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VOLUME 20

ISSUE 1

VERSION 1.0



GLOBAL JOURNAL OF MANAGEMENT AND BUSINESS RESEARCH: D
ACCOUNTING AND AUDITING

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ACCOUNTING AND AUDITING

VOLUME 20 ISSUE 1 (VER. 1.0)

OPEN ASSOCIATION OF RESEARCH SOCIETY

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GLOBAL JOURNAL OF MANAGEMENT AND BUSINESS RESEARCH: D
ACCOUNTING AND AUDITING
Volume 20 Issue 1 Version 1.0 Year 2020
Type: Double Blind Peer Reviewed International Research Journal
Publisher: Global Journals
Online ISSN: 2249-4588 & Print ISSN: 0975-5853

Accounting Information System and Global Performance of Industrial Organizations in Cameroon

By Yvette Nathalie Ombom & Isaac Bernard Ndoumbe Berock

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Abstract- This paper aims to identify the link between the quality of the Accounting Information System and Performance within industrial organizations. Building on the model of Ives, Hamilton and Davis (1980) and Raymond (1984), this study focusses on five Cameroonian industrial companies. The results from the analysis of the collected data enable us to identify some performance mechanisms and to propose a Cameroonian model of global performance based on the Accounting Information System.

Keywords: accounting information system, industrial organization, global performance, differentiation, integration, coordination, mechanisms.

GJMBR-D Classification: JEL Code: M49



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Accounting Information System and Global Performance of Industrial Organizations in Cameroon

Système D'information Comptable et Performance Globale des Entreprises Industrielles au Cameroun

Yvette Nathalie Ombom ^α & Isaac Bernard Ndoumbe Berock ^ο

Résumé- Cet article a pour but d'identifier la relation existant entre la qualité du système d'information comptable et la performance globale au sein des entreprises industrielles. Prenant appui sur le modèle d'Ives, Hamilton et Davis (1980), raffiné par Raymond (1984), et associé au cadre conceptuel global des facteurs de succès d'un système d'information, cette recherche se focalise sur l'organisation comptable de cinq cas d'entreprises du secteur industriel au Cameroun. Les résultats issus de l'analyse des données collectées auprès des principaux acteurs interviewés, ont permis de mettre en exergue le modèle de Raymond (1984) en contexte camerounais et d'identifier ses leviers de performance.

Mots-clés: système d'information comptable- performance globale- différenciation- intégration- modes de coordination.

Abstract- This paper aims to identify the link between the quality of the Accounting Information System and Performance within industrial organizations. Building on the model of Ives, Hamilton and Davis (1980) and Raymond (1984), this study focuses on five Cameroonian industrial companies. The results from the analysis of the collected data enable us to identify some performance mechanisms and to propose a Cameroonian model of global performance based on the Accounting Information System.

Keywords: accounting information system, industrial organization, global performance, differentiation, integration, coordination, mechanisms.

1. INTRODUCTION

Le système d'information comptable est considéré comme « un ensemble organisé de structures, moyens et acteurs permettant de produire des données comptables (obligatoires et facultatives, historiques et prévisionnelles) utilisées par les dirigeants des PME pour gérer leur entreprise » (Chapellier et Mohammed, 2010). Dans un impératif de performance, il peut endosser trois finalités : Une finalité de contrôle de conformité, Une finalité économique et managériale, et Une finalité politique et stratégique (Togodo, 2011).

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Dans de nombreux pays aux contextes différents, il a été démontré que l'adoption du système d'information comptable ou son amélioration accroît la profitabilité, l'efficacité et la performance des opérations dans l'entreprise (Lavigne et St Pierre, 2002; Sajady et al, 2008; Chapellier et Mohammed, 2010; Ghorbel, 2012; Al duais, 2013). Toutefois, le problème de la contribution des systèmes d'information comptables à la performance globale des entreprises industrielles n'est pas suffisamment analysé.

Plusieurs études empiriques soutiennent l'existence d'une relation positive entre les pratiques d'informations des entreprises et leur performance (Daft et al, 1988; Orpen, 1993). Si les travaux de Rai et al, (1996), Bharadwaj (2000), Damanpour et Gopalakrishnan (2001), n'ont pas trouvé de relation positive entre le système d'information comptable et la performance financière, moins encore la performance économique, ceux de Naranjo-Gil (2004), Is mail et King (2005), Urquiza et al (2011) ont identifié une relation positive significative entre le système d'information comptable et la performance financière. Leurs recherches se sont basées sur la théorie de la contingence pour montrer que le mode d'organisation comptable de l'entreprise a un impact sur l'atteinte de ses objectifs.

Toutefois, force est de constater que ces travaux antérieurs sont entachés de plusieurs limites telles que l'utilisation exclusive des indicateurs financiers pour mesurer la performance, la prise en compte du système d'information comptable comme un bloc d'informations homogènes, la faible prise en compte du facteur environnement, et la méthodologie toujours déductive voire quantitative (Gerdin et Greve, 2004). Très peu d'études adoptent une approche mixte (Tort, 2000; Samara, 2004), ou une approche inductive/interprétative/constructiviste combinée à une méthode d'analyse qualitative (El orf, 2012). Pourtant, l'objectif dans la recherche en systèmes d'information en général et en système d'information comptable en particulier consiste à construire la réalité sur la base des discours des acteurs, de façon à mieux comprendre la

nature du problème. Dans un tel contexte, une approche inductive/qualitative semble plus appropriée.

Il convient de préciser que les travaux up cités ont été réalisés outre-mer. Au Cameroun les réalités économiques et socioculturelles sont différentes. Le tissu industriel est très diversifié. Cette industrie camerounaise rencontre des difficultés spécifiques telles que la concurrence effrénée des produits d'importation, des faiblesses internes en termes de production et de gestion, les difficultés d'accès aux financements, etc. L'objectif de cette recherche est de vérifier si les situations de différenciation et d'intégration des systèmes comptables étudiés ont un effet sur la performance globale des entreprises observées. Elle présente le système d'information comptable de l'entreprise industrielle comme étant un ensemble de sous-systèmes comptables différenciés et intégrés grâce au système informatique et à ses applications, et dont les informations proviennent de plusieurs sources et sont destinées à des utilisateurs différents. La question générale de recherche peut se formuler ainsi : comment la différenciation et l'intégration du système d'information comptable agissent-elles sur la performance globale des entreprises industrielles ? Cette question sera répondue à travers deux étapes :

- Ressortir la relation entre les situations de différenciation et d'intégration des systèmes comptables et la performance globale de l'entreprise
- Valider dans notre étude le cadre conceptuel développé en systèmes d'information d'Ives, Hamilton et Davis (1980), et raffiné par Raymond (1984).

Le principal intérêt de cette étude est qu'elle valide un cadre conceptuel en système d'information de façon à montrer sa pertinence. Les relations de cause à effet entre des variables indépendantes (les différents facteurs) et une variable dépendante (performance globale) ; permettront d'identifier les leviers de performance globale du système d'information comptable dans une entreprise industrielle.

II. LA PERFORMANCE: UNE FINALITE DU SYSTEME D'INFORMATION COMPTABLE

La performance est très essentielle à la pérennité de l'entreprise industrielle, et se juge au travers de critères très variés pour répondre aux attentes des parties prenantes à toute organisation (clients, salariés, actionnaires, fournisseurs, tiers ...).

a) La Performance: Un Concept Polysémique

Des multiples définitions élaborées sur la performance (Pesqueux (1996), Bourguignon (2000), Bouquin (2004)), il ressort qu'elle est un résultat obtenu grâce à la combinaison de trois éléments qui sont l'économie, l'efficacité et l'efficience. En plus, il n'existe

pas une seule performance, mais des composantes de la performance.

b) Les mesures de la performance

La performance doit être mesurable (Lebas, 1995), mais cela demeure difficile. De façons générales, on distingue la performance quantitative (performance économique ou financière) et la performance qualitative (qui dépend de plusieurs éléments non financiers).

Ainsi, la performance d'une entreprise peut être mesurée à partir d'indicateurs financiers tels que le Résultat Avant Impôt (RAI), le Fonds de Roulement (FR), (ROA), l'Economic Value Added (EVA), etc... (Chong, 1996). Bien que ces mesures financières soient simples, objectives, faciles à enregistrer au plan informatique, il leur est reproché d'être historiques, imprédictibles sur la performance future, et non compétitives (Kaplan et Norton, 2001; Combs et al, 2004). Puisque l'entreprise est devenue davantage interdépendante avec son environnement externe, il faut compléter les critères exclusivement financiers et économiques par des facteurs qualitatifs comme la qualité, la satisfaction des clients, l'innovation, qui sont d'importants indicateurs des perspectives de croissance de l'entreprise (Eccles, 1999), et permettent d'avoir une vue large. Dans cette étude, la performance analysée est une performance globale qui prend en compte les éléments financiers et non financiers.

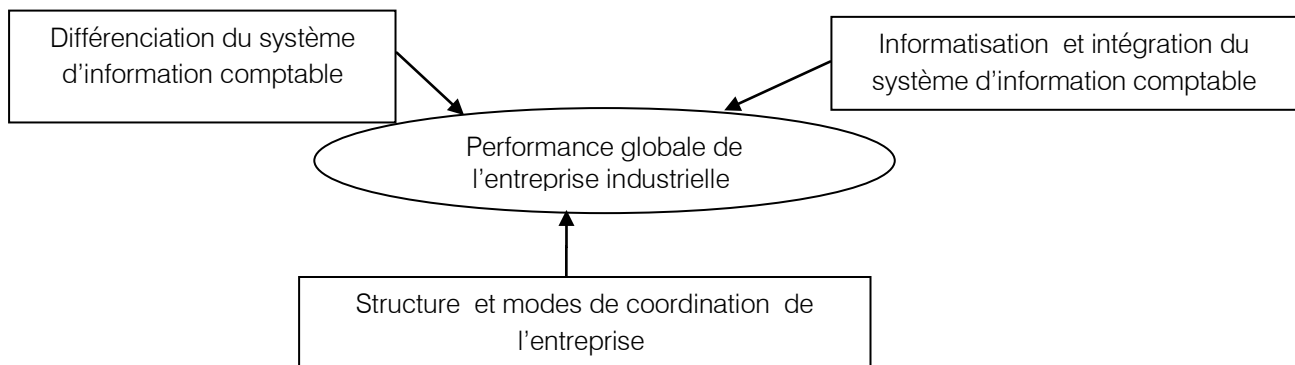
Pour répondre à la question générale de cette étude, nous avons procédé à certains postulats tels que :

- Plus le système d'information comptable est différencié, plus on perçoit son rôle sur la Performance globale de l'entreprise industrielle.
- plus la comptabilité de l'entreprise est informatisée et intégrée, plus on perçoit le rôle du système d'information comptable sur la performance globale de l'entreprise industrielle
- Il existe une relation entre la structure, les modes de coordination de l'entreprise et la performance globale de l'entreprise industrielle.

Les systèmes d'information comptables sont des objets qui évoluent, sont complexes et soumis à des facteurs de contingence (Bidan 2003, El Orf et Tort 2006, El Orf 2012). Leur étude doit donc passer par une approche inductive de type constructiviste ou interprétativiste, avec pour objectif d'avoir une perception de la situation pour mieux comprendre la nature du problème. A cet effet, la méthode de recherche choisie est l'étude des cas. C'est une méthode appropriée pour la recherche en système d'information (Avison et Myers, 2002). A travers des entretiens, des observations et la consultation des documents internes, nous avons effectué une analyse comparative des cas dans cinq entreprises industrielles pour chercher une relation entre les situations

observées et la performance globale des entreprises étudiées (Eisenhardt 1989, Yin 1989).

Nous pouvons d'ores et déjà représenter les éléments de la recherche:



Source: Les auteurs

Figure 1: Qualité du système d'information comptable

III. CONTRIBUTION DU SYSTEME D'INFORMATION COMPTABLE A LA PERFORMANCE GLOBALE DE L'ENTREPRISE INDUSTRIELLE

Depuis quatre décennies, les nouvelles techniques comptables qui ont été développées dans le secteur industriel (Abdel Kader et Luther, 2008) ont affecté le modèle comptable, faisant passer la comptabilité d'un rôle de détermination des coûts et de contrôle à un rôle de création de la valeur. Il faut que le système comptable de l'entreprise soit en adéquation avec ces nouvelles exigences (Gerdin, 2005). Il est également nécessaire d'évaluer les systèmes d'information comptables à travers la différenciation et l'intégration, puisque à l'heure actuelle, ces deux situations constituent les indices de qualité d'un système d'information comptable. L'impact du système d'information comptable sur la performance globale de l'entreprise peut être perçu sous trois angles, qui seront examinés dans cette section:

- D'abord, à travers la différenciation qui est le découpage du service comptable en sous unités correspondant à l'environnement, suivant la taille de l'entreprise (1)
- Ensuite, à partir de l'intégration informatico-comptable c'est-à-dire l'utilisation de la technologie pour appuyer le service comptable (2).
- Enfin, en fonction de la structure, de la stratégie, et des modes de coordination de l'entreprise pour prendre en compte le rôle de l'individu au travail (3).

a) Le rôle de la différenciation comptable sur la performance globale de l'entreprise industrielle

Au Cameroun, l'utilisation des méthodes de comptabilité traditionnelle est fréquente dans les entreprises de la branche agro-alimentaire, l'industrie

mécanique et les industries chimiques, surtout quand les structures sont de petite taille¹. L'apport d'un système d'information comptable de qualité pour ce type d'entreprise donne la capacité aux acteurs de conceptualiser et de mesurer sa valeur et son impact sur la performance globale (opérationnelle, concurrentielle, financière et sociale).

D'après la théorie systémique, l'entreprise est un système qui peut être subdivisé en plusieurs sous systèmes et pour le caractériser, il faut le différencier. Selon Lawrence et Lorsch, la différenciation est le découpage d'un système en plusieurs sous-systèmes distincts. Ce découpage permet à chaque unité de mesurer sa performance. Le système d'information comptable peut être divisé en plusieurs sous-systèmes (achats, ventes, saisie des opérations, budgets, contrôle de gestion, analyse des coûts, etc.). Dans cette différenciation, la taille et l'environnement jouent un rôle majeur (Lawrence et Lorsch, 1967; Blau, 1970; Kalika, 1988; Bidan, 2003). Il revient ensuite aux sous systèmes comptables de s'approprier les informations et de sélectionner celles qui leur conviennent. A ce moment, il est plus facile d'isoler la performance par fonctions.

Nos cinq cas d'entreprise appartiennent au secteur industriel et sont présentés dans le tableau qui suit:

¹ Selon le Deuxième Recensement Général Des Entreprises mené en 2016 au Cameroun, seules 18,7% des entreprises tiendraient une comptabilité formelle et présenteraient des états financiers conformes aux exigences du Droit Comptable OHADA ; INS (2016).

Tableau 1: Description des cas empiriques étudiés

Cas	A	B	C	D	E
Type d'entreprise	TPE	PE	ME	GE	GE
Secteur	Industriel (privé)	Industriel (privé)	Industriel (privé)	Industriel (privé)	Industriel (privé)
Branche	Matériaux de construction, Métallurgie, Fonderie	Industrie du bois, Papier, Imprimerie et Edition	Industrie du bois, Papier, Imprimerie et Edition	Alimentation, Boisson, Tabac	Alimentation, Boisson, Tabac
Représentativité de la branche	8,2%	9,3%	9,3%	5,9%	5,9%
Localisation	Douala	Douala	Douala	Douala	Yaoundé
Succursales	Non	Non	Non	Non	Oui
Personne interrogée	Directeur Administratif	Responsable Administratif	Contrôleur de Gestion	Responsable des Ressources Humaines	Assistant Administratif
Autres attributions	Chargé de la comptabilité, Directeur des ressources humaines	Calcul du coût de revient, contrôle interne, suivi des commandes, comptabilité interne	Comptabilité, Fiscalité	Contrôle interne, rapprochement bancaire, saisie des données	
Age (en années)	03	11	12	07	25
Taille (effectif)	05	14	40	98	350
Capital	1 000 000	10 000 000	10 000 000	100 000 000	1 000 000 000 (2014)
Chiffre d'affaires en 2016	2 000 000 (en hausse)	70 000 000 -75 000 000 (en hausse)	100 000 000 (en baisse)	4 500 000 000 (en hausse)	22 000 000 000 (en hausse)
Service comptable formel	Non	Non	Oui	Oui	Oui
Effectif chargé de la comptabilité	01	03	06	10	10

Source: Enquêtes de terrain

b) Différenciation du système d'information comptable

Le Système d'Information Comptable des entreprises A et B n'a pas de service comptable formel.

