REAL-TIME REVENUE ASSURANCE AUTOMATION TECHNOLOGY: FACTORS INFLUENCING ITS ADOPTION BY RETAIL BANKS IN CAMEROON

by

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DISSERTATION

Presented to the Swiss School of Business and Management Geneva

In Partial Fulfillment

Of the Requirements

For the Degree

DOCTOR OF BUSINESS ADMINISTRATION

SWISS SCHOOL OF BUSINESS AND MANAGEMENT GENEVA

JULY, 2023

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Dedication

This study is dedicated to my dear mother who through her repeated challenges unleashed the inertia to embark on a terminal degree program and then rekindled and fanned the flames that propelled me to attain this great professional and scholarly milestone. And posthumously to my late Dad who, I believe, would have equally celebrated this marvelous achievement that is in keeping with and has come to uphold the erudite tradition of the family.

To my family for their moral support and especially David Jr. for cross-checking accuracy of the raw data that formed the basis of the analysis of this study.

Acknowledgements

My deepest appreciation goes to the distinguished trio of a team, consisting pedagogic, coordinating and technical, of Up-Grad and SSBM who provided me with a learning experience of a lifetime. At the conclusion of the DBA program, I can relate to the thoughts expressed by an alumna of SSBM when she said " I am very impressed with the experience in the DBA program! It is a great network and collaboration with a professional network of great students around the globe". At the time when I was contemplating at which university to embark on for my terminal degree, I thought it was just one of those marketing gimmicks. But no!, it is actually a way of life at Up-Grad and SSBM.

More particularly, my mentor, Dr. Bhawna Nigam, was brilliant in guidance, motivation and exuded experience of the highest caliber. She played the role of a mentor to the fullest. She was not there to spoon feed mentees but to guide them to discover the best of their abilities on the DBA journey in keeping with the proverbial adage which says do not give someone fish but teach him or her how to catch the fish and in so doing, as one of her mentees, I learnt a lot on that journey. Dr. Bhawna Nigam in her guidance, motivation, experience, affinity for and showcasing of excellence, was just unparalleled vis-à-vis my previous experience of working with other academic supervisors. Words fail me to express my gratitude for all you have been and done during this DBA journey Dr. Bhawna. To the Up-Grad and SSBM family thanks a lot.

A big thank you also goes to the General Managers of the retail banks in Cameroon for their authorization to conduct the survey that has permitted Cameroon to be listed

amongst the countries with Hofstede's (1994) cultural indices. It goes also to the tenacious and sacrificial delegates of the General Managers who did everything possible for me to have the questionnaires back from the respondents in good time.

ABSTRACT
REAL-TIME REVENUE ASSURANCE AUTOMATION TECHNOLOGY: FACTORS INFLUENCING ITS ADOPTION BY RETAIL BANKS IN CAMEROON

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2023

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Loan interest revenue of retail banks in Cameroon and the world at large constitutes a material revenue source respectively amounting to billions in local currency (up to XAF 82 billion) and US dollars. It further has the particularity that it is a derived revenue which lends itself, in its determination, to human intervention thus susceptible to fraud that stack up to substantial financial losses to retail banks in Cameroon.

Additionally, recent technological advances such as computer, broadband networking, internet, mobile telephone, Enterprise Resource Planning, sensors and extensible business reporting language which when combined are capable of initiating and finalizing bank transactions almost instantaneously on a global reach thereby require faster management decision-making.

Against this backdrop, this study purposefully and empirically investigated the factors influencing the adoption of real-time revenue assurance automation technology

(RT-RAAT) by retail banks in Cameroon using the theory of reasoned action (TRA) and extended by culture.

Designed as an applied, explanatory, deductive, quantitative and cross-sectional research, self-administered questionnaires were used to collect primary data from a sampling frame of sixteen retail banks in Cameroon using simple random sampling which resulted in 135 respondents after respecting stratification criteria.

Microsoft Excel and GNU PSPP Statistical Analysis Software were used for data analysis.

The results found that attitude and subjective norm, two of the constructs of the theory of reasoned action, Hofstede's (1994) national culture and its uncertainty avoidance dimension and market culture type of organizational culture were the significant factors influencing intention to use RT-RAAT within retail banks in Cameroon. The TRA singularly explained 60% of the variation in intention to use RT-RAAT compared to TAM at 40% in other studies. When extended by culture, it explained 81% of variations in ITU.

The study respectively mapped national and organizational culture landscapes of Cameroon and its retail banks. It found Cameroon to be high on three of the four cultural dimensions of Hofstede's (1994) national culture index scale relative to world average and the dominant organizational culture of the retail banks to be hierarchy culture based on Cameron and Quinn's (1999) OCAI framework.

The study was pioneering in its recommendation for preliminary predictions of technology adoption using linear models, such as proposed in this study, to be included as

one of the key activities of the feasibility study stage of technology adoption generally and RT-RAAT in particular.

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LIST OF ABBREVIATIONS

1	**AC:** Adhocracy Culture	**I/R:** Indulgence/Restraint
2	**ACL:** Audit Command Language	**IIA:** Institute of Internal Auditors
3	**ANIF:** National Agency for Financial Investigations	**IT:** Information Technology
4	**ATM:** Automatic Teller Machine	**ITU:** Intention to Use
5	**ATT:** Attitude	**LAN:** Local Area Network
6	**C:** Collectivistic	**LTO:** Long Term Orientation
7	**CA:** Continuous Auditing/Assurance	**M/ MAS:** Masculinity
8	**CAATs:** Computer Assisted Audit Techniques	**M/F:** Masculinity/Femininity
9	**CC:** Clan Culture	**MC:** Market Culture
10	**CCM:** Continuous Control Monitoring	**MLR:** Multiple Linear Regression
11	**CDA:** Continuous Data Auditing	**OCAI:** Organizational Culture Assessment Instrument
12	**CEMAC:** Central African Economic and Monetary Community	**PCAOB:** Public Company Accounting Oversight Board
13	**CEO:** Chief Executive Officer	**PD:** Power Distance
14	**COBAC:** Central African Banking Commission	**RA:** Revenue Assurance
15	**COMO:** Continuous Compliance Monitoring	**RPA:** Robotic Process Audit
16	**CRM:** Continuous Risk Monitoring and Assessment	**RT-RAAT:** Real-Time Revenue Assurance Automation Technology
17	**CVF:** Competing Values Framework	**SEM:** Structural Equation Modelling
18	**DTPB:** Decomposed Theory of Planned Behaviour	**SN:** Subjective Norm
19	**ERP:** Enterprise Resource Planning	**TOE:** Technology – Organization - Environment
20	**F:** Femininity	**TPB:** Theory of Planned Behaviour
21	**GLM:** General Linear Model	**TRA:** The Theory of Reasoned Action
22	**GLOBE:** Global Leadership and Organizational Behaviour Effectiveness	**TAM:** Technology Acceptance Model
23	**GRC:** Governance, Risk and Compliance	**UA:** Uncertainty Avoidance
24	**HC:** Hierarchy Culture	**UTAUT:** Unified Theory for Acceptance and Usage of Technology
25	**HSRC:** Human Subject Review Committee	**VSM:** Value Survey Module
26	**I/C:** Individualistic/Collectivistic	**WAN:** Wide Area Network
27	**I/IDV:** Individualistic	**XBRL:** Extensible Business Reporting Language

CHAPTER I:

INTRODUCTION

1.1 Introduction

Assurance is one of the enshrined activities of the internal audit function of most organisations according to Institute of Internal Audit (IIA, 2019) and it is provided under many guises among which revenue assurance. Within retail banks, revenue streams are many and varied. One of such streams was identified in this study to be loan interest revenue. It has the particularity of being a derived revenue and within retail banks in Cameroon it still experiences human intervention in its calculation. In Cameroon also, the revenue amounts to multi-billion francs CFA annually (up to XAF 82 billion) and incidence of related-fraud is high. Revenue assurance by internal auditors is, therefore, particularly important in view of the materiality of the revenue, related-fraud and hitherto the semi-automatic nature of the process.

The professional experience of the researcher auditing these retail banks in Cameroon for over ten years indicates a situation of concern despite the fact that the senior management executives who constituted the vast majority of the questionnaire respondents of those banks investigated in this study chose to veil over the situation. In this light, this study was undertaken with the objective of determining factors, based on a research model that used the constructs of the theory of reasoned action (The TRA) and extended by culture, that influence the use or adoption of a real-time revenue assurance automation technology to address the situation.

1.2 Research Problem

According to literature, audit has evolved from the traditional manual approach to automation of certain audit processes that are deterministic and structured on a real or near real-time basis (Alles et al., 2006), however, there are some aspects of it that has not kept pace with technology evolution. There are still many semi-automated audit procedures even where professional judgment is not required. Compared to other professions, the audit profession as a whole is noted to be still lagging behind (Kogan et al., 1999; Moffitt et al., 2018; Alles et al., 2010; Chan & Vasarhelyi, 2011; Sethibe and Naidoo, 2022). The professional experience of the researcher during a period of over ten years auditing retail and corporate banks in Cameroon aligns with this observation.

Revenue assurance by internal auditors in respect of loan interest income is still at a basic computer assisted audit technique (CAATs - MS Excel and ACL) level in Internal audit functions of most retail banks in Cameroon and in some of the retail banks it is not an activity that is carried out for loan interest revenue. This CAATS status results in inefficiency in audit, low audit quality, untimely decision-making and high incidence of fraud that stack up to huge financial losses to banks. This is compounded by the fact that the global economy has become real-time or so called 'Now economy' (Vasarhelyi et al., 2010 ; Alles et al., 2002) as a result of technological advances such as the computer, broadband networking, the internet, mobile telephone, Enterprise Resource Planning (ERP), sensors (bar coding) and extensible business reporting language(XBRL) amongst others.

Just to highlight the gravity of this situation and on the basis of anecdotal evidence, on the launch date of the e-banking product of one of the retail banks in Cameroon, in the political capital, one of its staff in a remote branch thousands of kilometres away from the head office (launch site) was able to electronically siphon over 90 million francs CFA from a customer account as a result of this interconnectivity.

As a result of the above technological advancements and shortcomings of CAATS use, the study will explore factors that influence the adoption of real-time revenue assurance automation technology within the internal audit functions of retail banks in Cameroon by using two of the constructs of the theory of reasoned action, attitude and subjective norm, and culture with a view to explaining and facilitating a change of the status quo. The research model was, therefore, developed based on these constructs for the empirical study.

1.3 Purpose of Research

The purpose of this research is to empirically investigate the factors that influence the adoption of real-time revenue assurance automation technology by Internal Audit functions of retail banks in Cameroon using a research model that was developed from the constructs of the theory of reasoned action (TRA) and extended by culture.

1.4 Significance of the Study

The topic of this paper is important, especially so for the banking sector, for many reasons, amongst which the high risk nature of revenue resulting from its materiality and revenue

susceptibility to fraud, the need for auditors to issue audit opinions that are not erroneous and, therefore, avoid situations like the demise of Enron, Worldcom and Arthur Andersen and the financial crisis of 2008-2009 with global consequences. Also, the real-time electronic nature of today's economy requires management to make decision on a timelier basis.

Consistent with the above points, Alles et al., (2006) notes that revenue assurance in banks like in telecom companies is so important because banks face multi-billion dollar transactions on a daily basis, therefore, the cost of delay in providing assurance is intolerable. Moffitt et al., (2018) adds that revenue constitutes a high audit risk area on the basis of PCAOB inspection briefings which consistently highlight revenue as an audit area with recurring audit deficiencies (PCAOB 2017b).

According to Francis (2018) and the experience of the researcher, Cameroon retail banks deal with revenue of similar order of materiality and experience high fraud incidence. The importance of this study is further highlighted by Twati (2006) who cautions that failure to investigate important factors to technology adoption such as culture result in many technology adoption, organizational change and mergers and acquisition faltering or failing altogether (Rashid et al., 2004; Al-Mashari & Zairi, 1997; Fey & Denison, 2011; Fontaine & Richardson, 2003). By taking the different issues into account when adopting a technology, management will enhance the chances of adoption success. In this regard, O'Reilly and PwC (2006) as cited by Alles et al., (2006) claims that revenue assurance on a real-time or continuous basis will result in a number of benefits including reduction of revenue leakage, improvement in assurance quality, audit of 100% of

transactions, reduction of fraud instances and timelier information for management, creditors, investors, customers, regulators, vendors and consultants, amongst others. Jovanovi et al., (2022) also agrees with some of those benefits.

1.5 Research Purpose and Questions

The purpose of this research is to empirically investigate the factors that influence the adoption of real-time revenue assurance automation technology by Internal Audit functions of retail banks in Cameroon using a research model that is developed from the constructs of the theory of reasoned action (TRA) as extended by culture. In order to achieve this objective, two research questions were asked, four propositions formulated and ten hypotheses were developed to direct the study as follows:

> **RQ1:** What effects do attitude and subjective norm have on the intention to use (ITU) real-time revenue assurance automation technology (RT-RAAT) by Internal Audit functions of retail banks in Cameroon?

On the basis of the above question, the study postulated a proposition as follows:

> **Proposition 1:** Attitude and subjective norm affect the intention to use (ITU) real-time revenue assurance automation technology (RT-RAAT).

The above proposition was operationalized through the following hypotheses.

> **Hypothesis 1:** Attitude toward real-time automation technology positively and significantly affects the intention to use real-time automation technology.

Hypothesis 2: Subjective norm positively and significantly affects the intention to use real-time automation technology.

RQ2: What is the effect of culture on the intention to use RT-RAAT technology by Internal Audit functions of retail banks in Cameroon?

Proposition 2: Societal/national culture affects the intention to use RT-RAAT technology by Internal Audit Functions of retail banks in Cameroon.

Since propositions cannot be directly tested, in themselves being relationships between abstract constructs (culture, intention to use, attitude and subjective norm), the study made use of the following hypotheses to validate or otherwise the propositions and in turn answer the research questions.

The above proposition was indirectly tested through four hypotheses based on Hofstede's (1980) four cultural dimensions as follows:

H1-1: Societies with high power distance culture will have a significant negative direct effect on intention to use RT-RAAT technology.

H1-2: Societies dominated by high uncertainty avoidance will have a significant negative effect on intention to use RT-RAAT technology.

H1-3: Societies dominated by feminine cultures will have a significant negative effect on intention to use RT-RAAT technology.

H1-4: Societies with high collectivist culture will have a significant negative effect on intention to use RT-RAAT technology.

Proposition 3: Organizational culture affects the intention to use RT-RAAT technology.

The above proposition was indirectly tested through four hypotheses based on Cameron and Quinn's (1999) four organizational cultural dimensions as follows:

H2-1: Banks dominated by clan hierarchy culture type will have a significant negative effect on intention to use RT-RAAT technology.

H2-2: Banks dominated by adhocracy culture type will have a significant positive effect on intention to use RT-RAAT technology.

H2-3: Banks dominated by market culture type will have a significant positive effect on intention to use RT-RAAT technology.

H2-4: Banks dominated by hierarchical culture type will have a significant negative effect on intention to use RT-RAAT technology.

The design of the study suffered from a number of shortcomings, amongst which the exclusive use of questionnaire to capture largely numeric data. As a result, other non-numeric data were not collected to complement the questionnaire data. A triangulation of the research methods was absent.

The response rate of only 14.8% from the participating retail banks meant the results of the study could not be generalizable to the entire population of retail banks in Cameroon especially results relating to descriptive analysis.

The study made use of only four of Hofstede's (1994) six national culture dimensions. It may be the case that long-term/short-term orientation and self-indulgence/self-restraint are some of the factors influencing RT-RAAT amongst retail banks in Cameroon. With the reliability of the underlying items permitting, future studies can include these two other dimensions of Hofstede's (1994) national culture dimensions.

Whereas the private sector financial services landscape of Cameroon boasted of local and foreign corporate banks and a multiplicity of microfinance institutions, this study targeted exclusively retail banks and their employees in that sector.

Six assumptions were made at different levels of the study as follows:

1. **Organizational level:** Bank employees were true proxies of the bank with no conflict of interests.
2. **Underpinning Culture Construct Measures:** the study assumed that national culture did not have an impact, direct or indirect, on organizational culture.
3. **Extended Research Model:** the study further assumed that intention to use RT-RAAT was positively correlated with actual use of RT-RAAT (Otieno et al., 2016; Mishra et al., 2017, Yousafzai et al., 2010) and, therefore, conclusions arrived at the intention to use level can be expected to hold at the actual usage level.
4. **Research Method Level:** the study assumed that all necessary data needed to determine the factors influencing RT-RAAT could be captured using questionnaires without need to triangulate.
5. **Data Collection Level:** it was assumed that the respondents thoughtfully and truthfully answered the questionnaires and collected data was normally distributed.
6. **Data Analysis Stage:** the study assumed that a linear relationship existed between the dependent variable and independent variables. And that the latter were truly independent of each other and the variance of the error term was constant as the values of the independent variables increased.

Key technical terms particular to the context of this study were defined as follows:

A definition for real-time revenue assurance was proposed in this paper as the application of a process, hardware or software solution that enables a retail bank to accurately capture revenue for all services rendered, correct errors, monitor related controls, risks and compliance and assess risks to ensure an error-free revenue amount in statutory financial and internal reporting thereby permit the independent assuror (internal or external) to provide written assurance on revenue for which an entity's management is responsible, using a series of auditor's report issued virtually simultaneously with, or a short period of time after, the occurrence of events underlying the revenue.

The theory and construct underpinning this study could not be directly measured and, therefore, had to be operationally defined in order to be measured. In that regard, the theory of reasoned action (TRA) was defined in terms of attitude and subjective norm. They were then used as variables of the TRA and their direct measurement permitted for the influence of the theory of reasoned action on RT-RAAT adoption to be determined. Similarly, the TRA-extending construct, culture, was operationalized by using its two constructs, national culture and organizational culture. Four of Hofstede's (1994) cultural dimensions (power distance, uncertainty avoidance, masculinity/femininity, individualism/collectivism) were used as variables to indirectly measure national culture. Organizational culture, on its part, was indirectly measured using Cameron and Quinn's (1999) organizational culture measures as variables (clan culture, adhocracy culture, market culture, hierarchy culture). With both national and organizational cultures indirectly measured, so was the culture construct equally indirectly measured.

The remainder of this study is divided into six chapters as follows: Chapter 2 spanning from page 6 to page 42 looked at the relevant literature relating to the theoretical framework that governed the study, the main theoretical framework being the theory of reasoned action (The TRA) and extended by culture. It further addressed the revenue assurance process, conditions for its automation and use of real-time technology to that end as well as the role of the internal auditor in the assurance process. The chapter also looked at two types of technology offering real-time capabilities namely, continuous auditing (CA) and attended robotic process auditing (RPA) in the process identifying Uipath and Blue Prism as respective dominant software providers in the domain. Lastly, the chapter concluded by spelling out the phases of technology adoption according to Roger's (2003) 5-step framework.

Chapter three, on its part, dealt with the methodology of the study. The methodology provided an overview of the research problem, how the constructs of the study were operationalised, the research purpose and questions, the design of the research which made use of five criteria: applied vs pure, cross-sectional vs longitudinal, explanatory vs exploratory vs descriptive, deductive vs inductive vs abductive and quantitative vs qualitative. The chapter went on to define the population of the study and a representative sample size, how participants were selected and the choice of instrument used for data collection. It delineated the procedure followed to collect data as well as addressed the analysis of collected data. It closed by citing some of the research design limitations and provided a conclusion for the chapter.

Chapter four addressed the results relating to the two research questions, four propositions and ten hypotheses of the study, provided a summary of the findings and then concluded.

Chapter five commenced by providing a structure of the discussion of the study results generally before discussing results of the ten hypotheses and four propositions deriving from each of the two research questions of the study in turn. Research question one addressed the effect of attitude and subjective norm on intention to adopt real-time revenue assurance automation technology (RT-RAAT) whereas research question two dealt with the effect of culture on intention to adopt RT-RAAT. In respect of question one, the result indicated that negative attitude and negative social influence were both significantly and negatively impacting the intention to adopt RT-RAAT hence the status quo of persistent CAATs use by internal auditors of retail banks in Cameroon. Negative attitude was ascribed to lack of awareness of the real-time revenue assurance automation technology (RT-RAAT) amongst retail banks and negative social influence due to some of the actors closely involved in the loan interest revenue process militating against the deployment of RT-RAAT which will have the effect of reducing revenue fraud.

The hypothesis results relating to question two, on the other hand, indicated that linear relationships existed between all the eight independent cultural variables and intention to use RT-RAAT at sample level with only the uncertainty avoidance cultural dimension showing that relationship both at sample and Cameroon retail bank population levels, thus significant.

In chapter six, a summary of the study was provided as was the theoretical and practical implications of the study. The main theoretical implications included birth of a new

theoretical framework (TRA extended by culture) with predictive abilities even at the population level of retail banks in Cameroon, the generation of a new body of knowledge that bridges the knowledge gap that existed until this study was conducted and addressing thereby the perennial problem of CAATs use by internal auditors of retail banks in Cameroon which has led to huge financial losses to the banks, slow management decision-making, inefficient and poor quality audit. The study was also able to unify disparate schools of thought on culture (marketing and sociological) to conceptualise types of culture (global, meta or pan-regional, national, micro or organisational) and levels of culture (artefacts, espoused values and beliefs and core values or basic assumptions) which further clarified the complexity or ambiguity that characterizes the culture construct. It also proposed a predictive model based on the results of regression analysis that can be used in a diagnostic manner to predict intention to use RT-RAAT at feasibility study stage thereby reduce technology implementation failures.

On the practical side, the possibility that audit can be carried out at anytime and anywhere on an exception basis was highlighted as a major plus as well as rid auditors of dealing with the technical issue of representative sample size determination to avoid erroneous audit opinions.

Cross-cultural study can now be carried out with the inclusion of Cameroon following the determination of Hofstede's (1994) four cultural dimension indices in respect of power distance (PD-100), uncertainty avoidance (UA-85), Masculinity (MAS-17) and Individualism (IDV-61) for the country.

The chapter also made recommendations for future research to redress the shortcomings of the present study and a conclusion for the study.

The study concluded with the presentation of 10 appendices as follows:

Appendix A: English version of the participant information sheet and informed consent form used with a view to respecting the ethical requirements of a scientific research of this nature.

Appendix B: French version of the participant information sheet and informed consent form used to a similar end as the English version.

Appendix C: English version of the study questionnaire survey used to capture data from participating retail banks in Cameroon for both the independent and dependent variables of the study.

Appendix D: French version of the study questionnaire survey used to a similar end as the English version.

Appendix E: Schematic overview of the literature review which visually summarizes, at a glance, the essentials of the literature review.

Appendix F: The Code book used to enhance accuracy and efficiency of the study data analysis as well as respect ethical standards with respect to anonymity and confidentiality.

Appendix G: Construct Validity Test Result via Exploratory Factor Analysis used as one of the tests to confirm the psychometric properties of the three study instruments (The TRA, national and organisational culture) used in the study.

Appendix H: Microsoft Excel Regression Analysis Results for the ten different hypotheses and four propositions of the study as well as the goodness of fit of the research model.

Appendix I: Test result statistics, their thresholds, definitions and interpretation were presented here to enhance understanding of the results discussion.

Appendix J: Homoscedasticity Test results used to verify lack of heterogeneity of variance.

CHAPTER II:

REVIEW OF LITERATURE

2.1 Introduction

This study was motivated by the professional experience of the researcher auditing retail banks in Cameroon and spanning over ten years which indicated the persistent use of CAATs in loan interest revenue assurance by internal auditors of the retail banks. This resulted in inefficiency in audits which allowed actors involved in the loan interest revenue process to tamper with revenue leading to substantial financial losses to retail banks.

In this chapter, therefore, a review of related literature was carried out to identify possible technologies that can fully automate the loan interest revenue asurance process on a real-time basis and theoretical frameworks which can be used to empirically investigate the factors influencing the adoption of RT-RAAT and thus further justify the conduct of the study. The literature review was focused on four major themes as follows: technology adoption theoretical frameworks, revenue assurance processs, role of internal audit function in revenue assurance and real-time revenue assurance automation technology (RT-RAAT).

Preceding the literature review in the sections that follow below, is a schematic version presented in **Figure 2.1.1** of Appendix E aimed at providing a quick visual overview of the entire literature review process.

The following section looks at the literature relating to the technology adoption theoretical frameworks underpinning the study.

2.2 Theoretical Frameworks

This aspect relates to the theory that underpinned the study. In relation to technology adoption, the literature has indicated that many theoretical frameworks have been used to empirically investigate technology adoption for many different types of technologies and with some of those frameworks being very influential.

Some of these frameworks have been sufficient in themselves to explain the factors that influence technology adoption in some contexts but have proven inadequate in other contexts thus requiring extension. In this light, this study has extended the TRA with culture in developing the research model or theoretical framework that has been used to investigate factors influencing adoption of RT-RAAT technology by Internal Audit functions of retail banks in Cameroon. Particularly, the constructs of the TRA, namely, attitude and subjective norm (Fishbein and Ajzen, 1975) and Hofstsede's (1994) and Cameron And Quinn's (1999) cultural measures have been considered as the factors in this investigation.

2.2.1 Theory of Reasoned Action (TRA)

Technology adoption by organizations and/or individuals is influenced by factors that derive from a variety of sources. Some of these sources may be from influential theoretical frameworks, extended as necessary by other factors which may be self-developed, or process-derived.

The Theory of Reasoned Action (TRA), with origin in the social psychology field, is one of such influential theoretical frameworks that has found application in many different fields including technology adoption within banks.

The TRA has been foundational to some of such other related influential theories as the theory of planned behaviour – TPB –(Ajzen, 1985), Decomposed theory of planned baehaviour – DTPB- (Taylor & Todd, 1995), Unified theory for acceptance and usage of technology – UTAUT- (Venkatesh et al., 2016), technology acceptance model – TAM – (Davies, 1989), Technological, organisational and environmental (TOE) model (Tornatsky & Fleischer, 1990) and diffusion of innovation theory – DOI - (Rogers, 2003). These have also been used in many situations including using their constructs as factors that influence technology adoption.

Fishbein and Ajzen (1975) propounded the theory of reasoned action and it posits that actual behaviour is a function of behavioural intention. The latter being influenced by attitude and subjective norm. Otieno et al. (2016) and Mishra et al. (2014) point out that behavioural intention is positively correlated with actual behaviour meaning that as the intention to indulge in a particular behaviour increases, the chances of the behaviour being actually carried out also increases.

As a theory based on reason, it argues that before a behaviour is carried out, it actually has to be thought through and the consequences of the behaviour evaluated. If they are beneficial, then the behaviour will be engaged, failing which it will not be. In the context of this study, it would mean that before a real time revenue assurance automation technology is adopted by the internal audit function of a retail bank, a thought process will

be followed through which will be influenced by the individuals' beliefs and will only be adopted if the technology will be beneficial to the internal audit function. According to Rogers (2003), there are 5 stages involved in that thought process. The theory is counter to impulsive behaviour and calls for a disciplined systematic approach to the adoption of technology.

2.2.1.1 TRA Constructs and Definitions

It appears that as a result of the positive correlationship between behavioural intention and actual behaviour (Otieno et al. 2016; GTech, no date), a non-consensual application of the theory has emerged. Some authors of the literature making use of TRA in their studies consider it as comprising of four constructs, namely, attitude, subjective norm, behavioural intention and actual behaviour (Mishra et al., 2014) while others view it as made up of three constructs, namely, attitude, subjective norm and behavioural intention (Otieno et al., 2016, Mortimer et al., 2015; Nor et al., 2008). In the former, they use actual behaviour as the dependent variable in their studies and in the latter the behavioural intention is considered the dependent variable. Melitski et al. (2010) question the impact on conclusions of studies which depart from Fishbein and Ajzen's (1975) original four-construct conceptualization when they pick and choose the TRA constructs with which to investigate technology adoption. This study will use "intention to use or behavioural intention" rather than "actual use or actual behaviour" of RT-RAAT by Internal Audit functions of retail banks in Cameroon to empirically investigate the influence of TRA constructs on technology adoption on the premise that behavioural intention is positively

correlated with actual behviour (Otieno et al., 2016; Fishbein and Manfredo, 1999; Mishra et al., 2014).

The four constructs as conceptualized by Fishbein and Ajzen (1975) will next be defined.

Attitude toward the behavior or actual use of the technology refers to the person's beliefs or feelings about using the technology and his or her evaluation of the consequences of using the technology. (Melitski et al., 2010)

Subjective norm also referred to as "social influence" (Taylor & Todd (1995) is the individual's perception of the expectations of other relevant individuals and/or groups. Nor et al. (2008) refers to these individuals and/or groups as friends, family and peers at work. Baubeng-Andoh (2018) refers to it as "important others".

Behavioural intention is a direct function of attitude and subjective norm and it is a determination to act in a certain way (Mishra et al., 2014).

Actual behavior relates to actual use of the technology, in the context of this study real-time revenue assurance automation technology (RT-RAAT).

The literature indicates that these constructs have been used in other studies, expanded where necessary, to serve as factors influencing adoption of different technology types.

In this paper, the technology under investigation is real-time revenue assurance automation technology (RT-RAAT) exemplified by continuous auditing (CA) and robotic process automation (RPA) and it will be explored and defined later in this study.

The literature reviewed for this study (Otieno et al., 2016, Melitski et al., 2010; Nor et al., 2008: Liker and Sindi, 1997; Oluyinka et al., 2013; Bankole et al., 2011; Shaikh and

Karjaluoto, 2015; Nganga et al., 2013) indicates that the TRA has, thus far, not been used in connection with a real-time revenue assurance automation technology within the Internal audit function of retail banks in Cameroon, particularly derived revenue such as loan interest revenue and therefore begs the question:

> **RQ1:** What effect do attitude and subjective norm have on the intention to use (ITU) real-time revenue assurance automation technology (RT-RAAT)?

On the basis of the above question, the study postulated a proposition as follows:

> **Proposition 1:** Attitude and subjective norm affect the intention to use (ITU) real-time revenue assurance automation technology (RT-RAAT).

The above proposition was operationalized through the following hypotheses.

> **Hypothesis 1:** Attitude toward real-time automation technology positively and significantly affects the intention to use real-time automation technology.
>
> **Hypothesis 2:** Subjective norm positively and significantly affects the intention to use real-time automation technology.

In the above hypotheses, intention to use RT-RAAT technology is the dependent variable and attitude and subjective norm are the independent variables.

This study will investigate the influence of attitude and subjective norm on the intention to use real-time revenue assurance automation technology (RT-RAAT). On this basis, the resulting research model is as depicted below.

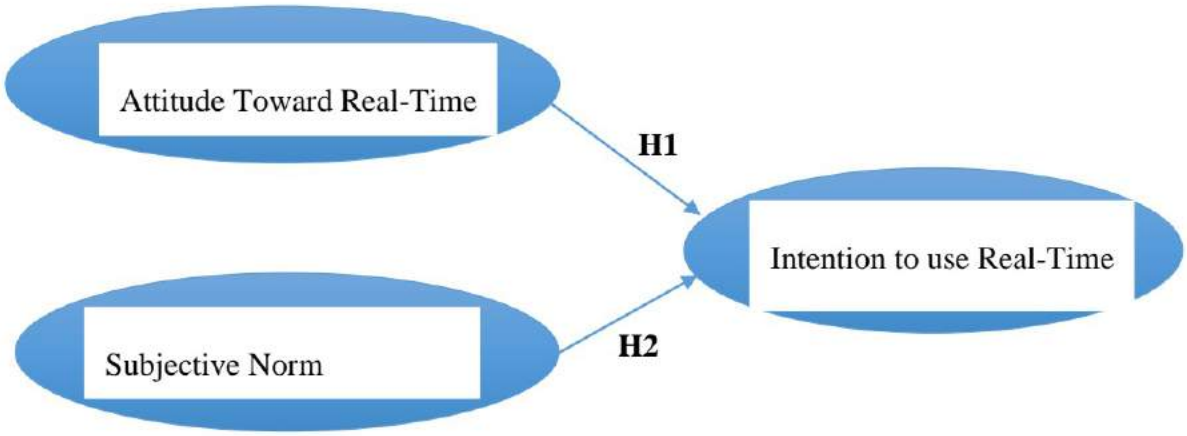


Fig.2.1.1: *Proposed TRA Research Model*

(Adapted: Internet Banking Acceptance in Malaysia based on the TRA: Nor et al., 2008)

The constructs of the TRA have been used as factors influencing technology adoption in a number of studies and found to be sufficient in themselves in certain contexts but have failed in others and, therefore, required expanding (Otieno et al., 2016). Secondly, the importance of culture as a factor influencing technology adoption has been underscored by Twati (2007). For these two reasons, this study has extended the TRA constructs with culture to investigate factors influencing technology adoption, particularly the RT-RAAT technology, by the Internal Audit functions of retail banks in Cameroon that will result in the TRA theoretical framework being extended by culture for use in this study.

2.2.2 Culture.

Twati, (2007) points out that dating back to 1952, Kroeber and Kluckhohn (1952), renown anthropologists, reported the presence of 164 definitions of culture. Kroeber and

Kluckhohn (1963) defined culture as patterns, explicit and implicit, of and for behaviour acquired and transmitted by symbols, constituting the distinctive achievements of human groups, including their embodiments in artefacts; the essential core of culture consists of traditional (i.e. historically derived and selected) ideas and especially their attached values. Culture systems may, on the one hand, be considered as products of action and on the other as conditioning elements of further action.

In their study titled "National Culture and Adoption of New Technologies", Steers et al. (2008) presented a number of definitions of culture by different authors. They cited Trompenaars & Hampden-Turner (1998) as defining culture to be the manner in which a group of people solves problems and reconciles dilemmas.

Hofstede (1980) defines culture as the collective mental programming that a group, a tribe, a geographical region, a national minority or a nation have in common that is different from that of other groups, tribes, regions, minorities, majorities or nation.

Schein (2004, p17) defines culture from a sociological context as a pattern of shared basic assumptions that was learned by a group as it solved its problems of external adaptation and internal integration, that has worked well enough to be considered valid and, therefore, to be taught to new members as the correct way to perceive, think and feel in relation to those problems.

Bagchi et al. (2004) cites Adler's (1997) definition of culture as being the integrated pattern of behavior that includes thought, speech, action and artifacts and depends on man's capacity for learning and transmitting knowledge to succeeding generations. According to

Adler, the integrity of culture may be compromised if not learnt and its knowledge passed on to succeeding generations.

According to Mortimer et al. (2015) definitions of culture fall into one of two categories either objective (explicit) or subjective (implicit). They cite Triandis' (1994) definition of objective culture as representing the tangible aspects of a society, such as tools, roads and overt behaviours. Conversely, subjective culture refers to the mental processes shared by a group of people, resulting in similar beliefs, values, and norms (Bock, 1994; Schwartz, 1997).

There is lack of unanimous consensus among the different authors as to what culture means. The differences in meaning owe their provenance to the different schools of thought that influenced their formulation. Trompenaars & Hampden Turner (1998) hailed from the managerial school of thought whilst Adler (1997) from the psychological school of thought, Hofstede (1980, 2001) and Schein (1992) from the sociological school whilst Triandis, (1994) hailed from the anthropological school.

Regardless of the school of thought and despite lack of unanimity in definition, a common strand runs across all the definitions of culture postulated by these different authors, namely, that culture relates to a group of people and not a characteristic of each individual of a group and must be shared.

2.2.2.1 Types of Culture

From a sociological school of thought Cameron and Quin (1999) classified culture into: Global culture, gender-based culture, occupational culture, regional culture, industry culture, organizational culture and lastly functional, product groups, hierarchy level and

even teams. Global culture according to them is the broadest type of culture exemplified by world religion or culture of the Far East. Gender-based culture relates to distinctive ways in which men and women view the world and occupational culture refers to cultures within different occupations such as police or engineer culture. Regional culture was viewed within an American context and addressed the culture of regions within America. Industry culture on its part, articulates competitiveness, core technology and customer requirements as its key characteristics. Functional, product groups, hierarchy level and even team cultures are cultures relating to the smallest groupings of people.

From a marketing school of thought, Steenkamp (2001) classified culture into four types namely: global culture, meta culture, national culture and micro-culture.

According to him, emerging global cultures with emphasis on modernity, technology, freedom and individual choice which are less crystallized as yet and are shared between particular individuals within countries rather than between countries. Citing Tse et al. (1988, p.82), he defines national culture as being a reflection of general tendencies of persistent preference for particular states of affairs over others, persistent preferences for specific social processes over others and general rules for selective attention, interpretation of environmental cues and responses.

Meta culture being more general than national culture relates to clusters of countries exhibiting a number of common pan-regional cultural characteristics (Ronen and Shenkar, 1985; Smith and Schwartz, 1997; Twati & Gammack, 2007).

He argues further that micro culture or sub-culture is more specific and result from reducing homogeneity within societies due to migration and individualization through language, ethnicity, religion, age, urbanization, and social class. A micro culture preserves important patterns of the national culture but also develops its own unique patterns of dispositions and behavior. Organizational culture may be considered as a micro or subculture.

The two schools of thought cited above, therefore, view culture types in terms of group size (functional to global) or categories (gender-based, racial, occupational, industry, etc) of groups.

Meyerson and Martin (1997) viewed culture types in terms of the extent or degree of homogeneity of the culture and thus classified culture into three types: integrated, differentiated and fragmented. In that light, the integrated culture was described as monolithic and emphasized organization-wide consensus, consistency and clarity (Trice and Beyer, 1993). Usually, it disguises or ignores sub-cultural differences.

The differentiated culture type, on its part, emphasizes the existence of multiple sub-cultures in an organization rather than a single integrated culture that everyone in the organization consistently shares as described above. The differentiation approach (Martin, 1992) suggests that behavioral norms and practices vary across organizational sub-units and are not necessarily shared by all constituencies.

The third culture type is the fragmented culture which is characterized by elements of contradiction and confusion, lack of consistency, lack of consensus and ambiguity (Martin and Frost, 1995).

Van Maanen and Barley (1984) suggest that multiple sub-cultures appear to be the rule in practice and unitary cultures are an exception.

For the purpose of this study only the national and organizational culture types will further be explored in view of the fact that they constitute the two main constructs that will be considered in the research model.

2.2.2.1.1 National culture

Shore & Vankatachalam (1996) as cited by Bagchi et al. (2004) define national culture as a reflection of national patterns in the core values and beliefs of individuals, which are formed during childhood and reinforced throughout life. Lee et al. (2013) adds that national culture is conceptualized as shared symbols, norms and values in a social collectivity such as a country.

Bagchi et al. (2003) cites Adler's (1997) definition of national culture as a set of core values that shapes the behavior of individuals as well as the whole society. Hofstede (1980) defines national culture as the collective mental programming that a nation has in common that is different from that of other nations. He points out that it is not a characteristic of individuals but encompasses a number of people who were conditioned by the same education and life experience.

2.2.2.1.2 Organizational Culture

Hofstede (1991) defines organizational culture as 'the collective programming of the mind which distinguishes the members of one organization from another.

Cameron and Quinn (1999) define organizational culture as "the taken for granted values, underlying assumptions, expectations, collective memories and definitions present in an

organization. They point out that within an organization, sub-units such as functional departments, product groups, hierarchical levels, or even teams may reflect their own unique cultures.

McShane & Glinow (2000) define organization culture as the basic pattern of shared values and assumptions governing the way employees within an organization think about and act on problems and opportunities.

According to Schein (1992), organizational culture is described as widely shared values and assumptions that are clearly understood in an organization. In addition, Champoux (1996) proposed that organizational culture can be defined as dynamic values and is the deep aspect of an organization that shapes human behavior.

Melitski et al. (2010) define organizational culture as the collectively held values, shared beliefs and symbolic ideals to which individuals in a given organization ascribe.

All the authors above agree on the fact that organizational culture includes something collective or shared which serves to galvanize an organization.

The organizational culture as defined by Cameron and Quinn (1999) has been retained for the purpose of this study since it is their four organizational culture types (clan culture, adhocracy culture, market culture, hierarchy culture) that will be used for operationalizing the organizational culture construct.

2.2.2.2 Levels of Culture

From a sociological school of thought, Schein (2004) argues that culture has three levels, viz: artefacts, espoused values and beliefs and basic assumptions or core values. Artifacts,

according to him, are at the surface and constitute those aspects (such as dress or badge within an organizational context) which can be easily distinguished, yet are hard to understand. Espoused values and beliefs are beneath artifacts and represent conscious strategies, goals, and philosophies whereas basic assumptions and values are the core or essence of a culture as represented by the basic underlying assumptions and values which are difficult to separate or discern because they exist at largely unconscious level. These different culture levels are found within the different culture types (vertical and categorical) discussed above. Their interaction with the different culture types based on the integration of the work of Cameron and Quin (1999) and Steenkamp (2001) is proposed by this study for the vertical culture type and illustrated in **Fig.2.1.1** below.

Inspired by the schematic representation below exhibiting the disposition of culture into different types in increasing order of magnitude of people sharing that culture, this study proposes that with humans racing to space (Virgin Galactic edge-of-space travel most recently) and to other planets, in time to come a space, planetary (Mars?) and interplanetary culture will likely be a subject of discussion and investigation.

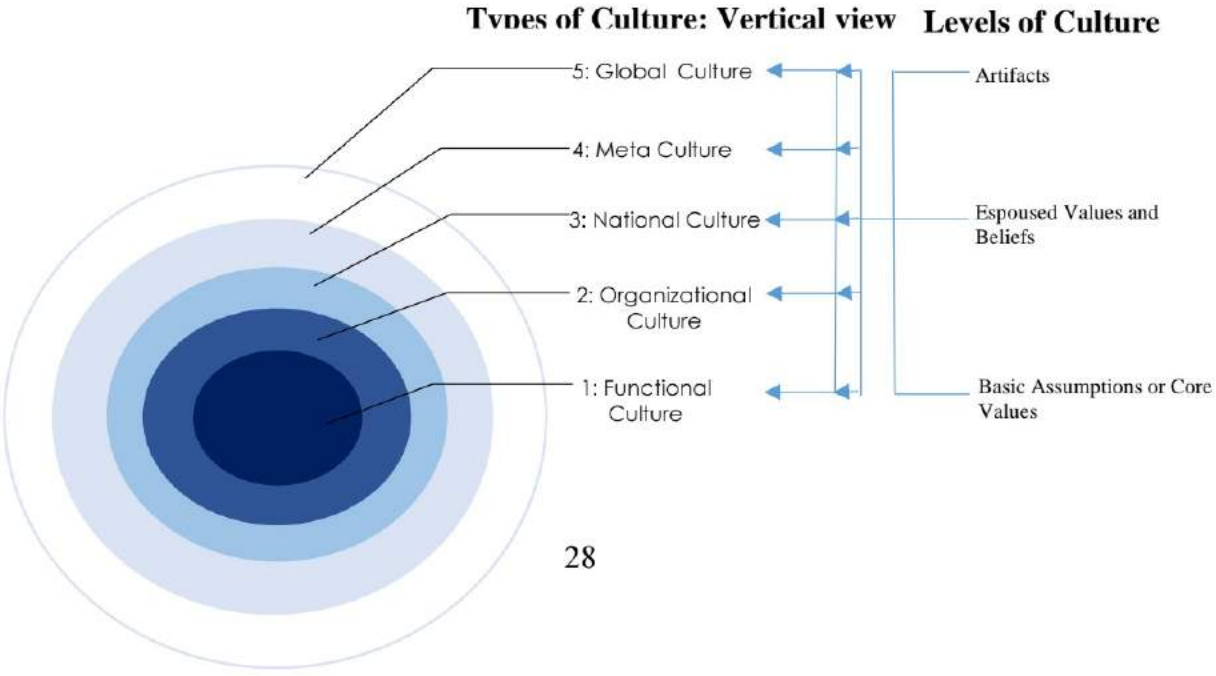


Fig. 2.1.1: *Vertical Type Culture interacting with Levels of Culture*

The study next looks at the importance of culture in information technology (IT) adoption.

2.2.2.3 Importance of Culture

Many factors affect the adoption of technology including culture. The importance of culture in technology adoption has been explored by a number of literature. From an organizational point of view, Twati (2007) cites KPMG (1999) report on importance of culture and indicate that many technology adoption, organizational change and mergers and acquisition have faltered or failed because of inadequate consideration of the importance of organizational culture (Rashid et al., 2004; Al-Mashari & Zairi, 2000 ; Fey & Denison, 2003 ; Fontaine & Richardson, 2003; Laudon and Laudon, 2006).

According to Schein (2004), culture is the most difficult organizational attribute to change, outlasting organizational products, services, founders and leadership and all other physical attributes of the organization.

Cameron and Quinn (1999) argue that organizational culture is important because plans for any changes adopted without including organizational culture normally would have unforeseen and usually negative consequences. They add that culture is the glue that holds the organization.

The different literature above highlighting the importance of culture provide the basis upon which, in this study, the theory of reasoned action (TRA) has been extended with culture to investigate the influence of attitude, subjective norm and culture on real-time revenue assurance automation technology adoption by internal audit functions of retail banks in Cameroon.

Earlier above, it was stated that only national and organizational culture out of the five culture types (functional, organizational, national, meta and global) were selected to investigate their influence on the intention to use or adopt RT-RAAT. The study, therefore, next looks at their measures in the context of an empirical study such as this one.

2.2.2.4 Measures of Culture

In this study, measures of culture are constructs or variables that different authors on culture have conceived and/or used to enable a direct empirical measurement of the sub-constructs of culture and thereby indirectly measure the culture construct.

