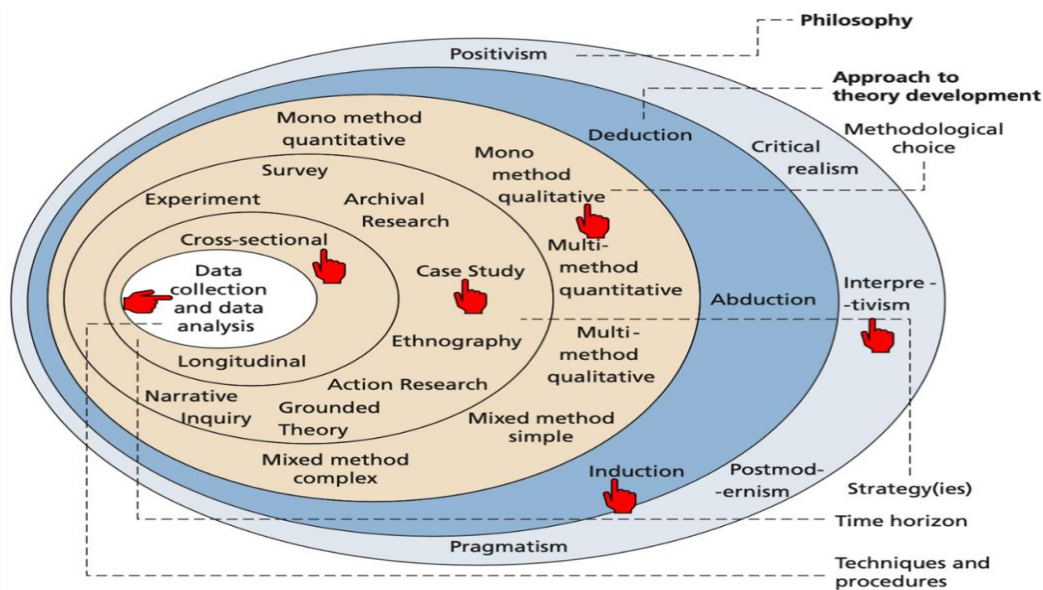


METHODOLOGY

3.1 Introduction

The content in this chapter provides insights into the research design and approach employed. The chapter delves into the specific context and parameters of the study, establishes the target population, and outlines the sample, sampling technique, and sample size. It expounds the procedures used to gather and manage the data throughout the study. Lastly, the chapter concludes by addressing the ethical considerations that were diligently observed while conducting the research. The research methodology is guided by Saunders, Lewis & Thornhill's (2019) methodology onion.

Figure 1: The Research 'Onion'



Source: Saunders, Lewis & Thornhill (2019).

3.2 Research Philosophy/Paradigm and Justification

Research paradigms shape researchers' approaches, beliefs, and methodologies. The three main paradigms are positivism, interpretivism, and pragmatism (Tamminen & Poucher, 2020). Positivism seeks objective reality through quantitative methods, while interpretivism delves into subjective experiences and cultural contexts. Pragmatism blends practical solutions, utilizing both quantitative and qualitative methods (Hürlimann & Hürlimann, 2019). Paradigms rest on

ontological and epistemological foundations. Positivism emphasizes objectivity, interpretivism centers on subjectivity. Epistemologically, positivism relies on systematic methods, while interpretivism values qualitative insights (Mauthner, 2020). The positivist paradigm was chosen for this study due to its alignment with the aim of examining public perception of cyber fraud in Ghana's FinTech market. Online questionnaires ensured unbiased data collection, and statistical analysis tested hypotheses, as observed in studies like Amoah & Korle (2020), and Coffie & Hongjiang (2023).

3.3 Research Design

Astalin (2013) defined research design as the framework that outlines techniques in a study, aiding in method selection. Creswell (2014) categorized designs as correlational, experimental, review, and survey. This study adopts the survey design, favored for capturing attitudes, behaviors, and opinions within a population (Salkind, 2010). The choice of a survey design is consistent with other several similar studies including Oladapo, et al., (2022). The design guides data collection, evaluation, and presentation (Mitchell & Jolley, 2012), aligning with the study's aim to examine public perceptions of cyber fraud in Ghana's FinTech market. This choice ensures systematic examination of the subject and addressing the research objectives effectively.

3.4 Research Approach

Sekaran & Bougie (2016) defined a research approach as the method used to analyze collected data. Bell, Bryman & Harley (2018) distinguished quantitative, qualitative, and mixed methods approaches. Qualitative methods extract insights from non-numeric data, while quantitative methods use numeric data and statistical procedures (Maxwell, 2012; Waters, 2011). Mixed methods combines both approaches to cater for complexities (Creswell, 2014; Padgett, 2016). This study employs a quantitative approach, converting categorical data into numeric observations for analysis. This choice aligns with the research's aim to assess the impacts of public perceptions of cyber fraud on FinTech products/services, requiring statistical evaluation of numeric data for meaningful conclusions.

