**Reflective Piece**

Buckley and Chiang define research methodology as “a strategy or architectural design by which the researcher maps out an approach to problem-finding or problem-solving." Engaging with the Research Methods and Professional Practice module has been a practical exploration of this definition, equipping me with the tools and insights necessary to approach research with rigor and creativity. This module has not only introduced me to a myriad of research tools and techniques but has also emphasized the importance of addressing the ethical, legal, social, and professional considerations inherent in computing projects. Through a blend of theoretical learning and practical application, facilitated by continuous assessments and interactive case studies, my journey through this module has been one of significant personal and professional growth. In this reflective piece, I aim to delve into my experiences, focusing on the development of my research competencies, the critical analysis of research methodologies, and how the integration of this knowledge has enriched my academic and professional endeavours.

Engaging with the Research Methods and Professional Practice module, I journeyed through a comprehensive curriculum designed to fortify my understanding and application of research methodologies. Starting with Unit 1: Scientific Investigation and Ethics, the course laid the foundational stones by introducing the scientific method and the pivotal role of ethics in research emphasized by Bassey et al., 2019. This initial phase was crucial, teaching me to discern between inductive and deductive reasoning and understanding the ethical considerations relevant to my field.

Progressing to Unit 2, the exploration of research questions, literature reviews, and the crafting of research proposals sharpened my ability to identify viable research topics, transforming abstract ideas into structured research questions and proposals. This was complemented by practical skills in conducting thorough literature searches and critiques.

Unit 3's deep dive into research methods opened my eyes to the varied approaches available—quantitative, qualitative, and mixed methods—alongside the primary and secondary methods for data collection. This was particularly enlightening, providing clarity on which methods best suited my area of research as highlighted by Creswell (2014).

The subsequent units, from Unit 4 to Unit 9, covered specialized data collection methods such as case studies, focus groups, observations, interviews, survey methods, and the intricate process of questionnaire design which are the most common types of primary data collection as stated by Taherdoost (2022). Each unit was meticulously structured to not only introduce these methods but also to discuss their advantages, drawbacks, and the types of data they yield, significantly broadening my research toolkit.

Unit 10: Research Writing, and Unit 12: Project Management and Managing Risk, transitioned from data collection to analysis, presentation, and management of research projects. These units emphasized the importance of effective communication of research findings and the critical role of project management and risk assessment in ensuring the success of research endeavours.

Throughout the module, I was continuously assessed through case studies and milestone tasks, fostering an environment ripe for applying theoretical knowledge to practical scenarios. This comprehensive exploration has been instrumental in developing my competencies in research methodology, equipping me with the skills necessary to undertake research with a critical, ethical, and practical lens which is an integral component human decision-making and undeniably shape the landscape of scientific research (Awal, 2023).

One of the most engaging yet challenging parts of this module were the discussions on 'Codes of Ethics and Professional Conduct' and the 'Accuracy of Information' case study. They were particularly enriching due to the diverse and occasionally contradictory viewpoints expressed by my peers. These debates underscored the complexity of ethical considerations and the paramount importance of accuracy in research. Engaging with a range of perspectives, some of which challenged my own assumptions, was invaluable. As Hall et.,2007 aptly notes, 'Being able to view the decision environment from multiple perspectives enhances the decision-maker's ability to make better-informed choices.' This resonated deeply during our discussions, highlighting the necessity of navigating ethical ambiguities and striving for data integrity amidst differing opinions. The dynamic exchange of ideas not only broadened my understanding but also emphasized the critical role of diversity in shaping robust research methodologies.

The literature review and research assignments in this module posed significant questions and challenges but were pivotal in preparing me for my upcoming project module. Navigating the extensive body of literature to identify gaps and synthesize relevant studies honed my critical thinking and academic writing skills, laying a strong foundation for my research (Paré et al.,2017). The process of developing a research proposal, while daunting, forced me to meticulously create a plan my project, considering methodological approaches, potential data collection hurdles, and ethical considerations. These tasks, though rigorous, significantly boosted my confidence, equipping me with the skills necessary to tackle the incoming project module with a well-defined research direction and a robust methodological framework. The challenges encountered not only prepared me for the complexities of independent research but also transformed me into a more competent and self-assured researcher.

