

LEVEL 7 ASSESSMENT SPECIFICATION

Student name:	IBRAHIM ASZED MEIZE	Student ID number:	1906668
Programme:	DBA		
Module:	Applied Quantitative Business Research		
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Lecturer:	Dr Abdullah Opute Promise	Internal Verifier:	Dr Caroline Jawad
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Submission method:	All written assessments, where practical and possible, must be submitted via Turnitin unless otherwise instructed by the Lecturer. (Please DO NOT put this assessment specification into Turnitin or it will match many similarities with other students' submissions.) Alternative submission method (if applicable): Late submission of the assessment will result in a late penalty mark. Penalties for late submission: Up to one week late, maximum mark of 50%. Over one week late, 0%. Only the Extenuating Circumstances Panel may approve a change to submission dates.		
Academic honesty / referencing:	Academic honesty is required. In the main body of your submission you must give credit to authors on whose research and ideas your work is based. Append to your submission a reference list that indicates the books, articles,		

	etc. that you have used, cited or quoted in order to complete this assessment.
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Module Learning Outcomes (from module syllabus)	
- critically evaluate the contexts for using quantitative research techniques, the philosophical underpinnings, strengths and limitations of quantitative research; - design a quantitative research project, with particular attention to hypotheses, data sources, sampling and questionnaire design; - apply quantitative analysis techniques in order to address a particular research question	Reflection on their conceptual and practical learning during the learning event. Critical evaluation of the contribution of quantitative business research to their potential DBA project and future career.

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Blog Entry 1: Critical Reflection on My Learning of Quantitative Methodology



Quantitative research is about quantifiable data that be measured through the use of statistical methods, mathematical models, and numerous other empirical techniques. In my past academic years, quantitative research was something I have pursued as a student. I had highly positive expectations about quantitative research and techniques involved in conducting research when starting classes for the Applied Quantitative Business Research, since I was very confident about my past experience of the same. As I have gone through multiple dissertations in the past, during my bachelors and post-graduate programs in other universities, I saw this as a chance to enhance my learning and technical skills. However, very frankly speaking, the first week of the program was an eye-opener, in terms of how graduate and post-graduate programs and knowledge differ from research-based programs and what type of intellectual development happens during these programs.

I have come across new models of thinking from a whole new perspective. Even though I have discussed terms like the paradigms, or the conceptual frameworks or hypotheses, I have come to realise what they mean and how they can be interpreted at a whole new perspective in the first week of the module. The supplementary reading material provided in the first week of the program was good enough in terms of challenging my existing views, and questioning my knowledge, as to what I have learnt is good enough for conducting a

good research following a quantitative methodology. Reading further¹, I have come to realise how various concepts and activities within a research can be complexly interconnected with each other. One of these challenging aspects were the positivist paradigm, which I had always taken at its face value; additional reading into the paradigm helped me realise this was not the case.

Even though I enjoyed a lot about the class, and especially further research into the quantitative realm, unlike qualitative methodology, which I have never tried before, I must admit that the quantitative methodology also consists of a lot of complex concepts and paradigm models and such that I have explored at a limited level². The most challenging part was also the most critical part, which a researcher cannot ignore, which is the choice of paradigm and the contradicting arguments that exist across various philosophical and definitional variations between different paradigm settings³. Not only this has been confusing at times, but also caused a lot of trouble following up, especially since I have been recovering from a certain problem in recent times, which prevented me from spending a lot of time in front of the computer.

However, as I began learning more, I began questioning myself about the decisions I had taken in the past in this direction, because my understanding of the subject was somewhat wrong, and I have made credible improvements in understanding these research areas, I believe. Overall, I would like to see the first week of the module and related experience as a positive sign, even though in the beginning, I was a little shocked to learn that I had to challenge my existing assumptions about quantitative research and its fundamental ideas.

¹ Elshafie, M. (2013), 'Research Paradigms: The Novice Researcher's Nightmare', *Arab World English Journal*, 4 (2), pp. 4-13.

² Creswell, J.W., (2014), *Research Design*, London: Sage.

³ Jackson, M.R. (2015), 'Resistance to Qual/Quant Parity: Why the "Paradigm" Discussion Can't Be Avoided', *Qualitative Psychology*, 2 (2), pp. 181-198.

The application of quantitative researches can be far reaching, since they are now widely used across all domains, including business researches. It could be true that quantitative researches in the business domain makes the least use of advanced analysis techniques. Quantitative techniques have a strong role to play in a business or management research⁴. It can be used to solve uncertainty in business decision-making and can also help in generating detailed insights towards customer attitudes, behaviours and many other factors can be explored through quantitative research models⁵. However, not all data methods can be applied in all type of businesses. Even though quantitative is the go-to method applied in business researches since it examines, interprets, and establish casual relationships and hence, help form a general context leading to generating insights that are quantifiable and hence easy to analyse⁶, qualitative researches also have good scope.