Par contre les entreprises C, D et E ont une comptabilité différenciée. Le tableau suivant montre le rôle de la taille de l'entreprise dans cette différenciation:

Tableau 2: Evolution du personnel comptable suivant l'effectif de l'entreprise

Entreprise	A	B	C	D	E
Effectif total	05	14	40	98	350
Effectif comptable	01	03	06	10	10

Source: Enquêtes de terrain

Lawrence et Lorsch ont constaté que du fait de sa croissance, l'entreprise se différencie. Nyengué Edimo (2007) a confirmé cela: « *Toute activité d'importance capitale pour la réalisation des objectifs de l'entreprise donne naissance à un organe stratégique* ». Dans la pratique, plus l'entreprise a des effectifs importants, plus le service comptable procède à une division du travail qui lui permet de cerner toutes les facettes de l'environnement (achats, ventes, stocks, etc...). Dans l'entreprise E, toute activité comptable donne lieu à un département. Dans les entreprises CDE, la division des tâches de la comptabilité permet à chaque unité comptable de mesurer sa performance. La taille est véritablement un facteur de différenciation

important. Le tableau suivant présente la performance perçue du fait de la différenciation:

Tableau 3: Catégorisation des performances induites par la différenciation comptable

Cas A	Evolution lente du chiffre d'affaires, recouvrement difficile des créances, inexistence d'un budget de trésorerie.
Cas B	Bonne évolution du chiffre d'affaires, ROI effectif, objectifs financiers à court terme pour tenir compte du contexte concurrentiel, utilisation de certains ratios, bonne gestion des créanciers et des fournisseurs
Cas C	Le chiffre d'affaires est en régression, difficulté de paiement des créanciers, forte concurrence, beaucoup d'inventures du fait des commandes fantaisistes.
Cas D	Progression fulgurante du chiffre d'affaires, remboursement des dettes, situation nette encore négative, mais résultat d'exploitation positif, bon suivi des créanciers.
Cas E	Malgré l'évolution lente du chiffre d'affaires depuis 2016, l'entreprise E est rentable. Elle investit dans l'ouverture des filiales en Afrique Centrale. Bonne politique de recouvrement des créances.

Source: Issu de nos enquêtes de terrain

L'entreprise A qui n'est pas différenciée affiche un chiffre d'affaires qui évolue très lentement, dans un climat social tendu, et un manque de performance globale ; B par contre, malgré l'absence de différenciation, mais grâce à une comptabilité très ordonnée, une formulation claire des objectifs et l'utilisation de certains outils (Tableau de bord non prévisionnel) présente une performance globale satisfaisante. Quant aux entreprises CDE, leur système d'information comptable est différencié formellement avec une définition claire des tâches comptables, un respect strict des procédures d'imputation et de validation. Ainsi, l'entreprise C peut identifier dans ses résultats qu'elle a une bonne rentabilité mais une mauvaise liquidité. L'entreprise E peut remarquer que son chiffre d'affaire est décroissant sur certains produits. L'entreprise D constate que le ROI (Return On Invest) n'est pas encore effectif, et se met activement à sa recherche. D'après la théorie de la structuration, la contribution de chaque poste comptable aux résultats est une base de communication entre la Direction et les subordonnés (Beldi et al, 2006). La comptabilité soutient la prise de décision et l'action managériale. Au vu de tous ces résultats, nous pouvons confirmer que plus le système d'information comptable est différencié plus on perçoit son rôle sur la performance globale de l'entreprise.

c) *Le rôle de l'informatisation et de l'intégration in formatico comptable sur la performance globale de l'entreprise industrielle*

La performance de l'organisation est améliorée à travers un bon choix de moyens technologiques qui

cadrent avec les objectifs de l'organisation. Dans ce sens, El Orf (2012) a redéfini le système d'information comptable comme « l'ensemble des dispositifs techniques (applications, bases de données, interfaces, progiciels ERP, etc.) qu'une organisation met en place pour : (1) saisir, classer, enregistrer des données de bases chiffrées, et (2) fournir après traitement approprié, un ensemble d'informations conformes aux besoins des divers utilisateurs ». Dans l'aspect des matériels et logiciels informatiques, le principal avantage du système d'information comptable est de traiter des volumes d'informations importants et dans les délais assez courts, ce qui améliore les conditions de prise de décision des dirigeants.

Des études ont montré que l'intégration des technologies liées à l'information oriente les acteurs comptables vers un rôle plus actif dans le processus de prise de décisions (Davis et Albright, 2000; Devaraj et Kohli, 2003). Cela témoigne du fait que l'entreprise est un système sociotechnique. Au Cameroun, il est fréquent de trouver des ordinateurs dans les entreprises de toutes tailles. Cependant, informatiser une entreprise, c'est plus qu'installer des ordinateurs. Selon la théorie de la contingence, le système informatique devrait permettre l'intégration des sous-systèmes comptables différenciés. Le tableau suivant nous renseigne sur l'ampleur de l'informatisation dans les entreprises étudiées :

Tableau 4: Catégorisation du type d'informatisation

Cas A	Informatisation élémentaire, utilisation d'un logiciel comptable, résultats édités par le Directeur Administratif, absence d'intégration informatico-comptable
Cas B	Système d'information comptable non intégré mais bien organisé.
Cas C	Système informatique non intégré mais bien organisé
Cas D	Système d'information comptable intégré, Bien organisé, comptabilité très informatisée
Cas E	Comptabilité intégrée et multidimensionnelle (filiales), comptabilité extrêmement informatisée

Source: Nos enquêtes de terrain

Il est possible de ressortir ci-dessous les performances perçues de chaque entreprise à travers l'informatisation et l'intégration:

Tableau 5: Catégorisation des performances induites par l'informatisation et l'intégration

Cas A	Bonne sécurisation des données comptables, mais performances médiocres
Cas B	La bonne organisation informatique confère à l'entreprise une situation financière saine et permet le suivi des créances. De ce fait, l'entreprise a peu de créances non recouvrées, ce qui contribue au ROI positif.
Cas C	Bonnes performances globales. L'informatisation aide beaucoup dans la prise de décision appropriées, car l'entreprise pourtant très performante traverse une mauvaise passe
Cas D	bonnes performances globales, bon suivi des créanciers, chiffre d'affaires en progression constante, bonne sécurisation des données comptables et du matériel informatique
Cas E	Bonnes performances globales, Respect strict des procédures, Le logiciel conçu s'adapte aux besoins de l'entreprise.

Source: nos enquêtes

Mise à part l'entreprise A qui ne possède pas de bonnes performances, les autres entreprises perçoivent les avantages de l'informatisation et de l'intégration sur leurs résultats. Les entreprises B et D ont élaboré un suivi de leurs créances, ce qui renfloue leurs caisses. L'entreprise C bénéficie d'une bonne prise de décision et l'entreprise E à travers un logiciel comptable adapté à l'entreprise, constate l'efficacité de ses opérations.

d) Le rôle de la structure et des modes de coordination dans l'atteinte de la performance de l'entreprise

L'intégration des sous-systèmes différenciés n'est pas seulement technique. Il peut en effet arriver que la différenciation transforme l'entreprise en petits états autonomes sans relation entre eux (balkanisation). Pour y faire face, Lawrence et Lorsch ont proposé plusieurs mécanismes d'intégration qui font intervenir le facteur social. En matière de comptabilité générale, le dirigeant est producteur et utilisateur de données (Lacombe-Saboly, 1994) ; il est donc responsable de la qualité de son système d'information comptable. Toutefois, pour être efficace, l'implantation du système d'information comptable doit être accompagnée de changements organisationnels. C'est pour cela que dans la présente étude, nous avons mobilisé

l'intégration par la hiérarchie et les mécanismes de coordination comme étant une troisième composante nécessaire pour un système d'information comptable de qualité.

L'entreprise performante doit permettre à l'individu d'accomplir des tâches correspondant à ses compétences (besoin d'accomplissement), mais aussi de communiquer avec les autres (besoin d'identification), voire d'exercer un pouvoir sur eux (besoin de pouvoir). L'approche de la contingence structurelle explique le changement organisationnel avant tout par le rôle des facteurs externes. D'autres analyses mettent l'accent sur le rôle des individus et l'importance du contexte interne des organisations (Trist et al, 1963 ; Child, 1972, Crozier et Friedberg 1977). Face aux aléas de l'environnement, les changements organisationnels conjugués à la technologie permettent aux entreprises d'être réactives et d'améliorer ainsi leurs performances productives (Bresnahan et al, 2002).

Le tableau ci-dessous ressort quatre aspects de la structure/modes de coordination que nous avons rencontré dans nos cas d'entreprises. Il s'agit de la ligne hiérarchique, la qualification du personnel, la formation du dirigeant et la structure.

Tableau 6: Catégorisation des structures/modes de coordination

Cas A	Système laxiste, Incompréhension entre les membres de l'entreprise, Recrutement par affinités. Cela affecte la performance et quand bien même on a l'impression que ça va, les résultats seraient encore meilleurs avec une définition claire et précise des tâches de chaque employé.
Cas B	Autorité verticale, Les principaux cadres de l'entreprise ont un diplôme universitaire, Les responsabilités sont très décentralisées cela crée un climat social sympathique et favorable à une performance globale. Le management tient compte des besoins des employés.
Cas C	Système paternaliste, Le dirigeant est un ancien comptable et veut se réaliser en donnant du travail à ses employés, L'absence de sanctions contribue à créer une ambiance familiale et les bons résultats financiers tiennent aussi du fait que le climat social est calme et que les employés bénéficient de petites attentions
Cas D	Système très hiérarchisé, Objectifs clairs et bien définis, Respect de la ligne hiérarchique, professionnalisme, La paix relative observée dépend du salaire.
Cas E	Entreprise bien implantée, Problèmes actuels assez maîtrisés avec l'ouverture des filiales dans les pays d'où vient la contrebande, climat social maîtrisé du fait de l'ancienneté de l'entreprise, ligne hiérarchique très rigide.

Source: Issu de nos enquêtes de terrain

Le tableau suivant montre les performances sociales induites de nos cinq cas:

Tableau 7: Catégorisation des performances induites par les structures/modes de coordination

Cas A	Arriérés de salaires, mauvaise définition des tâches, tiraillements entre le Directeur général basé à l'étranger et le Directeur administratif, tiraillements entre les employés, insubordination, quelquefois refus de travailler du personnel.
Cas B	Bonne définition des tâches, autorité verticale mais esprit de famille, climat social serein, évolution du revenu des employés.
Cas C	Climat social serein, autorité paternaliste, aucun licenciement, rareté des sanctions, paiement des salaires, partage des bénéfices.
Cas D	Très bonne gestion des ressources humaines, implication des employés dans les objectifs de l'entreprise, autorité très stricte, système de sanctions/récompenses, climat social stable grâce au paiement des salaires.
Cas E	Climat stressé à cause de l'état du marché, mais les employés veulent soutenir l'entreprise. La gestion des différentes primes est remarquable en période de difficultés. L'autorité est stricte. Grâce à l'ancienneté, l'entreprise arrive à payer les salaires sans problèmes.

Source: Sur la base de nos enquêtes de terrain

Les entreprises B et C fonctionnent comme une famille, avec des règles sociales bien implantées comme par exemple l'aide et l'assistance. L'entreprise D a affiché le règlement intérieur et les employés sont briefés chaque semaine sur les objectifs à atteindre. Chez E, la notion d'équipe transparait dans l'attitude des employés qui soutiennent l'entreprise pendant les moments difficiles. Les entreprises C et E, malgré la concurrence qui est rude enregistrent des bonnes performances sociales et cela permet d'atténuer les désastres financiers.

IV. REPLICATION DU MODELE THEORIQUE: LES CONDITIONS DE PERFORMANCE DU SYSTEME D'INFORMATION COMPTABLE

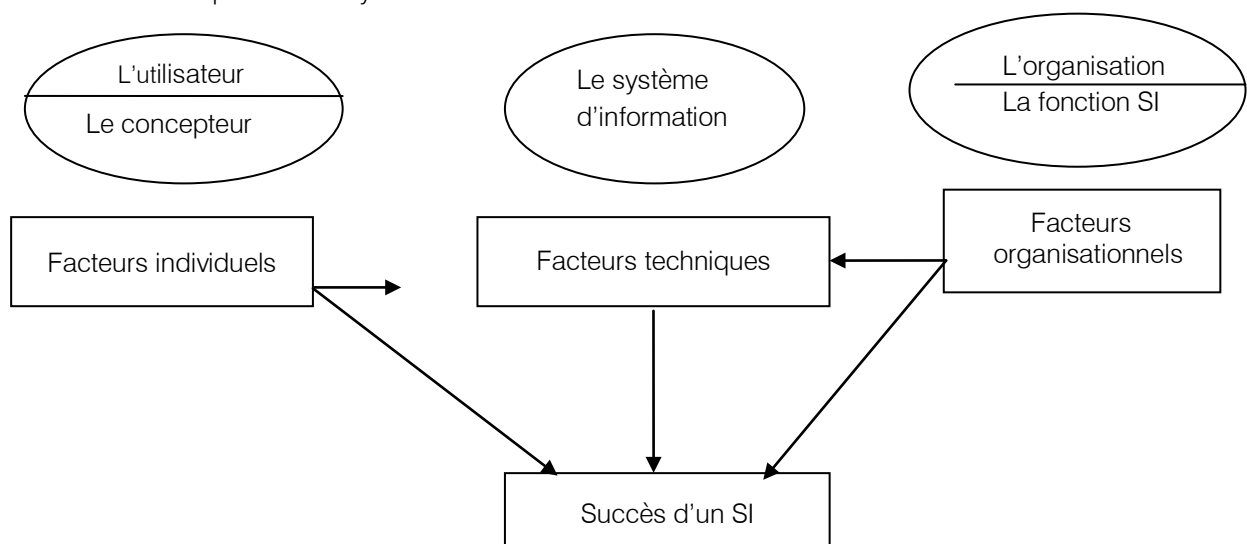
a) Proposition d'un cadre conceptuel pour l'étude de la relation entre le système d'information comptable et la performance

Plusieurs cadres conceptuels ont proposé des conditions sous lesquelles un système d'information

comptable pouvait provoquer la performance de l'entreprise (Gorry et Scott Morton, 1971; Lucas, 1973; Mock, 1973, etc). Cependant, le modèle utilisé dans cette recherche est celui d'Ives, Hamilton et Davis (1980). C'est un modèle causaliste qui met en relation des variables indépendantes et des variables dépendantes. Ce modèle de base présente trois groupes de variables:

- Environment variable group: constitué des ressources et contraintes de l'environnement
- Process variable group: constitué des mesures de la performance
- IS variable group: constitué des caractéristiques du système d'information managérial

Le cadre conceptuel de based' Ives, Hamilton et Davis (1980) a été raffiné par Raymond(1984). Le modèle de Raymond se présente ainsi:



Source: Raymond (1984)

Figure 2: Cadre conceptuel global des facteurs de succès d'un SI

Dans cette recherche, la différenciation comptable, l'intégration informatico comptable et la structure/modes de coordination, constituent les variables explicatives et correspondent à nos trois propositions. La performance globale est la variable expliquée. En combinant les variables explicatives et la variable expliquée de notre recherche, nous obtenons un modèle semblable au cadre conceptuel développé en système d'information par Ives, Hamilton et Davis (1980) et raffiné par Raymond, (1984). Ce modèle comporte:

- Des facteurs organisationnels qui renvoient à des éléments comme la taille, l'environnement, la structure, la différenciation;
- Des facteurs informationnels ou techniques qui concernent le circuit de l'information et ses supports;
- Des facteurs individuels qui font référence au facteur humain.
- Des facteurs de succès qui sont représentés par la performance globale.

b) *Réplication du modèle de Raymond en contexte camerounais*

Pour étudier les cinq cas d'entreprises, nous avons utilisé 3 sources de données: Les interviews, L'observation, La recherche documentaire. En procédant par triangulation de ces données, nous avons identifié les leviers de la performance globale du système d'information comptable. Il faut reconnaître que ces leviers ont déjà été identifiés dans d'autres contextes, au point de contribuer à l'élaboration du modèle de Raymond (1984); la reproduction de ce résultat dans le contexte camerounais nous permettra de voir le comportement du modèle.