Through this module, I've also acquired a valuable blend of skills and knowledge that significantly benefits both my upcoming project module and my role as a data analyst in the hospitality sector. The module has imparted a deep understanding of both qualitative and quantitative research methodologies, critical analysis, ethical considerations in research, data analysis proficiency, and project management skills. These learning outcomes are not just academic in nature but are directly applicable to real-world scenarios. For my project module, they provide the foundation for designing a methodologically sound and ethically responsible research project, grounded in a thorough literature review. In my professional capacity as a data analyst, these skills enable me to analyse customer feedback and operational data effectively, driving strategic decisions and enhancing customer satisfaction. The ability to lead data-driven projects, combined with a commitment to ethical standards and a knack for critical analysis, positions me to contribute significantly to my organization's goals and success.

In conclusion, the Research Methods and Professional Practice module has been a transformative journey, equipping me with an extensive array of research skills and deep insights into ethical and methodological considerations. research, values that I will carry forward into my future academic and professional endeavours. As I reflect on the journey through this module, I am struck by the growth in my confidence and competence as a researcher, ready to tackle complex research questions and contribute meaningful insights in both academic and professional contexts. This module has truly been a cornerstone in my development, providing me with the tools and confidence to navigate the complexities of research with integrity and precision.

**References:**  
  
Jamshed, S. (2014) ‘Qualitative research method-interviewing and observation’, Journal of Basic and Clinical Pharmacy, 5(4), p. 87. doi:10.4103/0976-0105.141942.

Resnik, D.B. (2020) What is ethics in research and why is it important? National Institute of Environmental Health Sciences. Available at: https://www.niehs.nih.gov/research/resources/bioethics/whatis (Accessed: 17 February 2024).

Weinbaum, C. et al. (2019) Ethics in scientific research: An examination of ethical principles and emerging topics. Santa Monica, CA: RAND.

Bassey, B. A. & Owan, V. J. (2019). Ethical issues in educational research management and practice. In P. N. Ololube & G. U. Nwiyi (Eds), Encyclopedia of institutional leadership, policy, and management: A handbook of research in honour of Professor Ozo-Mekuri Ndimele (pp. 1287 – 1301). Port Harcourt, NG: Pearl Publishers International Ltd.

Brown, K.W. and Cozby, P.C. (1999) Research methods in human development. 2nd edn. Mountain View, CA: Mayfield Pub.

Creswell, J.W. (2013) Research design qualitative, quantitative, and mixed methods approaches. Los Angeles u.a.: SAGE.

Taherdoost, H. (2021). Data Collection Methods and Tools for Research; A Step-by-Step Guide to Choose Data Collection Technique for Academic and Business Research Projects. International Journal of Academic Research in Management (IJARM), 10(1), 10-38.

Booth, W.C. et al. (2017) The craft of research. 3rd edn. Chicago: The University of Chicago Press.

Awal, A., 2023. Ethics in Research: A Comparative Study of Benefits and Limitations. International Journal of Academic and Applied Research (IJAAR), [online] 7(8), pp.10-14. Available at: http://www.ijeais.org/ijaar [17 February 2024].

Hall, D.J. and Davis, R.A. (2007) ‘Engaging multiple perspectives: A value-based decision-making model’, Decision Support Systems, 43(4), pp. 1588–1604. doi:10.1016/j.dss.2006.03.004.

Paré, G. & Kitsiou, S., 2017. Chapter 9 Methods for Literature Reviews. In: F. Lau and C. Kuziemsky, ed., Handbook of eHealth Evaluation: An Evidence-based Approach. [online] Victoria (BC): University of Victoria, Available at: https://www.ncbi.nlm.nih.gov/books/NBK481583/ [17 February 2024].