More than scope, there could be certain scenarios where a business like a retail business, which has a strong need for understanding customer decisions and the underlying factors. For example, in some cases, especially in the retail environment, it may become necessary for companies to understand the underlying factors motivating a person to make certain decisions to buy a product or a service, such as insurance for products sold through retail chains. Using a quantitative data model may not reveal many insights into why a certain person would make such a decision, beyond the numbers and the initial ideas



⁵ Chahal, H., Jyoti, J. & Wirtz, J. (2019), *Understanding the Role of Business Analytics: Some Applications*, New York: Springer Science & Business Media.

⁶ Basias, N. & Pollalis, Y. (2018), 'Quantitative and Qualitative Research in Business & Technology: Justifying a Suitable Research Methodology', *Review of Integrative Business and Economics Research*, 7 (1), pp. 91-105.

developed through the research. However, a qualitative research delivers the opportunity to travel beyond the hindsight and get detailed insights into why people think the way they think or make the decisions they make because qualitative researches are designed to uncover experiences, processes and casual mechanisms⁷.

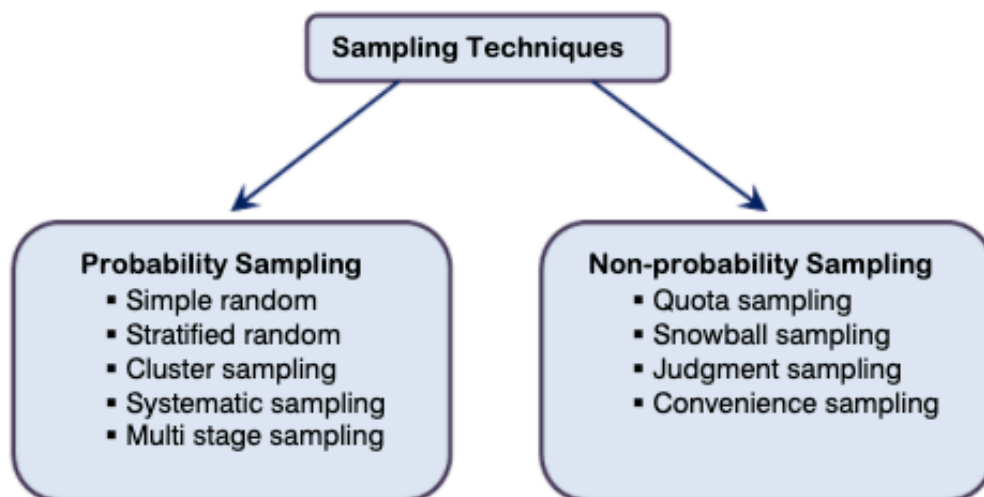
Being a retail business, there may be better opportunities to understand such behaviour among customers, or more importantly, why they buy certain products beyond the most obvious reasons. Exploring through qualitative methods, especially through using interviews helps in going past this boundary and analysing the underling factors influencing customer decisions. This can also be the case when the management or employees are involved as the research participants⁸. Gaining deeper insights from the participants would require qualitative techniques.

⁷ Bluhm, D., Cook, W.S., Lee, T. & Mitchell, T. (2011), 'Qualitative Research in Management: A Decade of Progress', *Journal of Management Studies*, 48 (8), pp. 1866-1891.

⁸ Sharma, U. (2009), 'Qualitative Research in Business & Management', *Qualitative Research in Accounting & Management*, 6 (4), pp.292-296.

Blog 3: Role of Sampling in Creating Robust Quantitative Research

Sampling has a very strong role in research. The process of sampling is associated with determining the right group of people from a very large number of people. The need for sampling comes from the view that a larger group may be difficult to accommodate in a study, and not feasible. Hence, it is a good starting point to have a representative group, corresponding to the characteristics of the larger group⁹. There are different methods of sampling techniques employed in researches, such as the following figure¹⁰.



However, the most important part in such decisions is choosing the right type of people or participants for the study, which require clear definition of the target audience, followed by selecting a sampling frame and a technique for sampling. When there are errors in terms of determining the correct sampling from a larger population, this may result in uneven representation of the population, or disproportionate number of chances may result in uneven results or resulting in untypical observations in a research. While chance leads to making poor sample outcomes because of bad luck, or a bias in sample selection could lead to poor measurement of outcomes. Most importantly, the source of samples can lead to errors and successful outcomes in a quantitative research. Even though techniques like randomisation can limit these errors to a great extent, they all depend on how accurately a sample is defined and selected¹¹. Now, probability-based sampling techniques call for

⁹ Check, J. & Schutt, R.K. (2011), *Research Methods in Education*, London: Sage.