1) Facteurs organisationnels

Basés sur la théorie de la contingence structurelle et la théorie systémique, ils concernent l'entreprise dans sa globalité. Au niveau de l'organisation comptable de l'entreprise, nous avons identifié des leviers importants tels que la différenciation de la comptabilité, la spécialisation du personnel affecté au service comptable, l'utilisation des outils comptables et la prise en compte des informations non financières fournies par l'environnement.

2) Facteurs informationnels

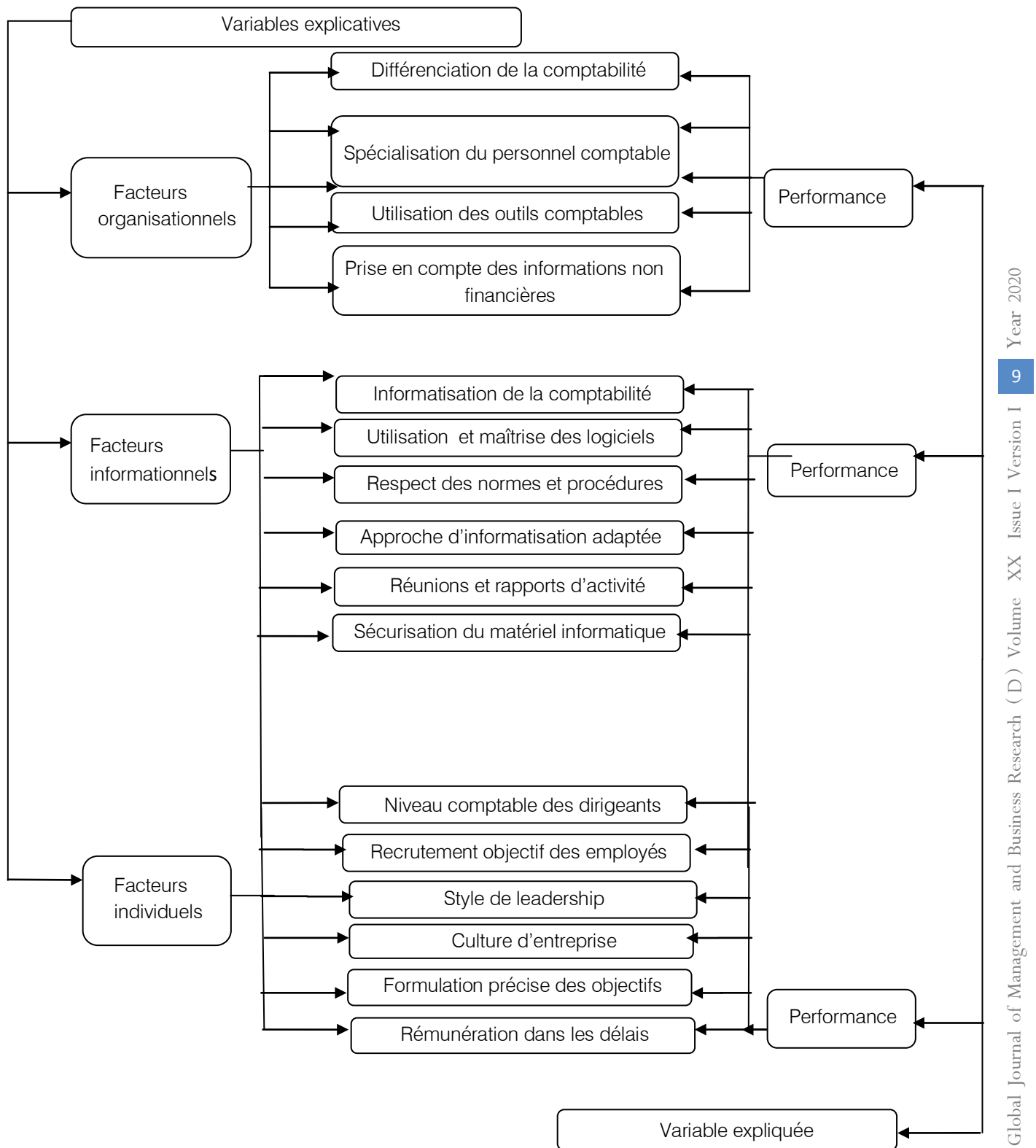
Les facteurs informationnels ou facteurs techniques sont issus du courant sociotechnique et des développements du courant structurationniste. Ils se rapportent à la technologie, aux formes d'intégration et aux méthodes et procédures comptables. Dans cette étude, nous avons identifié comme leviers : l'informatisation de la comptabilité, l'utilisation et la maîtrise de logiciels comptables appropriés, l'approche d'informatisation appropriée, le respect des normes et des procédures comptables dans le cheminement et le

traitement des pièces comptables, les réunions et rapports d'activité et la sécurisation du matériel.

3. Facteurs Individuels

Les facteurs individuels dérivent de la théorie de la contingence comportementale. Ils concernent la structure et les modes de coordination de l'entreprise. Il s'agit du comportement des individus travaillant en groupe, et des mécanismes nécessaires pour faire adhérer le personnel aux objectifs de l'entreprise. Nous avons identifié: le niveau d'études comptables de l'équipe dirigeante, le recrutement objectif des employés, le style de leadership, la culture d'entreprise, la formulation précise des objectifs et la rémunérations dans les délais.

Il nous est dès lors possible de répliquer le modèle en tenant compte de nos résultats empiriques:



Source: Nos résultats

Figure 3: Réplication du modèle de Raymond (1984) en contexte camerounais (leviers de performance globale)

V. CONCLUSION

La question générale de cette recherche s'est formulait ainsi:

a) *Comment la différenciation et l'intégration du système d'information comptable agissent-elles sur la performance globale des entreprises industrielles ?*

Pour y répondre, nous avons procédé en deux étapes. Dans un premier temps, nous avons ressorti la relation entre les situations de différenciation/intégration des systèmes comptables et la performance globale de l'entreprise. A cet effet, les résultats de nos enquêtes de terrain ont révélé dans un premier temps que la différenciation de la comptabilité permet de mesurer la contribution de chaque poste comptable aux résultats et de supporter la prise de décision et l'action managériale. En suite que l'intégration des technologies liées à l'information témoigne du fait que l'entreprise est un système sociotechnique et modifie la structure organisationnelle du département de la comptabilité, ce qui oriente les acteurs comptables vers un rôle plus actif dans le processus de prise de décisions. Enfin ces résultats font état de ce que la structure associée à la stratégie et aux modes de coordinations adoptés dans l'entreprise permettent de comprendre que l'entreprise est toujours à la recherche d'une structure organisationnelle qui assure l'adaptation aux conditions de l'environnement.

Dans un second temps, nous avons validé dans notre étude le cadre conceptuel de performance des systèmes d'information développé par Ives, Hamilton et Davis (1980), et raffiné par Raymond (1984). Les éléments qui sont ressortis de nos enquêtes de terrain ont permis d'élaborer un modèle de performance globale du système d'information comptable en contexte camerounais.

Les résultats ainsi obtenus dans cette étude nous ont permis d'atteindre l'objectif de cette recherche qui était de vérifier si les situations de différenciation et d'intégration des systèmes comptables étudiés ont un effet sur la performance globale des entreprises observées. La performance est un impératif de toute entreprise. Pour que cette performance soit globale et effective, le système d'information comptable doit nécessairement comporter des facteurs organisationnels, informationnels et individuels.

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GLOBAL JOURNAL OF MANAGEMENT AND BUSINESS RESEARCH: D
ACCOUNTING AND AUDITING
Volume 20 Issue 1 Version 1.0 Year 2020
Type: Double Blind Peer Reviewed International Research Journal
Publisher: Global Journals
Online ISSN: 2249-4588 & Print ISSN: 0975-5853

Voodoo Accounting and Shareholders' Wealth in Nigeria

By Igbaroola Ayoola Folarin

Abstract- Declining shareholders' Wealth (SHW) has been a contemporary discussion globally. Studies have shown that voodoo accounting practices by management and poor audit quality have contributed to the collapse of firms and the expectation gap in shareholders' wealth maximization. Voodoo accounting practice is the magical inflation of revenues by management to deceive the stakeholders. A dearth of voodoo accounting literature that combined the practices of big bath charges, cookie jar reserves, inventory valuations and revenue recognition timing on shareholders' wealth in Nigeria. This study therefore examines the effect of voodoo accounting on shareholders' wealth in Nigeria. The study adopted the exploratory research design were journal, articles and books about the study for the purpose of the study. It was discovered that voodoo accounting is very dangerous to the health status of organizations if not curbed because it affects the shareholders' wealth negatively.

Keywords: voodoo accounting, shareholders' wealth, big bath charges, cookie jar reserves, inventory valuations, revenue recognition timing.

GJMBR-D Classification: JEL Code: M49



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Keywords: voodoo accounting, shareholders' wealth, big bath charges, cookie jar reserves, inventory valuations, revenue recognition timing.

1. INTRODUCTION

Shareholders expect a maximization of their investments in the form of interest regularly, which is expected to impress them to invest more in the company and also encourage potential investors to invest in the organization. Due to this notion, management will always do anything possible either legally or illegally to give a colorful and impressive account to lure the shareholders. Adaramola and Oyerinde (2014) stated in their study that the movement of earnings management influences share prices; that is, financial accounting has a positive impact on share prices, which is expected to affect shareholders' wealth. Johannes (2014) reported that companies report earnings quarterly, and this brought about pressure on management to deliver acceptable earnings per share performance to excite the shareholders.

A study conducted in India by Ali-Shah, Butt, and Tariq (2011) clearly showed how voodoo accounting was used by companies producing cement

during financial crises in the country. These companies used the voodoo accounting techniques to remain afloat. These companies showed profits or minimized losses by the change of depreciation policy when demand and production of cement were low. This kept investors reasonably comfortable and staff relaxed by paying out dividends out of the profits. Shareholders' wealth was increased as per the reported profits. Even when demand and factory production improved, they still refused to put an end to the corrupt act. Ali-Shah *et al.* (2011) opined that creative accounting is a tool like a weapon that when used correctly, it can be beneficial to the user but a situation when it is wrongly used or mishandled, it can cause more harm than good. This show the level at which financial statement fraud is carried out to deceive the stakeholders. Some countries are also guilty of these financial frauds through the use of delaying payment. A research conducted in Spain by Benito, Montesinos and Bastida (2008) have through private financing initiative which is also known as Public Private Partnership boosted their financial results. This is done by delaying some payments in order to control deficit and debt without cutting investments in infrastructures and public services.

The Association of Certified Fraud Examiners (ACFE) in 2014 categorized fraud into three, which are financial fraud, corruption, and asset misappropriation. Voodoo accounting is any act designed to deceive others, often resulting in the victim suffering from the loss of their investments. Similarly, Fraud can be broken down into various types of fraud, including employee fraud, vendor fraud, customer fraud, investment fraud, and management fraud. Management fraud deals specifically with financial statement fraud wherein top management misrepresent the information found in the financial statements (Albrecht, Albrecht, Albrecht, & Zimbelman, 2011). From the research conducted by ACFE, it was discovered that financial fraud had 73% compared to corruption which was 18% and asset misappropriation of 9%. That shows that the level of corporate financial fraud is very alarming from the statistics of the ACFE, but other forms of fraud like corruption and asset misappropriation from public office holders overshadow it due to the publicity that is given. This corporate fraud and misconduct have remained a constant threat to public trust in the confidence-building of the capital market (Ma Carthy, 2017). Due to the regular events of these financial fraud, both potential

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and existing stakeholders are finding it hard to trust the capital market.

Voodoo accounting and misconduct remains a constant threat to public trust in the confidence building of the capital markets. Fraud is a deliberate act committed to secure an unfair or unlawful gain or advantage by the perpetrator (KPMG, 2006). Anytime the financial statement is manipulated, it creates disagreement between a company's financial performances and related non-financial measures of the company, such as employee head count, number of retail outlets, and warehouse space. This creates an inconsistency that represents a red flag for gatekeepers to suspect fraud in a financial statements prepared (Brazel, Jones & Zimbelman, 2009). According to the report from Permanent Sub-committee on Investigation of the U.S Senate, management of Enron Corp were guilty of the following actions that caused the collapse of the firm: fiduciary failure, high-risk accounting, inappropriate conflict of interest, extensive undisclosed off-balance-sheet activity, excessive compensation, and lack of independence of the external auditors.

Popular forms of voodoo accounting include improper revenue recognition, overstatement of inventory, improper deferral of costs, failure to record liabilities, causing operating results between accounting periods to be more even, and inadequate disclosures in footnotes (Crawford & Weirich, 2011). Improper revenue recognition is the most prevalent financial reporting fraud. According to Crawford and Weirich (2011), there are over 100 accounting standards that pertain to revenue recognition which allow companies to misstate revenue although the most common are recording revenue too soon, recording fictitious revenue, boosting income using one time or unsustainable activities, shifting current expenses to a later period, employing other techniques to hide expenses or losses, shifting current income to a later period and shifting future expenses to an earlier period (Crawford & Weirich, 2011). Killen (2016) identified an overstatement of inventory as another form of financial statement reporting fraud, which is the overstating of inventory that can result into overstated assets, understated costs of goods sold which then concludes with overstated earnings. With improper deferral of costs, a company will capitalize operating expenses, which removes the expense from the income statement and posts as an asset on the balance sheet. This removal of expenses increases earnings. The failure to record liabilities and the related expense is difficult to detect because it does not require an accounting entry or the generation of a fraudulent document such as off-balance-sheet financing. Smoothing operating income between accounting periods will give the impression of consistent earnings growth. One way to smooth the earnings is to set aside reserves and use those reserves to cover costs in the current period (Crawford & Weirich, 2011).

For these reasons, the study, therefore, examined the effect of voodoo accounting on shareholders' wealth in Nigeria.

II. METHODOLOGY

The study was exploratory research that nexuses voodoo accounting and shareholders' wealth to understand and critically examine the relationship between the two variables. The study made use of secondary data by examining previous literature, journals, articles, text books, and other relevant material.

