.

7.4. RQ1 ANOVA Conclusions

For the ANOVA testing, the RQ1 set of queries delved deeper into the continuous nature of some of the data. The results for RQ1 queries did not show a consistent outcome. While the *X*₂ scores can inflate the data slightly, just enough to suggest a variation, the ANOVA testing is more precise and takes the continuous examination of raw data, which then implies that business leaders' perspectives on rational action having a significant impact on decision-making in their company's operations cannot be reliably utilized by the ANOVA alone.

7.5. RQ2 ANOVA Conclusions

For the RQ2 queries, the ANOVA results do show a variation between the agreeable RQ2 and RQ2a variables against the RQ2b null that, again, is supporting the direct relationship of RQ2 and RQ2a as vital factors in their future hiring decisions. As the X₂ results also had a reliable difference with alternative and null values, the ANOVA test therefore collaborates the X₂ results as a useful component for this study's aims at revising and developing the business curriculum to include the rational model.

7.6. RQ3 ANOVA Conclusions

For the RQ3 set, the ANOVA also collaborates the X₂ results, though this is both implying that the RQ3 set of queries does not offer a reliable measure for recommendations on curriculum enhancement from the perspective of regional business leaders. While the components expressed in Table 1's RCMD-CD-LOG (i.e. logical analysis, combining theory with practice; cognitive/criticalthinking skills), RCMD-CD-EM/SS (i.e. emotional intelligence; soft skills), RCMD-CD-BD/AI (i.e. Big Data, AI), and RCMD-CD-FM/BC (i.e. financial management software, Blockchain) codified recommendations could be utilized by tertiary institutions on a separate, case-by-case, basis, the overall lack of consistency in the X₂ and ANOVA results combined do not offer a reliable recommendation for the perspectives of business leaders as a regional whole, the N, regardless of their perception of its importance in future employability of business graduates expressed in the RQ2 set of queries.

7.7. Final Conclusions

The concluding analysis between *X*² and ANOVA results for RQ1 shows an agreement with the *X*² but a disagreement with the ANOVA, with the implication being that the difference in reliability between the *X*² and ANOVA is marginal by continuous decimal placement and should not therefore be wholly dismissed. The indications are that the Hong Kong and Macau cities are quite familiar with the rational model and are of critical importance in their daily operations and employment decisions, making rationality an important inclusion in business programs throughout the two cities. The lack of adequate awareness of rationality by the Guangdong business leaders is another indication of the difference in industry sectors, being industrial in nature, with Hong Kong and Macau financial and service industries, respectively. Clearly, industrial sectors do not have a strong desire for rational model business education graduates that therefore limits the business leaders' awareness, utilization, or knowledge of the benefits to their operations, which could then suggest that business programs in the Guangdong province plan for different learning objectives than the business programs in the Hong Kong and Macau cities.

As for the concluding analysis between X_2 and ANOVA results for RQ2 queries, the consistency is apparent and makes the perspectives of business leaders gained on the importance of the rational model the most significant outcome of this study. It should be taken by tertiary institutions in

the Greater Bay Area wishing to enhance their business curriculum that the rational action model components and best practices should be emphasize greatly for their future efforts that reliably will enhance the new graduates' employability, especially in the lucrative career markets of Hong Kong and Macau.

It is with the RQ3 set that both the X₂ and ANOVA results indicate the perspectives of regional business leaders do not have a clear vision on recommendations for components that can enhance business curriculum to meet their future employment needs. As stated already, while the lack of consistency does not imply a reliable measure of the RQ3 set of queries as a whole, the evidence from Table 1's coded participant responses can still be utilized by the Hong Kong and Macau tertiary institutional efforts where the rational model is highly desired and uniform in their recommendations. It is only with the lack of desirability for rationality in the Guangdong province due to their differing industrial sector needs that RQ3 queries become unreliable from a statistical point-of-view. Stepping away from the statistical interpretation for the recommended components found in RCMD-CD-LOG, RCMD-CD-EM/SS, RCMD-CD-BD/AI, and RCMD-CD-FM/BC does the perspectives of the Hong Kong and Macau leaders become useful for enhancement efforts.

Yet, that type of step-back approach would be in opposition to the rational model covered in this study, and therefore concludes that a rational model dominating a business curriculum program start to integrate intuitive models in a blended model similar to business leader recommendations in RCMD-ALT-RA/IN. The blended model approach is a relatively recent development in rationality research (Hart, 2018; Micheli, Wilner, Bhatti, Mura, & Beverland, 2019; Zollo, Pellegrini, & Ciappei, 2017), and is virtually non-existent in Asia, so determining if a blended approach would be productive is unclear given the deficiency in studies on the topic.