2.2.2.4.1 Measures of National Culture

Many authors have postulated measures of national culture amongst whom Hofstede's (1980), Schwartz (1994), Trompenaars & Hampden Turner (1998) and Inglehart (1998). Hofstede's model stood out amongst the lot for its popularity (cited in 1500 scholarly works in different fields of study according to Bagchi et a1 (2004) and rising up to 5, 687 as of the time of writing this paper), standing the test of time (over 40years today) and criticism (Baskerville, 2003; McSweeney, 2002; Steenkamp, 2001). For these reasons, they were used in this study.

Hofstede's (1980) initially postulated four measures of national culture as follows: power distance (PD), uncertainty avoidance (UA), masculinity/femininity (MF), individualism/collectivitism (IC) and later was extended by Bond (1988) to include long-term orientation (LTO) and in 2011 he added the sixth dimension indulgence/restraint (Hofstede, 2011). Due to the recent introduction of the latter two and their inadequate use in empirical studies, they will not be further explored in this study.

He defined and characterized the four measures or dimensions of national culture as follows:

Power distance (PD) indicates the extent to which a society accepts the fact that power in institutions and organizations is distributed unequally. Power distance may be high or low. It is characterized as in ***Table 2.1.1*** below.

Table 2.1.1: *Characteristics of low and high power distance societies.*

High Power Distance	Low Power Distance
Example nations: Brazil, France, India, Uruguay, Mexico, Peru, Philippines, Venezuela.	Example nations: Austria, Australia, Canada, Denmark, Finland, U.S., U.K.
Most should be dependent.	All should be interdependent.
Centralized decision structure.	Decentralized decision structure.
Autocratic decision-making by managers.	Decision-making shared by managers and workers.
Less need for technology.	More need for technology.
More static society.	Technological momentum of change.
Corruption frequent.	Corruption rare.

Source Hofstede (2001, 2011).

Uncertainty avoidance (UA) indicates the extent to which society feels threatened by uncertain and ambiguous situations and tries to avoid these situations by providing greater career stability, establishing more formal rules, not tolerating deviant ideas and behaviours and believing in absolute truths and the attainment of expertise. Similarly, uncertainty avoidance may be high or low. It is characterized as in ***Table 2.1.2*** below.

Table 2.1.2: *Characteristics of low and high uncertainty avoiding societies.*

High Uncertainty Avoidance	Low Uncertainty Avoidance
Example nations: Austria, Brazil, France, Japan, Uruguay, Mexico, Peru, Venezuela.	Example nations: Australia, Canada, Denmark, Finland, India, Philippines, U.S., U.K.
Less interpersonal trust.	Most people can be trusted.
Only known risks are taken.	Willingness to unknown risks.
More written rules.	Fewer written rules.
Less use of Internet and teletext.	More use of Internet and teletext.
Low rates of innovations; innovations resisted	High rates of innovation; innovations welcomed

Source Hofstede (2001).

Masculinity/femininity (MF) indicates the extent to which the dominant values in a society are "masculine" – i.e., assertiveness, competition, the acquisition of money and things and not caring for others, the quality of life, or people. Masculine/feminine culture exists on a continuum with masculinity as one pole and femininity the opposite pole. Hofstede (1997) pointed out that culture at a national level is manifested mostly in values and less in practices.

Its characteristics are as in ***Table 2.1.3*** below.

Table* 2.1.3: Characteristics of low and high masculine societies.*

High MF	Low MF
Example nations: Austria, Australia, Canada, India, Japan, Mexico, Phillippines, Venezuela, U.S., U.K.	Example nations: Denmark, Finland, France, Uruguay, Peru, Spain, South Korea, Sweden.
Live in order to work.	Work in order to live.
Purchase for showing off.	Purchase for use.
Smaller share of women in professional and technical jobs.	Larger share of women in professional and technical jobs.
High percentage of poor and illiterate.	Low percentage of poor and illiterate.
Only women are supposed to be concerned with quality of life.	All are concerned with quality of life.

Source Hofstede (2001).

Individualistic/Collectivistic (IC): is the degree to which people in a society are integrated into groups. In individualistic cultures ties between individuals are loose: everyone is expected to look after him/herself and his/her immediate family. In collectivistic cultures, people from birth onwards are integrated into strong, cohesive in-groups, often extended families (with uncles, aunts and grandparents), that continue protecting them in exchange for unquestioning loyalty and oppose other in-groups. In **Table 2.1.4** below are some characteristics of this dimension of national culture.

***Table* 2.1.4:** *Characteristics of low and high individualistic societies.*

Low Individualism	High Individualism
Example nations: Uruguay, Mexico, Pakistan, Peru, Philippines.	Example nations: Australia, Canada, Denmark, Finland, France, India, U.S., U.K.
Imposes a limit on possibilities of transferring technologies.	Adopts technologies developed in Western societies.
Group decisions are better; in-group mentality.	Individual decisions are better; groups matter less.
Less economic development, less modern industry.	More economic development, more modern industry.
Use fewer home computers or telephone answering machines; social network is main source of information.	More likely to own a home computer or telephone answering machine; media is main source of information.
Science and technology treated as mystery; public uninformed about technological facts.	Science and technology treated as matter of fact; public informed about technological facts.

Source: Hofstede (2001).

The reliability of the first four which adds credibility to the data the measures collect was confirmed using Cronbach Alpha by Hofstede (2013) as follows: PD = 0.842, UA = 0.715, MF = 0.760, IC = 0.770 – VSM Manual 2013) but not yet so for the other two measures (LTO and I/R) (Gerlach and Eriksson, 2021).

2.2.2.4.2 Measures of Organizational Culture

In like manner as for national culture measures above, a number of organizational culture measures have been advanced by different authors. These are considered next.

Melitski et al. (2010) noted the scarcity of literature relating to the public sector in the U.S. that quantify organizational culture dimensions along the lines of Hofstede's (1980) four national cultural dimensions. Inspired by the Survey of Organization's (SOO) and Institute for Social Research's (ISR) four measures of organizational culture (Organizational climate, job design, leadership and outcomes) and Denison's (1990) six measures of organizational culture (job design, goal integration, inter-unit coordination, work inter-dependence and cooperation), they proposed four organizational culture measures and

related variables as follows: organizational climate, decision-making practices, leadership and behavioural outcomes.

Hofstede (1991), on his part, developed six dimensions that emerged from his research to assist in understanding different kinds of organizational cultures. The dimensions were: process versus results, employee versus job oriented, parochial versus professional, open versus closed system, loose versus tight control, and normative versus pragmatic. Hofstede's organizational culture dimensions were influenced by his conceptualization of societal culture and thus more suitable for societal culture than organizational culture. For this reason and the fact that it is less parsimonious when compared to OCAI below, it will not be used for this study.

Cameron and Quinn (1999), based on the six dimensions of Rohrbaugh and Quinn's (1989) competing values framework (CVF) namely: Organizational Characteristics (OC), Organizational Leadership (OL), Management of Employees (ME), Organizational Glue (OG), Strategic Emphasis (SE), and Criteria of Success (CS), postulated four measures of organizational culture based on the organizational culture assessment instrument (OCAI). These measures were: hierarchy, clan, adhocracy and market. They defined these measures as follows:

Hierarchy culture (HC) is characterized by a formalized and structured place of work where procedures control what employees do and successful leaders are good coordinators and organizers. The objectives and aims of this type of organizational culture focus on efficiency and the organizational environment is stable and simple; if changes are to be made they should be kept to a bare minimum. The hierarchy culture's key values focus on

keeping an efficient, consistent, speedy, steady flow of products or services. Examples include large organizations and government agencies.

Clan Culture (CC) likened to an extended family with shared values, beliefs, goals, unity, and participation. Instead of the rules and procedures of hierarchies or the competitive profit-centers of market culture, typical characteristics of clan culture are cooperation, coordination, teamwork, employee involvement, rewards, fewer management levels, and harmony. It focuses on internal issues and values flexibility and carefulness rather than looking for stability and control. The clan culture is also characterized by a friendly place to work where people share a lot of themselves.

Market culture (MC) is not the same as the marketing function but rather refers to an organization that functions as a market itself. It also values steadiness and control but in addition focuses more on external environments rather than internal issues. This culture is likely to view the external environment as threatening and searches to recognize threats and opportunities as it looks for competitive advantage and profits. It is characterized by its external orientation and competitive stance. The market culture's main principles are competitiveness and productivity.

Adhocracy culture (AC) focuses on external issues and values flexibility and carefulness rather than looking for stability and control. It is characterized by originality, creativity, risk taking and entrepreneurial focus. Organizational charts and formal structure are not emphasized or non-existent. Job roles and established physical space are also considered to be flexible. The adhocracy culture (AC) is also characterized by a self-motivated, entrepreneurial and creative workplace (Cameron & Quinn, 1999). Software development

and aerospace organizations are examples of organizations dominated by this type of culture, where the key challenges they face are manufacturing innovative and original products and/or services and adapting speedily to new opportunities.

Some studies refer to the above four organizational culture measures as types of organizational culture. These measures will be adopted for this research because of the parsimony of the OCAI instrument and the fact that the OCAI instrument has been widely cited and used in more than a thousand organizations and found to accurately predict organizational performance (Twati, 2008).

Culture- related literature reviewed in relation to technology adoption indicated that studies investigating the influence of culture on technology adoption was lacking (Crabbe et al., 2009; Mortimer et al., 2015) and virtually inexistent combining both national and organizational culture constructs (Bagchi et al., 2003). The literature also revealed that RT-RAAT technology had not been considered in empirical studies as was loan interest revenue as a revenue type in revenue assurance. Thus begging the second research question:

RQ2: What is the effect of culture on the intention to use RT-RAAT technology by Internal Audit functions of retail banks in Cameroon?

In order to answer the above research questions, the study proposed as follows in respect of above the question:

Proposition 2: Societal/national culture affects the intention to use RT-RAAT technology by Internal Audit Functions of retail banks in Cameroon.

Since propositions cannot be directly tested, in themselves being relationships between abstract constructs (culture, intention to use, attitude and subjective norm), the study made use of the following hypotheses to validate or otherwise the propositions and in turn answer the research questions.

The above proposition was indirectly tested through four hypotheses based on Hofstede's (1982) four cultural dimensions as follows:

H1-1: Societies with high power distance culture will have a significant negative direct effect on intention to use RT-RAAT technology.

H1-2: Societies dominated by high uncertainty avoidance will have a significant negative effect on intention to use RT-RAAT technology.

H1-3: Societies dominated by feminine cultures will have a significant negative effect on intention to use RT-RAAT technology.

H1-4: Societies with high collectivist culture will have a significant negative effect on intention to use RT-RAAT technology.

Proposition 3: Organisational culture affects the intention to use RT-RAAT technology.

The above proposition was indirectly tested through four hypotheses based on Cameron and Quinn's (1999) four organizational cultural dimensions as follows:

H2-1: Banks dominated by clan hierarchy culture type will have a significant negative effect on intention to use RT-RAAT technology.

H2-2: Banks dominated by adhocracy culture type will have a significant positive effect on intention to use RT-RAAT technology.

H2-3: Banks dominated by market culture type will have a significant positive effect on intention to use RT-RAAT technology.

H2-4: Banks dominated by hierarchical culture type will have a significant negative effect on intention to use RT-RAAT technology.

In respect of the hypotheses above, the dependent variable was intention to use RT-RAAT technology and the independent variables were the national (PD, UA; M/F, I/C) and organizational (CC, AC, MC, HC) cultural dimensions and the TRA constructs (Attitude and subjective norm).

The proposed research model using the measures of culture as proposed above is as follows:

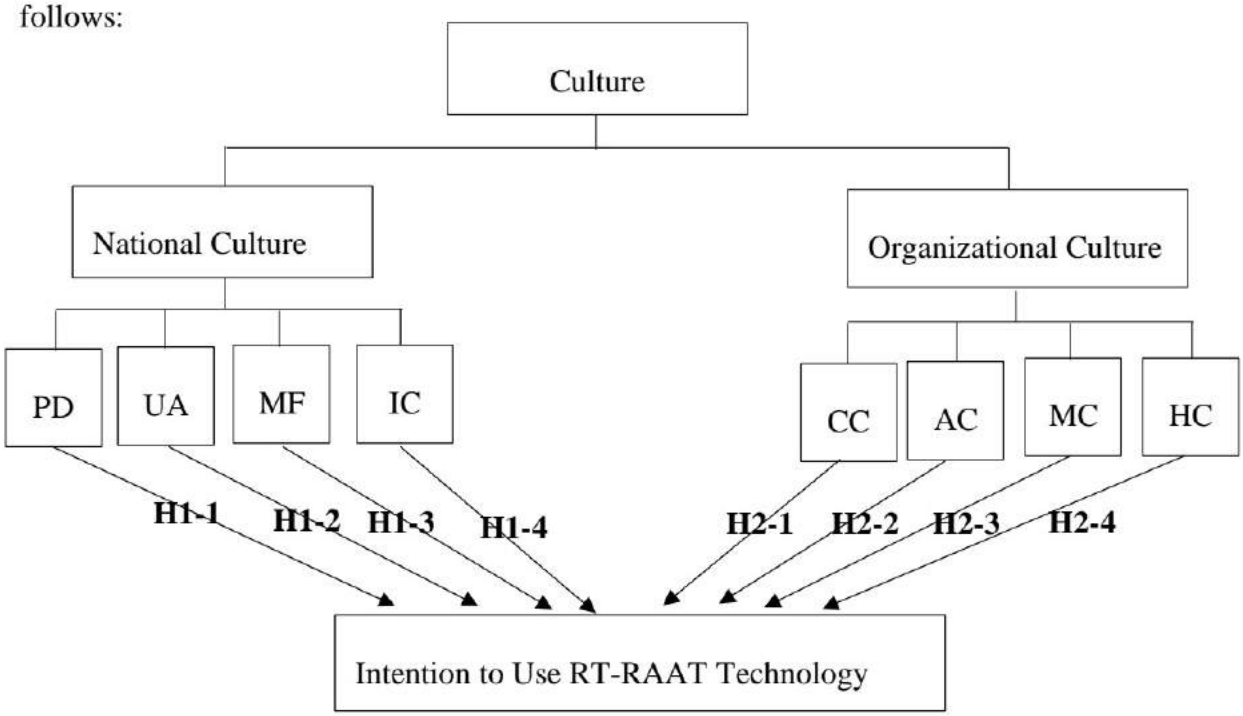


Fig.2.4.1: *Proposed Culture Research Model*

In conclusion, the complexity of the meaning of culture, therefore, becomes evident as firstly, there are so many definitions (164) of them and secondly, it is influenced by many

factors: different schools of thought (anthropological, managerial, psychological, sociological, marketing) formulating its definition and authors of the same school of thought do not entirely agree on its definition (e.g, Adler, 1988 vs Trompenaars &Hampden-Turner, 1998 both of the managerial school of thought). Thirdly, culture manifests itself in different types (global, meta, national, micro), of which five of such types and two of them (national & organizational) have been given respective dimensions (PD, UA, MF, IC, LTO & CC AC, MC, HC).

Hofstede's (1980) national culture dimensions and Cameron and Quinn's (1999, 2006) organizational culture measures were adopted for the present study. Their parsimony and extensive empirical validation of their models and instruments (OCAI), predictive capability and the simplicity of calculating their scores provide the basis upon which they were adopted for this research.

According to Newman & Nollen (1996), societal or national culture may be expected to have an influence on organizational culture, however, in the current study the researcher treats both societal and organizational culture as conceptually independent.

Extended TRA Research Model

It is assumed that the stakeholders for RT-RAAT technology in banking organizations in this study will think through and evaluate the consequences of intending to use (ITU) RT-RAAT technology in line with the planning function (e.g, cost vs benefit analysis) with which they are acquainted (Daft & Marcic, 2016) in managing activities within the organization hence the relevance and use of the TRA theory to investigate the influence of

its constructs in technology adoption as proposed by Fishbein and Ajzen (1975) in **Fig. 2.1.1** above.

Furthermore, it was assumed that the TRA constructs were going to be inadequate to explain the factors influencing the adoption of RT-RAAT technology by retail banks in Cameroon as such it was extended by culture given its importance in technology adoption and other studies. Bagchi et al., (2003) points to studies carried out on culture and IT adoption to be either from a national culture perspective or organizational culture perspective.

- The effect of national culture on IT (Ein-Dor et al., 1993; Straub,1994) and,
- The effect of organizational culture on IT (Burkhardt, 1994; Cooper, 1994; Robey et al., 1992)

Also, Twati (2004) cites Hall (1989) as stating that social science research also divides culture into national and organizational cultures.

This paper will follow this cue in its analysis of culture and its use in the research model.

The sociological definitions of culture by Hofstede (1980, 1994, 2006) and Cameron and Quinn (1999) and their dimensions/measures will be adopted in this study for their simplicity yet highly predictive capability, parsimony and for the pre-validation of related instruments over the years in various fields of applications.

Based on the combination of these two frameworks, we propose our extended research model in **Fig. 2.4.2** below.

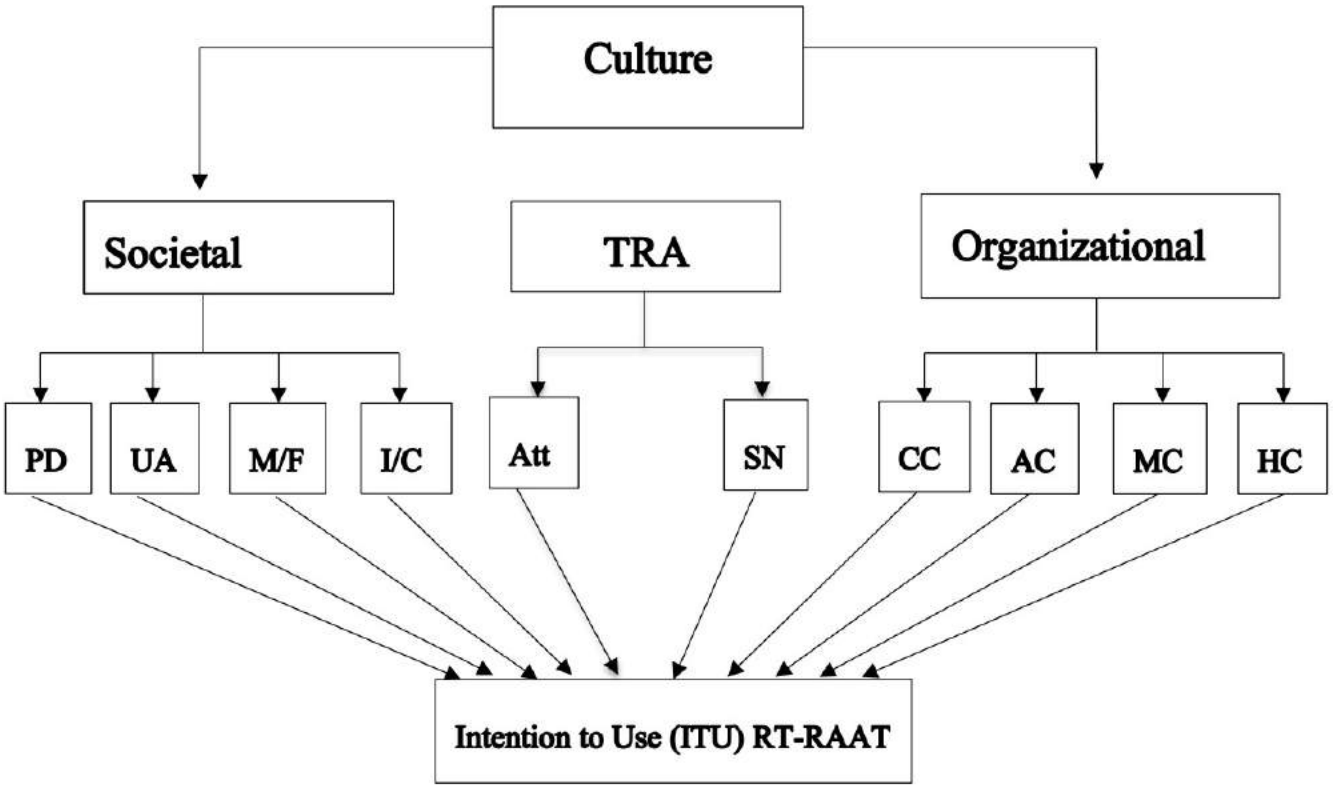


Fig.2.4.2: *Extended TRA Research Model* (Adapted:Twati & Gammack, 2007; Fishbein & Ajzen, 1975)

2.3 Revenue Assurance Process

Revenue assurance is one of the assurance processes carried out by the internal audit function of retail banking organizations. In order to provide a meaning of loan interest revenue, this paper defines firstly revenue assurance in a general sense based on an adaptation and improvement of the definition of revenue assurance by IT Gartner glossary. The glossary defines revenue assurance as the application of a process, hardware or software solution that enables a retail bank to accurately capture revenue for all services rendered, correcting errors on a real or near real-time basis in the process thus resulting in an error-free revenue amount in statutory financial and internal reporting. In the context of

this study, the revenue is loan interest revenue, thus the scope of services rendered will be limited to loans granted to customers and corresponding interest income arising therefrom. Revenue assurance as it relates to the loan interest revenue stream, therefore, can be defined as the application of a process, hardware or software solution that enables a retail bank to accurately capture revenue for all loans granted, correct errors, monitor controls, risks and compliance and assess risks to ensure an error-free loan interest revenue amount in statutory financial and internal reporting.

2.3.1 Revenue Assurance Automation

Process automation is a precondition for the deployment of a real-time revenue assurance automation technology (Alles et al,. 2008). Literature (Moffitt et al., 2018; Kaya , 2019; Alles et al., 2008) point out that in addition to the need for the digitalization of the underlying process, the more modular or well-defined a process is the easier it is to automate. In that regard, Alles et al. (2002) proposes that the revenue assurance process can be broken down into three generic steps as follows:

1. Capturing by the assuree of information related to the transactions, processes and environment that are the subjects of assurance,
2. Monitoring and analyzing by the assuror the transactions, processes and records to ensure the reliability of the information,
3. Communicating the outcome of the assurance engagement by the assuror.

In the context of this study, the revenue in question is loan interest revenue and the steps involved in its assurance are proposed as follows:

(1) Verification of loan application documents & approval – (2) Verification of loan amortization input data – (3) Verification of the posting of loan interest revenue and principal to the ledger – (4) Verification of ledger account balances to trial balance - (5) Verification of trial balances to financial statements and finally – (6) Reporting to board of directors.

Steps 1 – 6 above correspond to steps 2 and 3 of the generic assurance process preceding them. Management is responsible for step 1 of the generic assurance process thus explaining why it has not been included in loan interest revenue assurance carried out by the internal auditor.

Alles et al. (2002) indicate a number of technologies to automate each of the steps above, that include bar coding, scanning, automatic transaction recording and the low cost of data storage and retrieval that have enabled nearly continuous or continuous recording of business transactions. Thus information capture by the assuree, the first step in the generic assurance process above, is nearly continuous. This equates to the "capture of loan application documents and approval information", by the Credit department of retail banks. They argue that at least in principle this first step can be implemented.

For the second step, "monitoring and analysis by the assuror", they proposed two approaches to automation with real time capabilities, viz: continuous monitoring of the assuree's system and continuous reprocessing of all the assuree's information using a mirror system. For a wider assurance scope, the former approach will appear more feasible to be implemented due to the lower set-up cost. This second step corresponds to sub-processes 1 – 5 of the loan interest revenue assurance process. Finally, the third step –

"Communicating the outcome of the assurance engagement by the assuror" - corresponding to sub-process 6 of the loan interest revenue can be implemented by internet connectivity afforded by Web, email, and peer-to-peer computing technologies which underlie the distribution of assurance reports on a continuous basis but will be more on a demand basis as they question the need for real or near real-time reporting. They underscored the fact that their propositions are more conceptual than empirical thus highlighting a research gap to be filled.

Alles et al.'s (2010) defines automation of a process as the integration of technology into the business process to replace manual precedent. Manson et al. (1998) define audit automation as 'The use of computers in the management, planning, performance and completion of audits to eliminate or reduce time spent on computational or clerical tasks, to improve the quality of audit judgments and to ensure consistent audit quality' (ICAEW, 1993, p. 5). Their definition of audit automation was anachronistic and showed lack of foresight in that sufficient thought was not given to automation of audit via a software which is the trend today. This paper, therefore, defines audit or assurance automation as the term employed to represent the use of technologies, hardware and/or software, with real or near real-time capabilities to replace or enhance the efficiency and effectiveness of manual audit procedures and audit quality on and/or offsite. Audit or assurance automation may also mean computerizing audit procedures previously manually carried out or totally reengineering the audit or assurance process.

For revenue assurance (RA) process to be automated with technologies having real-time capabilities, it must meet certain conditions. Literature (Alles et al., 2008; Moffit et

al., 2018) indicate that the process must be manual, repetitive, voluminous, formalized (modularized), digital and underlying data standardized. In certain cases such as automation with continuous auditing technology, an appropriate enabling technology such as ERP must be deployed. Set-up cost is also a factor even though in the contexts of banks and telecom, it is not an issue given they are usually well resourced financially.

Audit automation technology may exist as CAATS or in an advanced state such as continuous auditing or assurance (CA) and more recently robotic process audit (RPA) and its variants as well as audit analytics. CA and RPA are audit automation technologies that offer near or real-time capabilities and have been considered in this study.

According to Alles et al. (2002), the concept of continuous auditing was first broached by Groomer and Murthy in 1989 and followed by Vasarhelyi and Halper in 1991 when they reported its application in billing at AT & T (Bell Lab). Many other authors have since made contributions on the subject (Chan et al., 2011; Kogan et al., 1999; Bumgarner and Vasarhelyi, 2015) and instances of its application have increased (HP, Siemens, Exxon, Itua Unibanco, HCA Inc, IBM, HP, MetLife, P&G, Computer Associates and Proctor & Gamble) though to be found largely in Europe and North America.

2.3.2 Real-Timeliness in Revenue Assurance

Today's global economy has, however, become more real-time (Vasarhelyi, et al., 2010) as a result of technological advances and the financial scandals of Worldcom, Enron and Arthur Andersen. Furthermore, the financial crisis of 2008-2009 has caused regulatory bodies to require a more real or near-real time financial reporting and assurance in

developed countries (Sarbox 2002 S.404 in the USA) and similar measures in developing countries including Cameroon though to a lesser extent.

With the technological advances cited above (ERP, internet, broadband network, XBRL, etc) that have catalyzed the advent of real time assurance, CICA/AICPA came up with a definition for real time assurance in 1999. According to them, real-time assurance is a methodology that enables independent auditors to provide written assurance on a subject matter for which an entity's management is responsible, using a series of auditor's report issued virtually simultaneously with, or a short period of time after, the occurrence of events underlying the subject matter. Real-time assurance as defined above addresses only the third step (communication of the outcome by the assuror) in assurance process proposed by Alles et al. (2002) above. The definition is also biased towards assurance that is provided by external auditors only and, therefore, does not fit in the context of this study as it is deficient in regard to Alles et al.'s (2002) steps one and two which respectively correspond to capturing of information by assuree and monitoring and analysis of captured information by assuror.

Also noteworthy is the fact that CICA/AICPA (1999) definition of real time assurance above has failed to evolve with technology. Real time or continuous assurance technology initially entailed continuous data auditing (CDA) alone according to Vasarhelyi and Harper (1991), it later evolved to include three elements, namely: continuous data auditing (CDA); continuous control monitoring (CCM) and continuous risk monitoring and assessment (CRMA) according to Vasarhelyi et al., (2010) and in 2015 Bumgarner & Vasarhelyi (2015) added the fourth element continuous compliance (COMO) thus aligning real time

assurance with the governance, risk and compliance (GRC) model that underpins the activity of the internal audit function.

The first two elements (CDA + CCM) relate to control activities, the third element (CRMA) to risk activities and the fourth (COMO) to compliance. Vasarhelyi et al. (2010) caution that GRC testing and assurance are not synonymous.

The researcher's experience shows that revenue is still being assured through re-computation using MS Excel and ACL tools on a retrospective basis by Internal Audit functions of most retail banks in Cameroon and frequently on an irregular basis.

In the light of the above, this paper proposes a definition for real time revenue assurance as the application of a process, hardware or software solution that enables a retail bank to accurately capture revenue for all services rendered, correct errors, monitor controls, risks and compliance and assess risks to ensure an error-free revenue amount in statutory financial and internal reporting permitting the independent assuror (internal or external) thereby to provide written assurance on a subject matter for which an entity's management is responsible, using a series of auditor's report issued virtually simultaneously with, or a short period of time after, the occurrence of events underlying the subject matter.

Thus defined, it addresses the real time aspect (CICA/AICPA, 1999) as well as the extended revenue assurance definition mentioned by literature (Alles et al., 2008; Bumgarner & Vasarhelyi, 2015; Vasarhelyi, et al., 2010).

Two technology types have been considered in this study to provide real-time capabilities for loan interest revenue assurance, namely continuous audit/assurance(CA) and attended

robotic process automation (RPA) given that some aspects of revenue assurance still require auditor intervention.

Vendors of real-time automation technologies include, but are not limited to, Galvanize and Caseware IDEA in respect of CA and Uipath and Blueprism for RPA.

The phenomenon of fraud and management override of control globally over the last two decades in financial and non-financial circles led to changes in the role of the internal audit function as evidenced by the evolution of the definition of internal audit. This study will next explore those changes as a result of these events as well as changes consequential to the advent of real-time automation technologies.

2.3.3 Role of Internal Audit Function in Revenue Assurance.

The role of the Internal Audit in assurance has evolved from being an emasculated subservient monitoring function (Karagiorgos et al., 2006; Morgan, 1979), like any other support functions of an organization, that was barely tolerated in the organization to a role that is collectively shared by different members of the organization (Cook and Wincle, 1976) through to an independent appraisal function servicing the organization (IIA, 1991; Taylor and Glezen, 1991; Konrath, 1996) and more recently to a function that is well empowered to make objective and independent pronouncements on the operations of the organization and actively contributes towards the achievement of organizational objectives (IIA, 2000). That role continues to change with the advent and application of new technologies in audit and in that connection, Gotthardt et al. (2020); Lombardi et al. (2014); Chan & Vasarhelyi (2011) and Moffitt et al. (2018) argue that real-time technology such as continuous assurance/auditing (CA) and robotic process automation (RPA) technologies

enable the role of the Internal Audit function to change from handling labor and time intensive audit procedures to handling audit exceptions and audit procedures requiring human judgment. Additionally, by hiving off the internal audit function from other organizational support functions to meet independence and objectivity requirements coupled with the advent of real-time revenue assurance technology, the role of the internal audit in retail banks can be leveraged from tactical to include strategic elements like providing timelier information to gain competitive advantage.

Alles et al. (2002) points out some possible independence issues arising on the deployment of a CA technology.

Despite the IIA's (2000) definition above, the researcher's experience in the last five years in Cameroon shows that the Internal Audit functions of some retail banks were not independent as they did not still functionally answer directly to a board of directors, the guarantor of independence, but instead reported both functionally and administratively to a chief executive officer. This state of affairs detracts from the assurance role of the Internal Audit function implied in auditor's objectivity and independence. Could this then be one of the reasons why some Internal Audit functions of retail banks in Cameroon still do not have real-time revenue assurance technologies deployed?

2.4 Target Technology

The technology under consideration for adoption by the internal audit function of retail banks in Cameroon in this study was real-time revenue assurance automation technology (RT-RAAT) under the guise of continuous auditing/assurance (CA) and attended robotic process automation (RPA).

In Cameroon and as of the period of this study, the banking landscape was characterized by a central bank, seventeen banks of which a foreign corporate and an extensive network of microfinance institutions. In all, there were sixteen retail banks. These are mainly regulated by the Central African Banking Commission (COBAC), the Ministry of Finance of Cameroon and National Agency for Financial Investigation (ANIF), amongst others.

Every bank staff in respect of the level of hierarchy of the respondents investigated in this study was equipped with a lap-top computer and had access to other technology-related work tools such as internal mailing systems, the internet, Microsoft Office and use of the banks' ERP systems (Flexcube, Finacle) for the aspect therof relating to their work. The banks themselves were equipped with data centers counting numerous state-of-art servers and the different branches across the national territory were linked via local and wide area (LAN/WAN) networks with a mix of wired (optical fibre, ethernet) and wireless technologies. The clearing system with the central bank was fully automated and an established use of the swift system was in place. Taking advantage of the wireless mobile network with 4^{th} generation capabilities existing in all the cities of the country and some rural areas, these banks also added the local mobile money transfer technology to the swift. Thus quite a computer literate workforce and banks with an expanded and modern network infrastructure.

Revenue sources of retail banks in Cameroon are many and varied including loan interest revenue with its peculiarity of being a calculated or derived revenue. The fact that a manual intervention is required in its calculation makes it more susceptible to fraud (Chiu

et al., 2014; Vasarhelyi et al., 2004). This phenomenon of fraud and its incidence can be stemmed or drastically curtailed through the process of revenue assurance effected by the Internal Audit function of retail banks on a real or near real-time basis.

2.5 Technology Adoption Framework

Technology adoption is influenced by many factors that are derived from influential theoretical frameworks and expanded as necessary, process characteristics and otherwise. This paper provides the definition of technology adoption, makes the distinction between technology adoption and diffusion, details the steps involved in technology adoption generally and adoption steps with particular reference to continuous auditing (CA) and RPA as examples of real-time revenue assurance automation technology and finally the steps followed for diffusion of innovation generally.

Adoption of technology in this study refers to a well-defined technological project (RT-RAAT) that spans from the stage of becoming aware of the technology, through selection of the technology, then to the configuration, training, and eventual going live where the technology becomes functional or goes into actual use (Twati, 2008).

Rogers (2003) defines adoption as a decision to make full use of an innovation. Innovation in a generic sense is understood to mean the introduction of a new thing, product, service, technique, behaviour or idea. Technology adoption is, therefore, a decision to make full use of a new technology. In the case of this study, the innovation is a new technology and the proposed new technology is real-time revenue assurance automation technology (RT-RAAT) as exemplified by continuous auditing/assurance (CA) and robotic process automation (RPA).

Rogers (2003, p.170) points out that adoption is different from diffusion in that the adoption process pertains to an individual or an organization whereas the diffusion process occurs within a society or social system, as a group process. Since this study will seek to determine the factors that explain the existing CAATS status of loan interest revenue assurance by internal audit functions of retail banks in Cameroon, it will look at adoption and not diffusion of real time revenue assurance automation technology by internal audit functions of retail banks in Cameroon. Furthermore, adoption in the context of this paper will be regarded from an organizational (the bank) and not the customer perspective though literature for adoption from customer perspective will be used to inform the research.

Rogers (2003, p.170) suggests five successive stages through which the adopter will go through to attain the above functional state as follows:

Knowledge stage: adopters become aware of the new technology through different sources available in the social system;

Persuasion stage: the adopter becomes interested in the new technology and develops mental acceptance or rejection of the new technology;

Decision stage: the adopter engages in activities that lead to a choice to adopt or reject the new technology; this is the feasibility stage where the adopter assesses the benefits of the new technology application and its anticipated future situation, then decides whether or not to implement it;

Adoption or implementation stage: the adopter makes full use and applies the new technology application on a small or full scale in order to determine its utility in its own situation;

Confirm stage: the adopter seeks support for the innovation-decision that had already been made at the previous stages and uses the new technology continuously, full-scale and applies any improvements for upgrades.

In the context of a continuous assurance technology, Vasarhelyi et al. (2010) recommends a 6 step process to the implementation/adoption of such a technology as follows:

1) establish priority areas; 2) identify monitoring and continuous audit rules; 3) determine the process's frequency; 4) configure continuous audit parameters; 5) follow up; and 6) communicate results.

Kaminski (2011) cites Rogers (2003) as arguing that innovation adoption amongst organizations in a social system (diffusion) respect the following pattern or steps: Innovators, early adopters, early majority, late majority and laggards. There is even a sixth category, he pointed out, being non-adopters.

In a technological innovation context, the first category, innovators, is otherwise termed technology enthusiasts and account for 2.5% of the adopters of the innovation, the second category- early adopters (visionaries) - account for 13.5% of adopters, the third category- early majority (pragmatists) - account for 34%, fourth category- late majority (conservatives) - account for 34% and the five category laggards - (skeptics) - account for 16%.

2.6 Summary

In this chapter, a review of selected literature was carried out from four standpoints: revenue assurance process within internal audit functions, role of the internal audit function in that assurance process, real-time technologies used in automating revenue assurance and the theoretical frameworks underpinning technology adoption.

The review revealed that revenue assurance by Internal Auditors existed at a CAATS (MS office and ACL) level for most of the Internal Audit functions resulting in audit inefficiencies, financial losses and delay in management decision-making, amongst others. The literature also indicated that full automation of the revenue assurance process was possible but only to the extent that it addressed direct transactional revenue (Moffitt et al., 2018; Kaya , 2019; Alles et al., 2002) rather than derived revenue the like of loan interest revenue. The literature further indicated that the global economy has become more real-time requiring, therefore, automation of the revenue process to be in sync with current trend so as to control the above shortcomings.

The role of the internal audit function was revealed to be critical in revenue assurance and to have evolved over time to the point where with the advent of real-time technologies it can be strategic providing competitive advantage.

The literature revealed continuous auditing (CA) and robotic process audit (RPA), amongst others, to have real-time capabilities conducive to revenue assurance automation. With the study aimed at investigating the factors that influence the adoption of real-time technologies within the context of revenue assurance, a number of influential technology adoption frameworks were uncovered by the literature namely, TAM, UTAUT, TPB,

DTPB and TRA amongst others that have been used in that regard. Many authors in the literature noted that the TRA has not been used in empirical technology adoption studies in relation to RT-RAAT and pointed out that of itself TRA was incapable of fully explaining technology adoption factors and coupled with the importance of culture in technology adoption it was extended by culture in this study (Twati, 2008).

The literature revealed culture to be a very complex concept with up to 164 definitions (Kroeber and Kluckhohn, 1952) and existed in many types and levels (Steenkamp, 2001; Cameron and Quinn, 1999; Schein, 2004). Its use in an empirical context such as this one required it to be measurable and the literature indicated many authors who had conceived and used, in certain cases extensively, cultural measures at national and organizational levels amongst whom Hofstede (1982, 1994) and Cameron and Quinn (1999) who were retained for this study for their popularity. Bagchi et al. (2003) pointed out that studies in which both the national and organizational culture constructs were concomitantly used to investigate their influence on technology adoption was lacking and other authors pointed out the dearth of studies involving culture (Crabbe et al., 2009; Mortimer et al., 2015). In the light of the gaps uncovered by the literature in relation to process assurance, real-time technology and study underpinning theoretical frameworks, two research questions, four propositions and ten hypotheses encapsulated by the extended research model were used to guide the study.

The study next discusses the research design and the detailed procedures followed to conduct the research and thus achieve its purpose and objectives.

CHAPTER III:

METHODOLOGY

3.1 Introduction

According to literature, audit has evolved from the traditional manual approach to automation of certain audit processes that are deterministic and structured on a real or near real-time basis (Alles et al., 2006), however, there are some aspects of it that has not kept pace with technology evolution. There are still many semi-automated audit procedures even where professional judgment is not required. Compared to other professions, the audit profession as a whole was noted to be still lagging behind (Kogan et al., 1999; Moffitt et al., 2018; Alles et al., 2010; Chan & Vasarhelyi, 2011; Sethibe and Naidoo, 2022). The professional experience of the researcher during a period of over ten years auditing retail and corporate banks in Cameroon aligns with this observation.

Revenue assurance by internal auditors in respect of loan interest income is still at a basic computer assisted audit technique (CAATs - MS Excel and ACL) level in Internal audit functions of most retail banks in Cameroon. This CAATS status results in inefficiency in audit, low audit quality, untimely decision-making and high incidence of fraud that stack up to huge financial losses to banks. This is compounded by the fact that the global economy has become real-time or so called 'Now economy' (Vasarhelyi et al., 2010 ; Alles et al., 2002) as a result of technological advances such as the computer, broadband networking, the internet, mobile telephone, Enterprise Resource Planning (ERP), sensors (bar coding) and extensible business reporting language(XBRL) amongst others.

Just to highlight the gravity of this situation and on the basis of anecdotal evidence,

on the launch date of the e-banking product of one of the retail banks in Cameroon, in the political capital, one of its staff in a remote branch thousands of kilometres away from the head office (launch site) was able to electronically siphon over 90 million francs CFA from a customer account as a result of this interconnectivity.

As a result of the above shortcomings of CAATS use, the study investigated factors that influence the adoption of real-time revenue assurance automation technology within the internal audit functions of retail banks in Cameroon using the constructs of the theory of reasoned action (attitude and subjective norm) and culture with a view to explaining and facilitating a change of the status quo.

The purpose of this research was to empirically investigate the factors that influence the adoption of real-time revenue assurance automation technology by Internal Audit functions of retail banks in Cameroon using a research model that was developed from the constructs of the theory of reasoned action (TRA) and extended by culture. In order to achieve this objective, two research questions were asked, four propositions formulated and fifteen objectives set to direct the study as follows:

RQ1: What effects do attitude and subjective norm have on the intention to use (ITU) real-time revenue assurance automation technology (RT-RAAT) by Internal Audit functions of retail banks in Cameroon?

RQ2: What is the effect of culture on the intention to use RT-RAAT technology by Internal Audit functions of retail banks in Cameroon?

The four propositions were as follows:

Proposition 1: The theory of reasoned action affects the intention to use RT-RAAT technology.

Proposition 2: Societal/national culture affects the intention to use RT-RAAT technology.

Proposition 3 : Organisational culture affects the intention to use RT-RAAT technology.

Proposition 4 (P4): Culture affects intention to use RT-RAAT technology.

The specific objectives set for the study were to empirically determine if in relation to:

1. Hypothesis 1 (H1), attitude toward real-time revenue assurance automation technology (RT-RAAT) positively and significantly affected the intention to use real-time automation technology.
2. Hypothesis 2 (H2), subjective norm positively and significantly affected the intention to use real-time revenue assurance automation technology.
3. Hypothesis H1-1, societies with high uncertainty avoidance (UA) culture had a significant negative direct effect on intention to use RT-RAAT technology.
4. Hypothesis H1-2, societies dominated by collectivist (I/C) culture had a significant negative effect on intention to use RT-RAAT technology.
5. Hypothesis H1-3, societies dominated by feminine cultures (MF) had a significant negative effect on intention to use RT-RAAT technology.
6. Hypothesis H1-4, societies with high power distance (PD) culture had a significant negative effect on intention to use RT-RAAT technology.
7. Hypothesis H2-1, retail banks dominated by clan culture (CC) type had a significant negative effect on intention to use RT-RAAT technology.

8. Hypothesis H2-2, retail banks dominated by adhocracy culture (AC) type had a significant positive effect on intention to use RT-RAAT technology.
9. Hypothesis H2-3, retail banks dominated by market culture (MC) type had a significant direct positive effect on intention to use RT-RAAT technology.
10. Hypothesis H2-4, retail banks dominated by hierarchy culture (HC) type had a significant negative direct effect on intention to use RT-RAAT technology.
11. Proposition 1, The theory of reasoned action (attitude and subjective norm) affected intention to use RT-RAAT technology.
12. Proposition 2, National culture affected intention to use RT-RAAT technology.
13. Proposition 3, Organizational culture affected intention to use RT-RAAT technology.
14. Proposition 4, Culture affected intention to use RT-RAAT technology.
15. The extended research model showed a good fit in explaining the factors influencing the adoption of RT-RAAT.

Achievement of the above objectives will result in a better understanding of the factors that influence adoption of real-time revenue assurance automation technology and, therefore, assist management to make more informed implementation decisions for such a technology. A successful implementation that results in RT-RAAT deployment will take away the inadequacies of existing CAATs use cited above amongst which revenue fraud and leakages, untimely audit reporting and corresponding consequences on management decision-making.

3.2 Research Design

The research study was designed with respect to five yardsticks, namely (1) applied vs pure or basic, (2) cross-sectional vs longitudinal, (3) exploratory vs descriptive vs explanatory, (4) positivist vs interpretive and (5) quantitative vs qualitative (Bhattacherjee et al., 2016, Creswell, 2000).

Applied Research: Applied research is a type of research that is conducted primarily to address some practical problem (Bhattacherjee, 2012, p2; Jhangiani et al., 2019, p11). This study addressed the practical real-life problem of persistent semi-automated CAATS (MS Excel and ACL) use with no real-time capabilities by Internal Audit functions of retail banks in Cameroon and as such the study is of an applied nature.

Explanatory Research: According to Bhattacherjee (2012, p15), explanatory research seeks explanations of observed phenomena, problems, or behaviors. This study will seek to explain the persistent use of CAATs (MS Excel and ACL) by retail banks in Cameroon for loan interest revenue assurance purpose. It will be achieved by empirically determining which of the three factors; attitude, subjective norm and culture, influence real-time revenue assurance automation technology in Internal Audit functions of retail banks in Cameroon, thus an explanatory research.

Deductive Research: A study that is about theory testing and not building is defined as positivist or deductive (Bhattacherjee, 2012, p.139; Jhangiani et al., 2019, p.42). Conversely, a study that is about theory building is defined as inductive. A study that deals with both is abductive. Based on the research model, a theory was built that proposed that attitude, subjective norm and culture influence adoption of real-time revenue assurance

technology (RT-RAAT) or explains the persistent use of CAATs in most retail banks in Cameroon. It went further to collect data in respect of the variables to test the hypotheses developed from the extended research model (theory testing).

In all, four propositions and ten hypotheses were then developed from the theory to assist in its verification. Thus this study is deductive in nature.

Cross-Sectional Study: According to Holmes et al. (2018, p.552) data about a unit of observation (person, company or country) can be classified into three broad categories, viz: time series or longitudinal, cross-sectional and panel. Time series or longitudinal study measures a single unit of observation across multiple points in time whereas cross-sectional study measures multiple units of observation but for a single point in time. Data in relation to the variables used in this research were carried out at a single point in time for 16 retail banks in Cameroon and, ipso facto, characterizes the study as cross-sectional (Metts et al., 1991). Panel study on its own measures multiple units of observation over multiple points in time. It is difficult to construct and expensive.