III. CONCEPTUAL REVIEW

a) Voodoo Accounting

Voodoo accounting has defined by Kenton (2018) is the application of accounting gimmicks and techniques to increase the revenue or reduce the expenses of a company with the sole purpose of deceiving investors. Some of the practices adopted by the collapsed and failed companies include bloating their earnings to deceive tons of investors and even attract more. Voodoo accounting was identified by United States Security and Exchange Commission boss in 1999 during the Dot Com case. The Dot com case was popular in the United States (US) in the year 1999, which affected a majority of the internet, providing companies causing them to collapse a year after granting them a license to trade on the New York Stock Exchange. Hayes (2019) explained that these companies raised billions of dollars at the floor of the stock exchange even though they were running at a loss before going public. The bubble busted in the year 2000 when they could not keep inflating their profits, which dropped the share price from as high as \$5,000 to \$4. According to Kenton (2018), the origin of the term voodoo accounting lies in the fact that profits can be made to appear like magic with certain accounting tricks. The same profit also disappear like magic when those manipulated earnings are removed, and hidden expenses are also added thereby showcasing the true financial status of the company (Ezeani, Ogbonna, Ezemoyih & Okonye, 2012).

b) Reasons for Voodoo Accounting

Discussions of Voodoo Accounting have focused mainly on the impact on the decision of investors in the stock market; reasons for the directors of listed companies to seek to manipulate the financial statement are as follows (Amat and Blake, 1996). Companies generally prefer to report a steady trend of growth in profit rather than to show volatile profits with a series of dramatic rises and fails. This is achieved by making unnecessarily high provisions for liabilities and against asset values in good years so that these provisions can be reduced, thereby improving reported profits, in bad years. It also avoids raising expectations so high in good years that the company is

unable to deliver what is required subsequently. If the trading conditions of a business are in fact volatile, then investors have a right to know this.

Income smoothing may conceal long-term changes in the profit trend. In countries with highly conservative accounting system, the income smoothing, effect can be particularly pronounced because of the high level of provisions that accumulate. Blake, Amat, Martinez and Gracia (1995), discuss a German example. Another bias that sometimes arises is called 'big bath' accounting where a company making a bad loss seeks to maximize the reported loss in that year so that future years will appear better.

A variant on income smoothing is to manipulate profit to tie in to forecast. Fox (1997) reports on how accounting policies at Microsoft are designed within the normal accounting rules to match reported earnings to profit forecasts. When Microsoft sells software, a large part of the profit is deferred to future years to cover potential upgrade and customer support costs. This perfectly respectable, and highly conservative, accounting policy means that future earnings are easy to predict.

Moreover company directors may keep an income-boosting accounting policy change in hand to distract attention from unwelcome news. According to Griffiths (1986) as cited by Amat and Blake (1999), creative accounting may help maintain or boost a company's share price by reducing the apparent levels of borrowing, thereby making the company less susceptible to risk, and by creating the appearance of a good profit trend. This helps the company to raise capital from new share issues, offer their own share in takeover bids, and resist takeover by other companies. However, where the directors engage in "insider dealing" in their company's shares, they can use creative accounting to delay the release of information, thereby enhancing their opportunity to benefit from inside knowledge. It should be noted that in an efficient market, analysts would not be fooled by cosmetic accounting choices. Indeed, the alert analyst will see income boosting accounting devices as a possible signal of weakness. Another reason for creative accounting arises because companies are subject to various forms of contractual rights, obligations and constraints based on the amounts reported in the accounts. Other reasons given by Bello (2016) may also include:

Income smoothing

Companies generally prefer to report a steady trend of growth in profit rather than to show volatile profits with a series of dramatic rises and falls. This is achieved by making unnecessarily high provisions for liabilities and against asset values in good years so that these provisions can be reduced, thereby improving reported profits, in bad years. Advocates of this

approach argue that it is a measure against the 'short-termism' of judging an investment based on the yields achieved in the immediately following years. It also avoids raising expectations so high in good years that the company is unable to deliver what is required subsequently.

Manipulate profit to tie into forecasts

This happens where managers attempt to meet up with the forecasted for the year. There were reports on how accounting policies at Microsoft are designed, within the normal accounting rules, to match reported earnings to profit forecasts. If Microsoft sells software, a large part of the profit is deferred to future years to cover potential upgrades and customer support costs. This perfectly respectable and highly conservative, accounting policy means that future earnings are easy to predict.

To maintain or boost the share price

Creative accounting may help maintain or boost the share price both by reducing the apparent levels of borrowing, so making the company appear subject to less risk, and by creating the appearance of a good profit trend. This helps the company to raise capital from new share issues, offer their own shares in takeover bids, and resist takeover by other companies.

Insider dealing

If the directors engage in 'insider dealing' in their company's shares they can use creative accounting to delay the release of information for the market, thereby enhancing their opportunity to benefit from inside knowledge.

Circumvent contractual rights, obligations and constraints

This is prevalent where companies are subject to various forms of contractual rights, obligation, and constraints based on the amount reported on the accounts;

Avoid Government Regulations,

Where the government regulates the activities of companies not to exploit the economy, companies tend to choose accounting methods that tend to reduce their reported profits.

c) Potentiality of Voodoo Accounting

The prospective for Voodoo Accounting according to Bello (2016) which was also supported by Ezeani, Ogbonna, Ezemohih and Okonye (2012) can be found in five (5) principal areas, regulatory flexibility, and dearth of regulation, the timing of some transactions, the use of artificial transactions, and the reclassification and presentation of financial numbers.

Regulatory Flexibility

Accounting regulation often permits a choice of policy, for example, in respect of asset valuation. For

example, the international accounting standard permits a choice between carrying non-current assets at either revalued amounts or depreciated historical cost. Business entities may, quite validly, change their accounting policies. As Schipper (1989) points out, such changes may be relatively easy to identify in the year of change, but are much less readily discernible thereafter.

Dearth of Regulation

Some areas are simply not fully regulated. For example, there are very few mandatory requirements in respect of accounting for stock options. In some countries, like Spain, accounting regulation is limited to, for example, the recognition and measurement of pension liabilities and certain aspects of accounting for financial instruments. Management has considerable scope for estimation in discretionary areas.

Timing of some transactions

Genuine transactions can also be times so as to give the desired impression in the accounts. As an example, suppose business has an investment at historical cost, which can easily be sold for a higher sales price, being the current value. The managers of the business are free to choose in which year they sell the investment and so increase the profit in the accounts.

Use of artificial transactions

Artificial transactions can be entered both to manipulate balance sheet amounts and move profits between accounting periods. This is achieved by entering into two or more related transactions with an obliging third party, normally a bank. For example, suppose an arrangement is made to sell an asset to a bank and they lease that asset back for the rest of its useful life. The sale price under such a sale and lease back can be pitched above or below the current value of the asset, because the difference can be compensated for by increased or reduced rentals.

Reclassification and presentation of financial numbers

The study by Fox (1997) suggests that firms may engage in balance sheet manipulation to reclassify liabilities in order to smooth reported liquidity and leverage ratios. A special type of creative accounting relates to the presentation of financial numbers, based on cognitive reference points (Tsipouridou, 2012).

d) Techniques of Voodoo Accounting

The potential for Voodoo Accounting may be found in six principal areas as given by Jones (2011)

Opportunities for creative accounting

Opportunity for Creative Accounting	Solution Available
Choice of accounting method	Reduced permitted choice
Bias estimates and prediction	Reduced scope for estimate
Enter into artificial transactions	Substance over form
Timing of genuine transactions	Prescribe revaluation

Source: Amat and Blake (1996)

and improved by Bello (2016) are regulatory flexibility the dearth of regulation, and managerial judgment of assumptions about the future, the timing of some transactions, the use of artificial transactions, and the reclassification and presentation of financial numbers.

Regulatory Flexibility

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e) *The Effects of Voodoo Accounting Techniques*

Carlos, Begona, and Martha (2018) identified the impactful aftermath that the use of voodoo accounting techniques may have on the presentation of information from annual statements are identified as follows:

The changes in the value and structure of costs

The accounting regulations allow a certain margin of maneuver in quantifying the costs of the financial year. For instance, a certain asset, only the maximum number of years in which they must be depreciated is indicated. A higher or smaller depreciation term affects the size of the result.

The change of the value and structure of revenues

In certain situations, the recognition of revenues can be increased or slowed down applying the principle of prudence or the principle of connecting costs with revenues;

Change of the value of assets

The existence of flexibility regarding the calculations of depreciation and provisions creates the possibility of increasing or reducing the net value of assets. Moreover, stock can be evaluated by various methods and consequently, their value may be different, which has a corresponding impact on the profit and loss statement. Such changes also alter the size of current and non-current assets.

The change of the value and structure of internal capital

The change of revenues and expenses has an impact on the size of the result and, consequently on the size of reserves. Therefore, this modifies the value of internal capital and of all shares calculated based on this value.

The change in the value of liabilities

In some countries, accounting regulations allow the regularization of certain liabilities, such as retirement liabilities, for some time. Consequently, an enterprise aiming to enhance its result will allocate the liability for the maximum period permitted.

The re-classification of assets or liabilities

This happens in case of doubts regarding the category in which one item falls, especially securities. Depending on the intention of the enterprises, it must be registered in current assets or in non-current assets, which affects the shares calculated for their benefit.

f) *Cases of Voodoo Accounting Practices*

The Enron Scandal is considered to be one of the most disreputable corporate fraud case in American history; an Enron scandal summary of events is considered by many historians and economists alike to have been an unofficial blueprint for a case study on White-collar Crime. White collar crime is defined as non-violent, financially-based criminal activity typically

undertaken within a setting in which its participants retain advanced education about employment that is considered to be prestigious. By misrepresenting earnings reports while continuing to enjoy the revenue provided by the investors not privy to the true financial condition of ENRON, the executives of ENRON embezzled funds funneling in from investments while reporting fraudulent earnings to those investors. This not only increased investments from current shareholders but also attracted new investors desiring to enjoy the apparent financial gains enjoyed by the ENRON Corporation.

Calloway is known for making numerous types of golf equipment, including clubs, putters, balls, and drivers. In March 2002, Due to the concern of the audit committee over the future of the firm, the board of directors dismissed Arthur Andersen. Callaway hired KPMG to replace Arthur Andersen. In December 2002, Callaway Golf dismissed KPMG due to disagreements with management about accounting for Callaway's warranty reserves. The company thought that the changes in the warranty reserve should be treated as a change in estimate while KPMG thought that the change should be treated as a correction error. When the two parties could not agree, the company dismissed KPMG. How could a publicly listed company have four different auditors in the same year becomes a big issue for the company?

The case of M/S Satyam Computer (M/s SCSL) was perhaps India's major corporate fraud case where (M/s SCSL) caused loss to the investors to the tune of Rs.14, 162 crore. The company head, Ramalinga Raju, and members of his family secured illegal gains to the tune of about Rs. 2,743 crore through various tricks. The fraud was perpetrated by inflating the revenue of the company through false sales invoices and showing corresponding gains by forging the bank statements with the connivance of the Statutory and Internal Auditors of the company. The annual financial statements of the company with inflated revenue were published for several years, and this lead to a higher price of the scrip in the market. In the process, innocent investors were lured into investing in the company. Attempts were made to conceal the fraud by acquiring the companies of kith and kin. Like several other cases of this type, the Satyam case also came to the CBI as soon as the country got wind of it. The CBI constituted a Multi-Disciplinary Investigation Team (MDIT) that investigate fraud related cases. The team worked hard in revealing the dealings of the management and achieved success in a record time of 45 days when it filed its first charge sheet against the accused of offenses of criminal conspiracy, cheating, forgery and falsification of accounts.

Toshiba was formed in 1939 through a merger between Shibaura Engineering Works and Tokyo Electric Company and subsequently pioneered the

development of electrical equipment in Japan. By 2000, Toshiba had become the world's fourth-largest chip manufacturer and third-largest notebook computer manufacturer. Following its purchase of Westinghouse Electric Company in 2006 and subsequent macroeconomic events between 2008 and 2014, Toshiba faced declining profits. In response, Toshiba engaged in earnings management through two accounting treatments. First, it delayed the recognition of losses under long-term contracts. Second, it inappropriately applied price masking to account for transfers of components between itself and contract manufacturers. By March 2017, Westinghouse was filed for bankruptcy protection, and in 2018, Toshiba sold it for \$4.6 Billion and discontinued all productions about the company after making a loss of \$9.6 Billion in 2016 alone.

KT Corporation (NYSE: KT), South Korea's second-largest mobile carrier, provides integrated wired/wireless telecommunication services (KT Corporation Website). In 2013, prosecutors probed allegations that the company incurred losses on asset selloffs and bad investments. In 2014, KT ENS Co., affiliated with KT Corporation, was investigated over suspicion of illegally taking out approximately \$260 million in loans from 16 local banks by forging documents (Yonhap News, 2013). From the quantitative analysis for 2014, the Quality of Earnings was - 2.036, which is due to the net loss, and the Altman Z-Score was 1.35. The red flag benchmark for the Altman Z-Score is a Z-score of less than 1.8 (Grove and Clouse, 2015). These two indicators show that the company has a possible bankruptcy problem. However, we did not see any other indication of fraudulent financial reporting in KT's 2014 financial statements.

In recent years, Creative accounting practices have been on the increase in the Nigerian industry as some institutions present grossly exaggerated, misleading, and deceptive state of financial affairs to attract unsuspecting investors or obtain undeserved accounting-based rewards. It is evident that the extent of window dressing of financial statements in Nigeria has greatly violated all known ethical standards of the accounting and auditing profession. The list of cases linked to creative accounting practices is on the rise as more corporate bodies in Nigeria are being investigated. The change of board members in Cadbury Plc, Nigeria, was a result of doctoring of accounts to cover up certain inadequacies and corrupt deals engaged by the management. Likewise, the corporate failures of most Nigerian bank Chief Executive Officers and investigations into their activities by the Anti-graft agency, Economic and Financial Crimes Commission (EFCC) are largely due to fraudulent financial reporting. In 2009, the Central Bank of Nigeria (CBN) sacked five (5) Bank managing directors and Executive Directors for mismanagement and alleged fraud. This has affected

the stability and growth of the Nigerian financial system. Some of the said banks are Intercontinental Bank, Oceanic Bank, and Fin Bank which are no longer operational. It is therefore arguable that the practice of voodoo accounting is unfavorable to the continual growth of the Nigerian economy.

IV. CONCLUSION AND RECOMMENDATION

The study examined the effect of voodoo accounting practices and shareholders' wealth in Nigeria by reviewing articles and journals in relation to the study. Previous studies about this have focused more on how creative accounting, earnings management, but voodoo accounting differ from each other and how they can be used negatively or positively. This study is unique because it specifically focused on how the use of negative creative accounting, which was coined in this study to be voodoo accounting, affects the shareholders' wealth in Nigeria. It is within this purview and the fact that there exists a paucity of studies of this nature in predicting business failure in Nigeria that this study sought to empirically investigate the effect of voodoo accounting on shareholders' wealth. Thus, from the existing exploratory review done, it can be established that voodoo accounting causes havoc to the shareholders' wealth which means that investors are at great risk when voodoo accounting practices are applied. The study recommended that supervisory departments of regulatory bodies should carefully study and review techniques of voodoo accounting to prevent manipulations in the account and protect the interest of investors. Other analytical methods of reviewing financial statements like the Beneish M-score model and Altman Z score should be introduced and enforced by regulatory bodies to be put into use by externals to discover earnings manipulations and predict business failure.

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GLOBAL JOURNAL OF MANAGEMENT AND BUSINESS RESEARCH: D
ACCOUNTING AND AUDITING
Volume 20 Issue 1 Version 1.0 Year 2020
Type: Double Blind Peer Reviewed International Research Journal
Publisher: Global Journals
Online ISSN: 2249-4588 & Print ISSN: 0975-5853

Perception of Quality of Accounting Information in the Process of Granting Bank Credit to Enterprises

By Micheline Domkam

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Abstract- The objective of this study is to assess the role of the Accounting information in the decision of granting bank credit to Cameroonian enterprises. Given to the problem of information asymmetry that prevails in the banking environment, we have used an approach that mobilizes the agency theory, the theory of transaction costs and theory of financial intermediation. Our empirical study was based on a qualitative approach. It consisted of a case study on a sample of eleven bankers of different banks in the cities of Bafoussam and Dschang. The primary data collection was conducted through an interview guide and the Opinions were recorded, or written. Given to the quantitative and qualitative information gathered, the use of the method called “triangulation” allowed to present the results of our study. According to these results, we have found that: a) perception of bankers on the Accounting information presented to them by businesses to obtain credit is not good, so there are not satisfied with this information; because some they are full of flaws either due to manager’s ignorance or in function of the objectives to attain by the firms’ manager.