¹⁰ Taherdoost, H. (2016), 'Sampling Methods in Research Methodology; How to Choose a Sampling Technique for Research', *SSRN Electronic Research*, 5 (2), pp. 18-27.

¹¹ Shields, L. & Twycross, A. (2008), 'Sampling in quantitative research', *Paediatric Nursing*, 20 (5), p. 37.

generalisation of the results, which means, choosing a similar sample, corresponding to a similar context should be able to replicate the results.

Errors in judgments and sampling decisions can, therefore, affect this level of generalisability in research outcomes, and hence, make them invalid for various reasons. More specifically, because generalisability tells something about the group and their behaviour (or the expected characteristics), choosing the right type of participants or the sample is very essential¹². This is specifically true because most business researches rely on such probability-based sampling models where the characteristics of the participants are very much known and documented for business needs and objectives. Therefore, any errors and implications associated with sampling decisions can lead to potential errors in researches. Hence, this has more importance in any quantitative study, as well as in qualitative studies.

¹² Saylordotorg. ND. 7.3 Sampling in Quantitative Research, Available at: https://saylordotorg.github.io/text_principles-of-sociological-inquiry-qualitative-and-quantitative-methods/s10-03-sampling-in-quantitative-resea.html, Accessed on: 25 November 2020.

Blog 4: The Ethical issues of Netflix's Approach to Big Data and Machine Learning



The ethics of big data is a relatively new field of research itself. While many academic interests revolve around this field, the commercial interests are often so strong that it always finds legal loopholes to cover the ethical dimensions of such decisions, and there are many good examples to illustrate this point but none of these examples are as good as Netflix. Not only Netflix, by recommendation engines in general lacks the privacy and ethical aspects that the research communities and academic communities strongly uphold, which is mainly due to the commercial dimensions associated with these decisions. On the one hand, there is a strong understand now that recommendation engines existing in media platforms largely influence consumer decisions in such platforms¹³. On the other hand, there is also a strong consensus among consumers and practitioners alike that the influence of such decision engines is acting as stimulus for consumers' purchase decisions¹³.

From an ethical point of view, both these views are corrupt and unethical. To begin with the practice is designed to make customers addictive to programs, and media, and secondly, the cost of such addiction is yet to be analysed. Third, and the most important issue to discuss from an ethical viewpoint is the role of personal data collection, which is used for programming or feeding such recommendation engine, and there is no clear understanding outside the commercial boundaries, as to how this data is being analysed, even though companies claim it is used in an anonymous and responsible manner¹⁴. The most important

¹³ DeLeon, H., (2019), The Ethical and Privacy Issues of Recommendation Engines on Media Platforms, Available at: <https://towardsdatascience.com/the-ethical-and-privacy-issues-of-recommendation-engines-on-media-platforms-9bea7bcb0abc>, Accessed on: 26 November 2020.

¹⁴ Voiovich, J.T. (2019), Five data lies that need to die ... now streaming on Netflix, Available at: <https://medium.com/swlh/five-data-lies-that-need-to-die-now-streaming-on-netflix-ce2ad139c3b1>, Accessed on: 26 November 2020.

aspects of these ethical dimensions are that most customers or participants (from a research point of view) are not completely aware of what type of data is being collected from their devices and how this data is used for analysing their behaviour, and secondly, the scope and implications of big data can be beyond comprehension, which means, it may be possible for such commercial entities to analyse consumer behaviour at a very deeper level, and commercially program behavioural stimuli to influence consumer decisions¹⁵.

Netflix is arguably using these techniques to influence their customers/viewers to stay with the platform and continue watching one program and the other through the carefully developed recommendation engine, which makes recommendations based on past viewing history, and behavioural algorithms corresponding to the specific customer/viewer¹⁶. Not only the impact of such recommender engines can be negative in a long-term view, but also, they pose a strong threat of violation of basic individual rights uphold by the society and governments, in addition to infringing privacy and personal identify¹⁶. In summary, it can be argued that the advanced level of data analytics implemented by the company, despite its capabilities, pose a serious threat to the ethical beliefs and values of quantitative research in general.

¹⁵ Sama, R. (2019), 'Impact of Media Advertisements on Consumer Behaviour', *Journal of Creative Communications*, 14 (3), pp. 1-12.

¹⁶ Milano, S., Taddeo, M. & Floridi, L. (2020), 'Recommender systems and their ethical challenges', *AI & Society*, 35, pp. 957-967.