Quantitative method: When a study makes use of numeric data, it is characterized as quantitative. The data that was used for analysis in this study was inherently numeric or numeric by coding and transformation hence a research with quantitative method (Bhattacherjee, 2012, p103; Jhiangani et al., p43).

In conclusion, this study is applied, cross-sectional, explanatory, positivist or deductive and quantitative in nature.

3.3 Population and Sample

In Cameroon and as of the period of conducting this study, the banking landscape was characterized by a central bank, seventeen banks including a foreign corporate and an extensive network of microfinance institutions. Thus sixteen retail banks were in Cameroon. They all were in the private sector of the economy and were profit-seeking entities.

According to Malhotra et al. (2007) and Bhattacherjee (2012, p65) the population of a study is the aggregate of all the elements, on a global reach, that share some common set of characteristics. The accessible part of this population is termed the sampling frame. In this study, the sampling frame consisting of sixteen retail banks in the context of Cameroon was the target or accessible population from which the sample was drawn, however, the sampling unit being all the employees of these banks were not sufficiently knowledgeable, influential in technology adoption or could use the technology under consideration and, therefore, it was stratified to include exclusively RT-RAAT stakeholders as recommended by Alles et al. (2008) thus:

1. Those who sanction and champion the use of RT-RAAT in each retail bank considered for the study and ensure internal auditor independence concerns: Senior executive management or functional heads, top management (CEOs) and audit committee members;
2. Those whose processes use the RT-RAAT in each retail bank under study (Process owners): Credit, Accounting and Finance, Human Resources, Logistics and Operations including Treasury functions,

3. Those who use the RT-RAAT in each retail bank under study: the Internal Audit and Internal Control functions,
4. Those who monitor and maintain the RT-RAAT in each retail bank considered for the study: Information Technology and/or Internal Audit functions.

The above stratification was aimed at increasing the homogeneity of the sampling unit and thus the representativeness of the samples drawn from this unit and in turn the generalizability of the sample results.

Given the inefficiency and near impracticality of collecting data from the entire sampling unit (208 respondents) of the sampling frame considering the time allocated for the study and availability of the respondents, the concept of representative sample was employed to make the collection process more efficient and yet maintain the accuracy and validity of conclusions drawn at the end of the exercise. In this light, the researcher preceded the data collection by firstly constructing a sampling frame with the assistance of Google Internet browser to search for the number of retail banks in Cameroon and later corroboration by personal contacts in the different retail banks. This process uncovered sixteen retail banks in Cameroon as at the date of the exercise. The sampling unit was then determined as being the employees of these sixteen retail banks but stratified using criteria proposed by Alles et al. (2018) as above which resulted in 13 qualified employees per bank for the questionnaire survey and for a total of 16 retail banks this gave 208 employees. The list of 208 employees were sorted alphabetically using the title of their role.

Random numbers were generated using the RNDBETWEEN( ) function in Microsoft Excel with top value of 1 and bottom value of 208 (computerized random number generator).

Using a sample size calculator utility developed by Creative Research Systems in which the following statistical parameters: population size (208), confidence level (95%) and confidence interval (5%) were keyed in resulted in a sample size of 135 employees in respect of which data was to be collected for the different variables of the study.

The first 135 randomly generated numbers, avoiding repeat numbers, were determined after sorting them in increasing order and these randomly generated numbers were then used to select 135 employees from the sequentially numbered sampling unit (208 employees) mentioned earlier above as respondents for the questionnaires. **Table 3.3.1** below presents an excerpt of this process.

Table 3.3.1: *Generated Random Numbers for Sample Selection*

S/N	Respondent	Random N°
1	ACD=Assistant Credit Director: 11	1
2	ACD=Assistant Credit Director: 1	5
3	ACD=Assistant Credit Director: 2	6
4	ACD=Assistant Credit Director: 3	8
5	ACD=Assistant Credit Director: 5	9
6	ACD=Assistant Credit Director: 4	10
7	ACD=Assistant Credit Director: 6	11
8	ACD=Assistant Credit Director: 7	12
9	ACD=Assistant Credit Director: 8	13
10	ACD=Assistant Credit Director: 10	14
11	ACD=Assistant Credit Director: 14	15
12	ACD=Assistant Credit Director:15	17
13	ACD=Assistant Credit Director:12	18
14	ACD=Assistant Credit Director:13	20
.....		

S/N	Respondent	Random N°
23	ACEO=Assistant CEO: 6	38
24	ACEO=Assistant CEO: 7	39
25	ACEO=Assistant CEO: 8	41
26	ACEO=Assistant CEO: 10	43
27	ACEO=Assistant CEO: 14	44
28	ACEO=Assistant CEO: 15	45

From **Table 3.3.1** above, random number 1, right-most column of the table; was used to select the respondent sequentially numbered 1 (ACD=Assistant Credit Director: 11) left-most column; similarly random number 14 was used to select the respondent sequentially numbered 14 (ACD=Assistant Credit Director:13) etc. This process was then repeated for all 135 selected randomly generated numbers.

All banks were number coded to conceal their identities as in the **Table 3.3.1** above and thus preserve the ethical requirements of anonymity and confidentiality.

3.4 Participant Selection

Many methods have been proposed to select participants in a survey (Bhattacherjee et al., 2012, p67). These include: Simple random selection, systematic random selection or sampling, cluster sampling or selection and multi-stage selection amongst others.

Simple random sampling involves randomly selecting respondents from a sampling frame based on an increasing-order sorted list of randomly generated numbers bounded by the size of the sampling frame.

Systematic random sampling is a sampling technique whereby the sampling frame is ordered according to some criteria (e.g., turnover, number of employees, etc) and elements are selected at regular intervals through that ordered list with a random start that

is not the first on the sampling frame list and then proceeding with the selection of every kth element from that point onwards, where k = N/n, and k is the ratio of sampling frame size N and the desired sample size n.

Cluster sampling is a sampling technique which is used when a population is dispersed over a wide geographic region, hampering thereby the use of a simple random sampling of the entire population. As such, the population is divided into "clusters" (usually along geographic boundaries), a few clusters are randomly selected and all units within that cluster measured.

It, however, has the disadvantage that the variability of sample estimates in a cluster sample is generally higher than that of a simple random sample and hence the results are less generalizable to the population than those obtained from simple random samples. In addition, the two cities, Yaounde and Douala, where the survey took place were not geographically widely spread out. For these reasons, it was not chosen for this study.

Multi-stage selection is when single-stage techniques such as exemplified by each of the above are used in combination. For instance, stratification of a list of retail banks based on firm size, and then conducting systematic sampling within each stratum.

Since the sampling frame and sampling unit of retail banks in Cameroon were known, probabilistic simple random sampling that gave equal chance to every unit of analysis to be selected was employed in this study to select the sample due to its simplicity, root in statistical principles that are objective and more accurate resulting in non-bias selection.

At a confidence level of 95%, a confidence interval of 5% and sampling unit of 208, using Creative Research Systems' sample size software calculator, a representative sample size of 135 employees in principle was generated.

Taking into account practical difficulties in respondent response rate, Oluyinka et al. (2013) cite Filliben (2012) and Sheridan et al. (2006) as indicating that numerous empirical studies considered 50 to 100 subjects to be the minimum acceptable sample size when conducting multiple linear regression analysis. Similarly, Bexley (2007) suggested a sample size of 100 participants as adequate. Whilst not particularly making reference to multiple linear regression, Hofstede (2013) adds that a sample size of 50 is ideal for a homogeneous sampling frame and a sample size of below 20 will be unacceptable. Dhungana et al. (2006) suggested that one can also determine sample size by using the rule of thumb in statistics (i.e., 20 subjects per variable). This approach is inappropriate for this study as 20 subjects per variable for an eleven variable (to be subjected to regression analysis) study results in 220 respondents for the study and yet the sample unit under study is made up of 208 (13x16) participants. Furthermore, rule of thumb reduces accuracy.

The response rate of 20/ 135 (14.8%) made it impossible for the required sample size of 135 respondents to be met but the 20 respondents were within threshold advised by Hofstede (2013) taking into consideration the further stratification effected to enhance homogeneity of the sampling units.

3.5 Instrumentation

Instrumentation refers to the tools employed in a research in order to collect data for the research. The steps the researcher took to choose appropriate instruments for the research project included:

Instrumentation Types: Many instruments exist amongst which interview, observation, and questionnaire survey the list not being exhaustive.

a) **Interview:** It is a tool used to collect text data for a qualitative research and as such inappropriate for this study which is quantitative in nature as indicated above. It is further an inappropriate technique because it is time consuming to administer in light of the type of respondents (top bank executives) who have very busy daily schedules with little time to spare.

b) **Observation:** It uses the individual researcher as the tool and it is most suited in circumstances where individuals are observed as they do their job. The current study does not involve the investigation of individuals carrying out their job. Additionally, observation is a qualitative measurement tool that is subjective and, therefore, comparatively less reliable.

c) **Questionnaires:** On their part, they are used to collect data about people and their preferences, thoughts and behaviors in a systematic manner. They can be used for descriptive, exploratory, or explanatory research. They are best suited for studies that have individual people as the unit of analysis. Although other units of analysis, such as groups and organizations are also studied using questionnaire surveys, such

studies often use a specific person from each unit as a "proxy" for that unit, and such surveys may be subject to respondent bias if the informant chosen does not have adequate knowledge or has a biased opinion about the phenomenon of interest (Bhattacherjee et al., 2012, p.73). Stratification is often used to address this situation (Alles et al., 2018). Questionaires and interviews are both examples of survey.

This study, having been designed above as explanatory, deductive and quantitative in nature, used questionnaire survey as the instrument to collect the numeric data relating to the variables under study as well as data relating to firmography and demography of the banks and the respondents respectively. Additionally, questionnaire survey approach was considered the most appropriate to collect data for this study due to its inexpensiveness and efficient means of gathering information from the sample frame (Zikmund, 2009).

With the questionnaire selected as the instrument of choice, it begged the question, data in respect of which variables will the questionnaires be measuring? In response to that question, the study next addresses the operationalization of the constructs related to both the descriptive and inferential analyses of this study, a process that culminated in the identification of those variables and selection of the items used to measure them.

Operationalization of Constructs: Bhattacherjee et al. (2012, p10) define theoretical constructs as abstract (imprecise, fuzzy, vague, subjective) concepts that are specifically chosen (or "created") to explain a given phenomenon. Levitin (1973) adds that constructs do not exist in a tangible sense but only in our minds.

The former add that constructs used for scientific research must have precise and clear definitions that others can use to understand exactly what it means and what it does not mean. This was addressed under the literature review of this study as they relate to the theoretical constructs of the study (TRA and culture). These definitions, theoretical in nature, may be different to the operational definition (empirical).

Since some of these theoretical constructs exist at very high abstract levels as vague mental images and yet they have to be observed or measured in an applied and empirical study such as this one, they need to be crystallized progressively from high level abstraction (constructs) to lower levels of abstraction (concepts and variables) to permit their measurement and analysis. Hence the need for an operational definition of each construct.

Theoretical constructs, concepts and variables, therefore, exist on a continuum where at one end are theoretical constructs which are very abstract and cannot be measured directly and at the other end are variables which are very precise, specific, objective and directly measurable. The point at which a construct becomes a concept is difficult to be precisely determined, however, a concept becomes a variable when measurable parameter(s) that represent the concept has been found. Bhattacherjee et al. (2012, p12) adds that constructs exist in the theoretical plane and variables in the empirical plane.

The process of developing indicators or items to measure the operationally defined versions of these constructs is referred to as operationalization of theoretical constructs.

Operational Definition of Constructs: It refers to a definition that is not dictionary definition and defines constructs in terms of how they will be empirically

measured. This is usually achieved by assigning a measurable or observable parameter that represents or reflects the underlying construct or theory.

Constructs related to descriptive analysis, such as age, sex, etc, were directly measurable using indicators developed by the researcher, further details of which can be found in Appendix C of this study, and thus were not required to be defined operationally.

Inferential analysis constructs, on the other hand, were the theory of reasoned action (TRA) and culture. The theory of reasoned action was operationally defined in terms of attitude and subjective norm or social influence. The two constructs were directly measurable with adopted and adapted items and as such were also referred to as variables and constituted two of the variables of the study.

Despite the fact that culture definitions and respective measures abound from different authors (Kroeber and Kluckhohn, 1963; Trompenaars & Hampden-Turner, 1998; Schein, 2004, p17; Adler, 1997), Hofstede's (1980) definition of culture was employed to illustrate the operationalization of the national culture construct used in this study since it is four of Hofstede's (1994) cultural dimensions that were used to investigate national culture influence on RT-RAAT adoption. Based on that definition, national culture was conceptually defined as the collective mental programming that a nation has in common that is different from that of other nations, so defined it was not empirically observable or measurable hence the need for an operational or empirical definition. To that end, he defined national culture operationally in terms of power distance, uncertainty avoidance, masculinity/femininity and individualism/collectivism in respect of which items were developed by him to directly measure these parameters and thus indirectly measure the

underlying national culture construct. National culture was the construct that generated the second set of four independent variables for this study.

Similarly, definitions and respective measures abound from different authors for organizational culture (Schein, 2004) but Cameron and Quinn's (1999) organizational culture definition was selected to illustrate the operationalization of the organizational culture construct since its four measures or variables (clan, adhocracy, market and hierarchy cultures) were used to investigate factors influencing the adoption of RT-RAAT. They theoretically defined organizational culture as what is valued, the dominant leadership styles, the language and symbols, the procedures and routines, and the definitions of success that make an organization unique. Empirically, they defined organizational culture in six respects as follows: dominant characteristics, organizational leadership, management of employees, organization glue, strategic emphasis and success criteria in relation to their four organizational culture measures of clan culture, adhocracy culture, market culture and hierarchy culture. Items developed by Cameron and Quinn (1999) in respect of these four organizational culture types were used to directly measure each of these measures and indirectly the underlying organizational culture construct. Organizational culture was the construct that generated the third set of four independent variables of this study. Thus in all, ten independent variables were identified and measured in this study.

Dimensionality of constructs: It refers to the different dimensions of a construct. The number of dimensions is indicative of the complexity of the construct and the difficulty involved in measuring it. Dimensions of a construct are aspects of the construct that are

precisely identified and defined whether theoretically or empirically and clearly understood.

Dimensionality helps in the progressive reduction in abstraction from higher order in the theoretical plane to lower order constructs in the empirical plane eventually ending up with measurable variables.

This study made use of or chose the two constructs of the theory of reasoned action (TRA), namely attitude and subjective norm, and the culture construct to investigate their influence on the intention to use or adopt real-time revenue assurance automation technology by Internal Audit functions of retail banks in Cameroon.

The theory of reasoned action (Fishbein and Ajzen, 1975), which hails from the social psychology school of thought as cited above is multi-dimensional and is underlain by two constructs, attitude and subjective norm, which are unidimensional. This means that items can be designed and developed which directly measure the two constructs. The constructs exist at this level in very concrete and specific forms making it possible to identify items that can measure them directly. On the continuum of theory on one extreme through concept to variables on the other extreme, uni-dimensional constructs exist more as concepts than as theory or constructs and in certain cases as variables such as age of respondent.

In this study, pre-validated indicators or items used in earlier empirical studies carried out by Nor et al. (2008), Todd and Taylor, (1990) and Bhattacherjee et al. (2012) were adopted, adapted, translated and used to measure the two constructs of the theory of reasoned action instead of developing them from scratch. **Table 3.2.1** below illustrates

excerpts (1 item each) of the different versions (original vs adapted vs translated) of the items related to the two constructs of the theory of reasoned action used to directly measure them. Further details of these items are provided in appendices C and D of this study.

***Table 3.5.1**: Versions of Items Measuring Attitude and Subjective Norm Constructs*

Construct/Concept:	Attitude
Version:	- **a.** Original (Nor et al., 2008) - **b**. Adapted (Researcher) - **c.** Translated & Reviewed (Google Translate & Ghogomu, 2023)
a.	Using Internet banking is a good idea.
b.	Using real-time revenue assurance automation technology (RT-RAAT) in the bank is a good idea.
c.	L'utilisation de la technologie d'automatisation de l'assurance des revenus en temps réel (RT-RAAT) au sein de la banque est une bonne idée.

Subjective Norm	
a.	People who influence my decisions think that I should use Internet banking.
b.	People who influence my decisions think that I should use real-time revenue assurance automation technology (RT-RAAT) in the bank.
c.	Les personnes qui influencent mes décisions pensent que je devrais utiliser la technologie d'automatisation de l'assurance des revenus en temps réel (RT-RAAT) au sein de la banque.

The other important theoretical construct used in this study is culture. Unlike attitude and subjective norm, it is multi-dimensional meaning it is underlain by multiple other constructs or concepts. Still within the theoretical plane, it is underlain by two constructs or concepts, namely national culture and organizational culture. These two are in turn underlain by variables which can be directly measured using items. Thus the variables are existing in the empirical plane according to Bhattacheree et al. (2012).

In respect of national culture, and for the purposes of this study, four of Hofstede's (1994) cultural dimensions (PD, UA, MF and IC) were used as its measures or variables. He developed items or indicators in respect of each of these measures which directly measured them and thus indirectly measured national culture.

The table below presents an excerpt of the items (1 item each) in original and translated versions that were adopted to indirectly measure the national culture construct in this study. No item was adapted. Further details of these items are provided in appendices C and D of this study.

Table 3.5.2: *Versions of Items Measuring National/Societal Culture Construct.*

Construct:	National Culture
Version:	**a.** Original (Hofstede, 1994) **b.** Translated (Ghogomu, 2023)
Concept/Measures:	**Power Distance (PD)**
a.	C8: Subordinate staff should not question their superior's decision.
b.	C8 : Le personnel subalterne ne doit pas remettre en cause la décision de son supérieur.

	Uncertainty Avoidance (UA)
a.	C12: How often do you feel nervous or tense at work?
b.	C12 : À quelle fréquence vous sentez-vous nerveux ou tendu au travail ?
	Masculinity/Femininity (MF)
a.	C23: How important would it be for you to have sufficient time for your personal or family life?
b.	C23 : A quel point est-il important pour vous d'avoir un travail qui vous laisse suffisamment de temps pour votre vie personnelle ou familiale?
	Individualism/Collectivitism (I/C)
a.	C31: How important is it to you to be consulted by your direct superior in his/her?
b.	C31: A quel point est-il important pour vous d'être consulté par votre supérieur direct dans ses décisions ?

In respect of organizational culture on the other hand, which cannot be directly measured, underlying directly measurable variables based on the Cameron and Quinn's (1999) cultural dimensions (CC, AC, HC and MC) were used. These instruments have been tried, tested and pre-validated in previous empirical studies.

Table 3.5.3 below presents an excerpt of the items (1 item each) in original and translated versions used to indirectly measure the organizational culture constructs. No item was adapted except for its numbering. Further details of these items are provided in appendices C and D.

Table 3.5.3: *Versions of Items Measuring Organizational Culture Construct*

Construct:	Organisational Culture
Version:	**a.** Original (Hofstede, 1994) **b.** Translated & Reviewed (Google Translate & Ghogomu, 2023;)
Concept/Measures:	**Clan Culture (CC)**
a.	A1: The bank is a very personal place. It is like an extended family. People seem to share a lot of themselves.
b.	A1: La banque est un endroit très personnel. C'est comme une famille élargie. Les gens semblent partager beaucoup d'eux-mêmes.
	Adhocracy Culture (AC)
a.	B1: The bank is a very dynamic and entrepreneurial place. People are willing to stick their necks out and take risks.
b.	B1 : La banque est un endroit très dynamique et entrepreneurial. Les gens sont prêts à sortir le cou et à prendre des risques.
	Market Culture (MC)
a.	C1: The bank-is very results-oriented. A major concern is with getting the job done. People are very competitive and achievement oriented.
b.	C1 : La banque est très axée sur les résultats. Une préoccupation majeure est de faire le travail. Les gens sont très compétitifs et axés sur la réussite.
	Hierarchy culture (HC)
a.	D1 :The bank is a very controlled and structured place. Formal procedures generally govern what people do.

Construct:	Organisational Culture
Version:	**a.** Original (Hofstede, 1994) **b.** Translated & Reviewed (Google Translate & Ghogomu, 2023;)
b.	D1 : La banque est un endroit très contrôlé et structuré. Les procédures formelles régissent généralement ce que les gens font.

The dependent variable construct, intention to use RT-RAAT, was uni-dimensional being directly measurable at this level with a lone nominal scaled item.

Table 3.5.4 below presents an excerpt of the item (1 item) in original and translated versions used to directly measure the construct, intention to use RT-RAAT. The item was developed by the researcher.

Table 3.5.4: *Versions of Item Measuring Intention to Use (ITU) Construct*

Construct:	Intention to Use (ITU)
Version:	**a.** Original (Ghogomu, 2023) **b.** Translated & Reviewed (Google Translate & Ghogomu, 2023;)
Measure/Variable:	**Intention to Use (ITU)**
a.	D1. Does your bank intend to use or actually use a real-time revenue assurance automation technology (RT-RAAT)? Yes/No …….. If so, please indicate type of RT-RAAT:
b.	**D1.** Votre banque a-t-elle intention d'adopter technologie d'automatisation de l'assurance des revenus en temps réel (RT-RAAT)? Oui / Non …….. Si oui, veuillez indiquer la nature de RT-RAAT: ……..

In addition to the above constructs related to inferential analysis of the study, demographic constructs which exists more as variables on the continuum of theory through concept to variable, that included sex, age, gender and education amongst others, were also measured in the study. These were uni-dimensional and were measured for the purpose of descriptive analysis only and were not investigated for their influence on RT-RAAT adoption.

Measurement Level

Measurement level, also called a rating scale, refers to the values that can be ascribed to an indicator but which says nothing about the indicator itself.

There are four measurement levels, namely nominal, ordinal, interval and ratio (Bhattacheree et al., 2012, p45; Holmes et al., 2018, p21).

The nominal scale allows for two mutually exclusive answers to be provided, viz male/female, yes/no, intention to adopt or no intention to adopt.

Ordinal scale relates to a rank-order such as 1st, 2nd, 3rd, etc or strongly agree to strongly disagree. A typical example is the Likert 5- or 7-point scale.

Interval scale is one where the values measured are not only rank-ordered, but are also equidistant from adjacent attributes. For example, the questionnaire of this study asked respondents to indicate the total number of staff in their banks using the following attributes (ranges): 0 to 100, 101 to 200, 201 to 300, and so forth, this is also an interval scale, because the mid-point of each range (i.e.,50, 150, 250, etc.) are equidistant from each other.

Ratio scale is one that has all the qualities of nominal, ordinal, and interval scales, and in addition, also have a "true zero" point (where the value zero implies lack or non-

availability of the underlying construct). For instance, this study employed a ratio scale in capturing age data and longevity in the retail banks.

The questionnaire instrument of this study made use of all of the above levels in addition to transforming one level to another (from interval to ordinal).

Demographic variables in respect of descriptive analysis, made use of a nominal scale where respondents were asked to answer male or female in respect of their gender and yes/no whether or not their qualification was technology-related and a 5-point ordinal scale for their age (where 1= <30 years to 5= >61 years) and level of education (where 1= A/L to 5= Doctorate).

Firmographic variables made use of nominal, interval to ordinal and ratio scales. Nominal scale was used where respondents were asked to answer Yes/No if their bank was a multi-national, had an internal audit function, loan interest revenue assurance was being carried out by their internal audit function, internal audit staff were aware of a real-time revenue assurance application and if there were loan interest revenue fraud instances in the last three years in their bank.

Categorical (categories 1 - 4) scale was used where respondents were asked to choose a category(ies) that applied amongst 6 categories relating to their involvement in the acquisition and use of IT solutions in their bank (from budget approval through IT solution selection, championing IT solution implementation, IT solution monitor to IT solution user) and interval transformed to ordinal scale regarding the number of staff the bank had and percentage thereof that were Cameroonians, respondent longevity at the bank and the age of the bank.

Average annual loan interest revenue amount (XAF billion) of the banks in the last three years and related fraud were responded to on a ratio scale.

In respect of the TRA constructs (Attitude and subjective norm), respondents were required to answer all items on a 5-point ordinal scale ranging from 1=strongly agree to 5=strongly disagree.

In respect of Hofstede's National culture dimensions, all items were answered using an ordinal 5-point scale except for items C14- C15 which used an ordinal level (A to D). For the first 10 (C1 to C10) items, respondents were asked to rate the items as follows 1=strongly agree to 5=strongly disagree.

For the next three items (C11 to C13), respondents were asked to answer equally on an ordinal scale (where 1=Very seldom to 5=Very frequently). For the next two (C14 – C15) items, respondents were asked to respond on a scale where (A= Style 1 to D=Style 4). The last seventeen (C16 to C32) items asked respondents to answer the items on scale where 1= of utmost importance to 5= of very little or no importance.

Examples of the items on the different dimensions included:

Power Distance, 6 items (In your ideal job, how important would it be for you to (a) ''Have a good working relationship with your direct superior?'' or (b) ''Be consulted by your direct superiors in his or her decisions?'')

Uncertainty Avoidance, 7 items (''How often do you feel nervous or tense at work?'' or ''One can be a good manager without having precise answers that subordinates may raise about their work'')

Masculinity/Femininity, 10 items measuring a mix of both poles of the masculinity/femininity continuum (To what extent do you agree or disagree with the following statements: (a) ''Most people can be trusted,'' or (b) ''When people have failed in life, it is often their own fault.''. Items measuring the masculine pole were used in the hypothesis testing implying, therefore, an indirect test of the original study hypothesis.

Individualism/Collectivism, 6 items measuring a mix of both poles of the individualism/collectivism continuum (In your ideal job, how important would it be for you to: (a) ''Have sufficient time for your personal or family life?'' or (b) ''Have security of employment?'' Items measuring the individualism pole were used in the hypothesis testing implying, therefore, an indirect test of the original study hypothesis.

In respect of organizational culture, all items were answered using a ratio scale that required respondents to allocate, for each of the four dimensions of organizational culture (clan culture, adhocracy culture, market culture and hierarchical culture), 100 points to four alternatives A to D depending on how each alternative fitted to their own bank.

Examples of items on the different dimensions included:

Clan culture, 6 items ((a) ''The bank is a very personal place. It is like an extended family. People seem to share a lot of themselves'' or (b) ''The leadership in the organization is generally considered to exemplify mentoring, facilitating or nurturing'')

Adhocracy culture, 6 items (''The bank is a very dynamic and entrepreneurial place. People are willing to stick their necks out and take risks'' or ''The leadership in the organization is generally considered to exemplify entrepreneurship, innovating or risk taking'')

Market culture, 6 items measuring both poles of the masculinity/femininity continuum ((a) ''The bank is very results-oriented. A major concern is with getting the job done. People are very competitive and achievement oriented,'' or (b) ''The leadership in the organization is generally considered to exemplify a no-nonsense, aggressive, results-oriented focus''. Hierarchical culture, 6 items ((a) ''The bank is a very controlled and structured place. Formal procedures generally govern what people do'' or (b) ''The leadership in the organization is generally considered to exemplify coordinating, organizing or smooth-running efficiency'').

Finally, ratio scale was used in respect of the average scores and indices for national and organizational culture measures (power distance, uncertainty avoidance, masculinity/femininity, individualism/collectivism, clan culture, adhocracy culture, market culture and hierarchy culture).

The dependent variable, intention to use, made use of a nominal scale requiring respondents to answer yes or no. A single 1 item measuring intention to use (ITU) RT-RAAT was used thus: Does your bank intend to use or actually use a real-time revenue assurance automation technology (RT-RAAT)? Yes/No ……..

If so, please indicate type of RT-RAAT:……

As noted above, a theory and a construct constituted the theoretical constructs of this study. Taken together, the theory of reasoned action (TRA) and the construct (culture) generated ten independent variables for the study.

The operationalisation of the theory of reasoned action (TRA) has been schematically presented in **Figure 3.2.1**below.

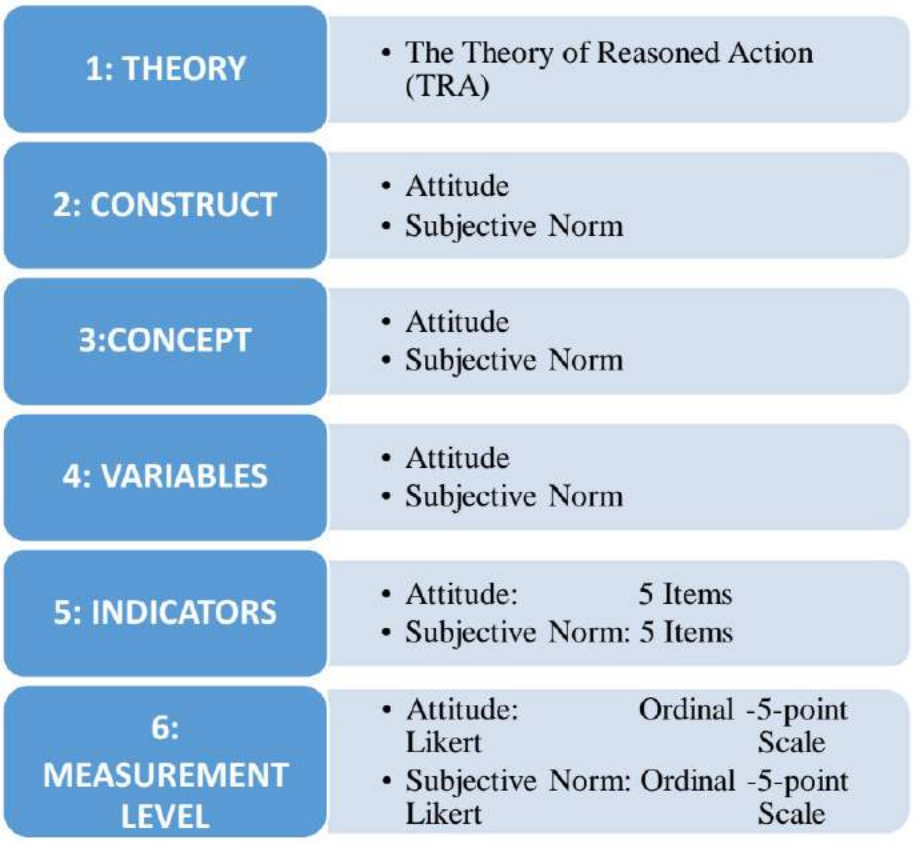


Fig: 3.2.1: *Operationalisation of the Theory of Reasoned Action (TRA)*

The operationalization of the culture construct is equally schematically presented below in **Figure 3.2.2**.

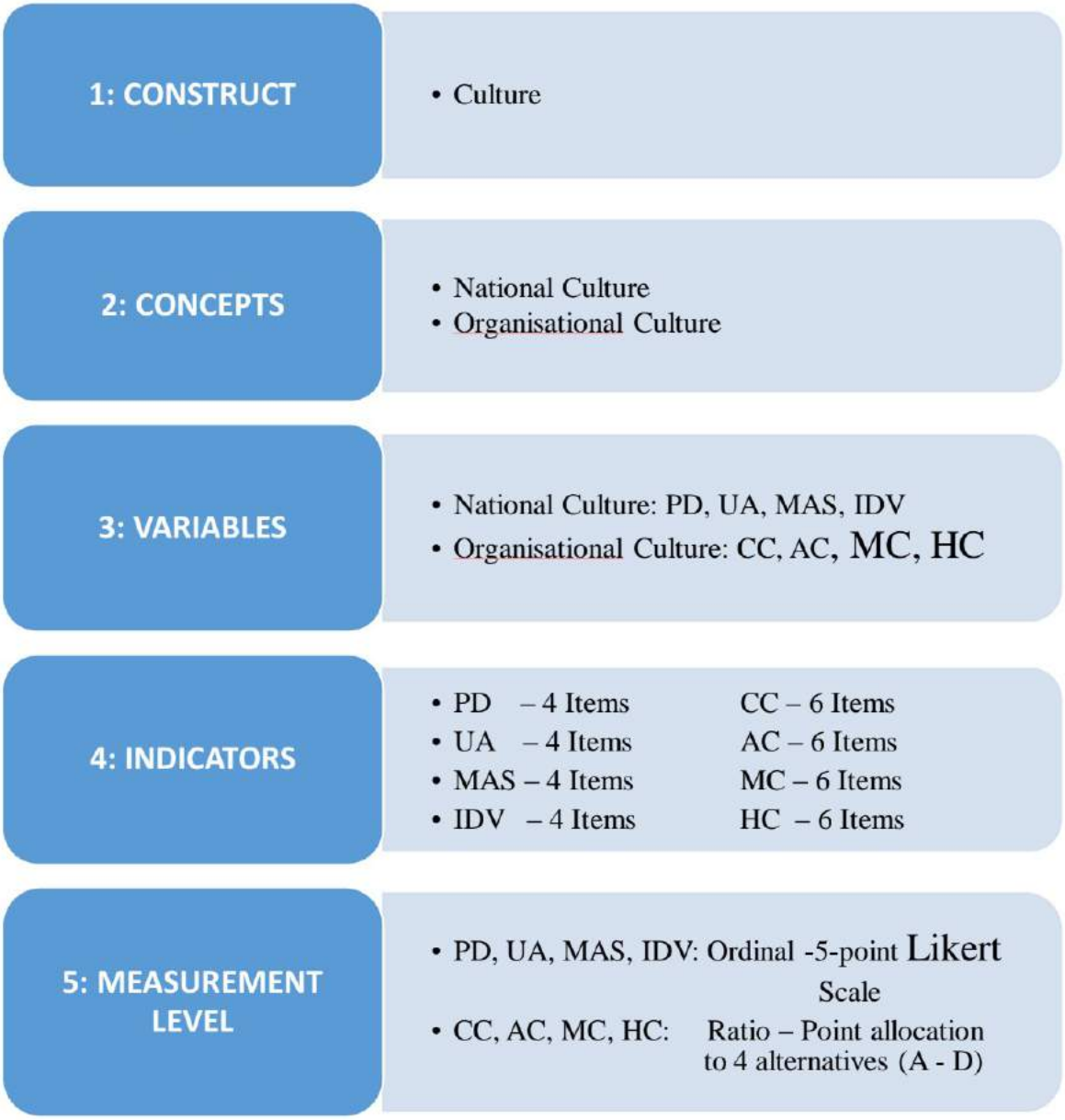


Figure 3.2.2: *Operationalisation of Culture Construct*

The dependent variable, Intention to Use (ITU), was operationalised as illustrated in **Figure 3.3.3** below.

1: CONSTRUCT	• Intention to Use (ITU)
2:CONCEPT	• Intention to Use (ITU)
3: VARIABLE	• Intention to Use (ITU)
4: INDICATORS	• Intention to Use (ITU): 1 Item
5: MEASUREMENT LEVEL	• Intention to Use (ITU): Nominal –Yes/No Scale

Figure 3.2.3: *Operationalization of Intention to Use (ITU)*

Translation of instruments: As these questionnaires were in English, there was need for them to be translated into French to meet the needs of French-speaking respondents given that the sampling frame was bilingual.

For a study that was themed on automation, it was adjudged by the researcher that it was time to cut with the tradition of having human subjects to carry out instrument translation as in previous other studies (Twati, 2008; Girlando and Eduljee, 2010) and as such an attended robot, Google Translate, was used to effect the translation and proof-read by the researcher, himself a seasoned professional translator for over 15 years, who made minor corrections.

Given that the instruments used for the study were pre-validated, aspects thereof requiring adaptation made use of simple and plain words as much as possible to enhance intelligibility and ensure appropriate data capture. In this regard, the term subjective norm (one of the constructs of the theory of reasoned action) and regarded by the researcher as a

misnomer to describe influence of friends, family and peers as well as sounding too technical (esoteric) was replaced with social influence so lay or non-expert respondents can understand the concept better. "Feelings" towards RT-RAAT was used as a synonym to explain attitude.

As mentioned above, the instruments of the study were not designed from scratch rather the study recoursed to those that have been tried, tested and pre-validated by many earlier empirical studies (Hofstede, 1980, 1982, 1994,2001; Cameron and Quinn, 1999; Todd and Taylor, 1990; Nor et al., 2008; Bhattacherjee et al., 2012, Brewer and Venaik, 2010, Girlando and Eduljee, 2010). However, since they were developed for particular cultural contexts and unit of analysis (IBM subsidiaries in forty countries around the world), there was need for these to be tested for reliability and validity because the context and units of observation changed and the instruments underwent translation and adaptation. The next paragraph addresses the reliability test that was carried out as a result of these modifications.

Instrument reliability: According to Bhattacherjee et al. (2012, p.56) reliability is the degree to which the measure of a construct is consistent or dependable. Instrument reliability is, therefore, the degree to which an instrument is consistent or dependable in measuring a construct using text or numeric data. It does not necessarily mean accurate measurement. They suggest a number of different ways by which instrument reliability can be tested amongst which inter-rater, test-retest, split-half and internal consistency.

Only one observer, the researcher, was used for this study and, therefore, inter-rater or inter-observer reliability test was adjudged inappropriate. Test-retest is suited to a

longitudinal study where data has to be captured at multiple points in time but this study is cross-sectional in nature. Split-half has the shortcoming that it overestimates the reliability of longer instruments and some of the instruments used in this study were longer than others with attitude and subjective norm each having 6 items compared to Hofstede's cultural dimensions with 4 items each.

The internal consistency reliability test was, therefore, used for this study. It measures the consistency in data capture between different items of the same construct. If a multi-item instrument is administered to respondents, the extent to which respondents rate those items in a similar manner is a reflection of internal consistency. It is commonly tested through the Cronbach alpha (α) test which has an acceptable range of 0.70 or higher (Cronbach, 1951).

Demographic and firmographic variables such as sex, employee age, level of education and number of bank staff, age of bank, loan interest revenue amount, etc respectively which were captured using single items were, therefore, excluded from this test since it measures consistency amongst (multiple) items of the same construct. The item of the dependent variable (intention to use RT-RAAT) was also excluded from the test for the same reason.

Instrument reliability test was conducted at the pilot stage of the study, i.e., prior to collecting the main data of the study, using the Cronbach α statistic. As mentioned above, it was necessary in this study because of change of study context, adaptation and translation of the instruments, possible differences in sample size, makeup and timing in relation to the original instruments. Choi et al. (2010) advised that when instruments undergo changes

as described above, especially in respect of translation, then a reliability test has to be carried out in order to ensure the meaning of the instruments is not altered by the translation. Thus the researcher selected 5 French-worded questionnaires and 5 English-worded questionnaires and looked for their Cronbach alphas. This was conducted for this study at the pilot stage with results as in **Table 3.5.5** below.

Table 3.5.5: Cronbach Alpha values for English and French questionnaires.

S/N	English Questionnaires	French Questionnaires
1	Attitude (Att): 0.98	Attitude (Att): 0.76
2	Subjective Norm (SN): 0.95	Subjective Norm (SN): 0.92
3	Clan Culture (CC): 0.75	Clan Culture (CC): 0.83
4	Adhocracy Culture (AC): 0.04	Adhocracy Culture (AC): 0.67
5	Market Culture (MC): 0.17	Market Culture(MC): 0.27
6	Hierarchy Culture (HC): 0.44	Hierarchy Culture (HC) : 0.79
7	Power Distance (PD): 0.17	Power Distance (PD): - 1.10
8	Uncertainty Avoidance (UA): -0.4	Uncertainty Avoidance (UA): -1.26
9	Masculininity/Femininity(MF):-1.23	Masculininity/Femininity (MF): -1.45
10	Individuality/Collectivitism(IC): 0.46	Individuality/Collectivitism(IC): 0.32

From the above table, Cronbach alphas for the attitude and subjective norm variables performed equally strongly confirming that the translation by the robot and review by the researcher was good for these variables. Organizational culture variables (CC; AC, MC, HC) performed even better after translation.

Once translation was verified, it became the turn of the entire instruments for the study constructs to be verified. The next paragraph addresses this.

Cronbach α of the items of national and organizational culture constructs were noted to vary significantly as the number of items and cases varied evident by the below expectation Cronbach α values in **Table 3.5.5** above a situation also noted by Taras et al. (2023). Items of the TRA constructs, on the other hand, were very robust and consistently scored above the 0.7 or more threshold on the Cronbach reliability scale given their higher number of items. As a result of this variability, a refinement process was undertaken by the researcher using the Analyze functionality and Reliability command of GNU PSPP statistical analysis software in respect of national and organizational culture items resulting in the exclusion of some of the items. The remaining items were then used to calculate the Cronbach α of the instruments at this pilot stage. **Table 3.5.5** below provides a summary of the exercise.

Table 3.5.5: *Instrument Reliability Test Results based on Pilot Test*

Theory of Reasoned Action (TRA)				
Measure	Total Items	Items Excluded	Items Left	Cronbach α
Attitude	5	0 items	5 items:	0.97
Sub Norm	5	0 items	5 items:	0.97
National Culture Construct				
PD	4	2 items:C10, C11	2 items C8, C14	0.64
UA	4	0 items:	4 items: C1, C7, C12, C13	0.73
MAS	4	1 item:C7	3 items:C17, C24, C25	0.78
IDV	4	1 item:C18	3 items: C23, C26, C30	0.66
Organizational Culture Construct				
CC	6	2 items: A2, A3	4 items:A1, A4, A5,A6	0.60
AC	6	3 items: B1, B5, B6	3 items: B2,B3, B4	0.50
MC	6	4 items:C1,C2, C5, C6	2 items: C3,C4	0.60
HC	6	2 items: D3, D5	4 items: D1, D2, D4, D6	0.72

N=10

Despite the fact that some of the Cronbach alpha values were below 0.7, the researcher decided to proceed with the instruments for two main reasons: these are instruments that have been pre-validated through numerous previous empirical studies and α values below 0.70 noted in the above table were not widely out. Secondly, the Cronbach values were also observed to vary as the number of cases and items changed. Thus the inadequacies were considered to be attributed to the small number of cases of the pilot test (5 going up to 10 cases - Christensen, 2010).

GNU PSPP Statistical Analysis Software (Release 1.6.2-g78a33a) was used in the calculation of the Cronbach alpha values making use of the Reliability command of its Analyze functionality.

Construct Validity: The question that arises when items or indicators have been developed to measure constructs is whether or not they actually measure the construct they purport to measure. When indicators or items measure the underlying construct, then they are valid representations of the construct.

Construct validity can be either theoretically or empirically assessed. To align with the empirical nature of this study, the empirical assessment method was used to validate the constructs of this study. Even though using pre-validated instruments, an empirical assessment of the construct validity was necessary because of the adaptation that was effected to the items of the TRA construct employed in the study, the translation of the items of the TRA and culture, the difference in cultural contexts between the original (Malaysia) context and that of this study and type of unit of analysis (IBM vs Retail banks in Cameroon).

According to Bhattacherjee et al. (2012, p.60) correlational analysis and Exploratory Factor analysis are two examples of empirical techniques used to validate constructs. When correlational analysis is used to validate a construct, high correlations +/- 0.7 to +/-1) within items of the same construct serve as proof that the items are actually measuring the construct they purport to measure and low correlations (<0.7 or >-0.7) between items of different constructs otherwise. If, however, exploratory factor analysis is used to the same end and adequate convergent validity is required, it is expected that items belonging to a common construct should exhibit factor loadings of 0.60 or higher on a single factor (called same-factor loadings), while for discriminant validity, these items should have factor loadings of 0.30 or less on all other factors (cross-factor loadings).

Construct validity was tested using exploratory factor analysis for the constructs of this study, as follows: attitude (Att.), subjective norm (SN), Hofstede's (1980) cultural dimensions power distance (PD), uncertainty avoidance (UA), individualistic/collectivistic (IC), masculinity/femininity (M/F) and Cameron and Quinn's (1999) cultural dimensions clan culture(CC), adhocracy culture (CC), market culture (MC) and hierarchical culture(HC).

PSPP statistical analysis software was used for the analysis. The results are as per **Table 3.2.3** in Appendix F.

From **Table 3.2.3** in Appendix F, it is evident that adequate convergent validity was observed, as items belonging to a common construct overwhelmingly exhibited factor loadings of 0.60 or higher on a single factor (called same-factor loadings), while for discriminant validity, these items equally and overwhelmingly exhibited factor loadings of

0.30 or less on all other factors (cross-factor loadings). The latter loadings (0.30 or less) were deleted from the table for clarity purposes. Thus constructs purported to be measured by the study indicators were indeed being measured.

Instrument reliability and construct validity together have been used to measure the psychometric properties of the measurement scales of the three instruments of this study.

3.6 Data Collection Procedures

This refers to the systematic process by which data in relation to variables of the study were collected using appropriate instruments so as to ensure accurate and relevant data and also ensure an ethical conduct of the study (Jhangiani et al., 2019, p170).

Instrument Assembly: Make use of the instruments prepared during proposal phase of the study that included survey cover letter, participant information sheet and consent form and the questionnaire in English and French. From the sampling frame and sample size previously determined, the number of banks and respondents to be circularized were ascertained in respect of whom data instruments in soft and/or hard copies were then determined.

Maintenance of a Questionnaire Log: The data collection protocol involved firstly putting in place an Excel log by the researcher in which all 135 questionnaires for the different respondents were logged prior to being dispatched to the different respondents. These included questionnaires for both pilot testing and for the main data collection.