Keywords: perception, accounting information, bank, enterprise, credit granting, cameroon.

GJMBR-D Classification: JEL Code: M41



PERCEPTION OF QUALITY OF ACCOUNTING INFORMATION IN THE PROCESS OF GRANTING BANK CREDIT TO ENTERPRISES

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Perception of Quality of Accounting Information in the Process of Granting Bank Credit to Enterprises

La Perception de la Qualité des Informations Comptables Dans le Processus D'octroi de Crédit Bancaire aux Entreprises

Micheline Domkam

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Keywords: perception, accounting information, bank, enterprise, credit granting, cameroon.

1. INTRODUCTION

L'étude sur la perception et en particulier sur la perception de l'information comptable pour une prise de décision d'octroi crédit bancaire se veut d'une pertinence incontestable. D'après Danos, Holt et Inhoff (1989), et Treacy et Carey (1998), les informations comptables contribuent grandement à la décision d'octroi de crédit bancaire. Mais en dépit de l'état de surliquidité du système bancaire camerounais connu, les entreprises rencontrent de multiples

difficultés à se faire financer par les banques. Nous comprenons que le niveau d'opacité du système d'information des PME pourrait être la cause d'un empêchement des banques dans l'évaluation des critères nécessaires à la prise de décision d'octroi de crédit. En effet dans une telle situation, il y a un risque de sélection adverse (Stiglitz et Weiss, 1981). Le banquier malgré qu'il soit en possession des états financiers qui sont supposés lui servir de guide, éprouve des difficultés à identifier le niveau de risque de l'emprunteur, lequel dispose d'un avantage informationnel sur le contrat.

Nous pensons que l'état de surliquidité des banques au Cameroun pourrait aussi s'expliquer par la perception que se font les établissements financiers de l'information comptable qu'ils reçoivent des petites et moyennes entreprises. Cette perception qui souvent est sujette à biais, du fait d'une mauvaise appréciation, peut se faire à la défaveur des entreprises en besoin de financement. Il s'avère cependant que la plupart des entreprises camerounaises semble relativement jouir d'une « bonne santé » financière, mais le recours au crédit reste problématique. On comprend pourquoi depuis 2015, l'Etat du Cameroun a mis en place l'Agence de Promotion des PME (APME) pour palier à cette limite liée à la difficulté de recourir au crédit auprès des banques. Néanmoins, le problème d'asymétrie de l'information occupe une place centrale dans les décisions d'octroi de crédit au Cameroun. C'est dans ce sens que Ndjanyou (2001) et l'OCDE (2007), soutiennent que les difficultés que rencontrent les PME à accéder au financement bancaire pourraient être liées à un manque ou à une insuffisance d'informations présentées aux institutions financières. En effet au Cameroun, les banques dans leur relation avec les PME font face à un problème d'information dû à un contexte d'asymétrie forte (Ndanyou, 2001). Par ailleurs, il faut souligner que les PME les plus exposées au rationnement du crédit bancaire sont plus jeunes (Alexandre et Buisson, 2010), et de plus petites tailles (OCDE, 2007). Ce qui remet en question la qualité des informations présentées par celles-ci selon le critère taille.

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Lorsque nous partons de cette notion de qualité d'information, nous constatons que Levratto (1996), Cieply et Grondin (2000), partant sur les travaux d'Ang (1991), l'avaient pensé lorsqu'ils rappelaient que l'une des principales raisons expliquant la décision d'octroi de financement par les banques est le niveau d'asymétrie d'information. Au regard de ce manque de confiance de la part des banquiers remise en cause de la qualité des informations comptables, L'objet de notre étude est celui de savoir, si la perception de ces informations comptables par les banquiers ne pourrait pas influencer la grande ou le peu d'importance accordé au données comptables lors de la prise décision d'octroi de crédit aux entreprises.

Pour Rougès (2007), malgré la place accordée au risque de contre partie dans les banques, un risque que les informations comptables contribuent à analyser, et malgré leur caractère requis, les données comptables ne sont pas jugées comme des informations de premier ordre et sont systématiquement complétées par d'autres informations privées. Aussi conclut elle, les banquiers s'intéressent plus à la pérennité d'une entreprise qu'au risque de défaillance. Selon Kim et Rafik (2008), les états financiers ont une considération importante tant dans les grandes banques que dans les petites. Ajoutent ces auteurs, le niveau d'attestation des états financiers pourrait avoir une importance significative dans la perception des états financiers dans la décision d'octroi de crédit tant dans les grandes banques que les petites.

Au vue de ces différentes positions autour de l'information comptable et décision d'octroi de crédit bancaire, notre étude vient s'inscrire à la suite logique et est d'ailleurs une contextualisation des travaux de Rougès (2007) en France. Ainsi la préoccupation qui est la nôtre est la suivante : au Cameroun, comment est-ce que les banques perçoivent-elles les états financiers qui leurs sont présentés par les entreprises dans le processus d'octroi de crédit?

Cette question centrale pourrait se décliner en des questions subsidiaires comme suit :

- les informations comptables qui leurs sont fournies, satisfont-elles à leurs attentes ?
- les informations comptables présentent-elles une utilité négligeable pour l'analyse du risque du crédit au vue des autres exigences de la banque ? et pourquoi?

II. ANCREGE THEORIQUE

a) *La banque dans son rôle de surveillant et de producteur d'informations*

L'existence même des banques est liée à leur capacité à traiter des informations. Selon la théorie de l'intermédiation financière, les banques sont une réponse rationnelle à l'existence d'asymétries d'information sur le marché du crédit (Leland et Pyle,

1977). En effet, elles sont censées résoudre en partie les problèmes d'aléa moral, mais aussi le problème de l'appropriation des gains de la création d'information qui limite cette production (Campbell et Kracaw, 1980). Les banques sont ainsi considérées comme une alternative efficace au marché qui montre de lacunes lorsque l'information n'est pas parfaite. En l'absence de banques, certains crédits jugés plus risqués que les autres, ne pourraient tout simplement pas être accordé car le mécanisme de régulation par les prix ne fonctionnerait pas (Rougès, 2007). En effet, accroître les taux d'intérêt pour couvrir la prime de risque n'est pas efficace, car cela induit des effets pervers tels que la sélection adverse, les incitations adverses et l'aléa moral (Charlier, 1995). De ce fait, à cause de l'asymétrie d'information et de l'aléa moral possible des emprunteurs, les prêts doivent être surveillés pour décourager l'opportunisme.

Cependant, une telle surveillance a un coût, en ressources et en temps. Ce coût de la surveillance, qui inclut l'accès aux informations, est au cœur de l'efficacité bancaire. En effet, une solution pour réduire le coût de la surveillance est la spécialisation. Ainsi, les banques sont présentées comme des surveillants délégués spécialisés (Diamond, 1984). Grâce à cette spécialisation qui abaisse leurs coûts de surveillance, les banques sont capables de prêter quand d'autres types de prêteurs ne le pourraient pas.

De plus, en octroyant un crédit, elles révèlent une partie des informations privées auxquelles elles ont pu avoir accès et envoient ainsi, un signal aux autres parties prenantes de l'emprunteur (mise avant de la théorie du Signal). Ce dernier rôle de productrices d'information est mis en évidence par plusieurs constats empiriques. Par exemple, il semble que le cours de bourse d'une entreprise s'apprécie après l'annonce d'un prêt par une banque (James, 1987 ; Lummer et McConnell, 1989). Cela indique que les annonces de prêts bancaires sont perçues comme des informations de valeur, en termes de contenu mais aussi de fiabilité: la crédibilité de ces informations serait assurée par le coût du crédit lié aux réserves bancaires (Fama, 1985).

L'efficacité des banques en tant que surveillantes et productrices d'informations peut s'expliquer de différentes façons. Nakamura (1993) les regroupe en trois grandes catégories. Tout d'abord, il convient de remarquer que les banques sont souvent des prêteuses uniques, surtout dans le cas de petites entreprises¹. Ce statut de prêteur unique confère à une banque un accès privilégié à des informations privées. En effet, les entreprises peuvent être tentées de réduire le coût de leur financement en dévoilant de telles informations à leur futur créancier (Fama et Jensen,

¹ Ce constat pourra toutefois être relativisé en fonction des usages et des cultures

1985). Or, cet accès à des informations privées est avancé comme explication de l'efficacité des banques (Black, 1975; Fama, 1985).

Ensuite, les banques ont généralement un historique de crédit, que ce soit avec l'entreprise emprunteuse elle-même ou avec d'autres entreprises du même bassin d'activité. Cette idée d'historique renvoie à deux aspects : à l'expérience cumulée de la banque mais aussi aux informations privées accumulées dans le temps. Cet aspect semble confirmé par les réactions du marché boursier aux annonces de nouveaux crédits et de renouvellements de crédits (Lummer et McConnell, 1989; Best et Zhang, 1993).

Enfin, les banques bénéficient de synergies entre leurs activités de crédit et leurs autres activités. En effet, les comptes courants des entreprises emprunteuses sont une source particulièrement intéressante d'informations privées qui aide la banque dans son activité de surveillance (Fama, 1985; Mester, Nakamura et Renault, 1998). Différentes activités contribuent également à la diversification des risques (Holland, 1994) et peuvent même permettre aux banques de lisser les taux d'intérêt pratiqués envers les emprunteurs (Berlin et Mester, 1999).

Cette courte revue de littérature montre bien qu'un point crucial pour l'efficacité des banques dans le domaine du crédit est l'accès à des informations privées. Nous ne pouvons en aucun cas en déduire que les informations publiques, telles les données comptables, soient inutiles dans l'activité bancaire de crédit. Une telle déduction nous paraîtrait d'autant plus hasardeuse que notre chapitre 1 a montré la capacité des banquiers à utiliser les informations comptables pour l'analyse du risque de défaillance.

Cependant, la théorie de l'intermédiation financière à travers les contrats implicites ne semble pas considérer les informations publiques comme la source de l'efficacité des banques dans le domaine du crédit. Il s'agit d'un deuxième élément de réponse, plus théorique cette fois, à notre question de recherche. Puisque les informations comptables ne sont pas à l'origine de l'avantage des banques en matière de crédit.

Au-delà de ces contrats implicites la banque elle-même pourrait être une solution à ce problème d'asymétrie informationnelle.

b) Les limites de la banque dans le contrôle de l'information : le problème d'asymétrie informationnelle

Le problème d'asymétrie informationnelle est un problème presque universel dans la décision d'octroi de crédit bancaire aux entreprises. Pourtant, la théorie économique standard a accordé un rôle explicite peu important à l'information. Dans le modèle de l'équilibre

générale par exemple, l'hypothèse l'information parfaite est générale admise, c'est-à-dire une situation dans laquelle l'information pertinente est équitablement disponible sans délai et sans coût pour les agents économiques concernés. Cependant, les économistes pensent que cette hypothèse de l'information parfaite peut dans certains cas, contredire la réalité. C'est le cas par exemple lors d'octroi d'un crédit bancaire, où l'information joue un rôle très fondamental. Il est donc question pour nous, de présenter certains auteurs qui ont relevé ce problème d'asymétrie d'information dans la littérature.

i. Le constat d'Akerlof (1970)

Akerlof (1970) a fourni une première analyse de l'importance de l'information dans les mécanismes de marché. Sa principale construction a été de montrer qu'en absence d'hypothèse de l'information parfaite, certaines conclusions majeures de la théorie économique standard peuvent être remises en cause, notamment celles relatives à l'équilibre du marché, au bien-être des consommateurs et au développement des échanges. En considérant à titre illustratif l'exemple du marché des voitures d'occasion, la caractéristique centrale introduit par Akerlof est celle de l'asymétrie de l'information existant entre l'acheteur et le vendeur, les vendeurs étant mieux informés que les acheteurs sur les caractéristiques de l'objet de la vente. A partir de cet exemple Akerlof, montre que l'existence de cette asymétrie d'information sur la qualité des biens en vente, peut provoquer l'exclusion du marché des biens de bonne qualité et le maintien des biens de mauvaise qualité.

L'impossibilité pour les acheteurs de distinguer les biens de bonne qualité des biens de mauvaise qualité, ne permet pas l'émergence d'un système de prix différenciés selon le niveau de qualité. En raison de la non-observabilité de la qualité, le prix de marché d'un bien devient indépendant de sa qualité. L'existence d'un même prix pour plusieurs niveaux de qualité représente en fait une sous-évaluation des biens de bonne qualité et une surévaluation des biens de mauvaise qualité. Cette situation déclenche un processus de réaction dans lequel, pour un prix donné, les vendeurs de biens de bonne qualité se retirent du marché. A l'équilibre, ils ne restent que les biens de mauvaise qualité et les quantités échangées sont inférieures à celles du cas de l'information parfaite : C'est le phénomène de sélection adverse qui a lieu quand la partie informée², en se basant sur l'information détenue de façon privée³, affecte de façon négative (adverse) le bien-être de la partie non informée⁴ et un segment de la partie informée⁵.

² Les vendeurs dans l'exemple du marché des voitures d'occasion

³ Ici, la qualité de la voiture d'occasion

⁴ Les acheteurs

⁵ Ici, les vendeurs de biens de bonne qualité

ii. *La transposition du résultat d'Akerlof (1970) à l'intermédiation financière*

Transposé à l'intermédiation financière, les prêteurs (banquiers) et les emprunteurs (entreprises) sont également confrontés au problème d'asymétrie de l'information. En effet, en se référant à l'exemple d'Akerlof ci-dessous, le banquier est assimilable à l'acheteur et l'entreprise au vendeur dans la mesure où, l'entreprise à besoin des financements a un avantage informationnel quant à la qualité des informations qu'elle fournit et également quant à son comportement futur (respect ou non des clauses du contrat) à l'égard du banquier. C'est ainsi que Williamson (1975) mentionne l'incomplétude des contrats afférentes à toutes les relations contractuelles entre les parties du contrat. Pour ce dernier, l'incomplétude de contrat donne une marge de manœuvre aux acteurs et favorise la mauvaise foi (le comportement opportuniste). Williamson insiste sur l'incertitude comportementale des parties au contrat qui induit le soupçon d'opportunisme qui porte sur les comportements futurs. En effet, chacun est supposé agir rationnellement en fonction de son intérêt privé, allant jusqu'à la mobilisation des capacités de calculs stratégiques incorporant la manipulation des informations ou la manipulation des intentions. Si les individus n'ont pas tous une attitude opportuniste, rien ne garantit qu'un changement de contexte inopiné n'encourage un comportement déloyal dans le futur (Williamson et Ouchi, 1981). « *L'occasion faisant le Larron* »⁶, le principe de prudence contractuel se justifie pour fonder le calcul des coûts de transactions (les coûts liés à la recherche de l'information dans le but d'atténuer l'incertitude).

Basée sur la rationalité limitée de Simon et l'absence de confiance dans la négociation des clauses contractuelles, la théorie du contrat incomplet est sur le fait qu'il est impossible de contractualiser complètement des futurs partenaires. Car une partie n'est capable de vérifier ex-post l'état réel de certains variables. L'opportunisme (la tricherie) s'installe dès lors au centre des clauses contractuelles. Cette tricherie repose sur la révélation incomplète, déformée ou falsifiée de l'information par l'entreprise emprunteuse. On distingue deux formes d'opportunisme:

- L'opportunisme ex-ante (avant la passation) du contrat : cet opportunisme est rendu possible par l'asymétrie d'information entre les parties, ce qui conduit au problème dit de sélection adverse (une partie s'arrange à tromper l'autre avant la signature du contrat). Comme le montre d'ailleurs Akerlof (1970);
- L'opportunisme ex-post (pendant l'exécution du contrat), cet opportunisme conduit au problème dit de risque moral (aléa moral). Ici, l'entreprise contracte l'emprunt pour un projet X, et par la suite, l'utilise à d'autres fins.