3.5 Scope of the Study

Sekaran & Bougie (2016) as well as Maxwell (2012) noted that the scope of a study describes the extent to which a particular research area is investigated, including specific operational parameters. In the context of this study, the research variables consist of perceptive reactions from respondents. These perceptions are captured through structured and ordered opinions from respondents. The subject matter of the study revolves around technology acceptance and financial cyber fraud.

3.6 Study Setting

A study's setting incorporates the socio-physical background and environment in which a researcher investigates a subject matter (Bell et al., 2018; Maxwell, 2012). Considering this definition, the setting for this study is the Ghanaian FinTech market. More specifically, the study examines the issues related to perceptions of cyber fraud and the acceptance of FinTech services and products in Ghana.

3.7 Study Population

A research study's population consists of all the individual-specific distinguishing characteristics under investigation (Creswell & Creswell, 2017). In the context of this study, the population encompasses all persons of legal age that use any form or type of product and/or service of FinTech companies in Ghana. This population is settled on because, contextually, the study seeks to explore the dynamics of cyber fraud in Ghana's FinTech market. Thus, resorting to people in Ghana to respond to the demands of the study.

3.8 Sampling Approach and Technique

Since the selected research design is a survey, the chosen sampling approach is a sample survey. As highlighted by Leeuw, Hox & Dillman (2016), a sample survey approach enables the study to gather data from a broader range of respondents within a population. In this study, a convenience sampling technique is used to distribute the research instrument. This means that respondents are conveniently selected to participate in the study because they possess the desired characteristics representative of the population. The rationale behind employing a sample survey approach and convenience sampling technique is rooted in the impossibility of observing responses from all elements in the population.

3.9 Sample Size

Teddlie & Tashakkori (2003) defined a sample as an observed subset of a population. Bartlett, Kotrlik & Chawick (2001) proposed appropriate sample sizes for different population sizes, considering various margins of error and confidence levels. Based on the 2022 Bank of Ghana's Summary of Economic and Financial Data, there were 55.3 million registered digital money wallets in Ghana with 20.4 million active users. Thus, even using the mobile money product and service as a proxy for the FinTech market, the target population for this study is more than 20 million. Considering a 5% standard margin of error and a confidence level of 95%, calculations suggest that a sample size of at least three hundred and eighty-five elements would be sufficient for the study, i.e., *Sample Required* [SR] $\Rightarrow x \geq 385$. However, the study administered a total of four hundred questionnaires, i.e., *Sample Screened* [SS] $\Rightarrow x = 400$, with the expectation of achieving at least a 95% response rate. *Sample Expected* [SE] $\Rightarrow 380 \leq x \leq 400$. The study anticipates sufficiently addressing the overriding objectives of this study with the sample size considered. The chosen sample size of 400 for this study is well-founded considering a population of over 20 million active users in Ghana's FinTech market. This exceeds the recommended minimum sample size of 385 calculated with a 5% margin of error and 95% confidence level. This approach ensures robust data collection and a potential response rate of 95%, aligning with the study's comprehensive objectives.

3.10 Data Collection Method

Data for a study can be primary or secondary. Primary data is directly collected from the study's scope, while secondary data is pre-existing information (Creswell & Creswell, 2017). In this research, secondary data from journal databases addresses the literature review (Objective 1). Primary data collection involved a self-designed questionnaire distributed through Google Forms to assess public perceptions of cyber fraud in Ghana's FinTech Market. This addresses Objectives 2 to 4. The questionnaire has six sections: demographics, FinTech knowledge, cyber fraud perception, factors encouraging cyber fraud, FinTech acceptance, and challenges and recommendations. The methodology strikes a balance by gathering data nationally through online distribution, ensuring representation and study reliability.

3.11 Validity and Reliability of Research Instruments

Validity and reliability have vital roles to play in research. Validity is defined as the ability of a research instrument to measure what it intends to measure (Tabachnick & Fidell, 2014). Reliability assurance deals with the sources of unreliable observations in social science measurements and the strategies taken to minimize these threats (Haradhan, 2017). The research instruments established face and content validity through operational definitions and expert opinions. Face validity ensured constructs aligned with their definitions, while content validity matched items to concepts. Reliability addressed subjectivity concerns by employing questionnaires for unbiased opinions. Statistical reliability analysis confirmed item consistency, with Cronbach's $\alpha \geq 0.7$ ensuring robustness.

3.12 Ethical Considerations

Ethical considerations encompass various ethical aspects that have the potential to impact the conduct of a study if not followed diligently (Bryman, 2012). These considerations pertain to both the respondents and the researcher. Hence, these considerations must be treated with utmost care. In this study, the researcher prioritized the maintenance of strict confidentiality in the collection and analysis of data from respondents. Selected participants in the study were provided with sufficient information about the study's purpose, and consent before proceeding to collect responses from them. Finally, participation in the study was entirely voluntary, with no pressure or obligation placed on individuals to take part.