Obtaining Authorisation to Administer and Ethics: The next step was to obtain an authorization to administer the questionnaires. Whether pilot or main data collection, data collection was preceded by a request to General Managers of the retail banks under study

for authorization to administer questionnaires to employees of their banks. These requests explained the purpose of the study, who the researcher was,....etc and were accompanied by samples of the questionnaire in both English and French given that the sampling frame was bilingual. The request was also accompanied by ethics instruments that included survey cover letter, participant information sheet and informed consent form. These instruments helped to ensure that respondents like the General Managers were aware of who the researcher was, the purpose of the study, its outcome and potential benefits and rights to discontinue without harm or prejudice. These instruments also gave them assurance on their anonymity and confidentiality of data they provided in the questionnaire. The informed consent form was required to be signed as proof of voluntary acceptance to participate or withdraw (Bhattacherjee, 2012, p146). All of this aimed at enlisting/facilitating cooperation to participate/ their participation.

Liaison with Designees to Administer: The General Managers designated key contact employees to coordinate the administration of the questionnaires within their banks and linked the researcher with the contact employees once they granted the authorisation. Some of these key contact persons either proceeded to administer the soft copy of the questionnaire or requested for the researcher to provide printed versions of the same.

Facilitation of Administration: The researcher was available to explain further the purpose of the research in person, by telephone, whatsapp, or email and to handle any difficulties respondents faced whilst completing the questionnaires.

Completed questionnaires were returned either soft or picked up in person by the researcher at the different bank premises in Yaounde, the political capital or in Douala, the commercial capital which is about 200 km away from the former.

Receipt and Control of Completed Questionnaires: The retuned questionnaires were immediately checked for exhaustive completion by the respondent and populated in an Excel log to permit the response rate to be calculated and determine thereby whether or not minimum acceptable sample size was attained for the results of the study to be generalizable. Any omissions or improper responses were followed up with the respondents with same sense of immediacy and corrected.

Response Rate Determination: There was a turnaround time of over two months for the General Managers of the different retail banks to authorize questionnaire administration and respondents to complete the 135 questionnaires sent out. Only 20 of them were returned resulting in a response rate of 14.8% (20/135).

Of the 20 returned questionnaires, only 18 were without missing values and, therefore, fit for further analysis.

The data for this study was collected first hand from the 135 selected participants by the researcher and thus classified as of a primary nature.

Ethical Considerations: To help potential subjects decide whether or not they should participate in the study, a participant information sheet and an informed consent form was made available and truthfully explained to them as to who was conducting the study, for what purpose the study was being conducted, what outcomes were expected and who will benefit from the results before the study data was collected. Furthermore, the consent form

was separated from questionnaire to enhance confidentiality of data collected. They were required to sign as proof of voluntary acceptance to participate or withdraw from the survey (Bhattacherjee, 2012, p146).

3.7 Data Analysis

This aspect of the study addressed the tools and statistical analytical techniques that were used to analyze the data collected for the study and in that respect two types of quantitative statistical analytical techniques, namely: descriptive and inferential analyses, were used. Microsoft Excel and PSPP were the analytical tools used at this stage of the study.

Research Ethics was integrated into this phase of the study by way of data coding in which each bank was given a code to conceal its identity and questionnaire answers were equally given codes and aggregated by averaging of respondent scores. Respondent names were not written on the questionnaires so it was impossible to link responses to corresponding respondents hence preserving the confidentiality and anonymity of respondents.

Prior to effecting either type of analysis mentioned above, the collected data was prepared in the first instance. In this study, this preparation was in accordance with the 4-step proposition of Bhattacherjee et al. (2012, p119) thus: 1) Data coding, 2) Data entry, 3) Handling missing values and 4) data transformation.

Data coding: In order to assist the data coding process, a code book was initially prepared that listed and described all the different variables of the study, specified the items used to measure each variable, item format, response scale (ratio, ordinal and nominal), the coding scheme used (1=male, 0=female, 1= strongly agree to 5= strongly disagree) and data

transformation mechanisms. The code book was then used to code the data during data entry hence making the entry process more efficient and less prone to error. An excerpt of the code book used in this study is as in **Table 3.7.1** below. The code book in its entirety can be found at Appendix F of this thesis put there because of its size.

Table 3.7.1: *Data Analysis Code Book*

Code Book								
S/N	**Construct and Variable**	**Description of Variable**	**Item**	**Item Response Format**	**Response Scale**	**Coding Scheme**	**Data Transformation**	**Data Entered**
I	**Descriptive Statistics**							
1	Sex/Gender	Sex of the bank employee which for this study was either male or female.	A1	Text	Nominal Scale	0=Female 1= Male	None	0 or 1
2	Age (Employee)	Age in years of the bank employee.	A2	Numeric	Categorical Scale	1=< 30 years 2= 30 - 40 years 3= 41 - 50 years 4= 51 – 60 years 5= >60 years	None	1, 2, 3, 4, 5
II	**Inferential Statistics**							
1	**The TRA**							
	Attitude	One of the constructs of the Theory of Reasoned Action. Its indicators measure the belief or feelings of respondents in the benefit of using RT-RAAT and thus its possible adoption.	Attitude Measures: I1,I2, I3, I4,I5	Numeric	Ordinal Scale (5-Point Likert)	1 = Strongly Agree 2 = Agree 3 = Neutral 4 = Disagree 5 = Strongly disagree	Average Scores (SI1+SI2+SI3+SI 4+SI5)/5 S stands for item score.	Average Scores
2	**Organizational Culture**							
	Clan Culture		A1, A2 A3A4, A5, A6	Numeric	Ratio Scale	As entered by respondent (1 - 100 points).	Averaging Scores per OCAI formula: (A1+A2+A3+A4 +A5+A6)/6.	Average Score
3	**Societal Culture**							

Code Book								
S/N	Construct and Variable	Description of Variable	Item	Item Response Format	Response Scale	Coding Scheme	Data Transformation	Data Entered
	Power Distance (PD)		C2, C8, C11, C14, C15, C31	Numeric	Ordinal Scale (5-point Likert)	1 = Strongly Agree 2=Agree 3=Neutral 4=Disagree 5=Strongly disagree and 1=Of utmost importance 2=Very Important 3=Of moderate importance 4= Of little importance 5 =Of very little importance	Average of item scores and Weighted Index (per Hofstede's VSM 1994 Formulae)	Average Score and Weighted Index

Data Entry: Data entry was first made in Excel comprising of two linked sheets to reduce human intervention in the entry process and hence enhance data accuracy and efficiency.

Data from questionnaire source documents in respect of both descriptive and inferential analysis were effected in the first Excel sheet and the second sheet programmed to automatically assemble or pool all the data required for analysis (descriptive and inferential) through the sheet-linking ability of Excel. The resulting variable data hosted on the second Excel sheet were then imported into PSPP for analysis, thereby further reducing human data entry errors.

Accuracy of data entry in the first sheet was ensured by using the researcher's 15 year son who read scores from the questionnaires and the researcher entered them in the Excel data entry sheet (sheet 1) and his son in turn confirming or otherwise earlier entered scores in Excel while the researcher read the scores from the questionnaires.

No data was directly entered from the questionnaires into PSPP, the statistical analysis software.

Table 3.7.2 below illustrates this arrangement between the two Excel sheets and the descriptive- and inferential-related questionnaire scores entered into sheet 1 and resulting variable data hosted on sheet 2.

Table 3.7.2: *Questionnaire Score Entry and Transformation*

Variable	**Cases**	1	2	3
Descriptive Statistics Variables	**Items**			
Sex/Gender	DA1	0	1	0
Age (Employee)	DA2	3	3	2
Level of Education	DA3	4	4	4
Inferential Statistics Variables	**Cases**	1	2	3
The TRA	**Items**			
Attitude	I1	1	2	3
	I2	1	2	3
	I3	1	2	3
	I4	1	2	3
	I5	1	2	3
	Avge score	**1.00**	**2.00**	**3.00**
Organisational Culture		24.58	25.00	25.00
Clan Culture	A1	5	25	30
	A2	20	25	25

Excel Sheet 1: Questionnaire Score Entry & Transformation

Variable / Cases	1	2	3
Descriptive Analysis Data			
Sex/Gender	0	1	0
Age (Employee)	3	3	2
Level of Education	4	4	4
Inferential Analysis Data			
The TRA	1	2	3
Attitude	1.00	2.00	3.00
Subjective Norm	1.00	2.00	3.00
Organisational Culture	24.58	25.00	25.00
Clan Culture	35.00	25.00	23.33

Excel Sheet 2: Pooled Variable Data for Analysis

Handling Missing Values: List wise deletion or imputation methods are two of the possible methods that exist to address missing values (Bhattacherjee et al., 2012, p120). List wise deletion involves the elimination of all cases with missing values from the data analysis. Imputation on the other hand, addresses missing data by taking the average response for a respondent on a particular item or the average response for all the respondents on a particular item. Some refer to the latter as column means (Twati, 2007). Given the very small number of questionnaires returned (30 out of 135), list wise deletion was not used to address missing data as it would have further reduced the sample to an unacceptable number that can provide insightful analysis. The researcher instead

immediately followed up on and completed missing data with the respondents and any remaining missing values were completed via imputation.

Data Transformation: This was also effected in the first Excel sheet labelled sheet 1 as in **Table 3.7.2** above.

Descriptive analysis data such as sex, age, etc, did not require data transformation and related questionnaire score used coded values as per the code book. For example, a male score for sex (coded male=1 and female=0 in the code book) was simply entered 1 in sheet 1 of Excel without any further transformation.

In respect of data for inferential analysis, however, questionnaire scores based on a 5-point Likert scale and relating to items of the ten variables of the study, namely attitude, subjective norm, power distance, uncertainty avoidance, masculinity/femininity, individuality/collectivity were transformed into average scores using the "Average" function of Excel.

Indices were also calculated for Hofstede's cultural dimensions as part of the transformation exercise. Table **3.7.2** above depicts the variables and corresponding average values as a result of the transformation activity for 3 respondents.

Once all the above data preparation steps were completed, the stage was now set for screening or cleansing item and variable data in sheets 1 and 2 respectively prior to linear data analysis on them. Screening was done in the respects listed below at the item scores and computed variable data levels:

1. Data outliers,
2. Normality of data distribution and,
3. Multicollinearity and heteroscedasticity.

Outliers are data of a distribution that are far off, usually statistically taken as data distributing beyond +/- 2 standard deviations from the mean value of the distribution and has the deleterious effect of distorting the mean value. Outliers were tested using the Excel functionality Data Analysis and the command Descriptive Statistics on each variable data. It generated statistics relating to mean, minimum and maximum of the data under consideration that were then used to verify outlying data. According to Holmes et al.,

(2018) the researcher has the latitude to choose the level of confidence he or she likes so as to be reasonably certain of his or her conclusions. The researcher chose a confidence level of 95% as most commonly used in empirical studies. At 95% confidence level, variable data should be within about +/-2 standard deviations (+/-1.96 to be precise) of the mean beyond which they will be considered as outliers.

The result of the descriptive test for the clan culture variable was as per table below:

Table 3.7.3: *Outlier Test for Clan Culture Variable*

Clan Culture	
Mean	27.58
Standard Error	1.61
Median	24.58
Mode	23.33
Standard Deviation	8.81
Sample Variance	77.60
Kurtosis	0.51
Skewness	0.96
Range	35.83
Minimum	14.17
Maximum	50.00
Sum	827.50
Count	30.00
Confidence Level (95.0%)	3.29

Based on the result in **Table 3.7.3** above, the number of standard deviations by which extreme values (minimum and maximum) of the clan culture variable were from the mean were calculated with results as follows: minimum= 0.51 (14.17/27.58) standard deviation ; maximum= 1.81 (50.0/27.58) standard deviations.

A similar exercise was carried out for all the other variables (AC, MC, HC, PD, UA, MF, IC) of the study and found to be below 2 standard deviations, thus data acceptable for the study at the level of confidence chosen except for HC. Results are as summarized in the **Table 3.7.4** below.

Table 3.7.4: Study Variable Data Outlier Test Results

Measures		ATT	SN	CC	AC	MC	HC	PD	UA	MAS	IDV
N° of	Min:	1	1	0	0	0	0	1	1	1	0
STDevs	Max:	2	2	2	2	2	3	1	1	2	1

The second data screening procedure was carried out to verify whether or not the study variable data were normally distributed. Skewness and kurtosis were measures used to that end. A normal distribution has a skewness and kurtosis of zero (Holmes et al., 2018, p21). As average scores, based on the scores captured by the different variable items, have been used for the analysis data of the different variables, outlying values have the effect of distorting these averages. As such, item scores of all the 35 items used in this study, allowing for instrument reliability exclusions, were tested for skewness and kurtosis as were the computed variable data. Some of the items failed the tests because their test values were a lot bigger than zero and as a result had to be withdrawn or replaced from the analysis. For instance, item A5 for the clan culture was eliminated in this connection. The kurtosis and skewness values for the ten variables of the study were close to zero (generally below 1 and above -1) on either side of the mean and thus acceptable with the exception of HC. **Table 3.7.5** below summarizes test results for the other variables of the study.

Table 3.7.5: *Normality Distribution Test Results*

Measures	ATT	SN	CC	AC	MC	HC	PD	UA	MAS	IDV
Kurtosis	-0.98	-0.88	-0.64	0.74	0.23	5.76	-0.87	-0.46	0.42	-0.44
Skewness	0.30	0.33	0.84	0.28	-0.47	1.87	0.04	0.57	0.48	0.16

The third data screening procedure involved the multicollinearity test at the variable data level (sheet 2) and relates to the assumptions made in carrying out the regression analysis which if not respected will negatively impact on the regression coefficients.

Holmes et al. (2018, p558) point out that regression analysis makes use of four assumptions in calculating regression estimates (regression coefficients) and two of those assumptions that can be and was verified empirically for this study included:

1) The independent variables are independent of the dependent variable and also independent of other independent variables in the proposed research model.

They underscored the point that there may be cases where some or more of the independent variables are correlated or move together even where there may be no cause and effect relationship among the independent variables. This phenomenon is called multicollinearity. Multicollinearity adversely impacts regression coefficient estimates by either overestimating or underestimating it. It also has the effect that if two independent variables are interrelated, that is, correlated, then the effects on the dependent variable of one from the other cannot be isolated.

Multicollinearity of the variables of this study was tested via correlational analysis of the study variables. The table below depicts the results obtained.

Table 3.7.6: *Study Variables Multicollinearity Results*

	ATT	***SN***	***CC***	***AC***	***MC***	***HC***	***PD***	***UA***	***MAS***	***IDV***	***ITU***
ATT	1										
SN	0.35	1									
CC	0.38	-0.05	1								
AC	-0.26	-0.17	0.16	1							
MC	-0.23	-0.20	-0.36	0.29	1						

HC	0.01	0.07	-0.55	-0.59	-0.27	1					
PD	0.03	0.02	-0.15	-0.30	-0.17	0.40	1				
UA	0.29	0.37	-0.05	-0.14	-0.34	-0.01	0.46	1			
MAS	0.07	-0.14	-0.38	-0.21	0.35	0.33	-0.22	-0.44	1		
IDV	0.39	0.12	0.15	-0.21	0.08	0.03	-0.13	-0.23	0.41	1	
ITU_D1	**-0.73**	**-0.45**	-0.16	0.05	**0.25**	-0.02	-0.08	**-0.57**	0.08	0.04	1

In light of the correlation coefficients in **Table 3.7.6** above, it was observed that the variables of each construct or theory were weakly correlated or interrelated with other variables but perfectly correlated with themselves for all the constructs. A correlation of 0.7 and above is generally considered significant (Holmes et al., 2018, p555). All correlation coefficients in **Table 3.7.6** were below this threshold. There were, however, no zero correlation coefficients suggesting a measure of multicollinearity amongst the variables and it is argued that it is of an order only to slightly affect the regression coefficients of this study without rendering them biased coefficients.

2) The error term is a random variable with a mean of zero and a constant or homogenous variance meaning the variance of the independent variables of a regression model are constant around the expected or predicted regression line as the value of the independent variables increases. A situation termed homoscedasticity. If, however, the variance around the expected regression line is not constant then heteroscedasticity results which can affect the regression estimates (regression coefficients, etc). Three tests can be used to verify heteroscedasticity namely, White's Test (1980), Scheffe Test

(1960) and Levene Test (1960). The latter was selected because it was automated and integrated within PSPP, the statistical analysis software used in the study, thus easing use thereof.

The Levene statistic of three of the independent variables (ATT= 0.11, SN=0.53, UA= 0.08) were found to be above the threshold of 0.05 thus homoscedastic and one close to the threshold (MC= 0.04) as per **Table 3.7.7** below.

Table 3.7.7: *Heteroscedasticity Test Results*

Summary Levene TEST Statistic											
VARIABLE	ATT	SN	CC	AC	MC	HC	PD	UA	MF	IC	THRESHOLD
SIGNIFICANCE (P)	0.11	0.53	0.00	0.02	0.04	0.00	0.00	0.08	0.00	0.00	$p > 0.05$
HOMOSCEDASTIC?	YES	YES	NO	NO	Close	NO	NO	YES	NO	NO	

Due to the fact that the above tests are sensitive to sample size, departures from expectations observed in **Table 3.7.7** above may be attributed to this rather than heteroscedasticity itself.

With all above verifications carried out, firstly in respect of data outliers, secondly normality of data distribution (kurtosis and skewness), thirdly in respect of multi-collinearity and fourthly heteroscedasticity, the ensuing regression analyses were adjudged to be largely free from statistical problems (Greene, 2000) and thus the data was now ready for the following three analyses to be carried out: 1) descriptive analysis of retail banks firmographic data and their employees demographic data, 2) inferential analysis of causal linear relationships represented by the study propositions and hypotheses and 3) culture profiling (national and organizational) of Cameroon and its retail banks.

3.7.1 Descriptive Analysis

Descriptive analytical techniques were used to summarize and describe data that related to the respondents themselves (demographic) and the retail banks (firmographic) they worked for.

Univariate analysis was used for the descriptive analysis of this study. According to Bhattacherjee et al., 2012,p121, univariate analysis refers to a set of statistical techniques that can describe the general properties of one variable. It included: (1) frequency distribution, (2) central tendency (mean and mode), and (3) dispersion (range and standard deviation).

Both demographic and firmographic variables of this study were subjected to univariate analyses that included all three types listed above.

3.7.2 Inferential Analysis

Above, the study addressed the descriptive aspect of data analysis. In this section, inferential analytical technique takes its turn and was used in the study to test the different hypotheses of the study, determining thereby the existence or otherwise of relationships among variables (regression coefficients), explain changes in the dependent variable as a result of changes in independent variables (internal validity), determine the predictive ability of the research model (Goodness of fit) and to assess the generalizability of results from the sample to the population (population validity) (Jhangiani et al., 2019 p.67, Bhattacherjee et al., 2012, p.119, Holmes et al., 2018, p333).

Among the general linear model (GLM) family of regression techniques, include techniques of inferential analysis such as regression of which multiple linear regression,

binary logistic, etc and structural equation modelling (SEM). Structural equation modelling addresses situations where the outcome of one regression equation serves as a predictor in another equation in an interrelated system of regression equations resulting in a very sophisticated analysis. It usually requires data samples of about 200 units or more (Buabeng-Andoh, 2018). The sample size in principle for this study was 135 respondents and the researcher was able to collect only 30 completed questionnaires thus ruling out the possible use of the SEM. Furthermore, the equation governing the relationship between the outcome and predictor of the hypotheses of this study was assumed to be a simple linear equation that was not interrelated, i.e., no variable served a dual role of being both dependent and independent as in SEM above. Due to the above reasons, multiple linear regression was used for this study to effect the test of hypotheses.

For this study, there were ten hypotheses to be tested based on four propositions and spread across four constructs (attitude, subjective norm, societal culture and organizational culture) as below.

Proposition 1: The theory of reasoned action affects the intention to use RT-RAAT technology.

The theory of reasoned action hypotheses:

Hypothesis 1: Attitude toward real-time automation technology positively and significantly affects the intention to use real-time automation technology.

Hypothesis 2: Subjective norm positively and significantly affects the intention to use real-time automation technology.

Proposition 2: Societal/national culture affects the intention to use RT-RAAT technology.

Societal/national culture hypotheses:

H1-1: Societies with high power distance culture will have a significant negative effect on intention to use RT-RAAT technology.

H1-2: Societies dominated by uncertainty avoidance will have a significant negative effect on intention to use RT-RAAT technology.

H1-3: Societies dominated by feminine cultures will have a significant negative effect on intention to use RT-RAAT technology.

H1-4: Societies with high collectivistic culture will have a significant negative effect on intention to use RT-RAAT technology.

Proposition 3: Organisational culture affects the intention to use RT-RAAT technology.

The above proposition was indirectly tested through four hypotheses based on Cameron and Quinn's (1999) four organizational cultural dimensions as follows:

H2-1: Banks dominated by clan culture type will have a significant negative effect on intention to use RT-RAAT technology.

H2-2: Banks dominated by adhocracy culture type will have a significant positive effect on intention to use RT-RAAT technology.

H2-3: Banks dominated by market culture type will have a significant positive effect on intention to use RT-RAAT technology.

H2-4: Banks dominated by hierarchical culture type will have a significant negative effect on intention to use RT-RAAT technology.

Multiple regression analysis was used to test the hypotheses, propositions, constructs and theory of this study making use of Microsoft Excel. The results of the different tests are found in the results section and Appendix H of this thesis. Above, the GLM model, as used in this study, assumed a linear relationship existed between the independent and dependent variables of the different hypotheses of this study. According to Jhangiani et al. (2019, p152), it is important to make a scatterplot that confirms such a relationship. Thus each test result was accompanied by a scatter plot diagram to confirm existence or otherwise of that linear relationship.

3.7.3 Culture Profiling

In this study, culture profiling was an exercise carried out that sought to characterize the national culture of Cameroon and the organizational culture of its retail banks based on selected cultural measure frameworks.

3.7.3.1 National Culture Profile

National culture was variously defined by many authors (Tse et al., 1988, p82; Shore & Vankatachalam, 1996; Adler, 1997) earlier in this study including Hofstede (1982). Empirically, he defined national culture in terms of power distance, uncertainty avoidance, masculinity/femininity and individualism/collectivism and each of these dimensions influence the adoption of technology differently.

These four cultural dimensions have been used in this study to profile the Cameroon national culture in which the retail banks under investigation operate. The items used for this purpose derived from Hofstede's value survey module (VSM) 1982, 1994, IBM survey and other psychometrically untested items which Hofstede (2013) recommended as complementing and clarifying the existing dimensions. Cueing on from Twati (2007), the items deriving from the value survey module 1994 (20 items) constituted the main source of data for the calculation of the indices for the four dimensions, however, items from VSM 82 and IBM survey were included to allow for substitution in the event that some of the items in VSM 94 were not answered and also for reliability analysis. In all, sixteen items were used in the indices calculation made up of four items for each dimension. The calculation used in the process was based on Hofstede's (94b) formulae. According to the formulae, the indices of the four dimensions were functions of the mean of the respondents' scores for each of the four items of related dimension and a constant chosen by the researcher in order for the indices to be in the range 0 to100.

The profiling of the national culture of Cameroon, therefore, entailed calculating indices for each of the four dimensions named above. The study next shows how this was done.

POWER DISTANCE (PD) INDEX

Power Distance (PD) was defined earlier in this study as the extent to which a less powerful member of society expects and accepts that power is distributed unequally (Hofstede, 1982). The Cameroon national culture scores on the PD dimension were based on four specific items of the VSM 94 instrument as recommended by Hofstede to measure the PD Index. The index formula for measuring PD dimension according to him is as follows:

*Power Distance (PD) = - 35 * MEAN (D 20) + 35 * MEAN (D 31) + 25 * MEAN (D 11) 20 * MEAN (D 10) – 20*

MEAN (D 20), etc represents the mean score of item D 20, MEAN (D 31) is the mean score of item D31, etc for a twenty respondent sample size. The index normally has values between 0 (small or low PD) and 100 (high PD). The item prefix letter D as per Hofstede's (1994) formula above was adapted to C in the questionnaire instrument. Thus D 20 became C 20, etc in the administered questionnaire. (See Appendix C part IV).

UNCERTAINTY AVOIDANCE (UA) INDEX

Uncertainty Avoidance (UA) was equally defined earlier in this study as the extent to which members of a society feel threatened by uncertain, ambiguous, unknown, or unstructured situations. The UA index is based on four items of Hofstede's VSM (1994b). The index formula for measuring the UA dimension is as follows:

*Uncertainty Avoidance (UA) = 25 * MEAN (D 12) + 20 * MEAN (D 5) - 50 * MEAN (D 9) - 15 * MEAN (D 1) + 120*

MEAN (D 12) represents the mean score for item D 12, MEAN (D 5) is the mean score of item D 5, etc for a twenty respondent sample size. The index normally has values between 0 (Low UA) and 100 (High UA).

The item prefix letter D as per Hofstede's (1994) formula above was adapted to C in the questionnaire instrument. Thus D 5 became C 5, etc in the administered questionnaire. (See Appendix C part IV).

MASCULINITY VERSUS FEMININITY (MAS) INDEX

MAS is defined as the extent to which the society supports, or does not support, the traditional masculine work role of male achievement. MAS index is based upon four items of Hofstede's VSM (1994b). The index formula for measuring MAS dimension is as follows:

Masculinity/Femininity (MAS) = 60 MEAN (D 24) - 20* MEAN (D 17) + 20*MEAN (D 3) - 70* MEAN (D 7) + 100*

MEAN (D 24) represents the mean score for item D 24, MEAN (D17) the mean score of item D 17, etc for a twenty respondent sample size. Items in the above formula measure the masculine pole of the masculine/feminine continuum.

The item prefix letter D as per Hofstede's (1994) formula above was adapted to C in the questionnaire instrument. Thus D 24 became C 24, etc in the administered questionnaire.

A high MAS level indicates that the societies experience a high degree of gender separation. A low MAS level indicates that society has a low level of segregation and discrimination between genders. The index normally has values between 0 and 100. (See Appendix C part IV).

INDIVIDUALISM VERSUS COLLECTIVISM (IDV) INDEX

IDV is defined as the extent to which the society reinforces individual or collective achievement and interpersonal relationships. IDV index is based upon four items of Hofstede's VSM (1994b). The index formula for measuring IDV dimension is as follows:

*Individualism/Collectivism (IDV) = - 50 * MEAN (D 23) + 30 * MEAN (D 26) + 20 *MEAN (D 18) - 25 * MEAN (D 30) +130.*

MEAN (D 23) represents the mean score for item D 23, MEAN (D 26) is the mean score of item D 26, etc for a twenty respondent sample size. Items in the above formula measure the individualism pole of the individualism/collectivism continuum.

The item prefix letter D as per Hofstede's (1994) formula above was adapted to C in the questionnaire instrument. Thus D 23 became C 23, etc in the questionnaire. (See Appendix C part IV).

A high individualism level indicates that individuality and individuals are dominant within the society. A low individualism level suggests a more collectivist society with close ties between individuals. The index normally has values between 0 (low IDV) and 100 (high IDV).

3.7.3.2 Organizational Culture Profile

Organizational culture profile sought to map out the different organizational culture types within the retail banks of Cameroon. The instruments were not adapted in any way but simply translated into French following the steps recommended by Banville et al. (2000) as cited by Belias and Koustelios (2013).

In this study, profiling of the organizational culture of the retail banks under study made use of Cameron and Quinn's (1999) Organizational Culture Assessment Instrument (OCAI), a derivative of Rohrbaugh & Quinn's (1989) Competing Values Framework" (Rohrbaugh & Quinn, 1989).

The adopted OCAI instruments were not adapted in any way but simply translated into French.

The analysis of the profiling exercise took the form of looking for averages of respondent allocated points (100 points) to four alternatives (A to D) in respect of the six dimensions of the Competing Values Framework resulting in four organizational culture types as follows:

Clan Culture = AVERAGE (CC_1 + CC_2 + CC_3 + ……+.CC_20)

In which CC_1 is the average score of items A1 to A6 for the first respondent or observation and CC_2 is the average score of items A1 to A6 for the second respondent and so on and so forth up to CC_20 being the average score of A1 to A6 for the twentieth respondent given that the study made use of 20 observations. (See Appendix C part III).

Adhocracy Culture = AVERAGE (AC_1 + AC_2 + AC_3 + …… + AC_20)

In which AC_1 is the average score of items B1 to B6 for the first respondent or observation and CC_2 is the average score of items B1 to B6 for the second respondent up to and including CC_20 being the average score of B1 to B6 for the twentieth respondent given that the study made use of 20 observations. (See Appendix C part III).

Market Culture = AVERAGE (MC_1 + MC_2 + MC_3 + …… + MC_20)

In which MC_1 is the average score of items C1 to C6 for the first respondent or observation and CC_2 is the average score of items C1 to C6 for the second respondent … up to CC_20 being the average score of B1 to B6 for the twentieth respondent given that the study made use of 20 observations. (See Appendix C part III).

Hierarchy Culture = AVERAGE (HC_1 + HC_2 + HC_3 + ……..+ HC_20)

In which HC_1 is the average score of items D1 to D6 for the first respondent or observation and CC_2 is the average score of items D1 to D6 for the second respondent … up to CC_20 being the average score of D1 to D6 for the twentieth respondent given that the study made use of 20 observations. (See Appendix C part III)..

It should be noted here that data screening procedures led to some of the items whose point scores were used for the averaging to be removed so as to improve data accuracy. They were: CC_A1, CC_A3, AC_B1, AC_B5, AC_B4, AC_B6, MC_C1, HC_D1 and HC_D3.

3.8 Research Design Limitations

Hofstede's (1980) cultural dimensions have been used in this study to measure culture, however, other later studies (Bond, 1988;Hofstede, Hofstede and Minkov, 2001) brought up additional measures of culture (Long-term vs Short, Indulgence and restraint) which were not considered in this studiy. Future studies may expand the scope of measures to include these two and investigate their effects on the adoption of RT-RAAT.

This study used Hofstede's scores, reported in his 1994 work, as indices of cultural values for the world and some selected African countries rather than directly measuring those cultural values today. This could overlook the possibility of individual differences, as well as the fast changing cultural values of nations due to globalization and technological advances (Lee et al., 2013).

A part of the readership of this study may question the appropriateness of using the TRA as a theroretical framework which derives from the social psychological school

(individual level) to investigate technology adoption by retail banks (group of people) which belongs to sociology (Hofstede, 2013-VSM 2013 manual). The study considers the banks to be physical entities meanwhile they are legal entities. Sometimes the business objectives, that is those of the bank, are different from employee objectives resulting in dysfunctional behaviour. The question arises whether employees can truly be taken as proxies of, or faithfully represent, the organisation (banks) especially when the study indicates employees refuting the phenomenon of loan interest revenue fraud within retail banks (self-interest vs bank interest) when indeed it existed?

Only the main or independent effects of the variables are assumed to impact intention to use RT-RAAT in this study and yet there was evidence of a small measure of interaction effects between the variables as shown by the multicollinearity test. A factorial design may be a better analysis technique which will measure interaction effects also.

Other data that may be oral in nature or based on body language and thus cannot be captured by a questionnaire survey were not considered in this study and, therefore, to have a more comprehensive view of the results, a study that uses triangulation (qualitative and quantitative methods) in data collection should be considered.

Hofstede's (1980) cultural dimensions and related indices were established based on IBM, an international technology company. Will these indices and dimensions hold true for a banking entity such as considered in this study especially as Hofstede (VSM 2013 manual) himself demands for sample matching with respect to sample size, sample make-up and timing of study?

Even though in principle the sample size of the study was designed to meet representative sample criteria, the response rate from six of the sixteen participating retail banks was so low (20/135=14.8%) that the results obtained from the study could not be generalised to the entire population of sixteen retail banks in Cameroon.

3.9 Ethics Related to Human Subject Participation

According to SSBM Ethics Policy and privacy notice, studies addressing human subjects, whether anonymous or not, need to obtain prior ethical clearance via a Human Subject Review Committee (HSRC) Ethics form. This requirement was accordingly fulfilled in the conduct of the current study.

The main ethical consideration required by SSBM Ethics policy for students conducting any form of human subject-related research was to ensure that ethics approval had been applied for and granted from the HSRC Ethics Committee to guarantee the confidentiality, anonymity, dignity and welfare of human subjects participating in the study.

An ethical clearance was granted through SSBM's HSRC Ethics Committee to conduct the present research. The committee did not receive any objection or any complaint from any of the participants or their retail banks that took part in this research.

A participant information sheet and an informed consent form was made available to all respondents and truthfully explained to them as to who was conducting the study, for what purpose the study was being conducted, what outcomes were expected and who was going to benefit from the results before data was collected. They were required to sign as proof of voluntary acceptance to participate or withdraw (Bhattacherjee, 2012, p146).

Names of participants, retail banks and facts that could lead to revealing their identity were not published. On the participant information sheet of the survey, it was clearly stated that participation in this study was voluntary and participants could withdraw from the study at any time with no consequences. The participants were assured that no one would have access to their personal information and that survey responses would be confidential and known only to the researcher. Respondent names were not entered on survey questionnaires nor on the Microsoft Excel database and no individual feedback given to any party. The survey questionnaires were separated from the informed consent form to further preserve anonymity and confidentiality. Furthermore, confidentiality was protected as retail banks were not given any information on how each respondent answered.

The researcher openly, honestly and fully disclosed the findings of this study and did not manipulate the methodology, data or the results obtained or any aspect of the study. Furthermore, to protect subjects' interests and future well-being, their identities were protected using the principle of anonymity which implies that the researcher or readers of the final research report cannot identify a given response with a specific respondent.

3.10 Summary

A methodology guiding the study was put in place in this chapter in order to achieve its purpose and specific objectives, ensure ethical standards were respected during the conduct of the study and to allow for a replication of the study, the latter being one of the key criteria for the scientific method of generating knowledge.

That methodology required that due regard be paid to the following aspects of the study:

- Translation of theoretical constructs of the study into measurable variables in a process termed operationalisation of theoretical constructs,
- Informed by the research problem, purpose and questions, a specified design of the study be spelt out. In the context of this study applied, explanatory, deductive, quantitative and cross-sectional,
- Population, sample frame, sampling units and sample size of the study be clearly defined. The sample size was statistically determined based on population size and confidence interval,
- Participant selection be ethical (voluntary) and unbiased, in this study respective use of ethical instruments such as informed consent and simple random sampling technique,
- Instruments for data collection to also respect ethical standards for the conduct of a scientific research and aligned with the research design,
- Instruments be verified for translation validation, reliability and construct validity,
- Analysis of data be carried out whilst respecting ethical standards, which for this study was descriptive in respect of employee and bank demographics and inferential for hypothesis testing,
- Indication of some of the limitations of the study design

Thanks to the methodology adopted for the study, the purpose and specific objectives of the research were achieved, standards of the scientific method were met in the conduct of

the research, ethical standards were respected and the study efficiently carried out. Use of the methodology also added credibility to the results of the study.

In the next chapter, the study will look at the results obtained as a result of following the above methodology prescribed for the conduct of the study.

CHAPTER IV:

RESULTS

4.1 Introduction

Data collected in respect of this study fell into two broad categories and were respectively used for descriptive and inferential analyses as well as for culture profiling. Inferential analysis data was further grouped into those addressing research question one that related to the theory of reasoned action, on the one hand, and then research question 2 relating to culture as the extending construct, on the other hand. Data for research question 2 also served to produce indices for Hofstede's (1994) national culture dimensions for Cameroon and organizational culture profile of the retail banks studied using Cameron and Quinn's (1999) OCAI framework.

4.2 Organization of Data Analysis Results

Three main data analysis methods have been employed in this study to meet its purpose and specific objectives as follows: descriptive, inferential and culture profiling.

The results of the descriptive data analysis of this study have been presented first followed by those of inferential data analysis relating to research questions one and two and their related propositions and hypotheses. Furthermore and in regard to research question two, national culture indices of Cameroon according to Hofstede (1994) were also presented followed by the organizational culture profile of the retail banks in Cameroon.

4.3 Descriptive Analysis Results

Descriptive analysis was carried out in respect of demography of the retail bank employees and the retail banks themselves. The results obtained have been summarized in the tables below.

Table 4.3.1 below provides a summary demographic variables and related statistics of the retail bank employees who responded to the survey questionnaires.

Table 4.3.1: *Demographic Variables and Related Statistics*

S/N	Variable	Statistics					
1	Gender	Frequency	Mode	Mean	Min	Max.	Range
	Male	20 (66.7%)	Male	-	-	.	.
	Female	10 (33.3%)					
2	Employee Age (Years)						
	< 30	5 (16.7%)		-	< 30		29-60
	30 - 40	12 (40.0%)	30 - 40				
	41 - 50	10 (33.3%)					
	51 - 60	3 (10.0%)				51 - 60	
3	Level of Education (Degree)						
	First	8 (26.7%)					
	Master	22 (73.3%)	Master		First	Master	
4	Longevity (Years)						
	Longevity < 2	9 (30.0%)		-	< 2		
	2 < Longevity< 4	5 (16.7%)					
	4 < Longevity < 6	2 (6.7%)					
	6 < Longevity < 8	1 (3.3%)					
	Longevity > 8	13 (43.3%)	>8yrs	-		> 8	-

From **Table 4.3.1** above, it is evident that male respondents were dominant in responding to the questionnaires making up 66.7% (N=20) of the respondents compared to their female

counterparts who only made up 33.3% (N=10). 40% (N=12) of the respondents and fell within the 30 – 40 years age bracket. No respondent was above 60 years of age. Respondents within the age bracket 41 -50 years were equally well represented at 33.3% (N=10). Up to 16.7% of respondents were below 30 years. Therefore, the retail banks were teeming with employees who were full of energy and dynamism but who attended tertiary education in the late eighties, early nineties and early 2000. At this time in Cameroon, education or work milieu was not exposed to the latest computer technologies. Such individuals now find it hard to learn new technologies such as RT-RAAT.

Over 70% (N=22) of the respondents had a postgraduate (master) degree with 26.7% (N=8) having a first degree. No respondent had a doctorate degree nor advanced level. Thus all respondents had attained a tertiary level of education (university graduates). This is consistent with the views of Alles et al. (2006) which asserts that bank employees are generally well educated.

Over 40% (N=13) of the respondents had been serving the bank for over 8 years and 30% (N=9) of them were less than 2 years in the bank. More than 16% (N=5) had been in the bank for more than 2 years but less than 4 years.

Most of the respondents were holding senior management positions but none was a chief executive officer nor a member of the board of directors nor indeed an audit committee member.

Table 4.3.2 below exhibits the descriptive analysis results of the firmographic data of the study.

Table 4.3.2: *Firmographic Variables and Related Statistics.*

S/N	Variable	Statistics					
1	Number of Employees	Frequency	Mode	Mean	Min.	Max.	Range
	< 100	0 (0%)					
	101 - 200	2 (33.3%)					
	201 - 300	2 (33.3%)					
	301 - 400	0 (0%)					
	> 400	2 (33.4%)					
2	Cameroonian Nationals (%)						
	> 50	6 (100%)					
3	Internal Audit Function						
	Present	6 (100%)	6 (100%)	-		6(100%)	-
4	Internal Audit Staff (N°)						
	3	1 (16.67%)	-	1 (16.67%)		-	-
	7	4 (66.66%)	4 (66.66¨%)	-		4 (66.66¨%)	-
	9	1 (16.7%)	-	1 (16.7%)		-	-
6	Loan Interest Revenue Assurance Activity						
	Yes	4 (66.7%)	4 (66.7%)	-		4 (66.7%)	-
	No	2 (33.3%)	-	2 (33.3%)		-	-
7	Loan Interest Revenue Assurance Application?						
	Yes	3 (50%)					
	No	3 (50%)					
8	Loan Interest Revenue Amount (XAF Billion)						
	0.3	1 (16.7%)					
	0.5	1 (16.7%)					
	3.1	1 (16.6%)					
	7.0	1 (16.7%)					

S/N	Variable	Statistics				
	14.0	1 (16.6%)				
	82.0	1 (16.6%)				
9	Loan Interest Revenue Fraud (XAF Million)					
		-	0	-	-	-
10	Age of Bank (Years)					
	Age< 5	1 (16.7%)		1(16.6%)		
	5 <Age <10					
	10 <Age <15					
	15 <Age < 20	2 (33.3%)				
	Age > 20	3 (50%)	3(50%)		3(50%)	20 < A < 5

From **Table 4.3.2** above, two (33.3%) out of the six retail banks which responded to the survey questionnaire had over four hundred employees. A similar number had between 201 – 300 employees and another two had employees in the range 101 – 200. No bank had less than one hundred employees. Thus fairly large banks in all despite the youthful age (less than 5 years) of one of them which lend themselves to hierarchical structures as found for this study.

More than fifty percent (50%) of the employees of all the six (100%) banks which responded to the survey questionnaire were Cameroonian nationals. Thus a national culture that was predominantly Cameroonian was prevailing in all the banks. Five out of the six (83.7%) retail banks responding to the questionnaire had an internal audit function in place and four of them (66.6%) had a staff strength of 7. A recent newcomer had 3 staff and the remaining one bank had 9 staff. The lone bank not having an internal audit department

instead had an internal control and compliance department which further precludes it from carrying out assurance activities.

Loan interest revenue assurance activity was being carried out by the internal audit functions of four (66.7%) of the six banks while the internal audit function of two (33.3%) of them were not carrying out such an activity. To meet with the requirements of loan interest revenue assurance activity, three of the responding six banks indicated the presence of a dedicated loan interest revenue assurance application in their internal audit functions but none had a real-time revenue assurance automation technology in place (RT-RAAT). Furthermore, three of the thirty (10%) respondents were unaware of the existence of an RT-RAAT technology.

The loan interest revenue amount in the last three years ranged from 0.3 – 82 billion FCFA. All the banks under study claimed no financial loss in relation to loan interest revenue which was at odds with the professional experience of the researcher. It is pointed out here that the respondents were neither chief executive officers, members of the audit committee nor members of board of directors. This was certainly a disquieting finding that top management and governance structure should be aware of.

Three (50%) of the six responding banks had been in the Cameroonian market for over twenty years whilst two (33.3%) others were slightly less than twenty years old in the Cameroonian market. These two categories of retail banks should have well established organizational cultures in place. Only one which responded to the call was less than five years old in the market. Choi et al. (2010) notes that organizations tend to develop a

dominant organizational culture over time as people in the organization adapt and respond to the challenges and changes in the environment.

4.4 Inferential Analysis Results

Inferential analysis was carried out to test the ten hypotheses, four propositions and the goodness of fit of the TRA and culture individually and then the extended research model of the study. Related findings are presented in the next section.

4.4.1 Research Question One, Related Proposition and Hypotheses

As a result of the review of literature in relation to the theory of reasoned action, gaps were identified in respect of which research question one was asked in order to fill the gaps thus:

> **RQ1:** What effect do attitude and subjective norm have on the intention to use real-time revenue assurance automation technology (RT-RAAT) by Internal Audit functions of retail banks in Cameroon?

In order to answer the above research question one, it was proposed, on the basis of prior empirical studies (Shih and Fang, 2006; Lee et al., 2013) carried out, that:

> **Proposition 1 (P1):** Attitude and subjective norm (theory of reasoned action) affect intention to use real-time revenue assurance automation technology (RT-RAAT).

Based on that proposition, the following hypotheses were developed and tested:

Hypothesis 1 (H1): Attitude (ATT) toward real-time automation technology positively and significantly affects the intention to use real-time automation technology.

Hypothesis 2 (H2): Subjective norm (SN) positively and significantly affects the intention to use real-time automation technology.

Attitude (ATT) and subjective norm (SN), the two constructs of the theory of reasoned action, were combined and tested to determine the goodness of fit of the TRA research model as well as permit thereby to indirectly test proposition 1.

The results of the tests of the above hypotheses and proposition are summarized in the table below.

Table 4.4.1: *The TRA Hypotheses, Proposition and Corresponding Results.*

S/N	Hypothesis / Proposition	Results
1	**H1:** Attitude (ATT) toward real-time automation technology positively and significantly affects the intention to use real-time automation technology.	Did not support directionally (B= -0.58) but supported in significance (p=0.00< 0.05; t stat = -4.53 < -1.96). 51% of ITU variation explained. Table 4.1.1(a) –(c) Appendix G.
2	**H2:** Subjective norm (SN) positively and significantly affects the intention to use real-time automation technology.	Did not support directionally (B= -0.27) but supported in significance (p=0.05= 0.05; t stat = 2.11 > +1.96). 15% of ITU variation explained. Table 4.1.2(a) to (c) Appendix G.
3	**P1:** Attitude and subjective norm affect intention to use real-time revenue assurance automation technology (RT-RAAT).	Supported (B= -0.50 –Att; B=-0.13-SN – both non-zero) and in significance (p=0.00 < 0.05). 58% of ITU variation explained. Table 4.1.3(c) Appendix G.

4.4.2 Research Question Two, Related Propositions and Hypotheses

As a result of the literature review in relation to culture a gap was identified in respect of which research question two was asked in order to bridge the gap, thus:

> **RQ2:** What is the effect of culture on the intention to use RT-RAAT technology by Internal Audit functions of retail banks in Cameroon?

To be able to answer the above research question and in the additional light of the results of some earlier empirical studies (Twati, 2006, Bagchi et al., 2003), this study advanced four propositions thus:

> **Proposition 2 (P2):** Societal/national culture affects intention to use RT-RAAT technology by Internal Audit Functions of retail banks in Cameroon.
>
> **Proposition 3 (P3):** Organizational culture affects intention to use RT-RAAT technology.
>
> **Proposition 4 (P4):** Culture affects intention to use RT-RAAT technology.

Based on the above propositions, the following hypotheses were developed and tested. In respect of proposition 2, the hypotheses were as follows:

> **H1-1:** Societies with high power distance culture will have a significant negative effect on intention to use RT-RAAT technology.
>
> **H1-2:** Societies dominated by high uncertainty avoidance will have a significant negative effect on intention to use RT-RAAT technology.
>
> **H1-3:** Societies dominated by feminine cultures will have a significant

negative effect on intention to use RT-RAAT technology.