⁶ C'est un canal d'ouverture permettant d'abuser de l'autre

III. REVUE DE LA LITTÉRATURE

a) *Une revue axée sur la qualité de l'état financier dans le processus d'octroi de crédit*

Les banquiers sont connus pour être les principaux utilisateurs de l'information comptable. Les grandes banques comptent sur l'information financière solide, des modèles informatiques et la prise de décision centralisée, comme base de décision de prêt. Les petites banques, toutefois, s'appuient davantage sur des informations non comptables collectées par les contacts personnels, les liens communautaires et d'étroites relations de l'emprunteur-prêteur; parce que les emprunteurs de petites entreprises qui sont les principaux clients de prêt de petites banques ont tendance à être plus opaques, du point de vue informationnel, que leurs grandes entreprises (Cole et al, 2004; Berger et Udell, 2006). Il est bien connu que les banques commerciales utilisent à la fois l'information financière et non financière pour leur décision de prêt de décision (Kim et Rafik, 2008). Les agents de crédit novices sont généralement enseignés à rechercher et à organiser l'information au moyen d'un cadre appelé les cinq C du crédit (caractère, la capacité, le capital, les conditions et collatéraux), donnant une structure commune à leurs jugements (Beaulieu, 1994). Comme les grandes banques ont plus de branches qui sont plus dispersés géographiquement que ne l'ont les petites banques, il devient plus difficile pour les cadres supérieurs de grandes banques de surveiller le comportement des employés. Les petites banques dépendent plus de l'information non financière principalement parce que:

- Les données financières fiables de ces petites entreprises sollicitant le prêt ne sont pas disponibles;
- Les petites banques ont une meilleure compréhension des conditions commerciales et économiques locales par le biais de réunions informelles et des conversations avec les propriétaires d'entreprise (Feldman, 1997).

Cole, Goldberg et White (2004) ont trouvé des preuves que les décisions de prêt des grandes banques sont plus susceptibles d'être une fonction de variables financières, alors que les décisions de prêt de petites banques sont plus susceptibles d'être une fonction de variables indiquant les relations pré-existantes entre la banque et les demandeurs de prêt. Beaucoup d'autres études confirment notre compréhension selon laquelle les petites banques s'appuient plus sur les informations non financières, tandis que les grandes banques se basent davantage sur de solides informations financières (Cowen et Page, 1982; White man, 1998; Cole, 1998; Berger et Udell, 1995; Berger et Udell, 2002; Elyasiani et Goldberg, 2004; Ebben, 2004; Berger et al., 2005).

Il est également bien connu qu'aussi bien les petites banques que les grandes banques recourent à des informations comptables incluant les déclarations financières personnelles et d'affaires, dans leurs options d'octroi de prêt (Barret, 1990). Dans cette même veine d'idée, Kim et Rafik (2008) montrent que les informations comptables ont une considération importante aussi bien dans les grandes banques que dans les petites. Les banques exigent des états financiers à jour pour gérer les prêts des clients. Plusieurs banques exigent une certaine forme d'association des auditeurs dans la préparation des états financiers. Certaines banques exigent un audit ou l'examen tandis que d'autres exigent le rapport par un comptable public certifié. Néanmoins, on ne sait pas si ces états financiers sont en fait d'une considération importante dans les décisions de prêts des banques, en particulier des petites banques; ou si les banques l'exigent simplement parce les organismes gouvernementaux de réglementation prescrivent de tels documents dans le traitement des prêts.

b) Une revue axée sur la théorie du contrôle hiérarchique de Williamson (1967)

La différence entre le modèle de prêt des grandes banques par rapport aux modèles de petites banques peut être expliquée de manière opérationnelle et organisationnelle par les différences existantes entre les petites et les grandes banques (Cole et al, 2004).

Les différences opérationnelles entre les petites et les grandes banques par rapport à la décision de prêts peuvent s'expliquer par la théorie du contrôle hiérarchique (Williamson, 1967). Comme la taille d'une organisation augmente, elle perd le contrôle entre les hiérarchies successives. Comme les ordres et les directives managériales sont transmis à des niveaux hiérarchiques successifs, les distorsions augmentent. Par conséquent, une grande banque a besoin de règles explicites dans le processus de prêt pour éviter les distorsions. Cependant, comme il y a moins d'intermédiaires entre la direction et les agents de prêts dans les petites banques, la gestion des petites banques peut impliquer aux agents de crédit plus de discrétion dans le processus d'octroi de crédit (Kim et Rafik, 2008).

De même, comme une organisation augmente en taille et en étendue géographique, il devient plus difficile pour la direction générale de surveiller le comportement des employés, et les problèmes d'agence se posent (Jensen et Meckling, 1976). Pour maintenir le contrôle sur l'ensemble de l'organisation, les grandes banques doivent établir des procédures qui seront suivies tout au long de l'ensemble de l'organisation. Par conséquent, les grandes banques peuvent développer des systèmes d'approbation de prêts qui sont homogènes à travers les branches et le personnel. Ces systèmes doivent utiliser des

informations facilement accessibles et vérifiables sur les emprunteurs, comme les états financiers d'une entreprise. Cela conduit à une approche de *Cookie-cutter* dans le processus d'approbation des prêts dans les grandes banques, où les variables financières standards des emprunteurs potentiels affectent significativement la décision de prêt.

En revanche, les petites banques font face aux problèmes d'agence et de contrôle qui sont moins sévères. La direction peut plus facilement surveiller le comportement des agents de crédit et coordonner les opérations. Les petites banques sont plus susceptibles d'avoir des informations privées sur les emprunteurs potentiels en raison de la proximité et les relations personnelles entre les banquiers et les entreprises.

In fine, une analyse de l'approche théorique en rapport avec la perception de l'information comptable (provenant des entreprises) par les banquiers, permet de recourir à des analyses portant sur la thématique de l'asymétrie d'information inhérente au modèle principal-agent en général, et à la relation banque-entreprise en particulier. Ce cadre permet également de déployer une analyse axée à la fois sur la qualité des états financiers et sur la théorie du contrôle hiérarchique en vue de saisir la perception qu'ont les banques des états financiers dans un processus d'octroi de crédit aux entreprises

IV. METHODOLOGIE

a) Les différents cas étudiés

Notre étude concerne les banques des villes de Dschang et de Bafoussam. Les données ont été collectées par un entretien. Dans un souci d'anonymat et compte tenu du secret bancaire, les banques faisant l'objet de notre étude seront représentées par des codes. Nous avons interviewé onze banquiers de huit banques. Certains ont accepté des enregistrements vocaux et d'autres pas pour des raisons de discrétion. Ainsi dans notre analyse, ces banques ont été codées par la lettre B, comme banque, suivi du numéro correspondant. De plus, il convient de souligner que, compte tenu de la culture bancaire du secret, ces 11 entretiens constituent des données relativement rares et particulièrement intéressantes. Bien que restreint, cet échantillon de banques est suffisamment diversifié pour permettre de refléter la réalité de la banque au Cameroun. De même, le public d'entreprises auquel s'adressent ces banques est également diversifié puisqu'il va de la PME à la très grande entreprise, Camerounaise et internationale.

Les banquiers ont été rencontrés sur leur lieu de travail. La méthode d'entretien retenue était celle de l'entretien semi-directif. Celle-ci permet de conserver une discussion relativement naturelle tout en permettant de la recadrer lorsque le besoin s'en fait sentir. Le côté naturel de la conversation est particulièrement

appréciable pour limiter et parfois dépasser la méfiance que peut rencontrer le chercheur. Chaque entretien a duré environ une heure, parfois plus. La grille d'entretien utilisée devait permettre d'identifier le processus de crédit au sein de chaque banque, ainsi que les informations requises pour la prise de décision ; mais aussi la perception des banquiers interrogés par rapport informations comptables qui leur étaient souvent fournies par les entreprises emprunteuses.

Tous les entretiens ont été rédigés à l'exception de trois: ces trois entretiens sur la permission des enquêtés ont été plutôt enregistrés (entretiens 2, 3 et 4), certains avaient démarré sur une base informelle dans laquelle une demande d'enregistrement aurait été mal venue (entretiens 7 et 8) et les autres ont carrément refusés l'enregistrement. Les entretiens pour lesquels nous avons essuyé un refus ont été recueillis par écrit de la façon la plus exhaustive possible et retranscrits le soir même de l'entrevue afin de limiter au maximum la perte d'information.

En plus d'avoir codé dans cette étude le nom des banques dans un souci de confidentialité, nous avons également codé les noms des répondants des différentes banques objets de notre étude pour la même raison. Cependant, en vue d'identifier la banque d'appartenance des répondants, il nous est semblé impérieux en plus d'utiliser les abréviations M. et Mme,

respectivement pour Monsieur et Madame, d'y adjoindre le code de la banque correspondante.

En outre, en vue montrer la pertinence de nos résultats, conformément aux exigences de la méthode d'analyse par étude de cas comme précisé par Gagnon (2009), nous avons jugé nécessaire de préciser le niveau de poste du répondant, sa formation académique de base, son nombre d'années de travail dans le métier de la banque, la durée de l'entretien et aussi la nature du recueil⁷.

Toujours pour plus de précision, nous avons indiqué les dates et les horaires des différents entretiens avec les mandataires des différentes banques. Ces indications ne sont pas fortuites dans la mesure où elles nous permettent de situer d'un point de vue temporaire notre étude de terrain. Plus important encore, elles nous permettent de montrer la relative disponibilité de nos interlocuteurs. A ce propos, il convient de voir dans le tableau ci-dessous (tableau 3) que les entretiens avaient lieu soit au moment de la pause, soit en fin de journée quand les activités étaient moins denses, soit encore sur rendez-vous⁸. Le processus de traitement des données a suivi la démarche d'une analyse qualitative, à savoir la retranscription, le codage et le traitement des données. Par la suite nous avons procédé à une analyse sémantique et statistique.

Tableau 1: Récapitulatif des entretiens et transcription des participations

Banque	Interlocuteur	Recueil	Titre/Poste	Formation de base	Durée	Ancienneté dans la banque	Date et heure de l'entretien
B.1	M. B.1	Rédigé	Chef d'agence	BAC + 4 en science	1h 27mn	6 ans	23/03/2019 à 15h 15
B.2	M. B.2	Enregistré	Chef d'agence	BAC+5 en Science de gestion	50 mn	6 ans	16/05/2019 à 11h 7
B.3	M. B.3	Enregistré	Directeur régional		1h04mn	30 ans	17/05/2019 à 12h 42
B.4	M. B.4	Enregistré	Chef d'agence Analyste de crédit des entreprises	BAC+5 en technique bancaire et	38 mn	20 ans	17/05/2019 à 15h 16
B.5	Mme B.5	Rédigé	gestionnaire des comptes	BAC+5 en finance comptabilité	52 mn	2 ans	18/05/2019 à 10h 10
B.6	Mme B.6	Rédigé	Analyste de crédit/gestionnaire de compte	BAC+4 en Gestion	50 mn	09 ans	18/05/2019 à 11h 35

⁷ Parmi les types de recueil, on comptait des informations dactylographiées (ou rédigées) et des enregistrements.

⁸ Cette précision réaffirme la pertinence de nos entretiens en insistant sur l'idée selon laquelle ils étaient planifiés à l'avance, de commun accord entre les répondants et nous.

B.7	Mme B.7	Rédigé	Chef d'agence/Analyste de crédit mais plus commerciale	BAC+5 en Gestion et technique commerciale	25 mn	8ans	19/05/2019 à 11h 30
B.8	M. B.8	Rédigé	Chef d'agence	BAC+5 en technique bancaire et établissement financier	47 mn	8 ans	19/05/2019 à 15h00
B.9	M. B.9	Rédigé	Analyste de crédit	BAC+3 en banque et BAC+5 en MBA	43 mn	7 ans	19/05/2019 à 11h 35
B.10	M. B.10	Rédigé	Chef d'agence	BAC+4en gestion	32 mn	25 ans	16/05/2019 à 14h 30
B.11	Mme B.11	Rédigé	Chef d'agence	BAC+5 gestion et technique bancaire	45 mn	19 ans	23/05/2019 à 9h 44

Source: de l'auteur à partir des interviews

V. RESULTATS

a) Les conditions de satisfaction des informations comptables

i. La satisfaction des banquiers par rapport aux états financiers fournis par les entreprises

Le graphique suivant met en exergue une insatisfaction de la majorité des banquiers par rapport aux informations comptables, notamment par rapport aux états financiers qui leurs sont présentés pour des demandes de crédit. Cette majorité représente 55% de l'ensemble des personnes interrogées, qui situe leur satisfaction entre 25 et 50%.

Une analyse des réponses des banquiers par rapport à leurs attentes, en ce qui concerne les états financiers, nous permettait de présager déjà ce résultat :

M. B.3 : « Non, les états financiers qui nous sont souvent présentés ne répondent pas à nos attentes »

Mme B.5 : « Non, pas toujours; la fiabilité n' y est pas.»

D'autres banquiers, en plus de manifester leurs insatisfactions, ont justifié cet état des faits :

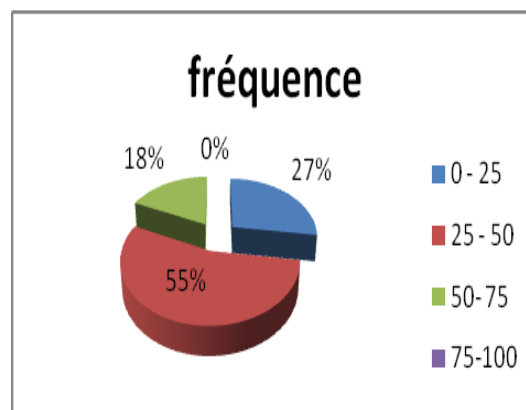
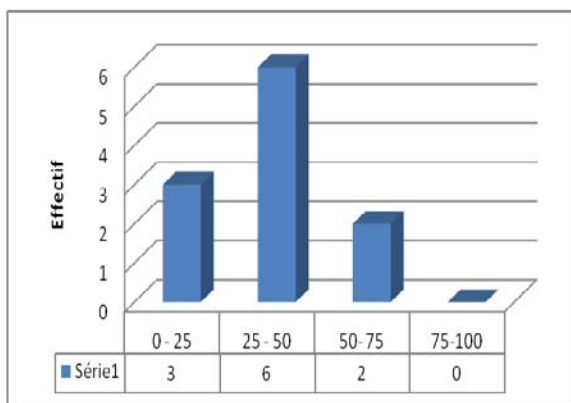
M. B.1 : « Les états financiers qui nous sont présentés ne répondent pas à nos attentes car il y a des manipulations de l'information comptable par les entreprises à leur guise en fonction des besoins de celles-ci »

M. B.2 : « les états financiers qui nous sont souvent présentés ne correspondent pas à nos attentes parce qu'ils sont souvent biaisés en fonctions des objectifs à atteindre »

M.B.4 : « Les états financiers qui nous sont souvent présentés ne correspondent pas toujours à nos

attentes. Dans la majorité des cas, il y a des problèmes à corriger et qui ne sont pas toujours dus à la mauvaise foi de l'emprunteur, mais plutôt à cause de son ignorance. C'est pour cela que nous jouons souvent un rôle d'accompagnement dans l'établissement de leurs états »

M. B.8 : « Presque jamais. Nous sommes toujours obligés de reconstituer tout. »



Source: De l'auteur à l'issue du dépouillement des résultats des guides d'entretien

Graphique 1: Satisfaction des banquiers par rapport aux états financiers (opinions recueillies par intervalle de pourcentage)

Compte tenu du caractère douteux de ces informations comptables, on comprend pourquoi les banques à certaines occasions, déplacent leurs auditeurs pour s'assurer de la véracité des informations qui leurs sont présentées. Ainsi à la question de savoir s'il leur arrive souvent de recourir au service d'un auditeur pour attester les comptes d'une entreprise demandeuse de crédit, la réponse est souvent affirmative:

M. B.1 : « Bien sûr; même pas seulement nos experts, mais nous même on va selon le cas, jusqu'à voir le fournisseur de l'entreprise pour se rassurer de ce qu'elle nous dit et interroger aussi la crédibilité de ce fournisseur »

M. B.10 : « Oui, dans le cas où nous ne faisons pas confiance aux états financiers de l'entreprise. »

Fort de toutes les considérations qui précèdent, nous sommes amenés à nous interroger sur la place que les banquiers accordent aux états financiers certifiés dans les opérations de demande de crédits des entreprises.

ii. *La place des états financiers certifiés dans les décisions d'octroi de crédit : une analyse sous le prisme de la confiance*

Une analyse des réponses des interlocuteurs (banquiers) sur la place qu'ils accordent aux états financiers certifiés et partant de l'insatisfaction de la plupart des banquiers à ce propos, nous a permis de ressortir les opinions suivantes:

M.B.3 : "Les certifications sont d'une grande importance pour nous car malgré tout, nous faisons confiance aux personnes agréées pour le faire; les cas de tricherie des grandes sociétés sont pour nous des cas exceptionnels que nous ne pouvons pas prendre comme une règle"

M.B.4 : "On ne prend pas les bilans de quartier, tout doit être certifié; et lors du traitement, s'il y a une

incohérence, nous renvoyons le dossier de demande de crédit"

M.B.9 : " Quand les états sont certifiés, c'est déjà bon par rapport aux états non certifiés. Mais comme ce n'est pas le seul élément, ce n'est pas bloquant dans tous les cas. Il nous arrive souvent de renvoyer pour certification quand il y a des incohérences flagrants."