Blog 5: The Importance of Statistical Significance

The issue examined in this blog post is whether or not statistical significance is the final judge of all research problems, or it is the detective. As pointed out by Ellenberg, the statistical significance in a research can be seen as a detective, majorly because it is only an indication pointing towards the particular research in a particular context was able to reach a certain generalised concept, and not a final judgment, most importantly because a research and its outcome is open for other researchers to analyse, discuss and retake in their own contexts, and the statistical significance reported in the research can be seen as clues or directions to determine whether the findings were a one-time phenomenon, or a relevant condition that can be replicated in other contexts too¹⁷. For this reason, statistical significance can be seen as detective, and not a judge in all type of researches.

¹⁷ Ellenberg, J. (2015), *How Not to Be Wrong: The Power of Mathematical Thinking*, New York: Penguin Books.

Blog 6: Quantitative Research and Big Data: A Promising Future

Beyond the conventional routes followed by quantitative researches for these years, recent developments happening in data science is a very promising one. Big data, or the analysis of large chunks of unformatted data generated by businesses can now be analysed in a matter of seconds, with the help of the right data models and analytics algorithms¹⁸. In another blog, the ethical dilemma associated with Netflix was evaluated, which revealed how dangerous such situations can be, as company may, if they are willing, can easily intrude into privacy and make use of personal information. However, it can be seen that this has now become a global phenomenon where companies are continuously using big data to understand their customers, promote products, and acquire new customers or retain existing ones, which in the past, was done through conventional research methods and models.

Big data reduces the potential limitations that conventional quantitative studies have, which is very much related to the scope and size of the data it can analyse. Even though sampling is used to generalise these groups and participants, having the ability to analyse large quantities of data with ease, and generating complex data models to generate new insights can be new path for quantitative research in the future¹⁹. For example, machine learning and big data capacities can be used to analyse longitudinal data to evaluate potential trends and behavioural patterns exhibited by consumers while buying products in a company, or even analyse how the company has performed in the stock market and predict future trends and changes in share performance²⁰. Thus, the opportunities exist for big data within the quantitative research area is unlimited.

However, a major hurdle could be ethics, as examined in a previous blog related to Netflix where there are no structured guidelines on what should be deemed acceptable and what should be rejected among data scientists in general, given the vast capabilities of machine

¹⁸ Kopanakis, J. (2020), 5 Real-World Examples of How Brands are Using Big Data Analytics, Available at: <https://www.mentionlytics.com/blog/5-real-world-examples-of-how-brands-are-using-big-data-analytics/>, Accessed on: 27 November 2020.

¹⁹ Miles, K. (2019), Quantitative Research & Big Data: A Powerful Combination, Available at: <https://gobranded.com/quantitative-research-big-data-powerful-combination/>, Accessed on: 27 November 2020.

²⁰ Das, D. (2017), 'Stock Market Prediction with Big Data Through Hybridization of Data Mining and Optimized Neural Network Techniques', *Journal of multiple-valued logic and soft computing*, 29 (1-2), pp. 157-181.

learning and data science²¹. The issue lies in how legal and regulatory norms are way behind technological innovations and how these conditions, including research ethics models fail to evaluate and recognise the ethical implications involved with such data models. This may have some implications on how far quantitative research methods will be able to utilise such techniques in the near future.

²¹ King, J.H. & Richards, N.M. (2014), What's Up With Big Data Ethics?, Available at: <https://www.forbes.com/sites/oreillymedia/2014/03/28/whats-up-with-big-data-ethics/?sh=64c629fe3591>, Accessed on: 27 November 2020.

Blog 7: Using Quantitative Research for DBA Research

One of the biggest reasons behind choosing the DBA course was that I was always intrigued by how data was used in researches. Having a strong affinity for finance and therefore, data in general, I have always pursued the path of data. Being an analytical mind, I have utilised every potential opportunity for me to learn about how data can be analysed using such techniques. This helped me a lot in exploring potential data analysis models and techniques, and in understanding how I can analyse data. Even with the latest learning associated with SPSS, I am becoming more and more fascinated by how data works. Looking at my initial interest, I have a strong interest in technology, and its impact on consumers, which was also a good motivator for me to join this course. Hence, I believe I will be dealing with a lot of quantitative research in the near future, during my DBA research.

When it comes down to utilising my skills and competences, I believe I will be better off with my existing skills to a certain extent. However, it will need further improvements, especially in areas of SPSS. During the classes, I have realised that the scope and application of SPSS can be a vast, and there are a lot more techniques I need to learn, before trying to apply them. This will require additional practices, following the guidelines and cues I have received during the classes. Hence, while I believe I have a good eye for detail in terms of analysing data, I still need to enhance my understanding and knowledge of handling data in the right manner to come up with useful insights to support my DBA research in the near future.