H1-4: Societies with high collectivistic culture will have a significant negative direct effect on intention to use RT-RAAT technology.

In order to achieve specific objective 12 above, the four measures of societal culture tested in the above four hypotheses were combined and tested to indirectly verify proposition 2 above.

The results of the tests of the above hypotheses and proposition 2 are summarized in the table below.

Table 4.4.2: *Societal Culture Hypotheses, Proposition and Corresponding Results.*

S/N	Hypothesis / Proposition	Results
1	**H1-1:** Societies with high power distance culture will have a significant negative effect on intention to use RT-RAAT technology.	Supported directionally (B= -0.06) but at sample level only (p=0.72 > 0.05; t stat = -0.36 > -1.96). -5% of ITU variation explained. Table 4.2.1(a) to (c) Appendix G.
2	**H1-2:** Societies dominated by uncertainty avoidance will have a significant negative effect on intention to use RT-RAAT technology.	Supported directionally (B= -0.51) and in significance (p=0.01 < 0.05; t stat = -2.92 < -1.96). 28% of ITU variation explained. Table 4.2.2 (a) to (c) Appendix G.
3	**H1-3:** Societies dominated by feminine cultures will have a significant negative effect on intention to use RT-RAAT technology.	Did not support (B=0.08 – FEM) but at sample level only (p=0.72 > 0.05; t stat = 0.36 < +1.96). -5% of ITU variation explained. Table 4.2.3(a) to (c) Appendix G.
4	**H1-4:** Societies with high collectivistic culture will have a significant negative direct effect on intention to use RT-RAAT technology.	Did not support (B=0.03 – IDV) but at sample level only (p=0.88 > 0.05; t stat = 0.15 < +1.96). -5% of ITU variation explained. **Table 4.2.4(a) to (c)** Appendix G.

S/N	Hypothesis / Proposition	Results
5	**P2:** Societal/national culture affects the intention to use RT-RAAT technology by Internal Audit Functions of retail banks in Cameroon.	Supported (B=0.15–PD; B= -0.69-UA;B=-0.19–MAS; B=-0.03-IDV all non-zero) but at sample level (p=0.09 > 0.05). 40% of ITU variation explained. See **Tables 4.2.5 (a) to (c)** Appendix G

The hypotheses tested in relation to proposition 3 were as follows:

H2-1: Banks dominated by clan culture type will have a significant negative direct effect on intention to use RT-RAAT technology.

H2-2: Banks dominated by adhocracy culture type will have a significant positive effect on intention to use RT-RAAT technology.

H2-3: Banks dominated by market culture type will have a significant positive effect on intention to use RT-RAAT technology.

H2-4: Banks dominated by hierarchical culture type will have a significant direct negative effect on intention to use RT-RAAT technology.

The results of the tests of the above hypotheses and related proposition 3 are summarized in **Table 4.4.3** below.

Table 4.4.3: *Organizational Culture Hypotheses, Proposition and Corresponding Results.*

S/N	Hypothesis / Proposition	Results
1	**H2-1:** Banks dominated by clan culture type will have a significant negative direct effect on intention to use RT-RAAT technology.	Supported directionally (B= -0.007) but at sample level only (p=0.499 > 0.05; t stat = -0.690 > -1.96). -3% of variation in ITU explained. Table 4.2.6(a) to (c) Appendix G.

S/N	Hypothesis / Proposition	Results
2	**H2-2:** Banks dominated by adhocracy culture type will have a significant positive effect on intention to use RT-RAAT technology.	Supported directionally (B= 0.003) but at sample level only (p=0.839 > 0.05; t stat = 1.299 < +1.96). - 5% of variation in ITU explained. Table 4.2.7(c) Appendix G.
3	**H2-3:** Banks dominated by market culture type will have a significant positive effect on intention to use RT-RAAT technology.	Supported directionally (B=0.011) and in significance (R^2=0.06> 0.04). 1% of variation in ITU explained. **Table 4.2.8(a) to (c)** Appendix G.
4	**H2-4:** Banks dominated by hierarchical culture type will have a significant direct negative effect on intention to use RT-RAAT technology.	Supported directionally (B=-0.001) but not in significance (p=0.936 > 0.05; t stat = -0.082 > -1.96). - 6% of variation in ITU explained. Table 4.2.9(c) Appendix G.
5	**P3:** Organizational culture affects the intention to use RT-RAAT technology.	Supported (B=-0.004–CC; B=-0.001-AC; B=0.0.010–MC; B=-0.001-HC all non-zero) at sample level only (p=0.892 > 0.05). -18% of variation in ITU explained. See **Tables 4.2.10 (b) & (c)** Appendix G

To achieve objectives 12, 13, 14 and 15 earlier set above, all the culture variables were combined as were culture and TRA variables in respect of extended research model and tested to produce the results below:

Table 4.4.4: *Culture (P4) and Extended TRA Research Model Constructs and Corresponding Results.*

S/N	Construct	Results
1	**Culture (P4):** Culture affects intention to use RT-RAAT technology.	Supported (B=-0.03–CC; B=-0.01-AC;B=-0.02–MC; B=-0.02-HC; B=0.29–PD; B= -1.0-UA; B=-0.30–

S/N	Construct	Results
		FEM; B=0.07-IDV all non-zero) and significantly (R^2=0.60 > 0.04). 32% of variation in ITU explained. See **Tables 4.2.11 (b) & (c)** Appendix G
2	**TRA and Culture:** Attitude, subjective norm and culture affect intention to use RT-RAAT technology. Goodness of Fit of Extended Research Model.	Supported (B=-0.50-ATT; B=-0.09-SN; B=-0.01–CC; B=-0.01-AC;B=-0.01–MC; B=-0.01-HC; B=0.12–PD; B= -0.48-UA; B=-0.18–FEM; B=0.23-IDV all non-zero Bs) and significantly so (p=0.03 <0.05). 81% of variation in ITU explained. See **Tables 4.2.12 (b) & (c)** Appendix G.

4.5 Culture Profiling Results

The study next presents the culture profiling results in respect of national culture of Cameroon and organizational culture of the retail banks investigated.

4.5.1 National Culture Indices for Cameroon

As a corollary of the investigation of the national culture construct influence on RT-RAAT adoption, the national culture indices according to Hofstede's VSM 94 formulae were determined with results as in **Table 4.5.1** below.

The results show the index for each dimension for the Cameroon national culture and a comparison of these results with Hofstede's average index for the world and some African countries. According to Smith (2010) only eight African countries have national culture indices based on Hofstede's national culture dimensions (Egypt, Ethiopia, Ghana, Kenya, Nigeria, Tanzania, South Africa and Zambia). Mansour et al., (2010) provides indices of

these countries grouping them into three clusters: West Africa (Ghana, Nigeria, Sierra Leone), East Africa (Kenya, Tanzania, Ethiopia) and North Africa (Egypt, Sudan). As a result of this study, therefore, Cameroon became the first in the Central African cluster and the ninth African country out of 54 to have national culture indices based on Hofstede's (1994) national culture dimension as exhibited in **Table 4.5.1** below.

Table 4.5.1: *Cameroon, Some African Countries & World Average Cultural Dimension Indices*

Country	Power Distance (PD)	Uncertainty Avoidance (UA)	Masculinity (MAS)	Individualism (IDV)
Cameroon	100	85	17	61
West Africa	77	54	46	20
East Africa	64	52	41	27
Sudan	27	66	26	79
Egypt	70	80	45	25
World Average	55	64	50	43

The criterion used to determine whether a culture is low or high, weak or strong is based on Hofstede's (2001a) world mean of 50. Above this figure, an index is construed to mean a high or strong culture and below low or weak. Thus a country's index above 50 is strong or high and below 50 is low or weak. On this basis and comparing with world average, Cameroon was high on three of the four cultural dimensions and in relation to the indices of the three African clusters, Cameroon scored the least in respect of the masculinity index and highest for individualism dimension but for Sudan which did better (61 vs 79) – Mansour et al., 2010.

4.4.2.2: Organizational Culture Profile of Retail Banks in Cameroon

Using Cameron and Quinn's (1999) formulae exhibited earlier above resulted in averages for each of the four organizational culture type as in **Table 4.5.2** below indicating thereby the organizational culture profile of retail banks in Cameroon. Hierarchy culture was noted to be the most dominant culture followed by clan, market cultures and adhocracy culture in last position.

Table 4.5.2: *Organizational Culture Profile of the Retail Banks Investigated*

Culture Type	N	Mean	S.E.	S.D.	Range
Clan Culture	20	23.8	2.7	12.1	40
Adhocracy Culture	20	19.3	2.1	9.4	41.7
Market Culture	20	22.4	2.5	11.0	40.0
Hierarchy Culture	**20**	**31.1**	**3.5**	**15.6**	**76.3**

Figure 4.5.1 below is a schematic representation of the organizational culture profile of the retail banks investigated in this study based on the mean values of **Table 4.5.2** above.

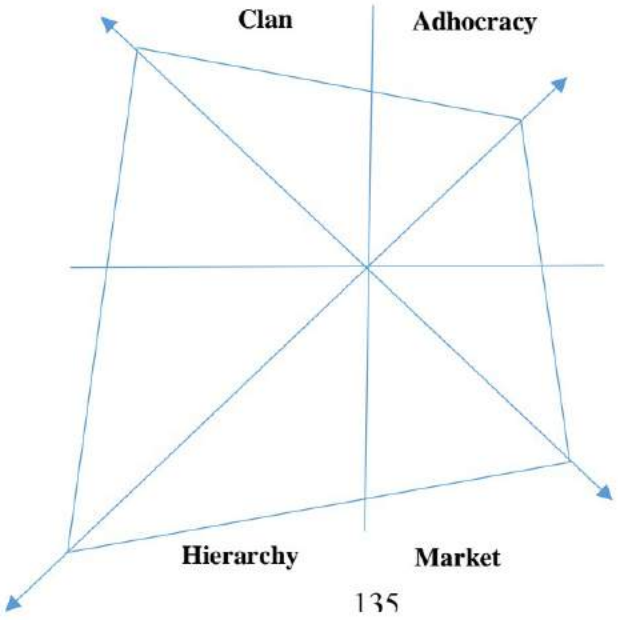


Fig. 4.5.1: *Retail Banks' Organizational Culture Profile*

Table 4.5.2 and **Figure 4.5.1** above represent the current dominant culture type for the retail banks empirically investigated in this study. The highlighted mean statistic in **Table 4.5.2** above evidences the most dominant organizational culture type for the retail banks under investigation to be hierarchy (Weber,1947) culture with strong elements of clan and market (Ouchi, 1981) cultures also present. Adhocracy culture was the least dominant amongst the four culture types. This is consistent with the Competing Values Framework assumption that organizational culture cannot be characterized by a single cultural type because there are many sub-units in an organization that have different cultures at various organizational levels (Cameron & Quinn, 1999).

Cameron and Quinn (1999) add that emphasizing only the values in a single quadrant could be dysfunctional. For instance, too much flexibility or spontaneity (adhocracy) could generate conflict in decision making processes, too much order and control (hierarchy) could result in rigidity; an over-emphasis on control and coordination (Hierarchy) could produce stagnation, loss of energy and abolition of trust and morale. In other words, the strength of one quadrant may become a weakness for the organization, limiting its ability to satisfy other values.

According to Cameron and Quinn (1999), hierarchy culture values internal focus and integration while maintaining stability, control, predictability and efficiency. Formal rules and policies hold the organization together. The retail banks lend themselves to this organizational culture type by virtue of the fact that it was the very first organizational

set-up type available to sizeable group work (the smallest bank size in terms of staff number for this study was more than 100 employees) and the highly risky nature of their business requiring control measures by way of policies, procedures and rules to mitigate the risks. Since retail banks must also be profitable to continue to exist, it is important for them to be efficient in their work to avoid wastes that lead to reduced profitability thus the need for a hierarchy culture.

The privatization of the Cameroonian banking sector and the opening up to foreign investors on an on-going basis in recent times has forced many of the retail banks to operate in a highly competitive environment hence compelling the retail banks to have market elements in their organizational culture profile.

The presence of elements of market culture in the retail banks mean that, in addition to internal focus and integration which characterize hierarchy culture as noted above, retail banks equally value external focus and differentiation. This is necessary to cope with the competitive environment in which they operate and to ensure that their going-concern status is maintained into the foreseeable future.

The core values that dominate market-type organizations are competitiveness and productivity/profitability. They are focused on transactions mainly with external stakeholders such as suppliers, customers, contractors, licensees, unions and regulators. And unlike a hierarchy culture, where internal control is maintained by rules, specialized jobs and centralized decisions, the market operates primarily through economic market mechanisms, mainly monetary exchange which is the mainstay of retail bank business (Cameron and Quinn, 1999).

The demographic analysis of this study above indicated that the longest serving employees of the retail banks (>8years) constituted the biggest proportion (43%) of the bank employees indicating commitment and loyalty to the banks which is a characteristic of a clan culture. The study next addresses this organizational culture type.

Clan culture (Ouchi, 1981; Pascale and Athos, 1981; Lincoln, 2003) is characterized by shared values and goals, cohesion, participativeness, employee development and a sense of "we-ness" permeate clan-type organizations. Clan culture organizations are likened to family-type organizations. Banks in general and retail banks in Cameroon in particular typically tie achievement of organizational goals and objectives to bonus payments to employees to ensure shared values and goals and avoid dysfunctional behavior within the bank. Also, some retail banks in Cameroon develop their employees by encouraging them to embark on and complete professional programs in respect of which fees are paid by the banks. All of this aimed at gaining employee commitment and loyalty as well as develop them professionally.

In sum, the observed mixed organizational culture profile (hierarchy, market, clan) of the retail banks of this study, with hierarchy as the dominant culture, is as a result of their sizes (Cameron and Quin, 1999), the fact that most of them were well established (33% above 15 years old), the highly risky nature of their business requiring policies, rules and procedures for control purposes (Hierarchy), external competitive forces, (Market) and concern for employee development, commitment and loyalty (clan) to achieve profitability. This finding is consistent with those of Twati and Gammack (2006) who investigated societal and organizational culture

impact on MIS adoption in Libyan banks and found that the dominant culture was hierarchical. Similarly, in a case study empirical investigation of organizational culture of Greek banking institutions, Belias and Koustelios (2013) found that the dominant organizational culture was hierarchy and the least adhocracy. Again consistent with this study's findings.

4.6 Summary of Findings

The descriptive analysis results indicated that most of the retail banks were unaware of the RT-RAAT technology and loan interest revenue fraud was going on but veiled by senior management. The loan interest revenue amounted up to XAF 82 billion thus very material. Revenue assurance was not carried out at all but for one bank and an internal audit function did not exist in one of the retail banks.

Inferential analysis results of the two research questions indicated that four variables, three constructs and the extended research model of the study were causal and significant as per ***Table 4.6.1*** below.

Table 4.6.1: Summary *Results of Inferential Analysis Tests*

S/N	Variable, Construct, Research Model vs. ITU	B(a)	Causality(b)	Significance(c)		Conclusion
			Adj. R^2	P/F Sig	R^2	
Level 1: Independent Variables						
1	Attitude (ATT) - H1	-0.58	51%	0.00	53%	(a+b) Causal, (c) Significant
2	Subjective Norm (SN) - H2	-0.27	15%	0.05	20%	(a+b) Causal, (c) Significant
3	Power Distance (PD) - H1-1	-0.06	-5%	0.72	1%	(a+b) Inconclusive, (c) Inconcl
4	Uncertainty Avoidance (UA) - H1-2	-0.51	28%	0.01	32%	(a+b) Causal, (c) Significant
5	Masculininty/Femininity (MAS) - H1-3	0.08	-5%	0.72	1%	(a+b) Inconclusive, (c) Inconcl
6	Individualism/Collectivism (IDV)- H1-4	0.03	-5%	0.88	0%	(a+b) Inconclusive, (c) Inconcl
7	Clan Culture (CC) - H2-1	-0.01	-3%	0.50	3%	(a+b) Inconclusive, (c) Inconcl
8	Adhocracy Culture (AC) - H2-2	0.003	-5%	0.84	0%	(a+b) Inconclusive, (c) Inconcl
9	Market Culture (MC) - H2-3	0.011	1%	0.29	6%	(a+b) Causal, c) Significant
10	Hierarchy Culture (HC) - H2-4	-0.001	-6%	0.94	0%	(a+b) Inconclusive, (c) Inconcl
Level 2: Constructs						
	Theory 1: TRA – (**P1**)	°	53%	0.00	58%	(a+b) Causal, (c) Significant
	Construct 2: National Culture - (**P2**)	°	23%	0.09	40%	(a+b) Causal, (c) Significant
	Construct 3: Organisational Culture -(**P3**).	°	-18%	0.90	7%	(a+b) Inconclus (c) Significant

Construct 4: Culture - **(P4)**.	°	32%	0.13	60%	(a+b) Causal, (c) Significant
Level 3: Extended Research Model					
TRA and Culture	°	59%	0.03	81%	(a+b) Causal, (c) Significant

° = Details in Appendix H

Cameroon scored higher than world average on three (PD, UA, IC) of Hofstede's (1994) four national culture dimensions and the dominant organizational culture for the retail banks was hierarchy though not having an effect on intention to use RT-RAAT.

CHAPTER V:

DISCUSSION

5.1 Introduction

This chapter provides a discussion of the results of hypothesis tests that were carried out in relation to research question one and then research question two in that order which guided the study.

The discussion in respect of the two research questions adddressed four aspects of the results, namely:

a) whether or not hypothesis expectations were met and also whether or not observed relationships were causal and held true both at the level of retail banks sampled for the study and at the level of all the retail banks in Cameroon (internal and external validities),

b) Whether or not culture profiling results had any relationship with culture-based hypothesis test results and if so, why?

c) How the hypothesis test results in relation to attitude, subjective norm and culture compared with the results of similar other studies carried out in other contexts (unit of analysis and geography) with possible explanations for any observed divergences or departures.

d) An evaluation of the goodness of fit of the theory with respect to explanatory power (R^2) and parsimony of constructs used to explain the phenomenon of persistent CAATs use by internal auditors of retail banks in Cameroon at the expense of RT-RAAT.

e) This chapter of the study also looked at the ethical considerations to be reckoned with at this stage of the study.

Eight statistics relating to the test results have been used in the discussion of the study results as follows: multiple regression coefficient (B), t statistic, p-value, α, CI, Significance F("p-value"), R^2 and Adjusted R^2.

Preceding the discussion of research questions one and two and aimed at enhancing understanding of that discussion, this section further provides definitions and interpretation of those statistics as summarised in **Table 5.1.1** of **Appendix J.**

5.2 Discussion of Research Question One

Based on the definitions in **Table 5.1.1** of **Appendix I** and in respect of research question one, the results of this study found that attitude, from an individual stand point or independently, has a linear relationship with intention to use RT-RAAT as evidenced by a non-zero regression coefficient (B= - 0.58) relating attitude, the independent variable, to intention to use RT-RAAT, the dependent variable. A negative regression coefficient (B= -0.58) means that as attitude towards RT-RAAT use increases by one unit, the intention to use RT-RAAT decreases by 0.58 unit. Thus directionally the hypothesis was not supported. The result is otherwise interpreted to mean that retail banks in Cameroon will be less willing to adopt RT-RAAT.

The study's finding is, however, consistent with a number of earlier literature as follows: Lee et al.'s (2013) found that attitude significantly influenced behavioural intention. Shih and Fang (2006) used TRA to determine whether attitude and subjective norms would influence an individuals' intention to adopt internet banking. They found that consumer attitude and specific network attributes had a significant relationship with behavioural intention, while subjective norms did not.

According to the theory of reasoned action (Fishbein and Ajzen, 1975), people develop an attitude toward a technology based on a thoughtful evaluation of the benefit the technology can bring to them. If it is finally beneficial, then a positive attitude will be formed and negative conversely. The negative attitude noted in the test result, which was contrary to the hypothesis, may be attributed to a host of possible reasons amongst which costs, IT use experience, technology infrastructure and compatibility issues, etc (Dasgupta et al., 2000). This study noted that only three out of twenty (3/20), i.e., 15% of the respondents were aware of the concept of real time and its related technology, RT-RAAT and only 1 out of the 3 belonged to the pro-camp of "important others" thus effectively 1 out of 20 (5%). The study speculates that this state of affairs, therefore, could have led the banks to develop out of unawareness a negative attitude toward RT-RAAT, a technology otherwise known for its many benefits. Consequently and in line with Roger's 5-step technology adoption framework, raising awareness within the retail banks investigated in this study will be a necessary first step towards creating a positive attitude within retail banks to facilitate the adoption of RT-RAAT especially if Luan et al.'s (2005) and Nor et

al. (2008) observations that users who possess positive attitude toward technology are likely to use it are to be reckoned with.

Every bank staff for the hierarchy level investigated was equipped with a lap-top computer and had access to other technology-related work tools such as internal mailing systems, the internet, Microsoft Office and use of the banks' ERP systems (Flexcube, Finacle) for the aspect of the technology relating to their work. The banks themselves were equipped with data centers counting numerous state-of-art servers and the different branches across the national territory were linked via local and wide area (LAN/WAN) networks with a mix of wired (optical fibre, ethernet) and wireless technologies. The clearing system with the central bank was fully automated and an established use of the swift system in place. Taking advantage of the wireless mobile network with 4^{th} generation capabilities existing in all the cities of the country and some rural areas, these banks also added the local mobile money transfer technology to the swift. All sixteen retails banks and even some of the microfinance institutions were equipped with automatic teller machines (ATM) all linked together in a network that covered the six countries of the CEMAC region.Thus quite a computer literate workforce and banks with an expanded and modern, if not state-of-the-art, infrastructure network. Technophobia or infrastructure handicap could not, therefore, be a possible major reason for the negative attitude towards intention to use RT-RAAT.

The result of the hypothesis test also indicated that attitude had a significant impact on intention to use RT-RAAT ($p=0.000 < 0.05$, t stat= $-4.56 < -1.96$). In other words, the relationship (B) observed at sample level between attitude and intention to use RT-RAAT

can be inferred to exist at the level of the entire population of retail banks in Cameroon. Thus supporting the hypothesis in significance. The researcher was, therefore, confident that 95% of the time the population relationship (β) lay somewhere between -0.84 and -0.31. Thus attesting, thereby, population validity of the test results.

Attitude, individually, accounted for 51% of variations in intention to use RT-RAAT (Adjusted $R^2 = 0.51$) controlling for the effects of other extraneous variables. Thus attesting to and internally validating a causal linear relationship between attitude and intention to use RT-RAAT.

Unlike Davis et al. (1989) and Curran and Meuter (2005) who posited that subjective norm had no significant effect on intention to use a technology, this study found that subjective norm, like attitude mentioned earlier, equally had a linear relationship with intention to use RT-RAAT given a non-zero regression coefficent (B= -0. 27) relating subjective norm, the independent variable to intention to use RT-RAAT, the dependent variable. A negative regression coefficient (B= -0.27) meant that as subjective norm or social influence towards RT-RAAT use increased by one unit, the intention to use RT-RAAT decreased by 0.27 unit. Thus directionally the hypothesis was not supported. The result was otherwise interpreted to mean that retail banks in Cameroon will be less willing to adopt RT-RAAT.

The negative relationship was, however, consistent with studies carried out by Carlsson et al. (2005, 2006), Im et al. (2011) and Min et al. (2008).

In a study carried out by Baubeng-Andoh (2018) negative subjective norm was interpreted as the result of positive advice of "important others" going unheeded by the

banks. In the context of this study, "important others" referred to colleagues in competing banks, internal and external actors in loan interest process, internal and external auditors, internal controllers, software vendors, software implementation partners and consultants, amongst others. This group of stakeholders may be put into two broad categories, viz: those pro RT-RAAT adoption and those against RT-RAAT adoption. The pro-camp includes competing banks, internal and external auditors, internal controllers, software implementation partners and consultants and in the anti-camp internal and external actors in the loan interest process. They all have vested interest in the loan interest revenue assurance process and duty to the retail banks. For instance, the internal auditor has an interest and duty to ensure efficient audit, loan interest revenue fraud is eliminated or reduced to a bare minimum and to issue error-free opinions. See the changing role of internal auditor earlier discussed in this study. These qualities are afforded by RT-RAAT and in adition to being detached from the loan interest revenue process except in an assurance capacity, auditors will be proponents of RT-RAAT. Equally consultants, software vendors and implementation partners will speak favourably of RT-RAAT adoption as it will generate much needed revenue.

The explanation advanced by Baubeng-Andoh (2018) did not seem to fit in the context of this study given that most of the respondents were, until this study, unaware of the concept of real time and related technology. This finding was in line with earlier literature (Alles et al., 2002; Chan et al., 2011; Kogan et al., 1999; Bumgarner and Vasarhelyi, 2015) which noted that real-time technologies such as continuous audit and robotic process audit were mostly found in North America and Europe and even in these

regions less in banking circles and inexistent in revenue assurance process within internal audit. This means the 'important others' of this study, especially of the anti-camp, could not even provide any positive advice in the first place given their unawareness. Thus this study speculates that negative social influence on intention to use (ITU) leading to no intention to adopt RT-RAAT by retail banks in Cameroon, must have origin in some of the "important others" saying negative things about RT-RAAT due to other motivations, such as fraud, rather than inherent weaknesses in RT-RAAT. This will appear to come from people in the anti-RT-RAAT camp who are intimately involved in the loan interest revenue process and in whose interest it is for the phenomenon of fraud and related financial losses to persist. This speculation is further borne out by the fact that none (0%) of the twenty respondents, most functional heads, accepted that the phenomenon of loan interest revenue-related fraud had occurred in their banks in the last three years and yet the experience of the researcher within this time frame or even earlier indicated otherwise.

Another possibility that may explain the negative attitude and negative social influence is that some of the "important others" may construe RT-RAAT adoption to mean they will be replaced by robotic employees. Internal auditors who would have been the users of RT-RAAT constitute this group of people but the respondents who returned their questionnaires only included 4 internal auditors out of the 20 (20%) respondents which is an unrepresentative position to sway the relationship into a negative direction.

The result also indicated that subjective norm had a significant negative impact on intention to use RT-RAAT ($p=0.05 = 0.05$, t stat= $- 2.11 < -1.96$). Thus supporting the

hypothesis in significance. The researcher was, therefore, confident that 95% of the time the population relationship (β) lay somewhere between -0.55 and 0.00.

The observed linear relationship between subjective norm and intention to use RT-RAAT was causal given that subjective norm accounted for 15% of variations in intention to use RT-RAAT (Adjusted R^2 = 0.15) controlling for the effects of other external variables. Therefore internal validity of hypothesis was, thereby, confirmed.

From the absolute size of the regression coefficents and relative explanatory power of the variations in the dependent variable, it becomes evident that attitude (B= -0.58, R^2=51%) was the dominant influencing factor when compared to subjective norm (B= -0.27, R^2=15%).

Results of the tests of hypotheses 1 and 2 of the theory of reasoned action have been summarised as per **Table 5.2.1** below for individual or independent effects on intention to use RT-RAAT.

Table 5.2.1: *Independent or Individual Results of Hypotheses 1 and 2.*

Variable	***Regression Line Coefficient***	***t- statistic***	***p-value***	***Adjusted R^2***	***Hypothesis Test Outcome***	
					Direction	***Significance***
ATT	-0.58	- 4.53	0.000	0.51	*Supported(-)*	*Significant*
SN	-0.27	2.11	0.050	0.15	*Supported(-)*	*Significant*
Set Thresholds: t = +/- 1.96, α = 0.05, R^2= 0 - 1						

Proposition 1 argued that attitude and subjective norm in combination affect intention to adopt RT-RAAT. This was supported as investigating the combined effects of attitude and subjective norrm on intention to use RT-RAAT produced regression coefficients of - 0.5 in respect of attitude and - 0.13 in respect of subjective norm and R^2=0.53 thus attesting

to a cause – effect linear relationship between attitude and subjective norm, as the independent variables and intention to use RT-RAAT, the dependent variable.

A p-value of 0.001 attests that the relationship observed (B) between the theory of reasoned action and intention to use RT-RAAT at the sample level equally existed at the population level of retail banks in Cameroon. **Table 5.2.2** below provides a summary of these results.

Table 5.2.2: *Results of Theory of Reasoned Action (Att and SN Combined)*

Estimated Regression Line Parameters:		***t- statistic***	***p-value***
Intercept	1.58	5.72	0.000
Coefficient of ATT	- 0.5	- 3.81	0.001
Coefficient of SN	- 0.13	- 1.27	0.221
S.E. of Regression=		Set Thresholds: t & α =+/-1.96& 0.050	

ANOVA (Analysis of Variance)

Source of Variations	***df***	***SS***	***MS***	***F***	***p-value***
Regression	2	2.76	1.38	11.54	0.001
Residual	17	2.04	0.12		
Total	19	4.80			

Goodness of Fit of the TRA Model Taken Overall

The estimated TRA model is overall significant ($p=0.001<0.05$, $F=11.54>F_{critical}$) as with only two constructs (parsimonious) and R^2 of 0.58 meaning it has explained up to 58% of the variations in intention to use RT-RAAT. Compared to TAM at 40% explanatory power in

many empirical studies (Taylor and Todd, 1995; Davis, 1993, Yousafzai et al., 2010) and 13-construct DTPB at 36% explanatory power for IT use, TRA is a better theory to explain persistent CAATs use by retail banks in Cameroon. The proposed model represented as below could be used to predict intention to use (ITU):

Intention to use (ITU) = 1.58 – 0.5ATT – 0.13SN.

Fig.5.2.1 below depicts the results of the hypothesis tests relating to research question one and its related TRA research model.

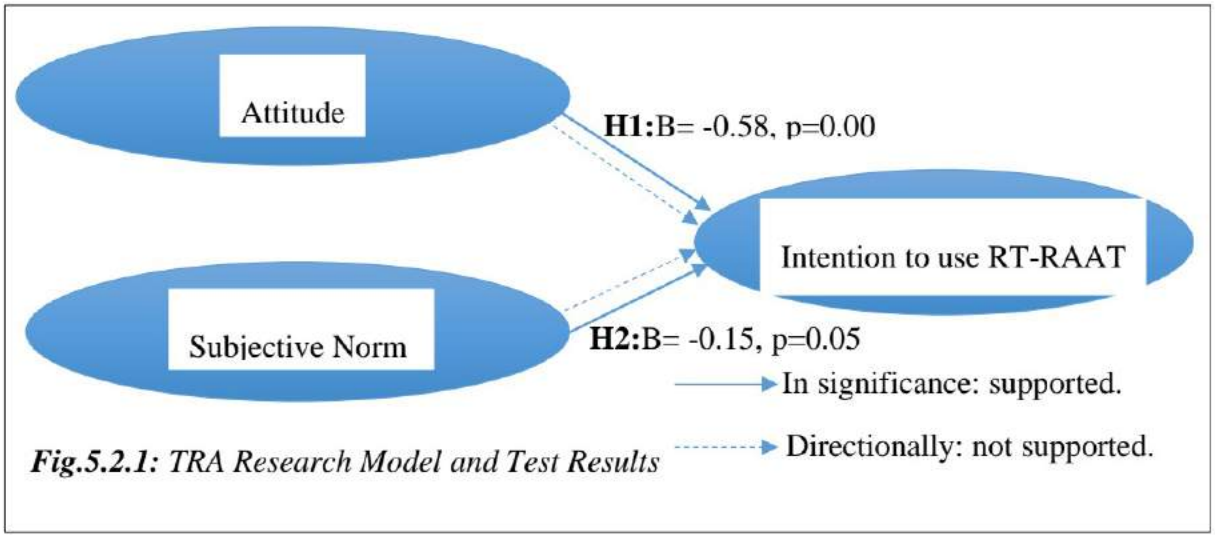


Fig.5.2.1: *TRA Research Model and Test Results*

5.3 Discussion of Research Question Two

Operationalisation of research question two made use of two constructs, namely national or societal culture and organisational culture in respect of which eight hypotheses (H1-1, H1-2, H1-3, H1-4, H2-1, H2-2, H2-3, H2-4) were developed and tested, four for each construct.

Based on the test results of the hypotheses relating to national culture (H1-1, H1-2, H1-3, H1-4) above, the study found at the sample level that high power distance (PD), from an individual stand point or independently had a causal linear relationship with intention to use RT-RAAT as evidenced by an effect size measure (R^2=0.007) and a non-zero regression coefficient (B= - 0.06) relating high power distance, the independent variable, to intention to use RT-RAAT, the dependent variable.

A negative regression coefficient (B= -0.06) means that as high power distance increases by one unit, the intention to use RT-RAAT decreases by 0.06 unit. In order words, as high power distance increases, retail banks will be less likely or willing to adopt RT-RAAT. High power distance correlates with hierarchy culture.

This finding is consistent with Twati's (2007) argument that where high power distance and high uncertainty avoidance leadership style combined with hierarchy organizational culture, unawareness and limited to no IS/MIS background, decision makers rarely favor the adoption of technology. Many of the senior executives of the retail banks surveyed share the same values and beliefs on technology and were not convinced about the adoption and use of RT-RAAT. It may be inferred from this that apart from being motivated by fraudulent practices by some, they have not yet perceived the full benefits of RT-RAAT.

It will not be cause for concern if the sub-culture (s) of these retail banks manifesting this culture type do(es) not involve actors in the loan interest revenue assurance process since if it is recalled that Cameron and Quinn (1999) advised that it is healthy when a mix of the different oraganizational culture types are found within an organisation.

In terms of significance of the observed relationship(B) as measured by the p value and t stat, the result indicated that p = 0.72 >0.05 and t stat= - 0.36 > -1.96. According to Bhattacherjee et al. (2012, p125), this means there was insufficent statistical evidence to state whether or not a significant relationship existed between high power distance (PD) and intention to use RT-RAAT at the population level (all the retail banks in Cameroon).

With an adjusted R^2 of - 0.048, it cannot be stated whether or not a casusal relationship existed between high power distance and intention to use RT-RAAT. This finding is consistent with hierarchy culture addressed under organizational culture.

Uncertainty avoidance on its part and from an individual stand point or independently, has a causal linear relationship with intention to use RT-RAAT as evidenced by a non-zero regression coefficient (B= - 0.51) relating uncertainty avoidance, the independent variable, to intention to use RT-RAAT, the dependent variable and the explanation of 28% of the changes in intention to use RT-RAAT (Adjusted R^2=0.28). A negative regression coefficient (B= -0.51) means that as high uncertainty avoidance increases by one unit, the intention to use RT-RAAT decreases by 0.51 unit. In terms of technology adoption, as high uncertainty avoidance increases in these retail banks, RT-RAAT adoption will be diminishing. This is speculated to be due to the compromise of certain controls/rules (e.g., confidentiality) as a result of RT-RAAT adoption. Also, some of the RT-RAAT technology risks may be unknown to this type of society and innovation is resisted and low (known to be in Europe and North America for RT-RAAT).

This is consistent with previous literature. For instance, Twati (2006) in his study of the influence of societal and organisational culture on banks in Libya found that as high

uncertainty avoidance increased the banks were less keen on MIS adotption. Similalry, Lee et al. (2017), in their study of impact of national culture on mobile phone adoption in South Korea pointed out that until risk acceptance has disappeared, members of a strong uncertainty avoidance society will hesitate to accept a new technology.

Retail banks by their very risky nature require control measures to be put in place in order to mitigate risks, however, some of the controls (confidentiality for instance) are compromised by the adoption of a technology solution hence causing them to be anti-technology. Within the context of this study, it is not necessarily a cause for concern if this is happening outside the loan interest revenue assurance process. Cameron and Quin's (1999) caution that to a certain degree, it is healthy to have a mixture of these organisation culture types since exclusivity can be counter-productive.

The result also indicates that uncertainty avoidance has a significant impact on intention to use RT-RAAT ($p=0.01 < 0.05$, t stat= - 2.92 < -1.96). The researcher is, therefore, confident that 95% of the time the population relationship (β) lies somewhere between -0.88 and -0.14.

It accounted for 28% of variations in intention to use RT-RAAT (Adjusted $R^2 = 0.28$) controlling for the effects of other external factors thus confirming the internal validity of the causal relationship between UA and ITU.

Femininity, from an individual stand point or independently, had a linear relationship with intention to use RT-RAAT at the sample level as evidenced by a non-zero regression coefficient (B= 0.08) relating femininity, the independent variable, to intention to use RT-

RAAT, the dependent variable. A positive regression coefficient (B= 0.08) means that as femininity increases by one unit, the intention to use RT-RAAT increases by 0.08 unit. In terms of technology adoption, as femininity increases retail banks in Cameroon will be willing to adopt RT-RAAT. This may be tapping on the fact that retail banks will acquire RT-RAAT in order to carry out necessary work and not for its own sake and doing so in a cooperative manner (Hofstede, 2001) – internal audit department working in cooperation with the Credit, IT, Operations and Finance departments.

However, in inferring whether or not the observed relationship (B) at the sample level, equally holds at the population (β) level of retail banks in Cameroon, i.e., significance of B, the t stat, p-value and confidence interval (CI) were used as earlier defined.

The p-value and t stat of the observed relationship respectively indicated as follows: p=0.72 > 0.05 and t stat= 0.36 < 1.96. According to Bhattacherjee et al. (2012, p125) and Holmes et al. (2018, p569) , this means there was insufficent statistical evidence to state whether or not a similar relationship existed between femininity and intention to use RT-RAAT at the level of the population of all the retail banks in Cameroon.

Controlling for the effects of other external variables (Adj. R^2= - 0.05), the observed relationship between Femininity and ITU cannot be affirmed nor refuted to be causal.

Individualism, from an individual stand point or independently at a sample level, has a linear relationship with intention to use RT-RAAT as evidenced by a non-zero regression coefficient (B= 0.03) relating individualism, the independent variable, to intention to use RT-RAAT, the dependent variable. A positive regression coefficient (B=

0.03) means that as individualism increases by one unit, the intention to use RT-RAAT increases by 0.03 unit. It is otherwise construed to mean that as individualism increases, retail banks in Cameroon will more likely adopt or intend to use RT-RAAT. This is because, unlike in collectivistic societies where the group influences the technology adoption decisions of its members, retail banks usually unilaterally make that decision found within their IT strategy that is not shared with others. They are equipped with expert IT departments which make the best technology decisions for them.

However, in inferring whether or not the observed relationship (B) at the sample level, equally holds at the population (β) level of retail banks in Cameroon, i.e., significance of B, the t stat, p-value and confidence interval (CI) were used as earlier defined.

The p-value and t stat of the observed relationship respectively indicated as follows: $p=0.88 > 0.05$ and t stat= $0.15 < 1.96$. According to Bhattacherjee et al. (2012, p125) and Holmes et al. (2018, p569) , this meant there was insufficent statistical evidence to state whether or not a similar relationship existed between individuality (IDV) and intention to use RT-RAAT at the level of the population of all the retail banks in Cameroon (inconclusive).

Individualism accounted for 0% of variations in intention to use RT-RAAT (R^2 = 0.00). Therefore, the observed relationship between IDV and ITU is not causal.

Overall and independently, only uncertainty avoidance (UA) significantly affected intention to use RT-RAAT (B=-0.51, Adjusted R^2= 0.28). **Table 5.3.1** below provides a summary of the results.

Table 5.3.1: *Societal Culture Independent Results of Hypotheses H1-1 to H1-4.*

Variable	***Regression Line***	***t- statistic***	***p-value***	***Hypothesis Test Outcome***

.	*Coefficient*			*Adjusted R^2*	*Direction*	*Significance*
PD	-0.06	- 0.36	0.72	0.00	*Supported(-)*	*Inconclusive*
UA	-0.51	-2.92	0.01	0.28	*Supported(-)*	*Significant*
MAS	0.08	0.36	0.72	-0.05	*Supported(+)*	*Inconclusive*
IDV	0.03	0.15	0.88	0.00	*Supported(+)*	*Inconclusive*
Set Thresholds: t = +/- 1.96, α = 0.05, R^2= 0 - 1						

Proposition 2 argued that national or societal culture affect intention to adopt RT-RAAT. According to Bhattacherjee et al. (2012, p125) since p=0.09>0.05 in the proposed relationship, this means there is insufficent statistical evidence to state whether or not a significant relationship exists between culture and intention to use RT-RAAT.

Table 5.3.2 below provides a summary of these results.

Table 5.3.2: *Societal culture (Proposition 2) Combined Results*

Estimated Regression Line Parameters:		***t- statistic***	***p-value***
Intercept	2.16	2.41	*0.03*
PD	0.15	0.97	*0.35*
UA	-0.69	-3.09	*0.01*
MAS/FEM	-0.19	-0.80	0.44
IDV	-0.03	-0.16	0.88
S.E. of Regression=		Set Thresholds: t & α =+/-1.96 & 0.05	

ANOVA (Analysis of Variance)

Source of Variations	***df***	***SS***	***MS***	***F***	***p-value***
Regression	4	1.90	0.47		
Residual	15	2.90	0.19	2.45	0.09
Total	19	4.8			

Goodness of Fit of the Societal Culture Model Taken Overall

With p=0.09>0.05, there is insufficent statistical evidence to state whether or not a similar relationship exists between societal culture and intention to use RT-RAAT at the level of the population of all the retail banks in Cameroon. R^2 read 0.40 meaning societal culture has explained up to 40% of the variations in intention to use RT-RAAT, the proposed model represented as below cannot be used for predictions at retail bank population level. At 40%, it represented a reasonable explanatory power according to Bagchi et al. (2003) thus confirming national culture as an important factor in technology-based information management (Ein-Dor et al., 1993; Palvia, 1998; Gallupe and Tan, 1999).

In respect of organisational culture (H2-1, H2-2, H2-3, H2-4), the results of this study found that clan culture (CC) as one of the four measures of organisational culture, from an individual stand point or independently at the sample level, had a causal linear relationship with intention to use RT-RAAT as evidenced by the effect size measure (R^2=0.026) and a non-zero regression coefficient (B= - 0.007) relating clan culture, the independent variable, to intention to use RT-RAAT, the dependent variable. A negative regression coefficient (B= -0.007) means that as clan culture increases by one unit, the intention to use RT-RAAT decreases by 0.007 unit. In terms of technology adoption, this meants as clan culture increases retail banks will be less likely or willing to adopt RT-RAAT.

It accounted for 3% of variations in intention to use RT-RAAT (R^2 = 0.026) allowing for the effects of other external factors. Internal validity of the relationship, however, cannot be affirmed or refuted (Adjusted R^2= - 0.028).

With p=0.449 >0.05 and t stat= - 0.690 > -1.96, there is insufficent statistical evidence to state whether or not a similar linear relationship existed between clan culture (CC) and intention to use RT-RAAT at the level of the population of all the retail banks in Cameroon.

Adhocracy culture (AC) as another of the four organisational culture type, from an individual stand point or independently and again at sample level, has a linear relationship with intention to use RT-RAAT as evidenced by a non-zero regression coefficient (B= 0.003) relating adhocracy culture, the independent variable, to intention to use RT-RAAT, the dependent variable. A positive regression coefficient (B= 0.003) means that as adhocracy culture increases by one unit, the intention to use RT-RAAT increases by 0.003 unit. In terms of technology adoption, as adhocracy culture increases, retail banks in Cameroon will be more willing or likely to adopt RT-RAAT. Adhocracy culture is characterised by innovation, flexibility and external focus which are qualities required by technology. Unlike hierarchy culture that views technology as disruptive, this culture type welcomes it. Retail banks need to adapt to competition in the external environment and technology (RT-RAAT) is one of those tools that will assist in that endeavour. Within retail bank circles in Cameroon, the burgeoning e-banking products like mobile money transfer, instant account balance information, transfer from account to acccount via mobile phone, online account balance enquiry and online purchase constitutes the product types promoted by this sub-culture within the retail banks.

With p=0.839 >0.05 and t stat= 0.206 < 1.96, there is insufficent statistical evidence to state whether or not a similar relationship exists between adhocracy culture (AC) and intention

to use RT-RAAT at the level of the population of all the retail banks in Cameroon. It accounted for 0% of variations in intention to use RT-RAAT (R^2 = 0.002), confirming thereby a non-causal linear relationship with intention to use RT-RAAT.

Market culture (MC) as the third organisational culture type, from an individual stand point or independently and at a sample level, had a causal linear relationship with intention to use RT-RAAT as evidenced by the effect size measure (R^2= 0.06) and a non-zero regression coefficient (B= 0.011) relating market culture, the independent variable, to intention to use RT-RAAT, the dependent variable. A positive regression coefficient (B= 0.011) means that as market culture increases by one unit, the intention to use RT-RAAT increases by 0.011 unit. In terms of technology adoption, as the market culture increases, retail banks will be more likely or willing to adopt RT-RAAT. RT-RAAT can be viewed to bring a competitive advantage, increased productivity and profitability and in the light of the recent competition in the financial services sector in Cameroon, this can be expected.

The p-value and t stat of the observed relationship respectively indicated as follows: p=0.29 > 0.05 and t stat= 1.08 < 1.96. According to Bhattacherjee et al. (2012, p125) and Holmes et al. (2018, p569) , this means there is insufficent statistical evidence to state whether or not a similar relationship exists between market culture (MC) and intention to use RT-RAAT at the level of the population of all the retail banks in Cameroon. However, Sullivan and Feinn (2014) and Lee (2016) argue that effect size, measured by R^2 ,should also be considered. On this basis, market culture becomes significant.

It accounted for 6% of variations in intention to use RT-RAAT (R^2 = 0.06). Controlling for the effects of other extraneous factors, it accounted for only 1 % of variation

in intention to use RT-RAAT (Adjusted R^2= 0.01). This means all changes observed in intention to use (ITU) are exclusively due to changes in market culture thus internally validating the causal relationship existing between market culture and intention to use RT-RAAT.