M.B.10: "Nous accordons une importance aux états financiers certifiés, car ils sont plus crédibles; puisqu'ayant fait l'objet de certification d'un expert."

Ainsi nous pouvons établir, à travers une appréciation des idées émises par certains banquiers sur le rôle qu'ils accordent à la certification des états financiers, que cette certification occupe une place importante dans la mesure où elle permet de donner une certaine crédibilité aux informations fournies par les entreprises demandeuses de crédit.

Pour d'autres répondants, malgré le caractère souvent douteux de la certification de certains états financiers, elle vaut mieux que rien:

M. B.11 : " Bien que les états financiers certifiés ne reflètent pas toujours la réalité, nous préférons quand même qu'ils soient certifiés et surtout par des experts agréés. "

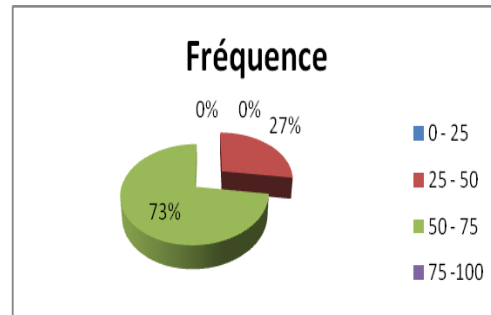
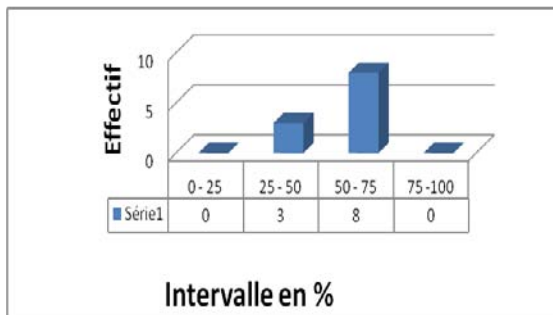
Dans la même veine d'idées, c'est-à-dire celle de la crise de confiance en cette certification, certains interlocuteurs mettent en avant les éléments justificatifs de leurs craintes:

M.B.1 : "Nous ne prenons pas d'états non certifiés et même jusque là, nous ne pouvons pas faire confiance car nous connaissons tout ce qui se passe: l'entreprise établit un bilan pour l'administration fiscale, un pour la banque et un autre pour elle-même."

iii. *La chance d'avoir du crédit dans l'hypothèse de la fiabilité des informations comptables*

Le graphique suivant nous montre que, lorsqu'on suppose que la satisfaction des banquiers est bonne en ce qui concerne les informations comptables, les chances pour une entreprise de se voir accorder du

crédit sont importantes et varient dans un intervalle de 50 à 75%. Pour cet intervalle, les opinions sont exprimées à 73% de l'ensemble des interlocuteurs. Il faut cependant noter qu'aucun banquier n'accorde entièrement confiance à ces informations comptables dans leurs décisions d'octroi de crédit bancaire.



Source: De l'auteur à l'issue du dépouillement des résultats des guides d'entretien

Graphique 2 : La chance pour l'entreprise d'avoir du crédit si on admet une note de 10/10 (par rapport au contenu informatif des données comptables, à fiabilité et à la qualité des données comptables)

iv. *Les propositions des banquiers pour une meilleure crédibilité des états financiers*

Il ressort des entretiens avec les banquiers que pour une meilleure crédibilité des informations comptables, un accent doit être mis sur le renforcement de la formation des dirigeants des entreprises afin d'éviter tout écueil de nature à compromettre la qualité de leurs informations comptables :

M.B.4 : "Il faut seulement que les entreprises soient sérieuses. Ensuite, que les dirigeants eux-mêmes cherchent à comprendre ce que font leurs comptables. Ils doivent d'ailleurs connaître la comptabilité avant de chercher un personnel comptable car beaucoup viennent ici sans être même capable de déceler leurs besoins réels de financement, parfois c'est nous qui rétablissons leurs bilans."

M.B.9 : "la volonté du promoteur d'entreprise et sa formation sans rechercher le moins chère."

Certains banquiers par contre, insistent encore sur le rôle de la certification pour une meilleure satisfaction des informations comptables :

M.B.3 : "Accorder une place importante à la certification"

M.B.10 : "Pour accentuer la crédibilité des états financiers, il faut les faire certifier par un cabinet d'experts comptables."

M.B.11 : "Il faut que toutes les entreprises certifient leurs états par un expert agréé."

Enfin, pour les autres banquiers interrogés, la place de l'Etat dans le renforcement de la satisfaction des informations comptables demeure fondamentale. Cette position se comprend dans la mesure où c'est

l'Etat qui organise les « règles du jeu » économique, notamment en matière de fonctionnement des entreprises. C'est pourquoi certains répondants affirment que:

M. B.8 : " Dans un pays corrompu, ce n'est pas un seul domaine qui doit bien fonctionner; donc c'est un problème général et c'est l'Etat qui doit trouver les moyens pour y remédier."

M. B.1 : "L'Etat seul peut trouver la solution"

Mme B.7 : " Tout dépend de l'Etat."

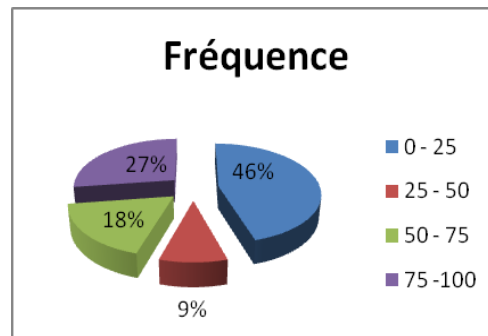
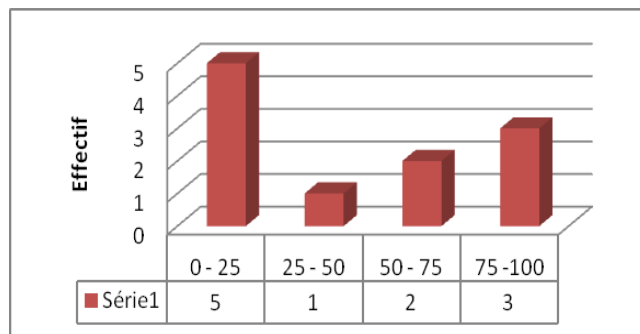
b) *Le degré d'importance des informations comptables dans le processus d'octroi de crédit*

Ce degré d'importance des informations comptables sera perçu à travers différentes rubriques correspondant aux questions du guide d'entretien pour ce sous-thème.

i. *L'importance des informations comptables par rapport aux informations extracomptables*

Les graphiques qui suivent permettent d'apprécier l'importance des informations comptables par rapport à certaines informations extracomptables notamment les informations; notamment les informations privées, et les informations liées à la notoriété de l'entreprise.

❖ Par rapport aux informations privées



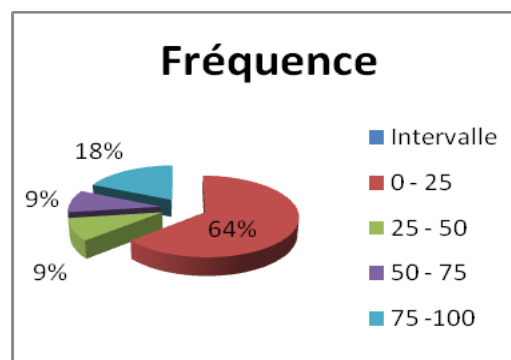
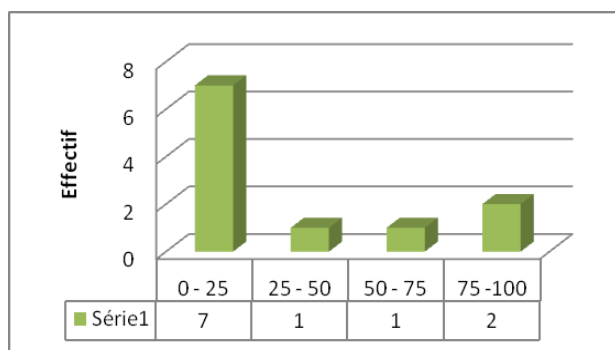
Source: De l'auteur à l'issue du dépouillement des résultats des guides d'entretien

Graphique 3 : Importance des informations comptables lors de la décision d'octroi de crédit par rapport aux informations extracomptables (opinions recueillies par intervalle de pourcentage)

Le graphique ci-dessus, nous permet de soutenir que 46% des banquiers accordent une importance moindre aux informations comptables par rapport aux informations privées. Pour eux, cette importance se situe dans l'intervalle allant de 0 à 25%. Néanmoins, on pour trois (03) banquiers, soit 27% des interlocuteurs, cette importance est comprise entre 75 et 100%.

La revue de littérature que nous avons déployée nous montre aussi qu'un point crucial pour l'efficacité des banques dans le domaine du crédit est l'accès à des informations privées. C'est d'ailleurs ce que soutient Rougès (2007, P.7). C'est donc signifier, la part belle des informations privées dans l'analyse du risque lors des opérations d'octroi de crédit.

❖ Par rapport à la notoriété de l'entreprise



Source: De l'auteur à l'issue du dépouillement des résultats des guides d'entretien

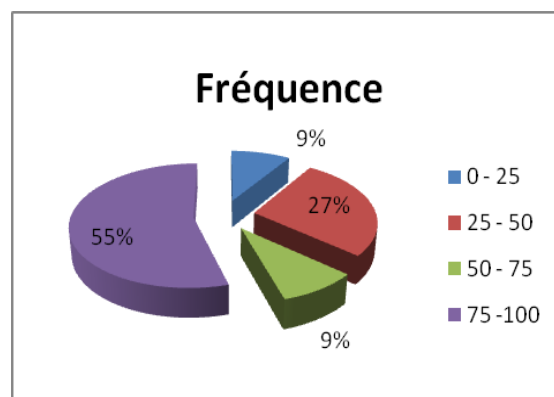
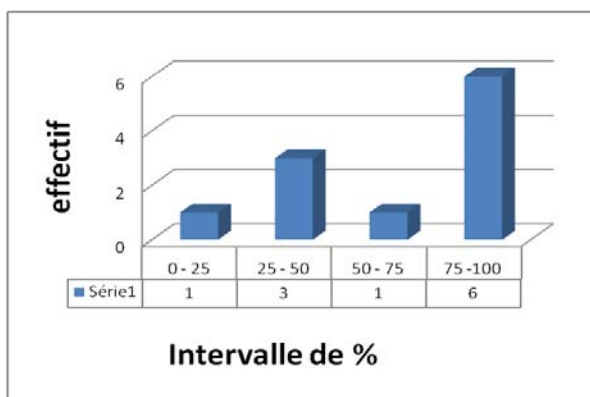
A travers le graphique qui précède, nous comprenons que 64% des banquiers accordent moins d'importance informations comptables par rapport au rapport à la notoriété de l'entreprise. En plus, cette importance se situe dans la fourchette 0-25%.

ii. *L'importance de la relation de proximité et de confiance par rapport aux informations comptables*

Une analyse du graphique suivant (graphique 4), montre que une bonne partie des interlocuteurs, soit 55%, accordent une place fondamentale à la relation de confiance et de proximité par rapport aux informations comptables dans le processus d'octroi de crédit aux entreprises.

M. B.9 : « Le crédit c'est d'abord la confiance. »

Mme B.6 : « La confiance est importante : le crédit c'est d'abord la confiance. La proximité est aussi importante ; surtout si l'entreprise emprunteuse est dans le pays. Dans le cas contraire, ce n'est pas un facteur limitant. »



Source: De l'auteur à l'issue du dépouillement des résultats des guides d'entretien

Graphique 4: Importance de la relation de confiance et de proximité par rapport aux informations comptables

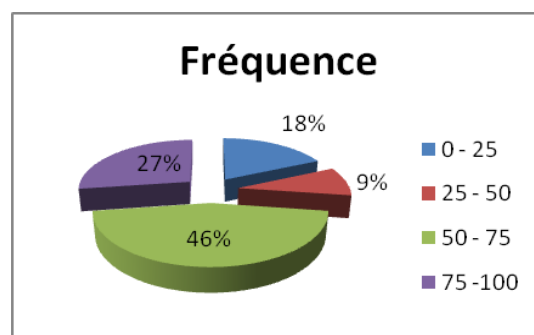
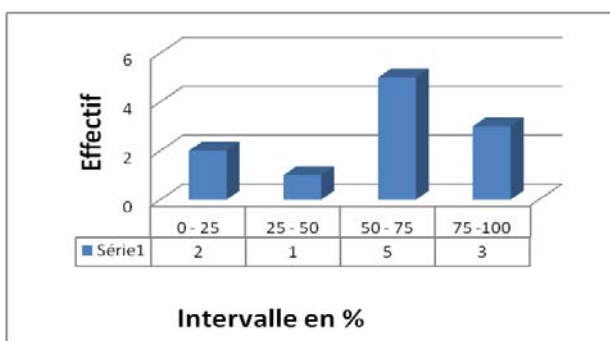
La décision d'octroi de crédit par une banque correspond à une prise de risque. Pour réduire cette incertitude, les banques ont défini des méthodes instrumentales d'évaluation qui doivent leur permettre d'appréhender le risque à partir d'éléments objectifs. S'appuyant essentiellement sur des éléments économique-financiers (comme les états financiers), ces éléments objectifs ont montré leurs limites, eu égard aux nombreuses crises que le monde financier a connu au cours de ces dernières années. Cette situation a conduit les banques à s'intéresser aux éléments subjectifs, qui pourraient expliquer que dans des circonstances identiques, certaines entreprises bénéficient de la confiance de la banque et obtiennent régulièrement des

crédits, alors que d'autres n'y parviennent pas (Alaoui, 2014).

iii. *L'importance des informations à caractère prospectif par rapport aux informations comptables*

Le graphique ci-dessous nous permet de légitimer le poids de la performance de l'entreprise dans le processus d'octroi de crédit. Dans ce graphique, on voit que 46% des répondants accorde une importance aux informations à caractère prospectif dans un intervalle de 75 à 100%.