Appendices containing sample responses (participant info redacted for assurance of privacy) may contact the author directly for retrieval requests.

8. Recommendations

It is with that deficiency gap that the recommendations for further research can be made. Institutions throughout China would benefit greatly from this type of study since the drive to developing the nation's economy, such as the Belt and Road Initiative initiated in 2013 for enhancing infrastructure development and global investments (Guo, & Jin, 2019; Wang, Yan, Yang, Ciabuschi, & Wei, 2020), motivates future Chinese business graduates to become more proficient at globalized business careers (Chen et al., 2016; Hu, & Cairns, 2017; Jiang, Mok, & Shen, 2020). Yet, without a profound knowledge of the separate global locations and corporate types that future business graduates would want to target for employment, the tertiary institution is not prepared to identify which components of decision-making models or theories would effectively produce the type of business curriculum said future graduates would benefit from in their overall employability.

While a generalized approach to business education is fast becoming unbeneficial to business graduates' career outlooks (Lohmann et al., 2019; McMillan, & Overall, 2016; Medeiros et al., 2017), there nevertheless needs to be a universally acceptable form of logical decision-making imbedded into every curriculum focusing on business programs that can be adapted to any business environment, and that is precisely what is needed for future research focusing on the rational action model. As expressed by the participants of this study, a logical analysis approach, combining theory with practice; cognitive/critical-thinking skills, is the greatest recommendation from the leaders in business operations for the Greater Bay Region alone.

The greatest curriculum revision and development recommendations that can be garnered from this study is three-fold:

1. The inclusion of more target case study and critical thinking exercises devoid of a generalized approach, but dealing with real companies and the real situations they experienced, where the business student is tasked with devising alternative solutions to the problems that the real-world managers used in order to gain an experiential awareness of not only the business theory applicable to the scenario, but also the processes of strategic decision-making and their consequences that builds confidence and familiarity with similar circumstances they will face post-graduation.

- 2. The perspectives of the business leaders also provides for a need for business graduates to have experience with emotional intelligence and soft skills that are, again, from a pragmatic learning experience using actual case study scenario exercises and individual or group projects that are devoid of a generalized set of circumstances irresponsive of focused events and challenges, but also basing those final decision-making processes on hard data more than an intuitive approach.
- 3. The leaders' perspectives also target a need for graduates with more analytical skills and processes familiar and attuned to the use of Big Data and AI, specifically in the financial sector that are, once again, comprised of practical exercises and projects using real-life events with real companies and real managerial decisions, replacing those decisions with their own choices and gauging the success or failure of those choices. This type of approach builds a familiarity and confidence in practical decision-making designed to target a productive results instead of just simply obtaining a business degree as is common with the Guanxi approach in the past.

Yet, the challenge to the three recommendations made is the discrepancy between the targeted participants' industry sectors. As detailed already, Hong Kong business leaders are predominately focused on recruiting future business graduates with strong analytical skills in the financial sector that comprises the majority of Hong Kong business operations. Macau leaders' perspectives focus on emotional intelligence and innovative skillsets in future employees that bolster the service sector of hotels and casinos in the area. Guangdong, on the other hand, sees little value of such critical thinking or analytical decision-making models due to the industrial nature of their area's primary business sector. So, the greatest *efficient* recommendation to tertiary institutions contemplating their business curriculum revision and development is to approach such efforts with a customized and adapted stance utilizing the three-fold recommended components to whatever sector needs exist, such as more financial rationality for Hong Kong institutions, or more innovative rationality for Macau institutions. And most especially, the identification of whether or not strategic and cognitive models should *not* be included for areas similar to the Guangdong majorly focusing on industrial output irrelative to rational action models, or any other strategic decision-making analysis model. Business education essentially needs to become more customized to meet regional demands.

Future research should be focused on the same efforts as this study, but targeting the business leaders in other cities throughout China, and indeed, throughout the rest of Asian and Southeast Asian institutions. The key consideration in this future research should be the aim of producing graduates from any institution or location/country capable of logical decision-making with cognitive, problem-solving abilities that a generated for effective operations, and not just for obtaining a job. The business leaders have the preference for innovative thinkers that deliver on effectiveness using a rational approach to decision-making, so researchers should focus on gauging how well the rational model can be perceived by such leaders in other areas.

9. References

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