Hierarchy culture (CC) as the fourth organisational culture type of the OCAI(1999), from an individual stand point or independently and at a sample level, has a linear relationship with intention to use RT-RAAT as evidenced by a non-zero regression coefficient (B= - 0.001) relating hierarchy culture, the independent variable, to intention to use RT-RAAT, the dependent variable thus supporting the hypothesis. A negative regression coefficient (B= -0.001) means that as hierarchy culture increases by one unit, the intention to use RT-RAAT decreases by 0.001 unit. In order words, this means as hierarchy culture increases retail banks in Cameroon will be less likely or willing to adopt RT-RAAT applications.

Hierarchy culture type correlates positively with the high power distance dimension of national or societal culture (Hofstede, 2013). Hierarchy culture type organizations are characterized by high confidentiality of information and with a few employees in the organizations having the right to use information. This in turn minimizes the benefits of sharing information among various levels of management in the organization (credit department, finance, IT, operations and internal audit in the context of loan interest revenue). Hierarchy-oriented organizations favor structure and control and stress order, standardization, efficiency, certainty and stability, reflecting internally-oriented and formalized values (Cameron and Quin, 199). Therefore, the retail banks will not be keen

on adopting RT-RAAT, which can be seen as disruptive (Lee et al., 2017). The inflexibility of the hierarchy culture and reduced credence given to subordinates may further deter the adoption of RT-RAAT.

With $p=0.94 > 0.05$ and t stat= $-0.08 < 1.96$, there is insufficent statistical evidence to state whether or not a similar relationship (β) exists between hierarchy culture (HC) and intention to use RT-RAAT at the level of the population of all the retail banks in Cameroon. It accounted for 0% of variations in intention to use RT-RAAT ($R^2 = 0.00$) hence the relationship observed above is non-causal.

Looking at the four organisational types and testing them independently, only market culture out of the four culture types causatively affected (B=0.011, Adjusted R^2= 0.01) intention to use RT-RAAT. This is contrary to the OCAI-determined organisational culture profile results which found hierarchy culture to be the most dominant culture within retail banks in Cameroon followed by clan culture and adhocracy culture in that order. Dominance as indicated by OCAI is a mere index (absolute) and cannot be compared with B which denotes a relationship between an independent variable and dependent variable (relative). Consistency in dominance between the two can, therefore, only be a matter of coincidence.

Eventhough dominant hierarchy culture as revealed by the OCAI profiling is known to inhibit technology adoption (Lee et al., 2017), market culture's effect on intention to use RT-RAAT being dominant vis-à-vis the other culture types may be explained by the high level of competition in the financial services sector in Cameroon requiring retail banks to

be pro-technology to survive the competition or have an edge over the other competitors suggesting a shift in culture. **Table 5.3.3** below provides a summary of the results.

Table 5.3.3: *Independent or Individual Results of Hypotheses H2-1 to H2-4.*

Variable Line.	***Regression Coefficient***	***t- statistic***	***p-value***	***Adjusted R^2***	***Hypothesis Test Outcome***	
					Direction	***Significance***
CC	-0.007	- 0.690	0.45	*0.00*	*Supported(-)*	*Inconclusive*
AC	0.003	0.206	0.84	*-0.05*	*Supported(+)*	*Inconclusive*
MC	0.011	1.082	0.29	*0.01*	*Supported(+)*	*Inconclusive*
HC	-0.001	-0.082	0.94	*0.00*	*Supported(-)*	*Inconclusive*
Set Thresholds: t = +/- 1.96, α = 0.05, R^2 = 0 - 1						

Proposition 3 argued that organisational culture affect intention to adopt RT-RAAT.

Since p=0.89 >0.05, there is insufficient statistical evidence to state whether or not a similar relationship exists between proposition 3 (P3) and intention to use RT-RAAT at the level of the population of all the retail banks in Cameroon (Bhattacherjee 2012, p125).

Table 5.3.4 below provides a summary of these results.

Table 5.3.4: *Organisational Culture (Proposition 3) Combined Results*

Estimated Regression Line Parameters:		***t- statistic***	***p-value***
Intercept	0.308	0.288	0.777
CC Coefficient	-0.004	-0.249	0.807
AC Coefficient	-0.001	-0.029	0.977
MC Coefficient	0.010	0.635	0.535
HC Coefficient	-0.001	-0.049	0.961
S.E. of Regression=		Set Thresholds: t & α =+/-1.96 & 0.05	

ANOVA (Analysis of Variance)

Source of Variations	***df***	***SS***	***MS***	***F***	***p-value***

Regression	4	0.323	0.081		
Residual	15	4.477	0.298	0.271	0.892
Total	19	4.8			

Goodness of Fit of the Organizational Culture Model Taken Overall

There was insufficient statistical evidence to state whether or not the estimated organizational culture model can predict at the population level (p=0.0.89 >0.05) and with R^2 of 0.067 meaning it explained 7% of the variations in intention to use RT-RAAT. Controlling for the effects of other extraneous factors, it cannot be stated whether or not a causal relationship (Adjusted R^2 = -0.181) existed between organizational culture and intention to use RT-RAAT.

One of the objectives of the study was to determine whether or not culture affected intention to adopt RT-RAAT. The results indicated that it did at the population level (significant) based on effect effect size (R^2 =0.60). The relationship was causal as investigating the combined effects of national and organisational cultures (PD, UA, MAS, IDV, CC, AC, MC, HC) on intention to use RT-RAAT produced all non-zero regression coefficients (B=0.2 -PD, B=-1.00-UA, B= -0.30-MAS, B=0.07-IDV, B = -0.03 -CC, B= -0.01 –AC, B= 0.02 –MC, B= -0.02- HC: all non-zero) and controlling for the effects of other extraneous factors, then 32% of variations in intention to use RT-RAAT were exclusively explained by culture (adjusted R^2 = 0.32).

Table 5.3.5 below provides a summary of these results.

Table 5.3.5: *Culture Research Model Results*

Estimated Regression Line Parameters:		***t- statistic***	***p-value***
Intercept	4.71	3.16	0.01
PD Coefficient	0.29	1.58	0.14
UA Coefficient	-1.00	-3.83	0.00
MAS Coefficient	-0.30	-1.06	0.31
IDV Coefficient	0.07	0.37	0.72
CC Coefficient	-0.03	-2.29	0.04
AC Coefficient	-0.01	-0.95	0.36
MC Coefficient	-0.02	-1.22	0.25
HC Coefficient	-0.02	-1.87	0.09
S.E. of Regression=		Set Thresholds: t & α =+/-1.96 & 0.05	

ANOVA (Analysis of Variance)

Source of Variations	***df***	***SS***	***MS***	***F***	***p-value***
Regression	8	2.90	0.36		
Residual	11	1.90	0.17	2.10	0.13
Total	19	4.8			

Goodness of Fit of the Culture Model Taken Overall

Adjusted R^2 was 0.32 meaning culture explained up to 32% of the variations in intention to use RT-RAAT controlling for the effects of other extraneous factors, thus internally validating the proposition between culture and intention to use RT-RAAT.

The extended research model (TRA and Culture combined) results, however, affirm a significant (significance F=0.03<0.05) and causal linear relationship (regression coefficients of all variables being non-zero, R^2=0.81 explaining up to 81% of the variations in ITU) between the constructs of the theory of reasoned action (TRA) and culture variables, as independent variables on the one hand, and intention to use RT-RAAT, as the dependent variable 95% of the time to within +/- 2 standard deviations of the sample relationship (B). Compared to TAM at 40% explanatory power in many empirical studies (Taylor and Todd, 1995; Davis, 1993) for IT use, it performs slightly more than two times better.

Thus overall, the research model is fit for predictions of intention to use RT-RAAT for the population of retail banks in Cameroon.

Table 5.3.6:*Extended Research Model (TRA and Culture Combined) Results.*

Estimated Regression Line Parameters:		***t- statistic***	***p-value***
Intercept	3.18	2.37	0.04
Coefficient of ATT	- 0.50	- 2.62	0.03
Coefficient of SN	- 0.09	- 0.81	0.44
Coefficient of PD	0.12	0.81	0.44
Coefficient of UA	-0.48	-1.83	0.10
Coefficient of MAS	-0.18	-0.75	0.47
Coefficient of IDV	0.23	1.46	0.18
Coefficient of CC	-0.01	-0.64	0.54
Coefficient of AC	-0.01	-1.38	0.20
Coefficient of MC	-0.01	-0.52	0.61
Coefficient of HC	-0.01	-0.97	0.36
S.E. of Regression=		Set Thresholds: t & α =+/-1.96& 0.050	

ANOVA (Analysis of Variance)

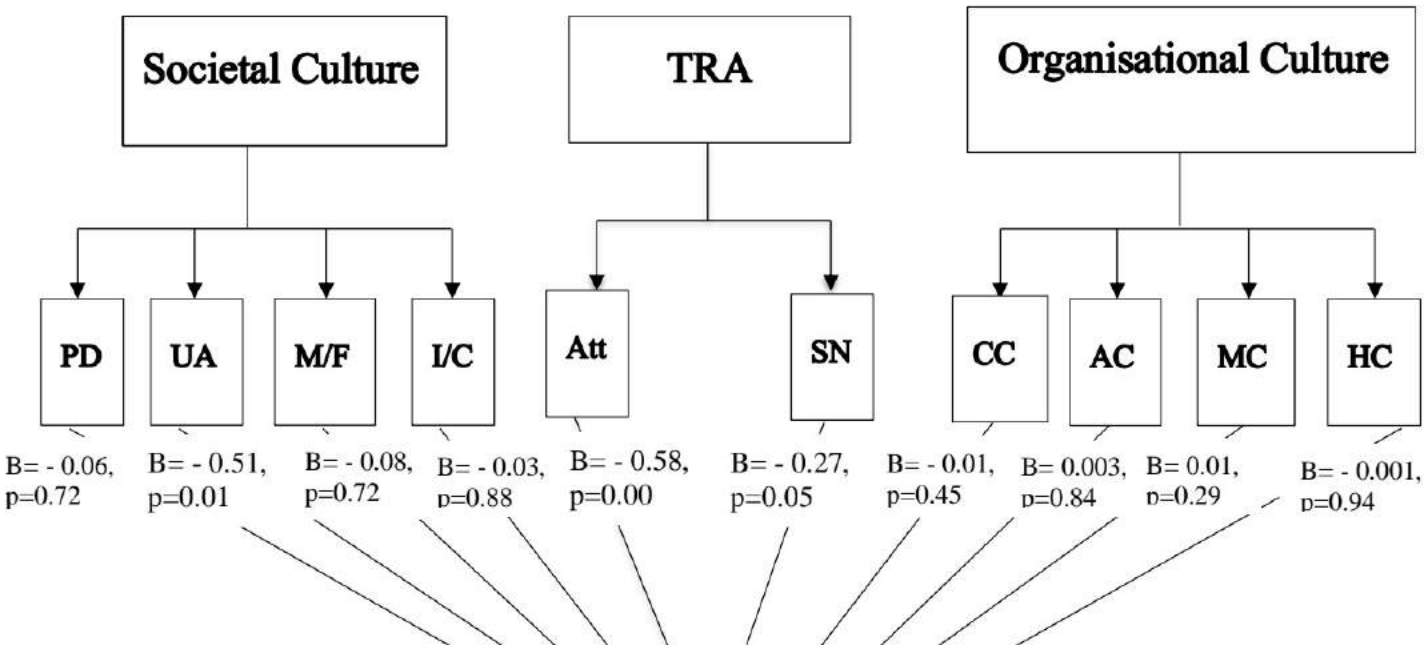
Source of Variations	*df*	*SS*	*MS*	*F*	*p-value*
Regression	10	3.87	0.39		
Residual	9	0.93	0.10	3.76	0.03
Total	19	4.80			

Goodness of Fit of the Extended TRA Research Model Taken Overall

The estimated extended TRA research model is overall significant, ($p=0.03<0.05$, $F=3.76>F_{critical}$), and with R^2 of 0.81 meaning it has explained up to 81% of the variations in intention to use RT-RAAT, the proposed model equation represented as below could be used for diagnostic predictions at feasibility stage of RT-RAAT acquisition and implementation:

Intention to use (ITU) = 3.18 – 0.50ATT – 0.09SN – 0.01AC – 0.01MC – 0.01HC+0.12PD-0.48UA-0.18MAS+0.23IDV.

Fig.5.3.1 below depicts the results of the hypothesis tests relating to research questions one and two of the extended TRA research model.



To respect the ethical requirements at this stage of the study and in respect of test results of the hypotheses relating to questions one and two above of the present study, the final results were presented mainly in the form of statistics (regression coefficients-b, adjusted multiple coefficient-R^2, p-value, F-significant and student t statistics-t) and explanations that consciously refrained from divulging the identity of individual respondents who or banks which furnished data resulting in those above statisitics being dissimulated via coding thus preserving confidentiality and anonymity.

Also, the researcher reported all the results factually, to the best of his ability, without forging any aspect of it that will result in distorted meanings and interpretations or otherwise, where necessary, disclosed such a practice if and when it was made, for instance use of imputation based on column mean during data analysis to address missing values. Where departures from expected results could not be explained, it simply was stated as observed.

CHAPTER VI:

SUMMARY, IMPLICATIONS, AND RECOMMENDATIONS

6.1 Introduction

In this chapter of the study, a summary of the study and findings will be provided followed by a conclusion. The implications and applications of the study will also be addressed and direction provided for future research.

6.2 Summary of Study and Findings

In this study and based on the professional experience of the researcher and further supported by gaps in literature, the problem of persistent use of CAATs in the loan interest revenue assurance process by internal auditors of retail banks in Cameroon was highlighted and a real-time revenue assurance automation technology as exemplified by continuous audit and robotic process audit was proposed as possible solutions. However, prior to implementing such a technology a study that investigates the factors influencing its adoption should be undertaken hence this study purposefully and empirically investigated the factors that influence the implementation of RT-RAAT by retail banks in Cameroon based on the theory of reasoned action and extended by culture as guiding theoretical frameworks of the research.

As a result of the literature review articulating around four major themes (revenue assurance process, role of internal audit functions in revenue assurance, real-time technology in revenue assurance and IT adoption theoretical frameworks), the review found gaps in revenue process asssurance in the sense that loan interest revenue, a derived revenue, had not been investigated before as was no prior use of RT-RAAT as an adoption technology and TRA combined with two constructs of culture (national and organisational culturs) had never been investigated. TAM was the most influential IT adoption framework and Hofstede the most influential author on culture with extensive empirical work on culture. As a result of the research gaps two research questions and four propositions were formulated and ten hypotheses were developed to direct the study. Some of the latest and peer-reviewed papers (up to 2023) were consulted and articles written by subject matter experts affiliated to reputable universities around the world.

Aimed at rendering the study process more efficent, data more accurate as well as permit the replicability of the study, the methodology of the study addressed the research design, instrumentation and data analysis of the study, amongst others. The research was designed to be explanatory, deductive, quantitative and cross-sectional. Use was made of questionnaire instruments that collected data in respect of attitude, subjective norm and national and organisational culture variables based respectively on Hofstede's (1994) national culture dimensions and Cameron and Quinn's (1999) OCAI framework. Participants were randomly selected from a sample frame of sixteen retail banks in Cameroon in a process that culminated in 135 respondents after respecting stratification criteria.

Data analysis took steps to ensure data accuracy at input, process and output stages respectively via cross-checking by a second person, recomputation of computer-calculated averages or scores and linking of data input spreadsheet to transformed data spreadsheet in Microsoft Excel.

Inferential analysis technique via multiple regression analysis (MLR) was used to test the presumed causal linear relationships between the independent variables (PD, UA, MF, IC, CC, AC, MC, HC) and dependent variable (ITU).

The study found that attitude, subjective norm or social influence, uncertainty avoidance dimension of national culture and market culture type of organiszational culture constituted the significant factors influencing implementation or adoption of RT-RAAT within retail banks in Cameroon.

The study also determined and respectively provided the national and organisational culture profiles of Cameroon and its retail banks with the results indicating Cameroon to be high on three of the four Hofstede's (1994) national cultural dimensions index scale and a dominant hierarchy culture in respect of Cameron and Quinn (1999) OCAI score scale. Despite having a dominant organisational culture that was hierarchy culture per OCAI, it was market culture that influenced intention to use RT-RAAT more.

The power distance index observed for Cameroon was 100 considered to be high (i.e. above 50) compared to world average 55 (Hofstede, 1994). The literature (Phan & Oddou, 2002; Png et al., 2001) points to cultures with high power distance as less enthusiastic to adopt technology. The results for Cameroon supported this at the sample

level only and, therefore, will be an important finding for those banks that provided data for analysis and test of hypotheses.

Cameroon rated high on uncertainty avoidance at 85 with world average being 64 (Hofstede, 1994). The literature suggested that higher uncertainty avoidance would influence the adoption of technology negatively and thus Cameroon was expected to be less enthusiastic about RT-RAAT adoption. The results for Cameroon supported this position at both sample and population levels thus significant.

Cameroon scored low on the masculinity scale, 17 and world average stood at 50 (Hofstede, 1994). This may be tapping on the cooperation requirements of RT-RAAT and procurement of IT for use rather than for its own sake by retail banks (Bagchi et al., 2003, Hofstede, 2001). The results for Cameroon supported this position at the sample level only. Again this finding will be important to the retail banks that actually returned the questionnaires forming the basis of data analysis and hypothesis testing.

With an index score of 61, compared to world average at 43, Cameroon's result showed a highly individualistic culture which is characterized by its belief in individual decisions, and promoting individual achievements (Hofstede, 1994). Organizations from individualistic cultures, such as in Cameroon, are more likely to pursue any interest, regardless of whether this intention has only been formed in private without consultation of others (Parsons & Shils,1951). Usually, the IT strategy of most banks are top secret and their decisions on IT solutions are, to a large extent, influenced by the IT department expert staff. Conversely, individuals from collectivistic cultures are more likely to adopt a service if it aligns with the common interests of their community. The literature suggests

technology adoption would be more acceptable in individualistic cultures than collectivistic cultures (Lee et al., 2017).

In terms of causal linear relationship, market type culture positively and significantly affected intention to use RT-RAAT more than all the other three organizational culture types.

Market culture is focused on the achievement of well-defined goals and aims as well as toward increasing productivity and efficiency (Deshpandé, Farley, & Webster, 1993). Market type cultures allow for successful communication of innovations and coordination of tasks between and within organizations. The procedure of communications and inter-functional coordination ease the implementation of innovations of RT-RAAT software in this type of culture (Zaltman, Duncan, & Holbek, 1973).

Conversely, hierarchy culture, while the dominating organizational culture of retail banks in Cameroon per OCAI (1999), could not be similarly inferred at the population level. Hierarchy culture emphasizes an internal focus and values stability and control. Hierarchy culture dominant organizations are often large and well established. Whilst the literature indicates that such organizations are less enthusiastic about technology adoption in general, the current level of competition in the financial services sector in Cameroon means that banks have to be pro-IT to survive hence the dominance of the market culture in its causal linear relationship with intention to use RT-RAAT.

Unlike Kruger and Roodt (2003) and Tavakoli (2022) who respectively found Hofstede's VSM 94 and Cameron and Quin (1999) OCAI instruments to be unsuitable for South Africa and Iran contexts and based on the results above, this study joins many others

who found, to the contrary, the applicability of the instruments to their own different geographical and cultural contexts (Twati (2006); Belias and Koustelios (2013); Cameron & Quinn, 1999; Lund, 2004; Quinn & Cameron, 1983; Quinn, Faerman, Thompson, & McGrath,1990; Quinn & Rohrbaugh, 1983; Shilbury & Moore, 2006, Kwan and Walker, 2004).

This study has empirically investigated the influence of the constructs of the theory of reasoned action (attitude and subjective norm) and culture (national and organisational cultures) on the adoption intention of real-time revenue assurance automation technology (RT-RAAT) by the internal audit functions of retail banks in Cameroon. The theory of reasoned action and culture explained the cause of the persistent use of CAATs within retail banks in Cameroon as being negative attitude towards RT-RAAT adoption by the banks surveyed, secondly as due to the negative influence of the anti-RT-RAAT camp of "important others" and thirdly the uncertainty avoidance dimension of national culture at the level of the retail bank population in Cameroon. Attitude had the most significant effect on adoption explaining up to 51% of the variations in intention to use RT-RAAT. Subjective norm also negatively (B= -0.27) and significantly (p=005, t stat= 2.11 > +1.96) affected adoption of RT-RAAT and individually explained 15% of the variations in the dependent variable, intention to use RT-RAAT.

The conduct of the study provided useful insights such as the materiality of loan interest revenue (0.5 – 82 billion FCFA) and the level of respondent awareness (3% of respondents) of RT-RAAT technology in Cameroon. The latter and fraudulent practices by

some of the actors in the loan interest revenue process were speculated to be behind the negative attitude and social influence towards RT-RAAT technology.

The study in its effort to enhance the understanding of the culture construct, integrated marketing and sociological schools of thought to conceive types of culture as being global, meta, national, organisational and functional with artifacts, espoused values, assumptions and core values as the three levels within each of the culture types.

The study also conceptualized predictive models which can be used by organisations intending to adopt RT-RAAT, consultants and software vendors to carry out diagnostic simulations prior to actual implementation at the feasibility stage of technology implementation.

This study underwent a very high level of scrutiny through a battery of statistical tests (translation validation, instrument reliability, construct validity, multicolinearity, heteroscedasticity, outliers, normality) and controls put in place at the data analysis stage of the study.

6.3 Conclusions

The study which was guided by two research questions sought out to determine the factors that influence the adoption of RT-RAAT using the theory of reasoned action and extended by culture as the underpinning theoretical frameworks. In that connection, out of ten hypotheses directly relating the independent variables to the dependent variable, four of them namely attitude, subjective norm, the uncertainty avoidance dimension of national culture and market culture type significantly affected RT-RAAT adoption. At the proposition level, four propositions were made and three of them significantly affected

intention to use RT-RAAT, namely proposition 1. On a combined basis, the TRA extended research model had a significant effect on RT-RAAT adoption, explaining 81% of the variations in intention to use and, therefore, can be used for predictive purposes. It did better in its predictive ability when compared to TAM at 40% and DTPB at 36% (Bagchi et al., 2003, Yousafzai et al., 2010) explanatory power in other IT empirical studies.

Proposition 2 asserted that national culture affects intention to use RT-RAAT. It had a significant effect on RT-RAAT adoption, explaining 40% of the variations in intention to use and, therefore, may be used for predictive purposes. It did equally well in its predictive ability when compared to TAM at 40% and better than DTPB at 36% (Bagchi et al., 2003, Yousafzai et al., 2010) explanatory power in other IT empirical studies.

Proposition 4 asserted that culture affects intention to use RT-RAAT. It had a significant effect on RT-RAAT adoption, explaining 60% of the variations in intention to use and, therefore, can be used for predictive purposes. It did better in its predictive ability when compared to TAM at 40% and DTPB at 36% (Bagchi et al., 2003, Yousafzai et al., 2010) explanatory power in other IT empirical studies.

Culture profiling revealed Cameroon to be higher than world average on three (PD, UA, IDV) of Hofstede's (1994) four national culture indices. Within the African context, it scored least on the masculinity/femininity scale (17) and Sudan scored higher on the individualism scale (61 vs 79). The organizational culture of the retail banks investigated were characterized by a dominant hierarchy culture.

RT-RAAT is a technology with very limited, if any, use on a global scale and virtually inexistent in Cameroon. According to Twati (2007) most organizations that are

not yet adopting technology are high in power distance and high in uncertainty avoidance with a bureaucratic type of management where official procedures, formalities, rules and regulations control the relationships of the organization thus negatively affecting intention to adopt the technology.

This study also revealed that of the four organizational culture types according to OCAI (1999) only market culture significantly affected intention to use RT-RAAT.

The analysis showed that organizations dominated by either adhocracy or market cultures are more willing and flexible about the adoption of technology, while organizations dominated by hierarchy type culture are less keen to adopt technology given its disruptive nature. The results of the organizational culture hypothesis tests were consistent with this assertion.

Probably the first such study carried out within the context of Cameroon, it has provided an insight into why CAATs use persists in retail banks for the purpose of loan interest revenue assurance, a multi-billion source of revenue (up to 82 billion) for retail banks despite the level of loan interest revenue-related fraud. Most of the banks had not attained Roger's (2003) stage 1 technology adoption framework; namely awareness or knowledge of the technology and some actors of the loan interest revenue assurance process were suspected to be carrying out anti-RT-RAAT practices. Out of the six banks who returned their questionnaires, none had real-time revenue assurance automation technology deployed.

The results of the study should interest bank management, internal auditors, consultants and scholars alike as they will have an idea of the preliminary factors that

influence RT-RAAT in Cameroon. Management will, therefore, take more informed decisions thus ensure a successful implementation.

Internal validity of this study was further improved by restricting the study to only private retail banks within the financial services sector of Cameroon thus keeping industry sector extraneous variables constant across all participating retail banks analogous to Hofstede's (1982) IBM study in fifty three countries across the globe in which he held corporate culture constant by using only IBM subsidiaries.

Secondly, simple random sampling was used in the study which on its part cancelled the effects of extraneous variables, assuming random effects. Randomization also improved external validity of the study hypotheses.

Internal and external validity of the hypothesis results of this study have been assured by using Adjusted R^2 instead of R^2 (Bhattacherjee et al., 2012, p.37).

6.4 Implications and Applications

Theoretical Implications

This study contributes to and extends theoretical knowledge on RT-RAAT and technology adoption intention. The study is amongst the few, if any, to use the TRA empirically in technology adoption investigation and the first to combine the TRA and culture in the same connection. It is also the first to use RT-RAAT as the target technology in such an investigation (Alles et al., 2006; Alles et al., 2008 ;Vasarhelyi et al., (2010) ; Chiu et al., 2014). By extending the TRA with culture, a new technology adoption framework was borne, the like of TPB, DTPB and UTAUT with roots in the TRA. It is hoped that it will similarly find fame in the light of the importance of culture in technology adoption and the

robustness and versatility of the TRA framework that permits it to fit well in different cultural contexts (situation-specific).

Earlier in the study, it was noted that the audit profession was still lagging behind in relation to automation of audit procedures. Application of real-time revenue assurance automation to the loan interest revenue assurance process is a novel concept and thus this new body of knowledge will contribute to get the audit profession on par with other professions in the use of real-time automation in the discharge of their duties as well as reduce revenue fraud for retail banks in Cameroon and the world at large.

The results of this study would contribute significantly to an understanding of RT-RAAT technology adoption in the context of Cameroon particularly the factors that influence its adoption and to national and organizational culture research in the light of the culture profiling information for Cameroon and its retail banks. More particularly, the study has permitted for indices of Hofstede's (1982) four cultural dimensions namely, power distance (100), uncertainty avoidance (85), masculinity (17) and individualism (61), to be computed for Cameroon and the first Central African cluster to be established.

It is one of the first or few empirical studies to conceptualize interaction of culture types and culture levels based on two schools of thought (marketing –Steenkamp, 2001 and sociological –Cameron and Quinn, 1999) to further advance the comprehension of the complex construct that is culture into five types, namely: 1) functional culture, 2) micro or organizational culture, 3) national culture, 4) meta or pan-regional culture, 5) global culture.

This research study may be among the few studies to integrate three well-defined, well- cited, and widely-used instruments worldwide (Hofstede's VSM 94, OCAI 1999 and Taylor & Todd TRA instruments).

Many studies have tested the influence of culture on the use of technology such as mobile phone, email usage, facsimiles and other equipment, but few have studied the combined influence of the TRA constructs (attitude and subjective norm), national and organizational culture on RT-RAAT adoption particularly in the context of Cameroon.

This study contributes to knowledge on beliefs (attitude) in RT-RAAT adoption that should be taken into account when managing end-users in organizations that are about to adopt IS/IT in general and RT-RAAT in particular within retail banks in the context of Cameroon.

Twati (2007) underscores the importance of culture in technology adoption and change management and highlights the consequences for organizations when they fail to take it serious. Other studies also used different theoretical frameworks including the TRA to investigate technology adoption but they all stop short of coming up with a predictive general linear model (GLM) equation for use to simulate technology adoption. The study has been able to conceptualize GLM-based predictive models both for the TRA research model alone and when extended by culture that can be used to simulate RT-RAAT adoption chances and thus enhance understanding of the factors that are important as well as their relative degrees of importance so that adequate attention can be given to them prior to implementing RT-RAAT in Cameroon by retail banks or implementation partner and consultants. In the long professional experience of the researcher reviewing

implementation controls in the wake of a system implementation, a feasibility study control always included alternative solutions, user needs, cost/benefit analysis, amongst others, but never predictions of actual usage of the application system. This study proposes that such predictions should be one of the key activities of the feasibility study so as to enable management to make more informed implementation decisions. Below are the proposed predicting models as a result of this study. Just simple averages of questionnaire data in respect of attitude, subjective norm, national culture and organizational culture and an ability to use a spreadsheet will be necessary to predict technology usage without need for technical knowledge of regression analysis, probability theory and statistical analysis software package.

The TRA Research Linear Model Equation

Intention to use (ITU) = 1.58 – 0.5ATT- 0.13SN

where ATT=Attitude and SN=Subjective norm

Extended TRA Research Linear Model Equation

Intention to use RT-RAAT=3.18 – 0.5ATT – 0.09SN – 0.01CC – 0.01AC – 0.01MC – 0.01HC + 0.12PD – 0.48UA – 0.18MAS + 0.23IDV.

Practical Implications

Some of the practical implications of this study include the following:

1. Adoption of RT-RAAT technology by internal audit functions of retail banks in Cameroon will enable internal auditors to carry out audit activities relating to loan interest revenue anywhere and at anytime. A near panacea for disruptions caused in

situations like the COVID-19 pandemic which militated against work in social groupings,

2. In the professional experience of the researcher, the concept of sampling and its use in auditing circles is usually grasped with a lot of difficulty and thus increases audit inefficiency with respect to delivery time. The adoption of a technology with real-time capabilities does away with this challenge since the entire population of the revenue will be subjected to audit. As a result, erroneous audit opinions will be reduced, if not eliminated, because it is based on audit findings for a population and not sample estimates,
3. The study will be an eye opener to some of those retail banks in Cameroon which are still not even aware of the existence of RT-RAAT technology.
4. The study has uncovered the retail bank sector in Cameroon as an untapped market open to information technology and information systems vendors (for instance, UiPath, Blue Prism) who wish to market their RT-RAAT products and software in Cameroon. This study will also benefit RT-RAAT implementation partners and consultants who are working in Africa and the CEMAC sub- region and in other places with similar attitude, national and organizational cultures.
5. The study has identified continuous audit (CA) and robotic process automation (RPA) as two types of revenue automation technologies. The former is heavy both technically and financially and is driven from the back end (dedicated IT professionals) whereas the latter is light from both technical and financial standpoints and it is front-end driven (users). Since the study argues that negative subjective norm (social influence) causing

a negative intention to use RT-RAAT is from some actors ('important others') of the loan interest revenue process who are bent on maintaining the absence of real-time technology or semi-automatic assurance of loan interest revenue, the retail banks will need to consider the use of software implementation partners to install RPA in the internal audit department (front or user end) and not the IT deppartment by dedicated IT professionals. The choice for implementaion partners is to avoid compromise of internal auditor independence which is a prerequisite for assurance engagements.

6. The study has found that awareness of the RT-RAAT technology is at its lowest amongst retail banks in Cameroon. As a result, prospective users of the technology within retail banking circles in Cameroon and software vendors, implementation partners, consultants and internal auditors should highly consider sensitisation programs about the technology as a necessary first step in line with Roger's (2003) technology adoption framework, end-user training and technical support should also be provided when the technology is finally implemented to enlist commitment and loyalty to the technology thus reduce failure costs.
7. The two predictive linear models conceptualised by this study can be used as a practical diagnostic tool by would-be retail banks in Cameroon at the feasibility study stage of RT-RAAT implementation to simulate intention to use RT-RAAT prior to the actual implementation of RT-RAAT. The models do not need technical statistical analysis software such as SPSS, GNU PSPP, AMOS, etc which require expert knowledge or at least substantial investment of time before using it. Data on the variables of the linear models, namely, attitude, subjective norm, power distance, uncertainty avoidance,

masculinity, individualism, clan culture, adhocracy culture, market culture and hierarchy culture gathered via a questionnaire survey can easily be plugged into the linear models by non-experts, thus saving in expert simulation service and potential implementation failure costs.

8. Eventhough just a corollary of this research, cross-cultural studies making use of Hofstede's (1982) four cultural dimension indices (power distance, uncertainty avoidance, masculinity and individualism) will henceforth be able to cite national culture indices for Cameroon as a result of this study.
9. The French version of Hofstede's VSM 94 and Cameron and Quinn's (1999) OCAI instruments are now available thanks to this study. This will permit researchers in Cameroon and elsewhere to be able to handle french-speaking audiences.

6.5 Future Research

The study has used the theory of reasoned action (TRA) as extended by culture to investigate factors influencing RT-RAAT adoption by retail banks in Cameroon. The results indicated that the retail banks were not aware of the technology which was speculated to be a primary reason for the negative attitude towards the adoption of the technology. Future research could further extend the TRA with awareness (Mishra et al., 2014) or indeed use other influential technology frameworks such as TAM, GLOBE, UTAUT, TPB, DTPB, etc.

The study has been limited to the context of Cameroon only. As Hofstede and Minkov (2013) pointed out, a single country index as generated in this study is meaningless. A cross-cultural study that includes the six countries (Cameroon, Chad, Central African

Republic, Congo, Gabon and Equitorial Guinea) of the CEMAC sub-region could be carried out to better interpret Hofstede's cross-cultural indices generated in this study.

The dependent variable of the study, intention to use RT-RAAT, made use of a binary scale using a uni-item instrument. This scale is not as granular as for a multi-item instrument. It is suggested that another study can be replicated but using a more granular multi-item instrument to measure intention to use RT-RAAT.

The study was quantitative in nature by design and used a questionnaire instrument to collect data. Data that cannot be captured using questionnaire such as body language and yet may be very important will be missed out. Thus it is suggested that future studies can be conducted using multi-method that includes qualitative aspects to the study to compensate for the identified shortcoming of a quantitative study.

Multiple linear regression was used for the data analysis of this study due to the small sample size. Another study can be carried out using a bigger sample size which will permit a more robust analytical technique such as structural equation modelling (SEM) that tests instrument reliability at construct level to be used.

REFERENCES

. Abdul R.Z., Sambasivan, M. & Abdul R. A. (2004). The influence of organizational culture on attitudes toward organizational change. *Leadership & Organization Development Journal*, *25*(2), 161–179. https://doi.org/10.1108/01437730410521831

Ahmi, A., Saidin, S. Z., & Abdullah, A. (2014). IT Adoption by Internal Auditors in Public Sector: A Conceptual Study. In *Procedia - Social and Behavioral Sciences* (Vol. 164, pp. 591–599). https://doi.org/10.1016/j.sbspro.2014.11.151

Al-Jabri, B. M.. & Sohail, M. S. (2012). Mobile banking adoption: Application of diffusion of innovation theory. *Journal of Electronic Commerce Research*, *13*(4), 379–391.

Al-Mashari, M., & Zairi, M. (1997). Using enterprise resource planning (ERP) systems : an analysis of a SAP R / 3 implementation case. *International Journal of Physical Distribution & Logistics Management*, *30*(3), 296–313.

Alles, M., Williams, K. T., Miklo. A. V. (2010). Continuous Assurance for the Now Economy A Thought Leadership Paper for the Institute of Chartered Accountants in Australia. *Thought Leadersip Paper*.

Alles, M., Brennan, G., Kogan, A., & Vasarhelyi, M. A. (2006). Continuous monitoring of business process controls: A pilot implementation of a continuous auditing system at Siemens. *International Journal of Accounting Information Systems*, *7*(2), 137–161. https://doi.org/10.1016/j.accinf.2005.10.004

Alles, M. G., Kogan, A., & Vasarhelyi, M. A. (2002). Feasibility and economics of continuous assurance. *Auditing*, *21*(1), 125–138. https://doi.org/10.2308/aud.2002.21.1.125

Alles, M., Kogan, A., & Vasarhelyi, M. (2008). Audit automation for implementing continuous auditing: Principles and problems. *Ninth International Research ...*, *August 2015*, 1–24.

Bagchi, K., Cerveny, R., Hart, P., & Peterson, M. (2003). The Influence of National Culture in Information Technology Product Adoption. *9th Americas Conference on Information Systems, AMCIS 2003*, 957–965.

Bagchi, K., Hart, P., Peterson, M., F., (2004) National Culture and Information Technology Product Adoption, *Journal of Global Information Technology Management,* (7)4, pp29-46 doi: 10.1080/1097198X.2004.10856383

Bagozzi, R. P. (1981). Attitudes, intentions, and behavior: A test of some key hypotheses. Journal of Personality and Social Psychology, 41(4), 607–627. https://doi.org/10.1037/0022-3514.41.4.607

Bankole, F. O., Bankole, O. O.,Brown, I.(2011). Mobile Banking Adoption in Nigeria. *The Electronic Journal of Information Systems in Developing Countries.* (47)1, 1-23

Benbasat, I., & Moore, G. C. (1991). Development of an instrument to measure the perceptions of adopting an information technology innovation. In *Information Systems Research* (2)3, pp. 192–222).

Bhattacherjee, A. (2012). Social Science Research: Principles, Methods and Practices.

Bond, M.H.(1993). Emotions and their expression in Chinese culture. *Journal of Nonverbal Behavior*, (17) 4, 245 -262

Chan, D. Y., & Vasarhelyi, M. A. (2011). Innovation and practice of continuous auditing. *International Journal of Accounting Information Systems*, *12*(2), 152–160.

https://doi.org/10.1016/j.accinf.2011.01.001

Chen, L. D. (2008). A model of consumer acceptance of mobile payment. International Journal of Mobile Communications, 6(1), 32-52.

Chen, L. D., Gillenson, M. L., & Sherrell, D. L. (2004). Consumer acceptance of virtual stores: a theoretical model and critical success factors for virtual stores. ACM SIGMIS Database: the DATABASE for Advances in Information Systems, 35(2), 8-31.

Chiu, V., Liu, Q., & Vasarhelyi, M. A. (2014). The development and intellectual structure of continuous auditing research. *Journal of Accounting Literature*, *33*(1–2), 37–57. https://doi.org/10.1016/j.acclit.2014.08.001

Crabbe, M., Standing, C., Standing, S., & Karjaluoto, H. (2009). An adoption model for mobile banking in Ghana. *International Journal of Mobile Communications*, *7*(5), 515–543. https://doi.org/10.1504/IJMC.2009.024391

Daft, R.L. & Dorothy, M.. (2016). Understanding management. Cengage Learning, p10. ISBN: 978-1-305-50221-5

Davis, F. D. (1989). Perceived usefulness, perceived ease of use, and user acceptance of information technology. *MIS Quarterly: Management Information Systems*, *13*(3), 319–339. https://doi.org/10.2307/249008

Fey, C. F., & Denison, D. R. (2011). Organizational Culture and Effectiveness: Can American Theory Be Applied in Russia? *SSRN Electronic Journal*, *598*. https://doi.org/10.2139/ssrn.577141

Fishbein, M. & Ajzen I. (2010): Predicting and Changing Behaviour: The Reasoned Action Approach. Psychology Press. ISBN: 978-0-8058-5924-9

Fontaine, R. & Stanley, R. (2003) "Cross-cultural research in Malaysia." Cross Cultural Management: An International Journal. 10 (2), pp. 75-89.

Francis, F. A. (2018). An Analysis of the Incidence of Fraud in Cameroon and Prospects. *European Journal of Business And MAnagement*, *10*(21), 27–37.

Hofstede, G. (1980). Motivation. Leadership and Organization. In *Do American Theories Apply Abroad* (pp. 42–63).

Gotthardt, M., Koivulaakso, D., Paksoy, O., Saramo, C., & Martikainen, M. (2020). Current State and Challenges in the Implementation of Smart Robotic Process Automation in Accounting and Auditing. *ACRN Journal of Finance and Risk Perspectives*, *9*, 90–102.

Hofstede, G. J. (2001). Adoption of communication technologies and national culture. *Systèmes d'Information et Management*, *6*(3), 55–74.

Holmes, A; Illowsky, B; Dean, S (2018). Introductory Business Statistics https://openstax.org/details/books/introductory-business-statistics in your citation

Jhangiani R. S., Chiang I, A., Cuttler C., Leighton D. C. (2009): Research Methods in Psychology.

Jouda, H., Abu Jarad, A., Obaid, T., Abu Mdallalah, S., & Awaja, A. (2020). Mobile Banking Adoption: Decomposed Theory of Planned Behavior with Perceived Trust. *SSRN Electronic Journal*, *August*. https://doi.org/10.2139/ssrn.3660403

Jovanovi, S. Z., Đurić, J. S., & Šibalija, T. V. (2022). Robotic Process Automation : Overview And Opportunities. *ResearchGate*, *May 2019*.

Kaminski, J. (2011). Theory in Nursing Informatics Column. *Canadian Journal of Nursing Informatics*, *6*(2), 1–7.

Kar, D., Misra, P., Bhattacharjee, P., & Mukherjee, A. (2012). Real-Time Telecom Revenue Assurance. *The Seventh International Conference on Digital*

Telecommunications, 130–135.

Karagiorgos, T., Drogalas, G., Christodoulou, P., & Pazarskis, M. (2006). Conceptual framework, development trends and future prospects of internal audit: Theoretical approach. *5 Th Annual Conference ...*, *January*, 1–10. http://www.drogalas.gr/uploads/publications/Conceptual_framework_development_trends_and_future_prospects_of_internal_audit_Theoretical_approach.pdf

Kaya, O. (2019). Artificial intelligence in banking: A lever for profitability with limited implementation to date. *Deutsche Bank Research*.

Koenig-Lewis, N., Palmer, A. and Moll, A. (2010). Predicting young consumers' take up of mobile banking services. International Journal of Bank Marketing 28 (5) , pp. 410-432. http://dx.doi.org/10.1108/02652321011064917

Kogan, A., Sudit, E. F., & Vasarhelyi, M. A. (1999). Continuous Online Auditing : *Journal of Information Systems*, *13*(2), 87–103.

Krause, S. D. (2007). *The Process of Research Writing: Chapter Seven The Critique Exercise*. http://www.stevendkrause.com/tprw %7C Spring 2007

Lacity, M. W. C. (2015). Robotic Process Automation at Telefónica O2 Research on Business Services Automation. *The Outsourcing Unit*, *2*, 1–19.

Lee, S. G., Trimi, S., & Kim, C. (2013). The impact of cultural differences on technology adoption. *Journal of World Business*, *48*(1), 20–29. https://doi.org/10.1016/j.jwb.2012.06.003

Lee, D. K. (2016). Alternatives to P value: confidence interval and effect size. Korean journal of anesthesiology, 69(6), 555-562.

Liker, J. K., & Sindi, A. A., (1997). User acceptance of expert systems: a test of the theory of reasoned action. Journal of Engineering and Technology Management, Vol. 14, Issue 2, June 1997, Pages 147 – 173

Lombardi, D. R., Bloch, R., & Vasarhelyi, M. A. (2014). The Future of Audit. *Journal of Information Systems and Technology Management*, *11*(1), 21–32. https://doi.org/10.4301/s1807-17752014000100002

Mahzan, N., & Lymer, A. (2008). Adoption of Computer Assisted Audit Tools and Techniques (CAATTs) by Internal Auditors : Current issues in the UK Adoption of Computer Assisted Audit Tools and Techniques (CAATTs) by Internal Auditors. *Innovation*, *April 2008*, 1–46.

Makena, J. N. (2013). Factors That Affect Cloud Computing Adoption By Small and Medium Enterprises in Kenya. *International Journal of Computer Applications Technology and Research*, *2*(5), 517–521. https://doi.org/10.7753/ijcatr0205.1003

Melitski, J., Gavin, D., & Gavin, J. (2010). Technology adoption and organizational culture in public organizations. *International Journal of Organization Theory & Behavior*, *13*(4), 546–568. https://doi.org/10.1108/ijotb-13-04-2010-b005

Moffitt, K. C., Rozario, A. M., & Vasarhelyi, M. A. (2018). Robotic process automation for auditing. *Journal of Emerging Technologies in Accounting*, *15*(1), 1–10. https://doi.org/10.2308/jeta-10589

Otieno, O. C., Liyala, S., Odongo, B. C., & Abeka, S. (2016). Theory of Reasoned Action as an Underpinning to Technological Innovation Adoption Studies. *World Journal of Computer Application and Technology*, *4*(1), 1–7. https://doi.org/10.13189/wjcat.2016.040101

Pearson, K. M. N. E. A. A. S. M. (2008). *Internet Banking Acceptance in Malaysia Based on*. *5*(1), 3–13. https://doi.org/10.4301/S1807-17752008000100001

Ram, S., & Sheth, J. N. (1989). Consumer resistance to innovations: The marketing problem and its solutions. *Journal of Consumer Marketing*, *6*(2), 5. https://doi.org/10.1108/EUM0000000002542

Sanders, E. J. G. B. O. L. (2006). Continuous Auditing and Data Mining. *Academic Paper, January*. https://doi.org/10.4018/9781591405573.ch042

Schein, E.H (2004): Organisational Culture and Leadership: Predicting and Changing Behaviour p.17

Sethibe, T., & Naidoo, E. (2022). The adoption of robotics in the auditing profession. *South African Journal of Information Management*, *24*(1), 1–7. https://doi.org/https://doi.org/10.4102/ sajim.v24i1.1441

Steers, R. M., Meyer, A. D., & Sanchez-Runde, C. J. (2008). National culture and the adoption of new technologies. *Journal of World Business*, *43*(3), 255–260. https://doi.org/10.1016/j.jwb.2008.03.007

Sullivan, G. M., & Feinn, R. (2012). Using effect size—or why the P value is not enough. *Journal of graduate medical education*, *4*(3), 279-282.

Tan, M., & Teo, T. S. (2000). Factors influencing the adoption of Internet banking. *Journal of the Association for information Systems*, *1*(1), 5.

Taylor, S., & Todd, P. (1995). Understanding information technology usage. In *Information Systems Research* (6)2, pp. 144–176). https://www.jstor.org/stable/23011007

Terence, A. S. & Alican K. (1984) :Journal of Consumer Research, Volume 11, Issue 3, Pages 795–809.https://doi.org/10.1086/209015

Twati, J. (2008). The influence of societal culture on the adoption of information systems: The case of Libya. *Communications of the IIMA*, *8*(1), 588–598.

Vasarhelyi, M.A., Alles, M.G., K. T. W. (2010). *Continuous assurance for the now economy Sydney Institute of Chartered Accountants in Australia. February.*

Vasarhelyi, M. A., Bumgarner, N. (2015). Audit Analytics and Continuous Audit: Looking

Toward the Future. In *American Institute of Certified Public Accountants*. http://www.aicpa.org/InterestAreas/FRC/AssuranceAdvisoryServices/DownloadableDocuments/AuditAnalytics_LookingTowardFuture.pdf

Vasarhelyi, M. A. (2001). Concepts in Continuous Assurance. *Researching Accounting as an Information Systems Discipline*, 1–16.

Vasarhelyi, M. A., Alles, M. G., & Kogan, A. (2004). Principles of Analytic Monitoring for Continuous Assurance. *Journal of Emerging Technologies in Accounting*, (1)1, 1–21. https://doi.org/10.2308/jeta.2004.1.1.1

Venkatesh, V., & Davis, F. D. (2000). Theoretical extension of the Technology Acceptance Model: Four longitudinal field studies. *Management Science*, *(46)*2, 186–204. https://doi.org/10.1287/mnsc.46.2.186.11926

Venkatesh, V., Thong, J. Y. L., & Xu, X. (2016). Unified theory of acceptance and use of technology: A synthesis and the road ahead. *Journal of the Association for Information Systems*, *17*(5), 328–376. https://doi.org/10.17705/1jais.00428

Wang, Y. S., Lin, H. H., & Luarn, P. (2006). Predicting consumer intention to use mobile service. Information systems journal, 16(2), 157-179.

Yousafzai, S. Y., Foxall, G. R., & Pallister, J. G. (2007a). Technology acceptance: a meta-analysis of the TAM: Part 1. In *Journal of Modelling in Management* (Vol. 2, Issue 3). https://doi.org/10.1108/17465660710834453

Yousafzai, S. Y., Foxall, G. R., & Pallister, J. G. (2007b). Technology acceptance: a meta-analysis of the TAM: Part 2. *Journal of Modelling in Management*, *2*(3), 281–304. https://doi.org/10.1108/17465660710834462.

Zhang A., M. C. A. R. (2019). Exploring the Use of Robotic Process Automation (RPA) in Substantive Audit Procedures. *The CPA Journal*, *July 2019*, p49.

APPENDIX A

Appendix A: Participant Information Sheet and Informed Consent Form (English Version)

REAL-TIME REVENUE ASSURANCE AUTOMATION TECHNOLOGY: FACTORS INFLUENCING ITS ADOPTION BY RETAIL BANKS IN CAMEROON

The Participant Information Sheet and Informed Consent Form for a questionnaire survey conducted by:

Mr. David Tatang Ghogomu

Swiss School of Business and Management

To whom it may concern:

I am a full-time Doctor of Business Administration (DBA) student at the Swiss School of Business and Management, Geneva in Switzerland.

The purpose of this survey is to collect information on your experience with using or intention to use real-time revenue assurance automation technology (RT-RAAT) so that a study can be carried out to determine the influence of three factors, namely: attitude, social influence and culture, on the adoption of the technology by your bank. The first RT-RAAT technology originated from the USA 32 years ago and has since spread to other parts of the world. It allows for revenue assurance in organisations, including banks, to be carried out on a near real-time or real-time basis and thereby reduce fraud, increase quality of audit and efficiency of the internal audit function as well as enable management to make timelier decisions.

This study anticipates that at its conclusion, the factors that contribute to the persistent use of computer assisted audit techniques (CAATs) such as Microsoft Excel at the expense of RT-RAAT

for revenue assurance in retail banks in Cameroon will be known and, therefore, available to inform a number of stakeholders including the bank management in their decision to adopt RT-RAAT. The final results, in electronic, of this study will be available to all those who participated in the study upon request.

This questionnaire is aimed at top management, relevant functional or departmental heads including experienced employees of the Internal Audit function who intend to use or are actually using RT-RAAT in their organizations.

Your assistance in completing the attached questionnaire would be greatly appreciated. Please remember that it is important to complete the survey according to the instructions provided for each part.

This is a confidential and anonymous survey. Detailed results of the survey will be confidential to the researcher only. No names will be entered to the study database. No individual feedback will be given to any party. Responses will be assigned sequential numbers and only the aggregated results will be reported.

Completion of the questionnaire will take about 30 mins or less. Please return the completed questionnaire as soon as possible to the key contact person in your bank or directly to my email addresses in this bracket (dtatang@yahoo.com/david3@ssbm.ch).

Your reply to this questionnaire is very essential to my study. Thank you immensely for your assistance in this project.
Yours faithfully,

David Ghogomu

RESEARCH TEAM

Mr. David Tatang Ghogomu
DBA Candidate
Swiss School of Business and Management,
Geneva, Switzerland

Dr. Bhawna Nigam
DBA Mentor
Swiss School of Business and Management,
Geneva, Switzerland

If you would like to participate please read and sign the Informed Consent Form below. Thank you.

I have read the participation information sheet above. I agree to participate in the study and give my consent freely. I understand that the study will be as described in the information statement above, a copy of which I have retained. I realise that whether or not I decide to participate is my decision. I also realise that I can withdraw from the study at any time and that I do not have to give any reasons for withdrawing. I have all questions answered to my satisfaction.

Signature: …… **Participant: ……......**

Date: ……..

APPENDIX B

Appendix B : Fiche d'Information de Participation et Formulaire de Consentement (VERSION FRANÇAISE/FRENCH VERSION)

TECHNOLOGIE D'AUTOMATISATION DE L'ASSURANCE DES REVENUS EN TEMPS RÉEL: FACTEURS INFLUENÇANT SON ADOPTION PAR DES BANQUES DE DÉTAIL AU CAMEROUN

La fiche d'information sur la participation et le formulaire de consentement éclairé pour une enquête par questionnaire menée par:

Mr. David Tatang Ghogomu
Swiss School of Business and Management

À QUI DE DROIT:

Je suis étudiant à temps plein en Doctorat en Administration des Affaires (DBA) à la Swiss School of Business and Management, Genève.

Le but de cette enquête est de recueillir des informations sur votre expérience d'utilisation ou d'intention d'utiliser la technologie d'automatisation de l'assurance des revenus en temps réel (RT-RAAT) afin qu'une étude puisse être réalisée pour déterminer l'influence de trois facteurs, à savoir : l'attitude, influence sociale et culture, sur l'adoption de cette technologie par votre banque.

La première technologie RT-RAAT est née aux États-Unis il y a 32 ans et s'est depuis propagée à d'autres parties du monde. Elle permet d'assurer des revenus dans les organisations, y compris les banques, en temps quasi réel ou en temps réel et ainsi réduit la fraude, améliore la qualité de l'audit et l'efficacité de la fonction d'audit interne et permet à la direction de prendre plus rapidement les décisions.

Cette étude prévoit qu'à sa conclusion, les facteurs qui contribuent à l'utilisation persistante des Techniques d'audit assisté par ordinateur (CAATs), tel que Microsoft Excel, au détriment de la RT-RAAT pour l'assurance des revenus dans les banques de détail au Cameroun seront connus et, par conséquent, disponibles pour informer un certain nombre de parties prenantes, y compris le management de la banque dans leur décision d'adopter le RT-RAAT.

Les résultats finaux de cette étude seront mis à la disposition de tous ceux qui y ont participé sur demande et sous forme électronique.

Ce questionnaire s'adresse aux directeurs généraux ou leurs adjoints, aux responsables de différents départements concernés de la banque et aux employés de la fonction d'audit interne qui ont l'intention d'utiliser ou utilisent actuellement le RT-RAAT dans leurs organisations.

Votre aide pour remplir le questionnaire ci-joint serait grandement appréciée. N'oubliez pas qu'il est important de répondre au questionnaire conformément aux instructions fournies pour chaque partie.

Il s'agit d'une enquête confidentielle et anonyme. Les résultats détaillés de l'enquête seront confidentiels pour le chercheur uniquement. Aucun nom ne sera entré dans la base de données de l'étude. Aucun commentaire individuel ne sera donné à aucune partie. Les réponses se verront attribuer des numéros séquentiels et seuls les résultats agrégés seront communiqués.

Remplir le questionnaire prendra environ 30 minutes ou moins de votre temps.

Veuillez retourner le questionnaire dûment rempli dès que possible à la personne de contact clé designée dans votre banque ou directement à mes adresses e-mail entre parenthèses (dtatang@yahoo.com/david3@ssbm.ch).

Votre réponse à ce questionnaire est très essentielle à mon étude.

Merci énormément d'avance pour votre aide dans ce projet.

Cordialement

David Ghogomu

EQUIPE DE REHERCHE

M. David Tatang Ghogomu

Candidat DBA

Swiss School of Business and Management, Geneva

Email: david3@ssbm.ch / dtatang@yahoo.com

Dr. Bhawna Nigam

Mentor DBA

Swiss School of Business and Management, Genève

E-mail: bhawna@ssbm.ch

Si vous souhaitez participer, veuillez lire et signer le formulaire de consentement éclairé

ci-dessous. Merci

……

Formulaire de Consentement

J'ai lu la fiche de participation. J'accepte de participer à l'étude et donne mon consentement librement. Je comprends que l'étude sera telle que décrite dans la déclaration d'information ci-dessus, dont j'ai conservé une copie. Je me rends compte que si je décide de participer ou non, c'est ma décision. Je me rends également compte que je peux me retirer de l'étude à tout moment et que je n'ai pas à donner de raisons pour me retirer. J'ai répondu à toutes les questions à ma satisfaction.

Signature: …… Participant: ……....

Date:……..

APPENDIX C

Appendix C : Questionnaire (English Version)

REAL-TIME REVENUE ASSURANCE AUTOMATION TECHNOLOGY: FACTORS INFLUENCING ITS ADOPTION BY RETAIL BANKS IN CAMEROON

A questionnaire survey conducted by Mr. David Tatang Ghogomu

Swiss School of Business and Management

GENERAL INSTRUCTIONS

Bank Code	S/N N°

Please fill above

There are 5 main parts to the questionnaire as follows:

I. General demographic and organisation questions,

II. Attitude and social influence questions,

III. Organisational culture questions,

IV. National culture questions,

V. Real-Time – Revenue Assurance Automation Technology (RT-RAAT) Adoption question.

Instructions have been provided for each question set. Please read them carefully and follow them strictly in providing appropriate responses. Try to complete the questionnaire in one go. Always mark only one answer per question. It is essential that the answers of different banks in the study be distinguished for this reason, we need you to fill out a code

number for your bank on the questionnaire which corresponds to "s/n" number in the table below on the top corner of each questionnaire page.

S/N	Bank Name	S/N	Bank	S/N	Bank	S/N	Bank Name
1	Access	5	Bange	9	UBC	13	UBA.
2	Afriland	6	BICEC	10	Ecobank	14	La Regionale
3	Banque	7	CBC	11	NFC	15	SCB-
4	BGFI	8	CCA	12	SGC	16	Wineex

Part I –Personal and Organisational Information

This part of the question contains information about you and for the organization you work for.

Personnal:

A1. What is your gender?

☐ Male ☐ Female

A2. What is your age?

1	2	3	4	5
<30	30 - 40	41 - 50	51 - 60	> 61

A3. What is your level of education?

1	2	3	4	5

Advanced Level	HND	First Degree	Master	Doctorate

A4. Was your education technology-related?

Yes, in. …… No/Non, in ……

Organisational:

B1. What is the total number of staff in your bank (approximate)? (To be answered **preferably** by the Human Resource Director).

1	2	3	4	5
<100	101 - 200	201 - 300	301 - 400	> 400

B2. Is your bank a multi-national?

☐ Yes ☐ No, go to question B5

B3. Where is the Corporate Headquarter (main office of your bank)?

The main office is in (Country):……

B4. What percentage of the total number of staff are Cameroonians?

1	2	3	4	5
>10 %	>20 %	>30%	>40%	> 50%

B5. How long have you been working with this bank?

1	2	3	4	5
< 2 years	< 4 years	< 6 years	< 8 years	> 8 years

B6. In what capacity do you serve the bank? (Please circle one)

1. I am a member of the board of directors.

2. I am a member of the audit committee.

3. I am the Chief Executive Officer (CEO)/General Manager or his/her assistant.

4. I am a functional head (Credit, Accounting & Finance, Human Resources, Logistics/Procurement, Operations, Legal, Internal audit).

Please specify: ……

Questions **B7 – B12** are to be answered by staff of **the Internal Audit function only**.

B7. Does your bank have an Internal Audit function? Yes / No

B8. How many staff does it have? …… of which (Male…… Female ……)

B9. Is loan interest revenue assurance carried out by your department? Yes / No

B10. What IT application(s) is/are used for this purpose? (Please specify)/ ……

B11. Are you aware of a real-time revenue assurance application that can be used for **Q. B9** above? Yes/No: ……

B12. Who monitors the revenue assurance application(s) in B10 above?

Internal Audit department: (……) IT department: (……) Other: (……)

(Please specify)

B13. What is the average annual loan interest revenue amount for your bank in the last 3 years (XAF Million)? ……

B14. Were there any loan interest revenue fraud instances in the last 3 years in your bank? (Yes/No) ……

B15. If so, how much financial loss was suffered by your bank (XAF million)……

B16. Please kindly indicate how you are involved in the acquisition of IT solutions in your bank. **(All respondents please answer)**

- ☐ IT budget approval
- ☐ IT solution selection
- ☐ Championing IT solution implementation
- ☐ IT solution user
- ☐ IT solution monitor
- ☐ Other (Please specify): ……

B17- How long has your bank been in operation?

1	2	3	4	5
Less than 5 years	More than 5 years but less than 10 years	More than 10 years but less than 15 years	More than 15 years but less than 20 years	More than 20years

PART II – ATTITUDE AND SOCIAL INFLUENCE

I. Attitude Measures - Circle the right answer.

1 Using real-time revenue assurance automation technology (RT-RAAT) is a good idea.

1	2	3	4	5
Strongly Agree	Agree	Neutral	Disagree	Strongly disagree

2 I like the idea of using real-time revenue assurance automation technology (RT-RAAT).

1	2	3	4	5
Strongly Agree/	Agree/	Neutral	Disagree	Strongly disagree

3 Using real-time revenue assurance automation technology (RT-RAAT) is a pleasant idea.

1	2	3	4	5
Strongly Agree	Agree	Neutral	Disagree	Strongly disagree

4 Using real-time revenue assurance automation technology (RT-RAAT) is an appealing idea.

1	2	3	4	5
Strongly Agree	Agree	Neutral	Disagree	Strongly disagree

5 Using real-time revenue assurance automation technology (RT-RAAT) is an exciting idea.

1	2	3	4	5
Strongly Agree	Agree	Neutral	Disagree	Strongly disagree

II. Social Influence Measures - Circle the right answer.

1. People who influence my behaviour think that I should use real-time revenue assurance automation technology (RT-RAAT).

1	2	3	4	5
Strongly Agree	Agree	Neutral	Disagree	Strongly disagree

2. People who are important to me think that I should use real-time revenue assurance automation technology (RT-RAAT).

1	2	3	4	5
Strongly Agree	Agree	Neutral	Disagree	Strongly disagree

3. People whose opinions I value think I should use real-time revenue assurance automation technology (RT-RAAT).

1	2	3	4	5
Strongly Agree	Agree	Neutral	Disagree	Strongly disagree

4. People who are close to me think that I should use real-time revenue assurance automation technology (RT-RAAT).

1	2	3	4	5
Strongly Agree/	Agree	Neutral	Disagree	Strongly disagree

5. People who influence my decisions think that I should use real-time revenue assurance automation technology (RT-RAAT).

1	2	3	4	5
Strongly Agree	Agree	Neutral	Disagree	Strongly disagree

Adapted: Nor et al. (2008); Taylor & Todd (1995) and Bhattacherjee (2012)

Part III –The Organizational Culture

In this section, the paper is going to characterize your bank's culture.

In this part, you will be asked 6 questions to assist rate your bank's culture. Each question has four alternatives. Divide 100 points among the four alternatives depending on the extent to which each alternative fit to your own bank. Give a higher number of points to the alternative that is most fit to your bank. (For example, in question 1, if you think alternative A is very similar to your bank, alternative B and C are somewhat similar, and alternative D is hardly similar at all, you might give 50 points to A, 25 points to B and 20 points C, and give 5 points to D. Be sure that your total equals 100 for each question).
You are rating your bank as it is currently.

1. Dominant Characteristics		**Score**
A	The bank is a very personal place. It is like an extended family. People seem to share a lot of themselves.	
B	The bank is a very dynamic and entrepreneurial place. People are willing to stick their necks out and take risks.	
C	The bank-is very results-oriented. A major concern is with getting the job done. People are very competitive and achievement oriented.	
D	The bank is a very controlled and structured place. Formal procedures generally govern what people do.	
	Total	**100**
2. Organisational Leadership/Leadership Organisationel		**Score**
A	The leadership in the organisation is generally considered to exemplify mentoring, facilitating or nurturing.	
B	The leadership in the organisation is generally considered to exemplify entrepreneurship, innovating, or risk taking.	

C	The leadership in the organisation is generally considered to exemplify a no-nonsense, aggressive, results-oriented focus.	
D	The leadership in the organisation is generally considered to exemplify coordinating, organising, or smooth-running efficiency.	
	Total	**100**
3. Management of Employees		**Score**
A	The management style in the organisation is characterised by teamwork, consensus, and participation.	
B	The management style in the organisation is characterised by individual risk-taking, innovation, freedom, and uniqueness.	
C	The management style in the organisation is characterised by hard-driving competitiveness, high demands, and achievement.	
D	The management style in the organisation is characterised by security of employment, conformity, predictability, and stability in relationships.	
Total		**100**
4. Organisation Glue/Colle d'Organisation		**Score**
A	The glue that holds the organisation together is loyalty and mutual trust. Commitment to this organisation runs high.	
B	The glue that holds the organisation together is commitment to innovation and development. There is an emphasis on being on the cutting edge.	
C	The glue that holds the organisation together is the emphasis on achievement and goal accomplishment. Aggressiveness and winning are common themes.	
D	The glue that holds the organisation together is formal rules and policies. Maintaining a smooth-running organisation is important.	
	Total	**100**

5. Strategic Emphasis		Score
A	The organisation emphasises human development. High trust, openness, and participation persist.	
B	The organisation emphasises acquiring new resources and creating new challenges. Trying new things and prospecting for opportunities are valued.	
C	The organisation emphasises competitive actions and achievement. Hitting stretch targets and winning in the marketplace are dominant.	
D	The organisation emphasises permanence and stability. Efficiency, control and smooth operations are important.	
	Total	**100**
6. Criteria of Success		**Score**
A	The organisation defines success on the basis of the development of human resources, teamwork, employee commitment and concern for people.	
B	The organisation defines success on the basis of having the most unique or newest products. It is a product leader and innovator.	
C	The organisation defines success on the basis of winning in the marketplace and outpacing the competition. Competitive market leadership is key.	
D	The organisation defines success on the basis of efficiency. Dependable delivery, smooth scheduling and low-cost production are critical.	
Total		**100**

Part IV – National Culture

Listed below are a number of statements. These statements are not about your bank itself but rather about general issues in the banking sector. Please indicate the extent to which you personally agree or disagree with each of these statements. Remember we want your

own opinion (even though it may be different from that of others or your fellow workers in your country).

Please answer the questions below by circling a corresponding number from the scale below.

1	2	3	4	5
Strongly Agree	Agree	Neutral	Disagree	Strongly Disagree

C1. The bank's rule should not be broken even when the employees think it is in the bank's best interest. **1 2 3 4 5**

C2. I expect to be consulted on matters that affect the performance of my duties. **1 2 3 4 5**

C3. Most people can be trusted. **1 2 3 4 5**

C4. It is better to agree with fellow employees than to voice a different opinion. **1 2 3 4 5**

C5. One can be a good manager without having precise answers to most questions that subordinates may raise about their work. **1 2 3 4 5**

C6. Written procedures are necessary for all work

matter situations.	**1**	**2**	**3**	**4**	**5**
C7. When people have failed in life it is often their own fault.	**1**	**2**	**3**	**4**	**5**
C8. Subordinate staff should not question their superior's decision.	**1**	**2**	**3**	**4**	**5**
C9. Competition between employees usually does more harm than good.	**1**	**2**	**3**	**4**	**5**
C10. An organisation structure in which certain subordinates have two bosses or superiors should be avoided at all cost.	**1**	**2**	**3**	**4**	**5**

C11. How frequently, in your work organisation, are subordinates afraid to express disagreement with their superiors?

1. Very seldom.
2. Seldom.
3. Sometimes.
4. Frequently.
5. Very frequently

C12. How often do you feel nervous or tense at work?

1. Never. 2. Seldom. 3. Sometimes. 4. Usually. 5. Always.

C13. How long do you think you will continue working for this bank? (Feminine pole?)

1. Two years at the most.
2. From two to four years.
3. More than five years (but I probably will leave before retire).
4. Until I retire.

Four different leadership styles have been described below. Please read them carefully and answer the questions that follow.

Style 1: The leader usually makes his/her decisions promptly and communicates them to his/her subordinates clearly and firmly. Expects them to carry out the decisions loyally and without raising difficulties.

Style 2: The leader usually makes his/her decisions promptly, but before going ahead, tries to explain them fully to his subordinates. Give them the reasons for the decision and answer whatever questions they may have.

Style 3: The leader usually consults with his/her subordinates before he/she reaches his/her decisions. Listens to their advice, considers it, and then announces his/her decision. He/she then expects all to work loyally to implement it whether or not it is in accordance with the advice they gave.

Style 4: The leader usually calls meeting of his/her subordinates when there is an important decision to be made. Puts the problem before the group and invites discussion. Accepts the majority viewpoint as the decision.

C14. Which one of the above four styles of leadership would you most prefer to work under? (Circle one answer only)

A. Style 1 B. Style 2 C. Style 3 D. Style 4

C15. In your organisation, which one of the above four styles of leadership do you find yourself most often working under? (Circle one answer only).

A. Style 1 B. Style 2 C. Style 3 D. Style 4

Please answer questions **C16** to **C32** below by circling the number that corresponds to a number from the scale below.

1	2	3	4	5
Utmost	Very	Of Moderate	Of little	Of very little

Circle your chosen number for each question below. In answering the following questions, think of "how important is it to you to ....".

C16. have challenging work to do, work from which you can get a personal sense of accomplishment? (Masculine –Taras) **1 2 3 4 5**

C17. have an opportunity for advancement to higher-level jobs? (Masculine-Taras'23) **1 2 3 4 5**

C18. have the security that you will be able to work for your organisation as long as you want to? (Fem) **1 2 3 4 5**

C19. live in an area desirable to you and your family? **1 2 3 4 5**

C20. have a good working relationship with your manager? (Fem) **1 2 3 4 5**

C21. have considerable freedom to adopt your own approach to the job. **1 2 3 4 5**

C22. have opportunity for higher earnings?(Masculine) **1 2 3 4 5**

C23. have a job which leaves you sufficient time for your personal or family life? **1 2 3 4 5**

C24. work with people who cooperate well with one another. (Feminine) **1 2 3 4 5**

C25. get the recognition you deserve when you do a good job. (Masculine -Taras) **1 2 3 4 5**

C26. have a good physical working conditions (good ventilation and lighting, adequate working space)F? **1 2 3 4 5**

C27. have a training opportunity to improve your skills and knowledge or to learn new skills and knowledge? (Masculine-Taras)	**1**	**2**	**3**	**4**	**5**
C28. fully use your skills and abilities on the job?	**1**	**2**	**3**	**4**	**5**
C29. have good fringe benefits? (Masculine)	**1**	**2**	**3**	**4**	**5**
C30. have an element of variety and adventure in the job? (Masculine)	**1**	**2**	**3**	**4**	**5**
C31. be consulted by your direct superior in his/her decisions?	**1**	**2**	**3**	**4**	**5**
C32. work in an environment where the group's achievements are valued over your individual success?	**1**	**2**	**3**	**4**	**5**

Part V: Adoption of Real-Time Revenue Assurance Automation Technology (RT-RAAT)

D1. Does your bank intend to use or actually use a real-time revenue assurance automation technology (RT-RAAT)? Yes/No ……..

If so, please indicate type of RT-RAAT:

……

Any comments?

.....

.....

.....

.....

Thank You Very Much For Your Participation.

APPENDIX D

Appendix D : Questionnaire (Version Française/French Version)

TECHNOLOGIE D'AUTOMATISATION DE L'ASSURANCE DES REVENUS EN TEMPS RÉEL: FACTEURS INFLUENÇANT SON ADOPTION PAR DES BANQUES DE DÉTAIL AU CAMEROUN

Une enquête par questionnaire menée par

Mr. David Tatang Ghogomu

Swiss School of Business and Management

INSTRUCTIONS GÉNÉRALES

Code Bancaire	N° S/N

Veuillez remplir le code.

Le questionnaire comprend 5 parties principales, à savoir:

I. Questions générales de démographie et de la banque.

II. Questions sur l'attitude et influence sociale.

III. Questions sur culture organisationnelle.

IV. Questions sur culture nationale.

V. Question sur l'adoption de technologie d'automatisation de l'assurance des revenus en temps réel (RT-RAAT).

Des instructions ont été fournies pour chaque jeu de questions. Veuillez les lire attentivement et les suivre strictement en fournissant des réponses appropriées. Essayez de remplir le questionnaire en une seule fois. Cochez toujours une seule réponse par question. Il est essentiel que les réponses des différentes banques dans l'étude soient distinguées, pour cette raison, nous avons besoin que vous remplissiez un numéro de

code pour votre banque sur le questionnaire qui correspond au numéro "**S/N**" dans le tableau ci-dessous au cadre à l'en-tête du questionnaire.

S/N	Nom de Banque	S/N	Nom de la Banque	S/N	Nom de la Banque	S/N	Nom de la Banque
1	Access	5	Bange	9	UBC	13	UBA
2	Afriland	6	BICEC	10	Ecobank	14	La Regionale
3	Banque	7	CBC	11	NFC	15	SCB-Attijari
4	BGFI	8	CCA	12	SGC	16	Wineex

Nous aimerions avoir vos commentaires écrits (le cas échéant) ou des explications sur toute question, qu'elle soit couverte ou non dans le questionnaire. Veuillez utiliser l'espace réservé aux commentaires à la fin du questionnaire à cet effet.

Souvent, dans le questionnaire, on vous demande d'encercler un chiffre de 1 à 5, qui décrit votre point de vue sur une question. **N'encerclez pas plus d'une réponse**. Les significations des chiffres 1 à 5 ont été fournies.

Si vous avez des doutes ou avez une question ou si vous avez besoin d'aide concernant le questionnaire, n'hésitez pas à contacter M. David Ghogomu, étudiant de la SSBM Genève, au +237 670 80 91 65 ou à dtatang@yahoo.com.

La Swiss School of Business and Management (SSBM) mène des recherches conformément à la déclaration nationale sur l'éthique dans la recherche impliquant des êtres humains. Si vous avez des préoccupations ou des plaintes concernant la conduite éthique du projet de recherche, vous devez contacter le responsable d'éthique de la recherche à bhawna@ssbm.ch.

Merci.

Partie I – Information Personelle et Organisationelle

Cette partie contient des informations générales sur vous-même et sur la banque dont vous êtes employé(e).

Personnelle:

A1. Quel est votre sexe?

☐ Mâle ☐ Femelle (Coche la réponse appropriée)

A2. Quel âge avez-vous?

1	2	3	4	5
<30	30 - 40	41 - 50	51 - 60	> 61

A3. Quel est votre niveau d'éducation?

1	2	3	4	5
BAC	BTS	Licence	Master	Doctorat

A4. Votre éducation était-elle liée à la technologie ?

Oui, en. …….. Non, en……

Organisationelle:

B1. Quel est effectif total d'employés de votre banque (approximatif)? (A répondre, **à préférence**, par le/la Directeur(rice) de la Ressource Humaine)

1	2	3	4	5
<100	101 - 200	201 - 300	301 - 400	> 400

B2. Votre banque est-elle une multi-nationale?

☐ Oui ☐ Non, passez à la question B5

B3. Où se trouve le siège social de votre banque?

Le bureau principal est en (Pays) :……

B4. Quel pourcentage du nombre total d'employés sont des Camerounais?

1	2	3	4	5
>10 %	>20 %	>30%	>40%	> 50%

B5. Depuis combien de temps travaillez-vous avec cette banque?

1	2	3	4	5
< 2 years	< 4 years	< 6 years	< 8 years	> 8 years

B6. En quelle qualité servez-vous la banque ? (Veuillez encercler une réponse)

1. Je suis membre du conseil d'administration.
2. Je suis membre du comité d'audit.
3. Je suis le directeur général ou son adjoint.

4. Je suis le Directeur de/du (Crédit, la Comptabilité & Finance, Informatique, la Ressources Humaines, Logistique/Achats, Opérations, Juridique, Audit Interne, etc). Veuillez préciser: ……

Seul le personnel de la fonction d'audit interne doit répondre aux questions **B7 – B12** suivantes.

B7. Votre banque dispose-t-elle d'une fonction d'audit interne ? Oui:…… Non:……..

B8. Combien de personnel compte-t-elle? …… dont (Homme…… Femme ……..)

B9. L'assurance des revenus d'intérêts sur les prêts est-elle effectuée par votre département ? Oui:…….. Non:……..

B10. Quelle(s) application(s) informatique(s) est/sont utilisée(s) à cette fin ? (Veuillez préciser)……

B11. Êtes-vous conscient d'une application d'assurance des revenus en temps réel qui peut être utilisée pour **Q.B9** ci-dessus? Oui/Non: ……..

B12- Qui surveille la ou les applications d'assurance des revenus mentionnée à **Q.B10** ci-dessus?

Service d'Audit Interne :(……..) Service Informatique :(……..) Autre :(……)

(Veuillez préciser) ……...

B13. Quel est le montant annuel moyen des revenus d'intérêts provenant de prêts de votre banque au cours des 3 dernières années financières (millions XAF) ? ……

B14. Y a-t-il eu des cas de fraude liés aux revenus d'intérêts de prêts au cours de 3 dernières années dans votre banque? (Oui/Non) ……

B15. Si oui, quelle était la perte financière subie par votre banque (millions XAF)?

……

B16. Veuillez indiquer votre rôle dans l'acquisition d'une solution IT dans votre banque? **(A répondre par tous les participants – S.V.P)**

- ☐ Approbation de budget IT
- ☐ Sélection d'une solution IT
- ☐ Force motrice d'implémentation d'une solution IT
- ☐ Utilisateur d'une solution IT
- ☐ Suivi d'une solution IT
- ☐ Autres (Veuillez préciser): ……

B17. Depuis combien de temps existe votre banque?

1	2	3	4	5
Moins de 5 ans.	Plus de 5 ans mais moins de 10 ans.	Plus de 10 ans mais moins de 15 ans.	Plus de 15 ans mais moins de 20 ans.	Plus de 20 ans.

PARTIE II – ATTITUDE ET INFLUENCE SOCIALE

A1: Mesures d'attitude - Encerclez la bonne réponse.

A

L'utilisation de la technologie d'automatisation de l'assurance des revenus en temps réel (RT-RAAT) est une bonne idée.

1	2	3	4	5
Tout à fait d'accord	D'accord	Neutre	Pas d'accord	Pas du tout d'accord

B

J'aime l'idée d'utiliser la technologie d'automatisation de l'assurance des revenus en temps réel (RT-RAAT).

1	2	3	4	5
Tout à fait d'accord	D'accord	Neutre	Pas d'accord	Pas du tout d'accord

C

L'utilisation de la technologie d'automatisation de l'assurance des revenus en temps réel (RT-RAAT) est une idée agréable.

1	2	3	4	5
Tout à fait d'accord	D'accord	Neutre	Pas d'accord	Pas du tout d'accord

D

L'utilisation de la technologie d'automatisation de l'assurance des revenus en temps réel (RT-RAAT) est une idée intéressante.

1	2	3	4	5
Tout à fait d'accord	D'accord	Neutre	Pas d'accord	Pas du tout d'accord

E

L'utilisation de la technologie d'automatisation de l'assurance des revenus en temps réel (RT-RAAT) est une idée passionnante.

1	2	3	4	5
Tout à fait d'accord	D'accord	Neutre	Pas d'accord	Pas du tout d'accord

A2: Mesures d'Influence Sociale - Encerclez la bonne réponse.

A	Les personnes qui influencent mon comportement pensent que je devrais utiliser la technologie d'automatisation de l'assurance des revenus en temps réel (RT-RAAT)				
	1	2	3	4	5
	Tout à fait d'accord	D'accord	Neutre	Pas d'accord	Pas du tout d'accord
B	Les personnes qui comptent pour moi pensent que je devrais utiliser la technologie d'automatisation de l'assurance des revenus en temps réel (RT-RAAT).				
	1	2	3	4	5
	Tout à fait d'accord	D'accord	Neutre	Pas d'accord	Pas du tout d'accord
C	Les personnes dont j'apprécie leurs opinions pensent que je devrais utiliser la technologie d'automatisation de l'assurance des revenus en temps réel (RT-RAAT).				
	1	2	3	4	5
	Tout à fait d'accord	D'accord	Neutre	Pas d'accord	Pas du tout d'accord
D	Mes proches pensent que je devrais utiliser la technologie d'automatisation de l'assurance des revenus en temps réel (RT-RAAT).				
	1	2	3	4	5
	Tout à fait d'accord	D'accord	Neutre	Pas d'accord	Pas du tout d'accord
E	Les personnes qui influencent mes décisions pensent que je devrais utiliser la technologie d'automatisation de l'assurance des revenus en temps réel (RT-RAAT).				
	1	2	3	4	5
	Tout à fait d'accord	D'accord	Neutre	Pas d'accord	Pas du tout d'accord

Adapte: Nor et al. (2008); Taylor & Todd (1995) and Bhattacherjee (2012)

Partie III – La Culture Organisationnelle

Cette section va caractériser la culture de votre banque. Dans cette partie, 6 questions vous seront posées pour vous aider à évaluer la culture de votre banque. Chaque question a

quatre alternatives. Divisez 100 points entre les quatre alternatives en fonction de la mesure dans laquelle chaque alternative correspond à votre propre banque. Donnez un nombre de points plus élevé à l'alternative la plus adaptée à votre banque. (Par exemple, à la question 1, si vous pensez que l'alternative A est très similaire à votre banque, que les alternatives B et C sont quelque peu similaires et que l'alternative D n'est guère similaire du tout, vous pourriez donner 50 points à A, 25 points à B et 20 points C, et donnez 5 points à D. Assurez-vous que votre total est égal à 100 pour chaque question).

Evaluez votre banque telle qu'elle est actuellement.

	1. Caractéristiques dominantes	**Score**
A	La banque est un endroit très personnel. C'est comme une famille élargie. Les gens semblent partager beaucoup d'eux-mêmes.	
B	La banque est un endroit très dynamique et entrepreneurial. Les gens sont prêts à sortir le cou et à prendre des risques.	
C	La banque est très axée sur les résultats. Une préoccupation majeure est de faire le travail. Les gens sont très compétitifs et axés sur la réussite.	
D	La banque est un endroit très contrôlé et structuré. Les procédures formelles régissent généralement ce que les gens font.	
	Total	**100**
	2. Leadership Organisationel	**Score**
A	Le leadership au sein de l'organisation est généralement considéré comme un exemple de mentorat, de facilitation ou de développement.	
B	Le leadership au sein de l'organisation est généralement considéré comme un exemple d'entrepreneuriat, d'innovation ou de prise de risque.	

C	Le leadership au sein de l'organisation est généralement considéré comme un exemple d'une approche pragmatique, agressive et axée sur les résultats.	
D	Le leadership dans l'organisation est généralement considéré comme un exemple d'efficacité de coordination, d'organisation ou de bon fonctionnement.	
	Total	**100**
3. Gestion des Employés		**Score**
A	Le style de gestion de l'organisation est caractérisé par le travail d'équipe, le consensus et la participation.	
B	Le style de gestion de l'organisation se caractérise par la prise de risque individuelle, l'innovation, la liberté et l'unicité.	
C	Le style de gestion de l'organisation se caractérise par une compétitivité acharnée, des exigences élevées et des réalisations.	
D	Le style de gestion de l'organisation se caractérise par la sécurité de l'emploi, la conformité, la prévisibilité et la stabilité des relations.	
	Total	**100**
4. Colle d'Organisation		**Score**
A	La colle qui maintient l'organisation ensemble est la loyauté et la confiance mutuelle. L'engagement envers cette organisation est élevé.	
B	Le ciment qui maintient l'organisation ensemble est l'engagement envers l'innovation et le développement. L'accent est mis sur le fait d'être à la fine pointe.	
C	La colle qui maintient l'organisation ensemble est l'accent mis sur la réalisation et l'accomplissement des objectifs. L'agressivité et la victoire sont des thèmes communs.	

D	La colle qui maintient l'organisation ensemble est constitué de règles et de politiques formelles. Le maintien d'une organisation qui fonctionne bien est important.	
	Total	**100**
5. Accent Stratégique		**Score**
A	L'organisation met l'accent sur le développement humain. Une confiance, une ouverture et une participation élevées persistent.	
B	L'organisation met l'accent sur l'acquisition de nouvelles ressources et la création de nouveaux défis. Essayer de nouvelles choses et prospecter des opportunités sont valorisés.	
C	L'organisation met l'accent sur les actions compétitives et les réalisations. Atteindre des objectifs ambitieux et gagner sur le marché dominent.	
D	L'organisation met l'accent sur la permanence et la stabilité. L'efficacité, le contrôle et le bon fonctionnement sont importants.	
	Total	**100**
6. Critères de Réussite		**Score**
A	L'organisation définit le succès sur la base du développement des ressources humaines, du travail d'équipe, de l'engagement des employés et du souci des personnes.	
B	L'organisation définit le succès sur la base d'avoir les produits les plus uniques ou les plus récents. C'est un produit leader et innovateur.	
C	L'organisation définit le succès sur la base de la réussite sur le marché et du dépassement de la concurrence. Le leadership concurrentiel sur le marché est essentiel.	

D	L'organisation définit le succès sur la base de l'efficacité. Une livraison fiable, une planification fluide et une production à faible coût sont essentielles.	
	Total	**100**

Partie IV – Culture Nationale

Vous trouverez ci-dessous un certain nombre de déclarations. Ces déclarations ne concernent pas votre banque elle-même, mais plutôt des problèmes généraux dans le secteur bancaire. Veuillez indiquer dans quelle mesure vous êtes personnellement d'accord ou en désaccord avec chacune de ces déclarations.

N'oubliez pas que nous voulons votre propre opinion (même si elle peut être différente de celle d'autres ou vos collègues de travail dans votre pays). Veuillez répondre en écrivant à côté de chaque élément un nombre de l'échelle ci-dessous.

1	2	3	4	5
Tout à fait d'accord	D'accord	Neutre	Pas d'accord	Pas du tout d'accord

C1. La règle de la banque ne doit pas être violée, même lorsque les employés pensent que c'est dans le meilleur intérêt de la banque. 1 2 3 4 5

C2. Je m'attends à être consulté sur des questions qui affectent l'exercice de mes fonctions. 1 2 3 4 5

C3. On peut faire confiance à la plupart des gens. 1 2 3 4 5

C4. Il vaut mieux être d'accord avec ses collègues que d'exprimer une opinion différente.	1	2	3	4	5
C5. On peut être un bon manager sans avoir de réponses précises à la plupart des questions que les subordonnés peuvent se poser sur leur travail.	1	2	3	4	5
C6. Des procédures écrites sont nécessaires pour toutes les situations de travail.	1	2	3	4	5
C7. Quand les gens ont échoué dans la vie, c'est souvent de leur faute.	1	2	3	4	5
C8. Le personnel subalterne ne doit pas remettre en cause la décision de son supérieur.	1	2	3	4	5
C9. La concurrence entre les employés fait généralement plus de mal que de bien.	1	2	3	4	5
C10. Une structure organisationnelle dans laquelle certains subordonnés ont deux patrons ou supérieurs doit être évitée à tout prix.	1	2	3	4	5

C11. À quelle fréquence, dans votre organisation de travail, les subordonnés ont-ils peur d'exprimer leur désaccord avec leurs supérieurs ?

1. Très rarement.
2. Rarement
3. Parfois
4. Fréquemment
5. Très Fréquemment

C12. À quelle fréquence vous sentez-vous nerveux ou tendu au travail ?

1. Jamais
2. Rarement
3. Parfois
4. Habituellement
5. Toujours

C13. Combien de temps pensez-vous continuer à travailler pour cette banque ?

1. Deux ans au maximum.
2. De deux à quatre ans.
3. Plus de cinq ans (mais je partirai probablement avant de prendre ma retraite).
4. Jusqu'à ma retraite.

Quatre styles de leadership différents ont été décrits ci-dessous. Veuillez les lire attentivement et répondre aux questions qui suivent.

Style 1 : Le leader prend généralement ses décisions rapidement et les communique clairement et fermement à ses subordonnés. Attend d'eux qu'ils exécutent les décisions loyalement et sans soulever de difficultés.

Style 2 : Le leader prend généralement ses décisions rapidement, mais avant d'aller de l'avant, essaie de les expliquer pleinement à ses subordonnés. Donnez-leur les raisons de la décision et répondez à toutes les questions qu'ils pourraient avoir.

Style 3 : Le leader consulte généralement ses subordonnés avant de prendre ses décisions. Écoute ses conseils, y réfléchit, puis annonce sa décision. Il attend alors de tous qu'ils travaillent loyalement à sa mise en œuvre, qu'elle soit conforme ou non aux conseils qu'ils ont donnés.

Style 4 : Le chef convoque généralement une réunion de ses subordonnés lorsqu'il y a une décision importante à prendre. Présente le problème au groupe et invite à la discussion. Accepte le point de vue de la majorité comme décision.

C14. Dans lequel des quatre styles de leadership ci-dessus préféreriez-vous le plus travailler ? (Entourez une seule réponse)

A. Style 1 B. Style 2 C. Style 3 D. Style 4

C15. Dans votre organisation, sous lequel des quatre styles de leadership ci-dessus travaillez-vous le plus souvent ? (Entourez une seule réponse)

A. Style 1 B. Style 2 C. Style 3 D. Style 4

Veuillez répondre aux items suivants en encerclant le nombre qui correspond à celui de l'échelle ci-dessous.

1	2	3	4	5
La plus haute	Très important	D'importance	De peu	De très peu d'importance

Encerclez votre numéro choisi pour chaque question ci-dessous. En répondant aux questions suivantes, pensez à « quel point il est important pour vous de… ».

C16. Vous avez un travail stimulant à faire, un travail dont vous pouvez tirer un sentiment d'accomplissement personnel ? 1 2 3 4 5

C17. Vous avez une opportunité d'évolution vers des postes de niveau supérieur? 1 2 3 4 5

C18. Avez-vous la sécurité de pouvoir travailler pour votre organisation aussi longtemps que vous le souhaitez? 1 2 3 4 5

C19. Vivre dans une région souhaitable pour vous et votre famille? 1 2 3 4 5

C20. Avoir une bonne relation de travail avec votre manager ? 1 2 3 4 5

C21. Avoir une liberté considérable pour adopter votre propre approche du travail. 1 2 3 4 5

C22. Vous avez la possibilité d'augmenter vos revenus ?	1	2	3	4	5
C23. Vous avez un travail qui vous laisse suffisamment de temps pour votre vie personnelle ou familiale?	1	2	3	4	5
C24. Travailler avec des personnes qui coopèrent bien les unes avec les autres / Obtenez la reconnaissance que vous méritez lorsque vous faites du bon travail.	1	2	3	4	5
C25. Obtenez la reconnaissance que vous méritez lorsque vous faites du bon travail.	1	2	3	4	5
C26. Avoir de bonnes conditions physiques de travail (bonne ventilation et éclairage, espace de travail, etc.) ?	1	2	3	4	5
C27. Vous avez une opportunité de formation pour améliorer vos compétences et connaissances ou pour acquérir de nouvelles compétences et connaissances ?	1	2	3	4	5

C28. Utiliser pleinement vos compétences et capacités au travail ?	1	2	3	4	5
C29. Avoir de bons avantages sociaux?	1	2	3	4	5
C30. Vous avez un élément de variété et d'aventure dans le travail ?	1	2	3	4	5
C31. Être consulté par votre supérieur direct dans ses décisions ?	1	2	3	4	5
C32. Travaillez dans un environnement où les réalisations du groupe sont valorisées par rapport à votre réussite individuelle ?	1	2	3	4	5

Partie V. Adoption de RT- RAAT.

D1. Votre banque a-t-elle intention d'adopter technologie d'automatisation de l'assurance des revenus en temps réel (RT-RAAT)? Oui / Non …… Si oui, veuillez indiquer la nature de RT-RAAT:

……

Avez-vous des commentaires?

.....

.....

.....

.....

.....

.....

.....

.....

Merci énormément de votre collaboration dans ce projet.

APPENDIX E

Appendix E: Schematic Overview of Literature Review

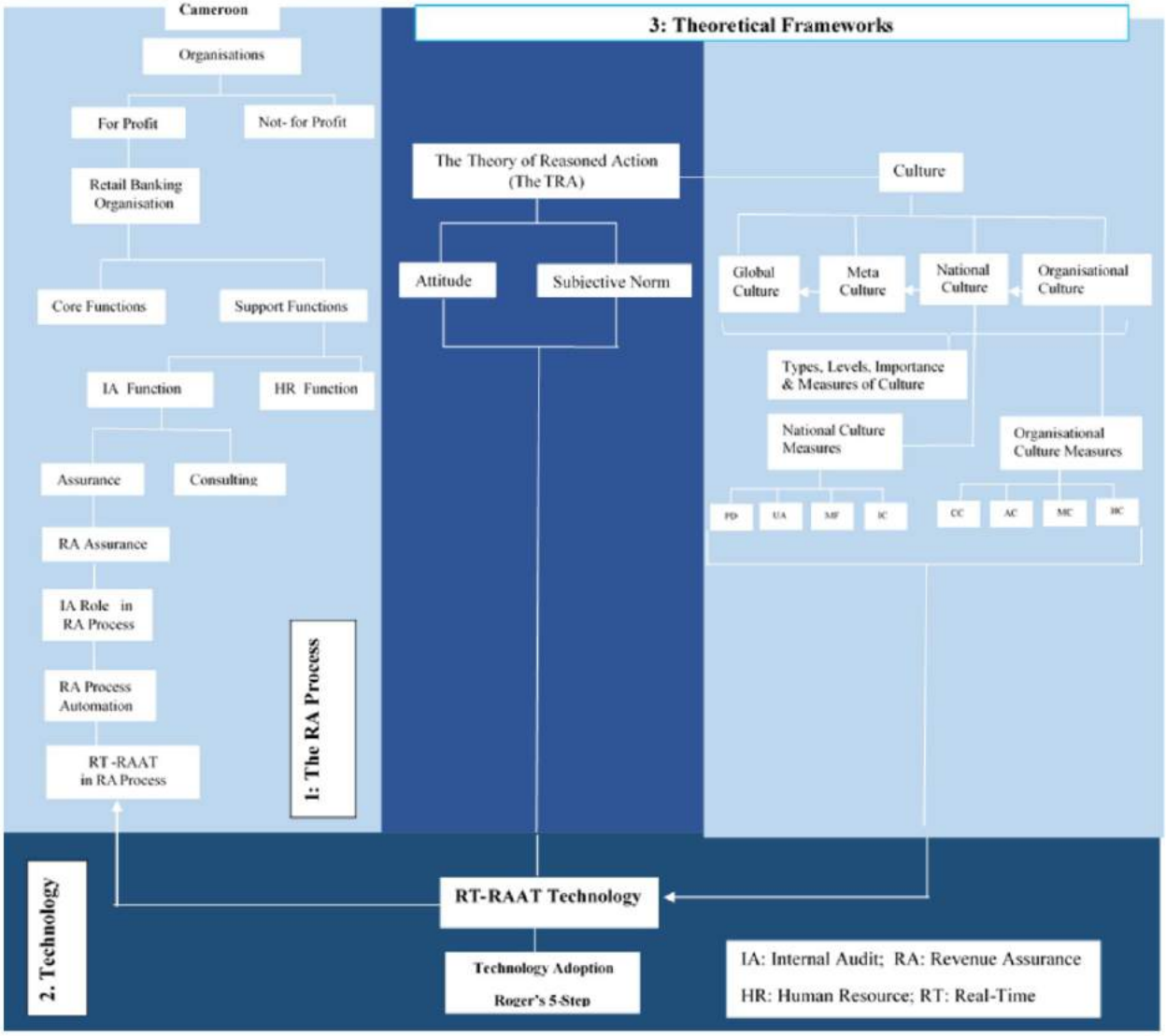


Figure 2.1.1: *Schematic Overview of the Literature Review*

Appendix F: Data Analysis Code Book

Code Book									
S/N	Construct and Variable	Description of Variable	Items	Item Format	Response Scale	Coding Scheme	Data Transformation	Entry Data	Comments
A	DESCRIPTIVE STATISTICS								
0	Bank Name	Name of each retail bank used in this study.	Top of each Questionnaire	Text	Categorical Scale	1= Bank 1 2=Bank 2 . . 16 = Bank 16	None	None	1, 2, 3, 4, 5 … 16 code values are treated as distinct groups rather than as numeric quantities.
1	Sex/Gender	Sex of the bank employee which for this study is either male or female.	A1	Text	Nominal Scale	0=Female 1= Male	None	0 or 1	0 and 1 values are treated as two distinct groups rather than as numeric quantities.
2	Age (Employee)	Age in years of the bank employee.	A2	Numeric	Categorical Scale	1= <30 2= 30 - 40 3= 41 - 50 4= 51 - 60 5= >60	None	1, 2, 3, 4, 5	1, 2, 3, 4, 5 values are treated as distinct groups rather than as numeric quantities.
3	Level of Education	The level of education attained by the bank employee ranging from A/L to PhD.	A3	Text	Categorical Scale	1=Advanced Level 2=HND 3=First Degree 4= Master 5 = Doctorate	None	1, 2, 3, 4, 5	1, 2, 3, 4, 5 values are treated as distinct groups rather than as numeric quantities.
4	N° of Employees (Bank)	Number of employees of the bank.	B1	Numeric	Categorical Scale	1= <100 2= 101 - 200 3= 201 - 300 4= 301 - 400 5 = >400	None	1, 2, 3, 4, 5	Idem

Code Book									
S/N	Construct and Variable	Description of Variable	Items	Item Format	Response Scale	Coding Scheme	Data Transformation	Entry Data	Comments
5	% Cameroonian Nationals		B4	Numeric	Categorical Scale	1: >10 % 2: >20 % 3: >30% 4: >40% 5 : > 50%	None	1, 2, 3, 4, 5	Idem
6	Service Longevity	The time the employee has already spent serving the bank.	B5	Numeric	Categorical Scale	1: < 2 years 2: < 4 years 3: < 6 years 4: < 8 years 5 : > 8 years	None	1, 2, 3, 4, 5	Idem
7	Employee Role	The capacity in which an employee is serving in the bank.	B6	Text	Categorical Scale	1 = Member Board of Director 2 =Member Audit Committee 3= GM/AGM 4=Functional Head	None	1, 2. 3,4	1, 2, 3, 4 code values are treated as distinct groups rather than as numeric quantities.
8	Internal Audit Function (Present/Absent)	One of the support functions of retail banks providing assurance and consulting services to the bank including loan interest revenue assurance.	B7	Text	Nominal Scale	0=IA absent 1= IA present	None	0 or 1	Idem
9	N° of Employees (IA)	Number of employees staffing the Internal Audit function.	B8	Numeric	Ratio Scale	As entered by respondent.	None	No of employees	
10	Loan Interest Revenue Assurance Activity	Assurance activity related to loan interest revenue and carried out by the internal audit function as one of its assurance activities.	B9	Numeric	Nominal Scale	0=No 1= Yes	None	0 or 1	Idem

Code Book									
S/N	Construct and Variable	Description of Variable	Items	Item Format	Response Scale	Coding Scheme	Data Transformation	Entry Data	Comments
11	Loan Interest Revenue Assurance Application		B10	Numeric	Nominal Scale	0=No 1= Yes	None	0 or 1	
12	Loan Interest Revenue Amount	Amount of revenue deriving from interest on loans granted to customers of the retail banks.	B13	Numeric	Ratio Scale	As entered by respondent.	None	No of Years	
13	Fraud Loss (XAFMillion)	Amount in FCFA lost as a result of fraud related to loan interest revenue.	B15	Numeric	Ratio Scale	As entered by respondent.	None	Xaf Amoun t	
14	Age (Bank)	Age of the retail bank as of inception in Cameroon.	B17	Alpha-Numeric	Categoric al Scale	1=< 5years 2= 5 years < Age <10 years 3 = 10 years < Age <15years 4= 15 years < Age <20 years 5= Age >20 years	None	1.2.3.4. 5	1, 2, 3, 4, 5 values are treated as distinct groups rather than as numeric quantities.
B	Inferential Statistics								
I	The TRA								
1	Attitude	One of the constructs of the Theory of Reasoned Action. Its indicators measure the belief or feelings of respondents in the benefit of using RT-RAAT and thus its possible adoption.	Attitude Measures: I1,I2, I3, I4,I5	Numeric	Ordinal Scale (5-Point Likert)	1 = Strongly Agree 2 = Agree 3 = Neutral 4 = Disagree 5 = Strongly disagree	Average Scores (SI1+SI2+SI3+SI 4+SI5)/5 S stands for item score	Averag e Scores (Ratio)	

Code Book									
S/N	Construct and Variable	Description of Variable	Items	Item Format	Response Scale	Coding Scheme	Data Transformation	Entry Data	Comments
2	Subjective Norm	One of the constructs of the Theory of Reasoned Action and otherwise called social influence in the questionnaire. Its indicators were used to measure the influence of friends, family and peers on RT-RAAT adoption.	Social Influence Measures: II1,II2, II3, II4,II5	Numeric	Ordinal Scale (5-Point Likert)	1 = Strongly Agree 2 = Agree 3 = Neutral 4 = Disagree 5 = Strongly disagree	Average Scores (SII1+SII2+SII3+ SII4+SII5)/5 S stands for item Score	Average Scores (Ratio)	
II	Organisational Culture			Numeric	Ratio Scale			Average Score	
1	Clan Culture		A1, A2 ,A3, A4, A5, A6	Numeric	Ratio Scale	As entered by respondent (1 - 100 points).	Averaging Scores per OCAI formula: (A1+A2+A3+A4+ A5+A6)/6.	Average Score (Ratio)	
2	Adhocracy Culture		B1, B2 ,B3, B4, B5, B6	Numeric	Ratio Scale	As entered by respondent (1 - 100 points).	Averaging Scores per OCAI formula: (B1+B2+B3+B4+ B5+B6)/6.	Average Score (Ratio)	
3	Market Culture		C1, C2 ,C3, C4, C5, C6	Numeric	Ratio Scale	As entered by respondent (1 - 100 points).	Averaging Scores per OCAI formula: (C1+C2+C3+C4+ C5+C6)/6.	Average Score (Ratio)	
4	Hierarchical Culture		D1, D2 ,D3, D4, D5, D6	Numeric	Ratio Scale	As entered by respondent (1 - 100 points).	Averaging Scores per OCAI formula: (D1+D2+D3+D4+ D5+D6)/6.	Average Score (Ratio)	
III	Societal Culture			Numeric	Ordinal Scale			Average Score & Weighted Index	

Code Book									
S/N	Construct and Variable	Description of Variable	Items	Item Format	Response Scale	Coding Scheme	Data Transformation	Entry Data	Comments
1	Power Distance (PD)		C2, C8, C11, C14, C15, C31	Numeric	Ordinal Scale (5-point Likert)	1 = Strongly Agree 2 = Agree 3 = Neutral 4 = Disagree 5 = Strongly disagree and 1=Of utmost importance 2=Very Important 3=Of moderate importance 4= Of little importance 5 =Of very little importance	Average of item scores and Weighted Index (per Hofstede's VSM 1994 Formulae)	Average Score (Ratio) and Weighted Index	
2	Uncertainty Avoidance (UA)		C1, C5, C6, C7, C9, C12, C13	Numeric	Ordinal Scale (5-point Likert)	1 = Strongly Agree 2 = Agree 3 = Neutral 4 = Disagree 5 = Strongly disagree and 1=Never 2=Seldom 3=Sometimes 4= Usually 5 =Always	Average of item scores and Weighted Index (per Hofstede's VSM 1994 Formulae)	Average Score(Ratio) and Weighted Index	
	Masculinity/Femininity(MF)		C3, C10, C17, C18, C20, C22, C24, C27, C28, C29	Numeric	Ordinal Scale (5-point Likert)	1 = Strongly Agree 2 = Agree 3 = Neutral 4 = Disagree 5 = Strongly disagree and 1=Of utmost importance 2=Very Important 3=Of moderate importance 4= Of little importance 5 =Of very little importance	Average of item scores and Weighted Index (per Hofstede's VSM 1994 Formulae)	Average Score (Ratio) and Weighted Index	

Code Book									
S/N	Construct and Variable	Description of Variable	Items	Item Format	Response Scale	Coding Scheme	Data Transformation	Entry Data	Comments
4	Individuality/Collectivity (IC)		C4, C16, C18, C19, C21, C23, C25, C26, C30, C32	Numeric	Ordinal Scale (5-point Likert)	1=Of utmost importance 2=Very Important 3=Of moderate importance 4= Of little importance 5 =Of very little importance	Average of item scores and Weighted Index (per Hofstede's VSM 1994 Formulae)	Average Score (Ratio) and Weighted Index	
IV	RT-RAAT Adoption (Adoption/Non-Adoption)		D1	Text	Nominal scale	0 = Non Adoption 1 = Adoption	Mode	0 or 1	

APPENDIX G

Appendix G: Construct Validity Test Result via Exploratory Factor Analysis.

Table 3.2.3: *Construct Validity Test Results via Exploratory Factor Analysis*										
Construct & Items	**Factor**									
	1	**2**	**3**	**4**	**5**	**6**	**7**	**8**	**9**	**10**
The TRA										
Att_I1: Using RT-RAAT is a good idea	0.81									
Att_I2: I like idea of using RT-RAAT.	0.83									
Att_I3: Using RT-RAAT is a pleasant idea	0.63									
Att_I4: Using RT-RAAT is appealing idea	0.37									
Att_I5: Using RT-RAAT is exciting idea	0.13									
SN_II1:People who influence my behavior think I should use RT-RAAT		0.89								
SN_II2: People who are important to me think I should use RT-RAAT.		0.91								
SN_II3: People whose opinions I value think I should use RT-RAAT.		0.86								
SN_II4: People who are close to me think I should use RT-RAAT.		0.82								
SN_II5: People who influence my decisions think I should use RT-RAAT.		0.73								
Organisational Culture										
CC_A1:The bank is a very personal place. It is like an extended family.....			0.11							
CC_A4:The glue that holds the organization together is loyalty and mutual trust.....			0.23							
CC_A5:The organizational emphasizes human development.....			0.74							
CC_A6: .. success defined on the basis of the development of human resources, ...			0.84							

Table 3.2.3: *Construct Validity Test Results via Exploratory Factor Analysis*

Construct & Items	**Factor**									
	1	**2**	**3**	**4**	**5**	**6**	**7**	**8**	**9**	**10**
AC_B2: The organizational leadership exemplifies mentoring, facilitating.....				-0.57						
AC_B3: The management style				-0.46						
AC_B4:The glue that holds the				-0.53						
MC_C3: ... characterized by hard-driving competitiveness ...					0.84					
MC_C4: ... Emphasis on achievement					0.85					
HC_D1: The bank a controlled and structured place.						0.84				
HC_D2: Leadership exemplifies coordinating, organizing.....						0.89				
HC_D4: organization glue is formal rules and policies.....						0.86				
HC_D6: Success defined on basis of efficiency.						0.15				
Societal Culture										
PD_C8: Subordinate staff should not question their superior's decision.							0.76			
PD_C14: which one of four leadership styles would you most prefer to work under?							0.20			
UA_C1: The bank's rule should not be broken even when.....								0.06		
UA_C12:How often do you feel nervous or tense at work?								0.64		
UA_C13: How long do you think you will continue working for this bank?								0.85		
MASS_C17: ...have an opportunity for advancement to higher-level jobs?									0.42	
MAS_C24: ... work with people who cooperate well with one another?									0.80	
MAS_C25:... get recognition you deserve when you do a good job?									0.82	
IDV_C23: .. have a job which leaves you sufficient time for your personal or family life?										0.58
IDV_C26: ..have a good physical working conditions										0.79

Table 3.2.3: *Construct Validity Test Results via Exploratory Factor Analysis*										
Construct & Items	**Factor**									
	1	**2**	**3**	**4**	**5**	**6**	**7**	**8**	**9**	**10**
(good ventilation and lighting, adequate working space)?										
IDV_C30: ..have an element of variety and adventure in the job?										0.73

N= 20, Extraction Method: Principal Component Analysis; Analysis Method: Correlation Matrix; Extracted Values: Eigenvalues over 1x Mean Eigenvalue: Max. Iterations: 25; Orthogonal Rotation: Varimax.

Appendix H:Microsoft Excel Regression Output

I. Theory of Reasoned Action (TRA) and Variables: Results

a) Hypothesis 1 (H1): Attitude (ATT)

Table 4.1.1 (a): SUMMARY OUTPUT

Regression Statistics	
Multiple R	0.73
R Square (Effect Size)	0.53
Adjusted R Square (Causality)	0.51
Standard Error	0.35
Observations	20

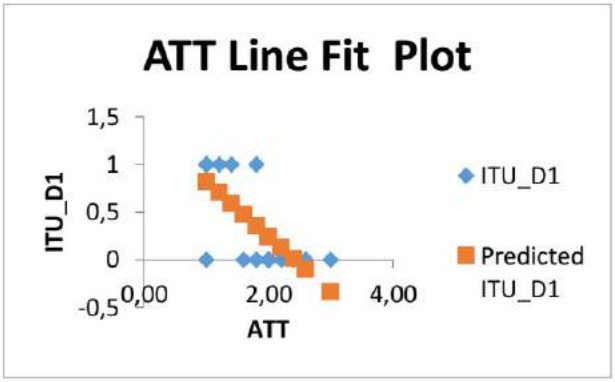


Fig. 4.1.1 (a)

TABLE 4.1.1(b): ANOVA

	df	*SS*	*MS*	*F*	*Significance F*
Regression	1	2.56	2.56	20.56	0.00
Residual	18	2.24	0.12		
Total	19	4.8			

TABLE 4.1.1 (C): COEFFICIENTS

	Coefficients	*Standard Error*	*t Stat*	*P-value*	*Lower 95%*	*Upper 95%*
Intercept	1.40	0.23	5.98	0.00	0.91	1.89
ATT	-0.58	0.13	-4.53	0.00	-0.84	-0.31

b) Hypothesis 2 (H2): Subjective Norm (SN)

TABLE 4.1.2 (a): SUMMARY OUTPUT

Regression Statistics	
Multiple R	0.45
R Square	0.20
Adjusted R Square	0.15
Standard Error	0.46
Observations	20

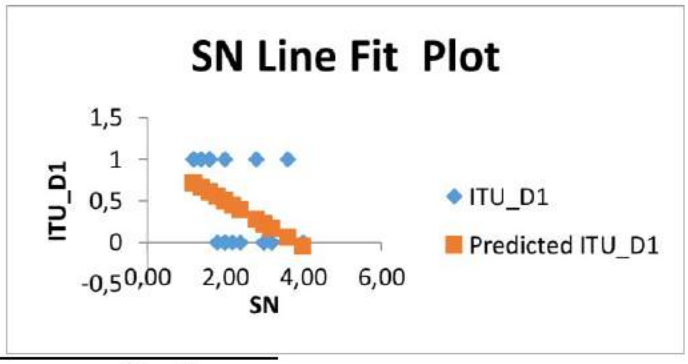


TABLE 4.1.2 (b): ANOVA

	df	*SS*	*MS*	*F*	*Significance F*
Regression	1	0.95	0.95	4.47	0.05
Residual	18	3.85	0.21		
Total	19	4.8			

TABLE 4.1.2 (C): COEFFICIENTS

	Coefficients	*Standard Error*	*t Stat*	*P-value*	*Lower 95%*	*Upper 95%*	*Lower 95.0%*	*Upper 95.0%*
Intercept	1.05	0.32	3.24	0.00	0.37	1.73	0.37	1.73
SN	-0.27	0.13	-2.11	0.05	-0.55	0.00	-0.55	0.00

Proposition 1: Attitude (ATT) and Subjective Norm (SN) Combined

TABLE 4.1.3 (a): SUMMARY OUTPUT

Regression Statistics	
Multiple R	0.76
R Square [Effect Size]	0.58
Adjusted R Square	0.53
Standard Error	0.35
Observations	20

TABLE 4.1.3 (b): ANOVA

	df	*SS*	*MS*	*F*	*Significance F*
Regression	2	2.76	1.38	11.54	0.00
Residual	17	2.04	0.12		
Total	19	4.8			

TABLE 4.1.3 (c): COEFFICIENTS

	Coefficients	*Standard Error*	*t Stat*	*P-value*	*Lower 95%*	*Upper 95%*	*Lower 95.0%*	*Upper 95.0%*
Intercept	1.58	0.28	5.72	0.00	1.00	2.17	1.00	2.17
ATT	-0.50	0.13	-3.81	0.00	-0.77	-0.22	-0.77	-0.22
SN	-0.13	0.10	-1.27	0.22	-0.35	0.09	-0.35	0.09

II. Culture: Constructs And Variables: Results

a) National Culture:

1) Hypothesis H1-1 (H1-1): Power Distance (PD)

TABLE 4.2.1 (a): SUMMARY OUTPUT

Regression Statistics	
Multiple R	0.084
R Square (Effect Size)	0.007
Adjusted R Square	-0.048
Standard Error	0.515
Observations	20

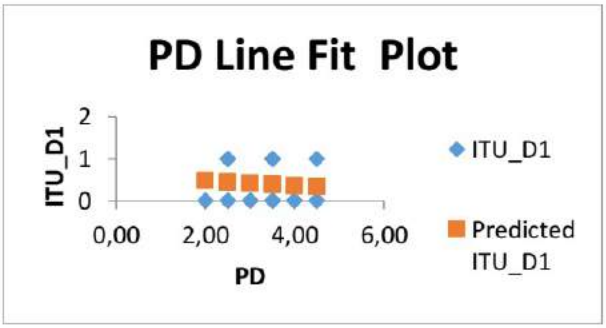


Fig. 4.2.1 (a)

TABLE 4.2.1(b): ANOVA

	df	*SS*	*MS*	*F*	*Significance F*
Regression	1	0.03	0.03	0.13	0.72
Residual	18	4.77	0.26		
Total	19	4.8			

TABLE 4.2.1(c): COEFFICIENTS

	Coefficients	Standard Error	t Stat	P-value	Lower 95%	Upper 95%
Intercept	0.59	0.54	1.09	0.29	-0.54	1.72
PD	-0.06	0.16	-0.36	0.72	-0.39	0.28

Directionally, hypothesis supported but in statistical significance not supported.

1) Hypothesis H1-2 (H1-2): Uncertainty Avoidance (UA)

TABLE 4.2.2 (a): Summary Output

Regression Statistics	
Multiple R	0.57
R Square	0.32
Adjusted R Square	0.28
Standard Error	0.43
Observations	20

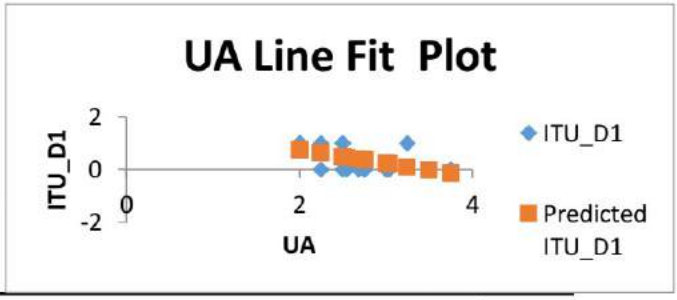


TABLE 4.2.2 (b): ANOVA

	df	SS	MS	F	Significance F
Regression	1	1.54	1.54	8.52	0.01
Residual	18	3.26	0.18		
Total	19	4.8			

TABLE 4.2.2 (C): COEFFICIENTS

	Coefficients	Standard Error	t Stat	P-value	Lower 95%	Upper 95%
Intercept	1.78	0.48	3.69	0.00	0.77	2.79
UA	-0.51	0.18	-2.92	0.01	-0.88	-0.14

Supported both directionally and in statistical significance.

2) Hypothesis H1-3 (H1-3): Masculinity (MAS)

TABLE 4.2.3 (a): Summary Output

Regression Statistics	
Multiple R	0.08
R Square (Effect Size)	0.01
Adjusted R Square	-0.05
Standard Error	0.51
Observations	20

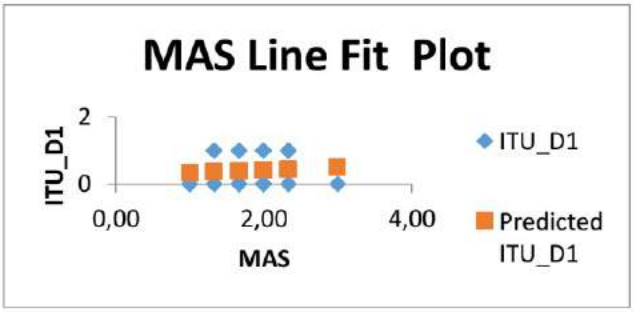


TABLE 4.2.3(b): ANOVA

	df	*SS*	*MS*	*F*	*Significance F*
Regression	1	0.03	0.03	0.13	0.72
Residual	18	4.77	0.26		
Total	19	4.8			

TABLE 4.2.3(c): COEFFICIENTS

	Coefficients	*Standard Error*	*t Stat*	*P-value*	*Lower 95%*	*Upper 95%*
Intercept	0.25	0.44	0.57	0.58	-0.67	1.17
MAS	0.08	0.24	0.36	0.72	-0.41	0.58

Supports hypothesis directionally but not in statistical significance.

3) Hypothesis H1-4 (H1-4): Individualism (IDV)

TABLE 4.2.4 (a): SUMMARY OUTPUT

Regression Statistics	
Multiple R	0.04
R Square	0.00
Adjusted R Square	-0.05
Standard Error	0.52
Observations	20

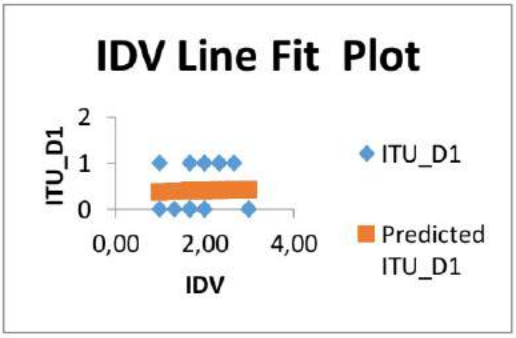


TABLE 4.2.4 (b): ANOVA

	df	*SS*	*MS*	*F*	*Significance F*
Regression	1	0.01	0.01	0.02	0.88
Residual	18	4.79	0.27		
Total	19	4.8			

TABLE 4.2.4 (c): COEFFICIENTS

	Coefficients	Standard Error	t Stat	P-value	Lower 95%	Upper 95%
Intercept	0.34	0.42	0.82	0.42	-0.53	1.21
IDV	0.03	0.20	0.15	0.88	-0.39	0.45

4) Proposition 2: Societal/National Culture (Combined Variables)

TABLE 4.2.5 (a): SUMMARY OUTPUT

Regression Statistics	
Multiple R	0.63
R Square (**Effect Size**)	0.40
Adjusted R Square	0.23
Standard Error	0.44
Observations	20

(>0.25 – medium)

TABLE 4.2.5 (b): ANOVA

	df	SS	MS	F	Significance F
Regression	4	1.90	0.47	2.45	0.09
Residual	15	2.90	0.19		
Total	19	4.8			

TABLE 4.2.5 (c): COEFFICIENTS

	Coefficients	Standard Error	t Stat	P-value	Lower 95%	Upper 95%
Intercept	2.16	0.90	2.41	0.03	0.25	4.08
PD	0.15	0.15	0.97	0.35	-0.18	0.47
UA	-0.69	0.22	-3.09	0.01	-1.16	-0.21
MAS	-0.19	0.24	-0.80	0.44	-0.71	0.32
IDV	-0.03	0.19	-0.16	0.88	-0.42	0.37

b) Organizational Culture: Results

1) Hypothesis H2-1 (H2-1): Clan Culture (CC)

TABLE 4.2.6 (a): SUMMARY OUTPUT

Regression Statistics	
Multiple R	0.161
R Square	0.026
Adjusted R Square	-0.028
Standard Error	0.510
Observations	20

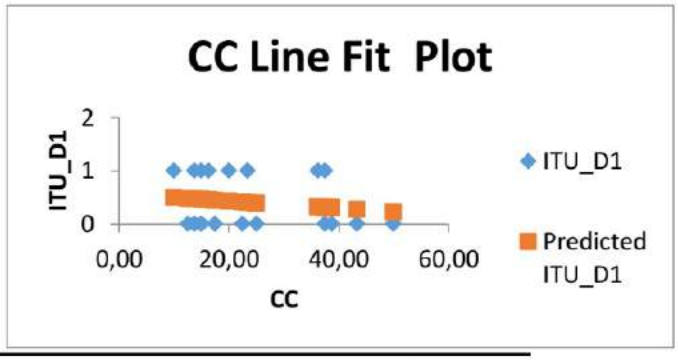


TABLE 4.2.6(b): ANOVA

	df	*SS*	*MS*	*F*	*Significance F*
Regression	1	0.12	0.12	0.48	0.50
Residual	18	4.68	0.26		
Total	19	4.8			

TABLE 4.2.6 (c): COEFFICIENTS

	Coefficients	*Standard Error*	*t Stat*	*P-value*	*Lower 95%*	*Upper 95%*
Intercept	0.559	0.257	2.177	0.043	0.019	1.098
CC	-0.007	0.010	-0.690	0.499	-0.027	0.014

Hypothesis supported but no significant impact.

2) Hypothesis H2-2 (H2-2): Adhocracy Culture (AC)

TABLE 4.2.7(a): SUMMARY OUTPUT

Regression Statistics	
Multiple R	0.048
R Square	0.002
Adjusted R Square	-0.053
Standard Error	0.516
Observations	20

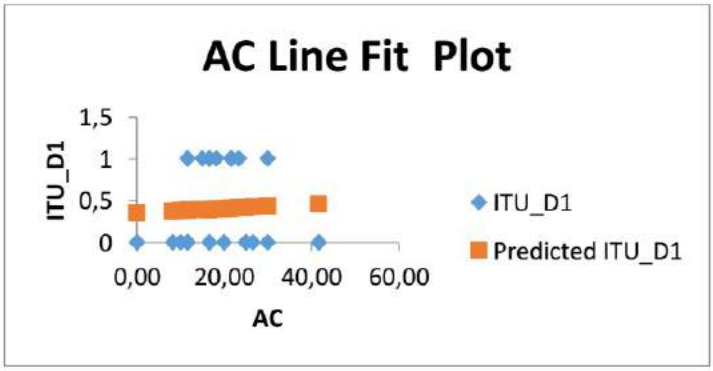


TABLE 4.2.7(b): ANOVA

	df	*SS*	*MS*	*F*	*Significance F*
Regression	1	0.01	0.01	0.04	0.84

Residual	18	4.79	0.27
Total	19	4.8	

TABLE 4.2.7(c): COEFFICIENTS

	Coefficients	*Standard Error*	*t Stat*	*P-value*	*Lower 95%*	*Upper 95%*
Intercept	0.350	0.269	1.299	0.210	-0.216	0.916
AC	0.003	0.013	0.206	0.839	-0.024	0.029

Hypothesis supported but no significant impact.

3) Hypothesis H2-3 (H2-3): Market Culture (MC)

TABLE 4.2.8 (a): SUMMARY OUTPUT

Regression Statistics	
Multiple R	0.25
R Square	0.06
Adjusted R Square	0.01
Standard Error	0.50
Observations	20

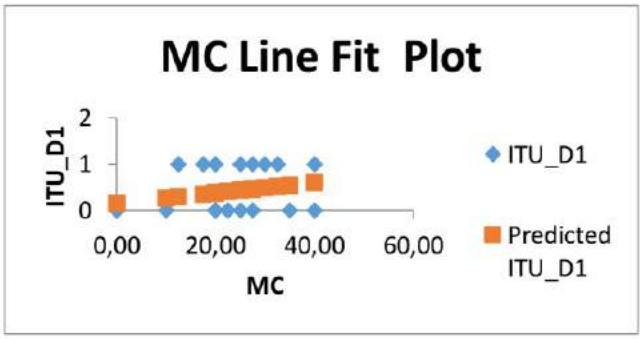


TABLE 4.2.8 (b): ANOVA

	df	*SS*	*MS*	*F*	*Significance F*
Regression	1	0.293	0.293	1.171	0.294
Residual	18	4.507	0.250		
Total	19	4.8			

TABLE 4.2.8 (c): COEFFICIENTS

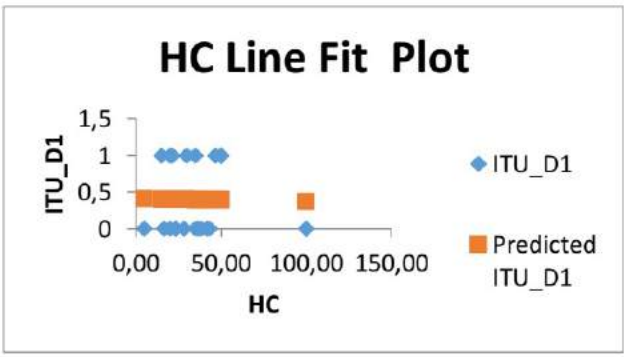
	Coefficients	*Standard Error*	*t Stat*	*P-value*	*Lower 95%*	*Upper 95%*
Intercept	0.148	0.259	0.571	0.575	-0.396	0.691
MC	0.011	0.010	1.082	0.294	-0.011	0.033

Hypothesis supported but no significant impact.

4) Hypothesis H2-4 (H2-4): Hierarchy Culture (HC)

TABLE 4.2.9 (a): SUMMARY OUTPUT

Regression Statistics	
Multiple R	0.019



R Square	0.000
Adjusted R Square	-0.06
Standard Error	0.516
Observations	20

TABLE 4.2.9 (b): ANOVA

	df	*SS*	*MS*	*F*	*Significance F*
Regression	1	0.00	0.00	0.01	0.94
Residual	18	4.80	0.27		
Total	19	4.8			

TABLE 4.2.9(c): COEFFICIENTS

	Coefficients	*Standard Error*	*t Stat*	*P-value*	*Lower 95%*	*Upper 95%*
Intercept	0.4166	0.2330	1.7880	0.0906	-0.0729	0.9061
HC	-0.0005	0.0060	-0.0819	0.9357	-0.0130	0.0120

Hypothesis supported but no significant impact.

Proposition 3: Organisational Culture – Combined Variables

TABLE 4.2.10 (a): SUMMARY OUTPUT

Regression Statistics	
Multiple R	0.259
R Square (**Effect Size**)	0.067
Adjusted R Square	- 0.181
Standard Error	0.546
Observations	20

TABLE 4.2.10 (b): ANOVA

	df	*SS*	*MS*	*F*	*Significance F*
Regression	4	0.323	0.081	0.271	0.892
Residual	15	4.477	0.298		
Total	19	4.8			

TABLE 4.2.10 (c): COEFFICIENTS

	Coefficients	*Standard Error*	*t Stat*	*P-value*	*Lower 95%*	*Upper 95%*
Intercept	0.308	1.072	0.288	0.777	-1.976	2.592
CC	-0.004	0.016	-0.249	0.807	-0.038	0.030

AC	-0.001	0.017	-0.029	0.977	-0.037	0.036
MC	0.010	0.015	0.635	0.535	-0.023	0.042
HC	-0.001	0.011	-0.049	0.961	-0.024	0.023

Overall not statistically significant p=0.89 > 0.05.
7% variation in ITU explained by variation in organizational culture.

Proposition 4: Culture – Combined variables

TABLE 4.2.11(a): SUMMARY OUTPUT

Regression Statistics	
Multiple R	0.78
R Square (Effect Size)	0.60
Adjusted R Square	0.32
Standard Error	0.42
Observations	20

TABLE 4.2.11(b): ANOVA

	df	*SS*	*MS*	*F*	*Significance F*
Regression	8	2.90	0.36	2.10	0.13
Residual	11	1.90	0.17		
Total	19	4.8			

TABLE 4.2.11(c): COEFFICIENTS

	Coefficients	*Standard Error*	*t Stat*	*P-value*	*Lower 95%*	*Upper 95%*
Intercept	4.71	1.49	3.16	0.01	1.43	7.98
CC	-0.03	0.02	-2.29	0.04	-0.07	0.00
AC	-0.01	0.01	-0.95	0.36	-0.04	0.02
MC	-0.02	0.02	-1.22	0.25	-0.05	0.01
HC	-0.02	0.01	-1.87	0.09	-0.04	0.00
PD	0.29	0.18	1.58	0.14	-0.11	0.69
UA	-1.00	0.26	-3.83	0.00	-1.57	-0.42
MAS	-0.30	0.29	-1.06	0.31	-0.93	0.33
IDV	0.07	0.19	0.37	0.72	-0.35	0.49

III. Extended Research Model (TRA and Culture): Results

TABLE 4.2.12 (a): SUMMARY OUTPUT

Regression Statistics	
Multiple R	0.90
R Square	0.81
Adjusted R Square	0.59
Standard Error	0.32
Observations	20

TABLE 4.2.12 (b):ANOVA

	df	*SS*	*MS*	*F*	*Significance F*
Regression	10	3.87	0.39	3.76	0.03
Residual	9	0.93	0.10		
Total	19	4.8			

TABLE 4.2.12(c) : COEFFICIENTS

	Coefficients	*Standard Error*	*t Stat*	*P-value*	*Lower 95%*	*Upper 95%*
Intercept	3.18	1.35	2.37	0.04	0.14	6.23
ATT	-0.50	0.19	-2.62	0.03	-0.94	-0.07
SN	-0.09	0.11	-0.81	0.44	-0.34	0.16
CC	-0.01	0.02	-0.64	0.54	-0.04	0.02
AC	-0.01	0.01	-1.38	0.20	-0.04	0.01
MC	-0.01	0.01	-0.52	0.61	-0.03	0.02
HC	-0.01	0.01	-0.97	0.36	-0.03	0.01
PD	0.12	0.15	0.81	0.44	-0.22	0.46
UA	-0.48	0.26	-1.83	0.10	-1.08	0.11
MAS	-0.18	0.23	-0.75	0.47	-0.71	0.36
IDV	0.23	0.16	1.46	0.18	-0.13	0.58

81% variation in ITU explained by variation in extended research model variables

APPENDIX I

Appendix I: Homoscedasticity Test Statistics (Levene Test)

1: ONEWAY /VARIABLES= Hyp_ITU BY Hyp_ATT
/STATISTICS=HOMOGENEITY.

Test of Homogeneity of Variances

	Levene Statistic	df1	df2	Sig.
Intention to use KI-KAAT	2.25	8	11	.106

2: ONEWAY /VARIABLES= Hyp_ITU BY Hyp_SN
/STATISTICS=HOMOGENEITY.

Test of Homogeneity of Variances

	Levene Statistic	df1	df2	Sig.
Intention to use KI-KAAT	.97	11	8	.532

3: ONEWAY /VARIABLES= Hyp_ITU BY Hyp_CC
/STATISTICS=HOMOGENEITY .

Test of Homogeneity of Variances

	Levene Statistic	df1	df2	Sig.
Intention to use KI-KAAT	+Infinit	14	5	.000

4: ONEWAY /VARIABLES= Hyp_ITU BY Hyp_AC
/STATISTICS=HOMOGENEITY .

Test of Homogeneity of Variances

	Levene Statistic	df1	df2	Sig.
Intention to use KI-KAAT	6.46	13	6	.015

5: ONEWAY /VARIABLES= Hyp_ITU BY Hyp_MC
/STATISTICS=HOMOGENEITY .

Test of Homogeneity of Variances

	Levene Statistic	df1	df2	Sig.
Intention to use KI-KAAT	5.00	14	5	.043

6: ONEWAY /VARIABLES= Hyp_ITU BY Hyp_HC
/STATISTICS=HOMOGENEITY .

Test of Homogeneity of Variances

	Levene Statistic	df1	df2	Sig.
Intention to use KI-KAAT	+Infinit	15	4	.000

7: ONEWAY /VARIABLES= Hyp_ITU BY Hyp_PD
/STATISTICS=HOMOGENEITY

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Test of Homogeneity of Variances

	Levene Statistic	df1	df2	Sig.
Intention to use KI-KAAT	15.49	7	12	.000

8: ONEWAY /VARIABLES= Hyp_ITU BY Hyp_UA
/STATISTICS=HOMOGENEITY .

Test of Homogeneity of Variances

	Levene Statistic	df1	df2	Sig.
Intention to use KI-KAAI	3.16	13	6	.083

9: ONEWAY /VARIABLES= Hyp_ITU BY Hyp_MF
/STATISTICS=HOMOGENEITY .

Test of Homogeneity of Variances

	Levene Statistic	df1	df2	Sig.
Intention to use KI-KAAI	8.22	9	10	.001

10: ONEWAY /VARIABLES= Hyp_ITU BY Hyp_IC
/STATISTICS=HOMOGENEITY .

Test of Homogeneity of Variances

	Levene Statistic	df1	df2	Sig.
Intention to use KI-KAAI	6.66	10	9	.004

APPENDIX J

Appendix J: Test Result Statistics – Definitions, Thresholds and Interpretation

Table 5.1.1: *Test Result Statistics – Definitions, Thresholds and Interpretation*

S/N	Statistic	Definition & Threshold
1	B	Multiple Regression Coefficient: a measure of the rate of change of the dependent variable as a result of a unit change in the independent variable and represents the relationship between the independent and dependent variables. No predefined threshold.
2	t statistic	Used as a measure of the significance of a hypothesized relationship, i.e., if observed relationship at sample level also exists at populattion level. Thresholds of t critical : +/- 1.96 but generally taken in empirical studies as +/-2 (Holmes et al., 2018, p.569).
3	P-value	It is the highest acceptable probability that the evidence implying a null hypothesis is false, when the null hypothesis is in fact true. Note that this is not the same as "the probability of making an error" nor is it the same as "the probability of rejecting a hypothesis when it is true". P-value is related to significance level (α) thus $p \leq \alpha$. Used in this study to evaluate statistical significance (Lee., 2016; Sullivan and Feinn, 2012).
4	α	Referred to as significance level, it is the maximum permissible error acceptable in inferring sample relationship (B) at the population level (β). Used together with p-value and CI to verify population validity. The value of α (significance level) is the decision of the researcher and a threshold of 0.05 (5%) was taken for this study (Bhattacherjee et al., 2012, p130).
5	CI	Confidence Interval: The range within which population relationship can lie. Threshold for population relationship should be +/- 2 standard deviations of the sample relationship(B) 95% of the time, respectively referred to as lower and upper bounds in the coefficient table of the regression results in Appendix H of this study. Usually jointly used with p-value and α to infer the population level relationship.
6	Significance F("p-value")	In addition to evaluating independent variable statistical significance, this statistic also serves to evaluate construct statistical significance (combined variables).
	R^2	Multiple Correlation Coefficient: a measure of the size of the effect (substantive significance – Lee, 2016; Sullivan and Fein, 2012) of the independent variables on the dependent variable, allowing for missing

	independent variables, as well as goodness of fit of the extended research model in explaining RT-RAAT use in retail banks. Threshold of 0 – 1(0-100%). Per Sullivan and Feinn (2012) thresholds are defined as follows: Small: 0.04; Medium: 0.25; Large: 0.64
Adjusted R^2	Adjusted Multiple Correlation Coefficient: This is R^2 adjusted for missing independent variables and used to verify internal validity (causality) of the hypothesis since it permits for extraneous factors to be controlled. Threshold of 0 – 1.

Interpretation of the statistics.

The regression coefficient sign gives direction to the hypothesis and can be negative (-) or positive (+). A positive sign in front of the regresion coefficient means that as the independent variable increases the dependent variable also increases and vice versa. A negative sign infront of the coefficient, on the other hand, means that as the independent variable increases the dependent variable also decreases and vice versa.

If p-value (α) of the regression coefficient is less than or equal to 0.05 (95% confidence interval) it can be inferred that 95% of the time the relationship (B) observed at the sample level between a dependent variable and the independent variable also exists at the population level to within +/- 2 standard deviations of the sample estimate (B) (lower and upper bound) and conversely if p-value of the regression coefficient is greater than 0.05, then according to Bhattacherjee et al. (2012, p125) this means there is insufficent statistical evidence to state whether or not a significant relationship exists between the independent and dependent variable. Similarly, if t statistic is greater than 1.96 or less than -1.96 then a significant relationship exists and neutral otherwise. Under such circumstances, consideration must be given to the substantive significance measured by effect size (R^2) as per Lee (2016) and Sullivan and Fein (2012).

The ANOVA's (Analysis of Variance) significance F, in addition to measuring relationship significance at the independent variable level, is also used to measure

relatinship significance at the theory, construct (i.e., all independent variables combined) and proposition levels. The p-value does this only for independent variable relationships. R^2 indicates the percentage of change in the dependent variable explained by changes in the independent variable(s), allowing for other extraneous variables. It also measures the goodness of fit of the research theory and constructs used to explain the persistent use of CAATs use by internal auditors of retail banks in Cameroon.

Like Significance F, R^2 is also a statistic that is used to explain variation in the dependent variable as a result of variation in the combined independent variables at theory, construct and proposition levels. A score of above 60 % coupled with limited constructs (parsimony) are indicative of a good fit (Bhattacherjee et al., 2012 p.26)

Adjusted R^2 , on the other hand, serves the same role as R^2 but controls for extraneous factors thereby ensuring that changes in the dependent variable (outcome or effect) are in fact due strictly to changes in the independent variables (causality). Used to test Internal validity of the hypothesized statements.