M. B.2 : « Nous préférons ceux qui ont déjà fait à ceux qui disent, « je peux faire » ».



Source: De l'auteur à l'issue du dépouillement des résultats des guides d'entretien

Graphique 5: Poids accordé aux informations à caractère prospectif (performance de l'entreprise) par rapport aux informations comptables

iv. *L'importance du compte courant et de la centrale des risques dans l'analyse du risque par rapport aux informations comptables*

Dans le graphique 6 qui suit, on voit que le compte courant et la centrale des risques jouent un rôle très important par rapport aux informations comptables dans l'analyse du risque. 64% des répondants situent son importance entre 75 et 100%.

M. B.1 : « Tout est dans le compte courant. C'est le compte courant qui donne la qualité du client. C'est

en fait le « sang » du client ; la centrale des risques est une plateforme intermédiaire, si l'entreprise a un contentieux avec une banque, cette banque déclare à la centrale des risques et directement nous pouvons être au courant. »

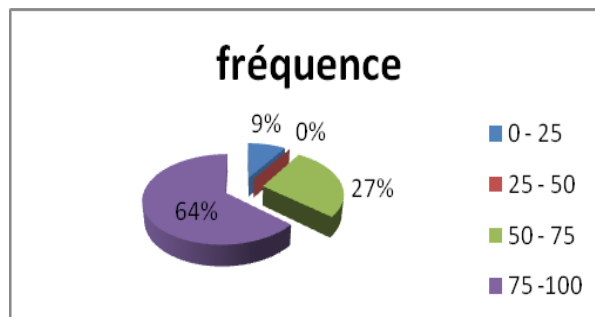
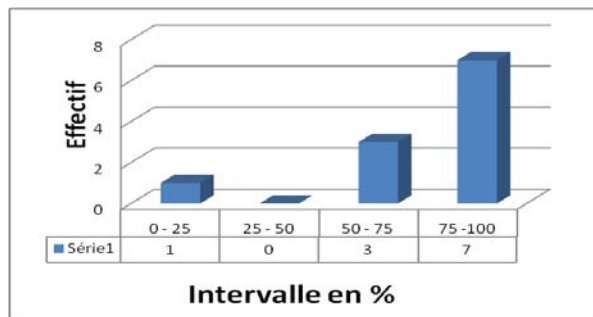
A travers cette position de M. B.1, on apprécie le rôle que joue la Centrale des Risques et de Renseignements Commerciaux (CRRC) dans la réduction de l'incertitude qui encadre l'environnement du crédit bancaire au Cameroun. Ainsi, la centrale des

risques, en allégeant les tâches matérielles d'investigation et d'échanges de renseignements sur les individus, en supprimant une grande part des efforts quotidiens des agents et comités de crédit, en prévenant et réduisant le risque crédit, en donnant aux décideurs des banques une disponibilité relativement spontanée contribue à l'efficacité des banques.

Par ailleurs pour certains répondants, notamment B.2, d'autres éléments subjectifs peuvent être pris en compte en plus des deux éléments susmentionnés. En effet, l'identité du promoteur de l'entreprise peut aussi entrer en ligne de compte :

M. B.2 : « La décision d'octroi de crédit peut dépendre de qui est derrière l'entreprise. On peut se poser par exemple les questions suivantes : les actionnaires, est-ce qu'ils sont sérieux ? L'activité, est-elle porteuse ? Le marché, n'est-il pas saturé ? »

Une étude menée en France montre que les éléments relatifs aux dirigeants ont été avancés comme importants par les banquiers interrogés bien plus souvent et en meilleure position que les informations comptables (Rouges, 2007, P.17).



Source: De l'auteur à l'issue du dépouillement des résultats des guides d'entretien

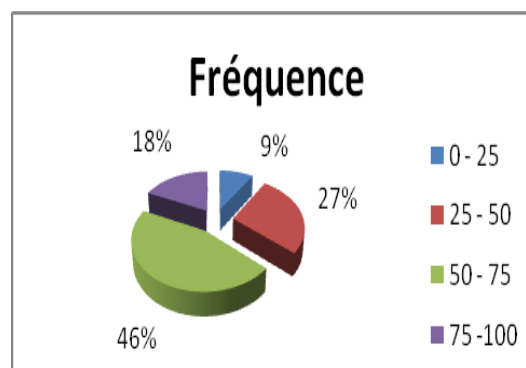
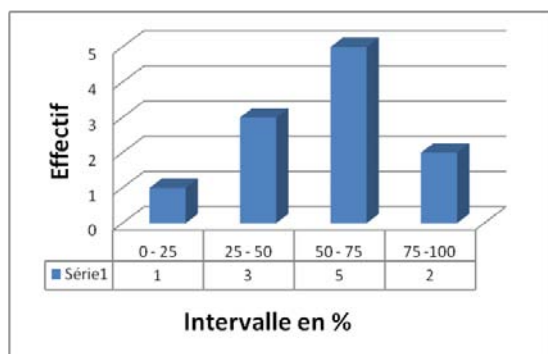
Graphique 6: Rôle que jouent le compte courant et la centrale des risques dans l'analyse du risque par rapport aux informations comptables

On comprend que les informations comptables ne jouent pas toujours un rôle important dans les décisions d'octroi de crédit bancaire par rapport à d'autres critères d'analyse du risque par les banquiers. On comprend pourquoi d'après une étude réalisée en France, on constate que :

« ...malgré la place accordée au risque de contrepartie dans les banques, un risque que les informations comptables contribuent à analyser, et malgré leur caractère requis, les données comptables ne sont pas jugées comme des informations de premier ordre et sont systématiquement complétées par d'autres informations » (Rouges, 2007, P.18).

v. L'importance du statut juridique de l'entreprise par rapport aux informations comptables

Comme l'illustre le graphique ci-dessous, le statut juridique de l'entreprise demandeuse de crédit influence les décisions d'octroi de crédit bancaire et souvent de façon plus importante que les informations comptables fournies par ces entreprises. Cette importance est d'ailleurs soulignée par certains banquiers à hauteur de 46% des répondants. Pour cette majorité, le niveau d'importance du statut juridique de l'entreprise par rapport aux informations comptables se situe dans un intervalle de 50 à 75%.



Source: De l'auteur à l'issue du dépouillement des résultats des guides d'entretien

Graphique 7: Importance qu'occupe le statut juridique de l'entreprise

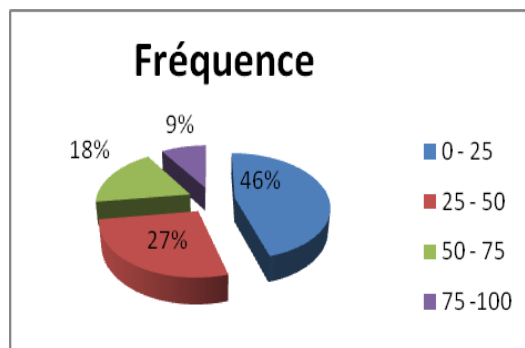
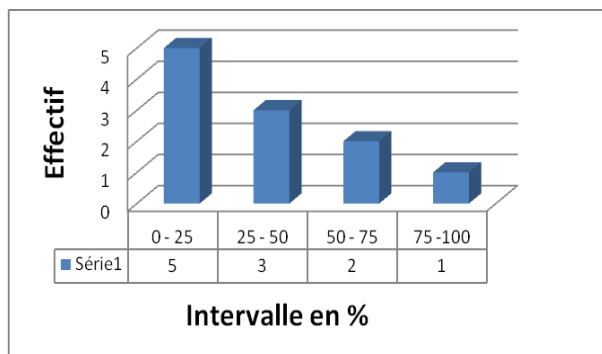
vi. *L'importance de l'intuition par rapport aux informations comptables*

Dans la graphique 9 ci-dessous, on constate que près de 46% des répondants n'accordent pas une place importante aux informations comptables par rapport à l'intuition. Cette dernière impression masque une position mitigée des interlocuteurs quant à l'importance de l'intuition par rapport aux informations comptables : On note un pourcentage d'importance de l'intuition compris entre 25 et 50% et 50 à 75% ; ce qui correspond à 46%, soit le même pourcentage que ce

qui accorde une importance moindre à la place de l'intuition. Cette position manichéenne se traduit par l'opposition d'opinion entre les interlocuteurs des banques B.7 et B.9.

Mme B.7 : « Pas d'intuition, il y a des critères d'accompagnement ; si vous les respectez, tant mieux ! »

M. B.9 : « C'est important : on dit souvent que la première impression est la meilleure. Mais ce n'est pas quantifiable. »



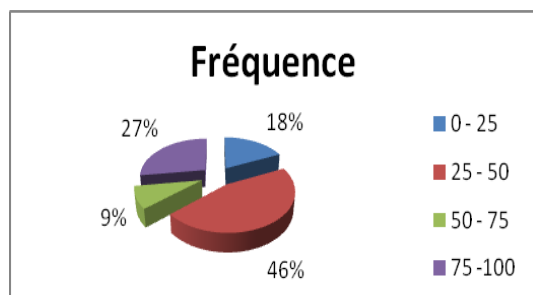
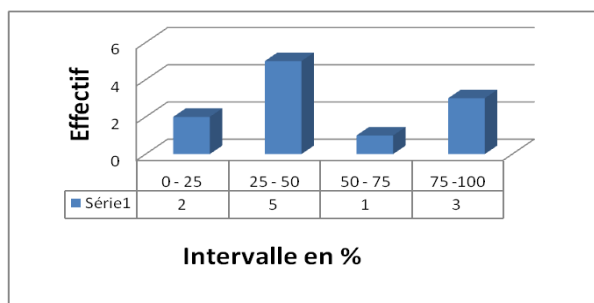
Source: De l'auteur à l'issue du dépouillement des résultats des guides d'entretien

Graphique 8: Importance de l'intuition par rapport aux informations comptables

vii. *L'importance des garanties par rapport aux informations comptables*

Au regard du graphique ci-dessous, nous constatons que la place des garanties dans la décision d'octroi de crédit par rapport aux états financiers est moindre. Ceci s'observe par la majorité des banquiers

interviewées qui situent cette importance entre 25 et 50%. En effet, les banques justifient leurs réponses par le fait que les garanties ne peuvent pas toujours être un élément de base pour l'octroi de crédit. Dans le processus d'octroi de crédit aux entreprises, plusieurs autres déterminants peuvent intervenir.



Source: De l'auteur à l'issue du dépouillement des résultats des guides d'entretien

Graphique 9: Importance des garanties dans les décisions de prêt aux entreprises par rapport aux états financiers

Mais au delà de tout, le niveau d'activité réalisé par l'entreprise demandeuse de crédit reste le plus importante comme le montre notre étude de terrain. C'est ainsi que certains banquiers déclarent :

M.B3. : « On ne finance pas la garantie mais on finance l'activité »

M.B4 : « Les garanties ne sont pas des priorités mais elles nous servent juste de garde-fou »

M.B.9 : « la garantie est un élément accessoire, on ne donne pas du crédit par rapport à la garantie mais par rapport au marché »

M.B.1 : « Au vue des obstacles que nous rencontrons de nos jours avec les textes OHADA pour la transformation des garanties en liquidité, la garantie n'est pas très importante pour nous sauf, s'il s'agit d'une garantie financière »

VI. CONCLUSION

Au Cameroun, comment est-ce que les banques perçoivent-elles les états financiers qui leurs sont présentés par les entreprises dans le processus d'octroi de crédit? Telle était la question centrale à

laquelle cette étude tentait de répondre. Les conclusions de cette étude permettent d'infirmer la première proposition de recherche. En effet, il ressort de notre analyse que de manière générale, la satisfaction qu'ont les banquiers interrogés par rapport aux informations comptables qui leurs sont présentées n'est pas bonne. Comme justificatif à cet état des faits, il est mis en avant le caractère souvent douteux de la fiabilité desdites informations qui leurs sont présentées en vue de bénéficier du crédit bancaire. Les conclusions de cette étude nous permettent également d'infirmer la deuxième proposition de recherche. A cet effet, force est de reconnaître sur la base des résultats de nos analyses que, l'information comptable occupe une place moins importante que les autres exigences dans l'analyse du risque bancaire. Il nous a par exemple été permis de constater que le mobile principal de cette importance moindre serait le problème du manque de cohérence que constatent les banquiers dans les informations comptables qu'ils reçoivent. Selon eux ce problème d'incohérence s'explique soit par une ignorance du dirigeant de l'entreprise de la comptabilité elle-même, ou soit par des manipulations de ces informations que font ces dirigeants en fonction de leurs objectifs à atteindre et au détriment des banquiers. Ce constat fait en sorte qu'ils (les banquiers) préfèrent mettre en avant la relation de confiance qui pour eux, semble plus importante que l'information comptable elle-même dans la décision d'octroi de crédit. Ce constat corrobore les résultats de la plus part des études antérieures. A ce propos comme le souligne Alaoui (2014) travaillant sur le crédit bancaire dans l'économie marocaine, on n'en est plus à une relation de transaction mais à une approche relationnelle.

Ces deux conclusions nous permettent de répondre à la question centrale de cette étude en disant qu'elle n'est pas bonne puisque les banques se méfient des informations comptables qu'elles reçoivent pour l'analyse du risque bancaire. Comme recommandations en vue d'améliorer la perception des banquiers par rapport aux états financiers qui leurs sont présentés par les entreprises: a) Nous pensons que l'Etat doit obliger les entreprises quel que soit leurs catégories à certifier leurs états financiers par des experts agréés. b) Nous pensons aussi que les dirigeants des entreprises doivent renforcer leurs connaissances en matière de gestion comptable.

Cependant, cette étude présente un certain nombre de limites. Malgré l'examen de différentes sources d'information et l'utilisation de plusieurs procédés méthodologiques, la crédibilité et la scientificité des résultats des études de cas font face à de nombreuses critiques (Roy, 2009). Les plus fréquentes portent, notamment, sur l'inconscience des biais des résultats, le choix erroné du cas, le peu de profondeur dans l'étude du cas, l'absence de vérification de la validité et de la fidélité ainsi que sur

une fausse interprétation ou une généralisation des résultats (Roy, 2009). Nous nous devons de rappeler qu'un entretien se déroule rarement comme prévu. Nous avons d'ailleurs été confrontés à ce problème avec certaines banques lors de nos échanges sur le terrain.

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GLOBAL JOURNAL OF MANAGEMENT AND BUSINESS RESEARCH: D
ACCOUNTING AND AUDITING
Volume 20 Issue 1 Version 1.0 Year 2020
Type: Double Blind Peer Reviewed International Research Journal
Publisher: Global Journals
Online ISSN: 2249-4588 & Print ISSN: 0975-5853

The Impact of Foreign Direct Investment Spillover Effects on Total Factor Productivity in Sri Lanka

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Abstract- This paper examines whether FDI generates productivity spillovers in Sri Lanka, using the annual data over the period from 1978 to 2015. The autoregressive distributed lag model has been estimated to investigate the effects of FDI, research and development, human capital, international trade, technological gap, rate of inflation, population growth and civil war on total factor productivity (TFP). The results reveal that FDI positively influences TFP. The results also confirm that research and development, human capital and international trade have positive effects. The findings suggest that Sri Lanka needs to increase investment in human capital and in research and development and needs to introduce policies to attract FDI inflows.

Keywords: FDI, spillovers, total factor productivity, cointegration.

GJMBR-D Classification: JEL Code: E20, F21, O32



Strictly as per the compliance and regulations of:



The Impact of Foreign Direct Investment Spillover Effects on Total Factor Productivity in Sri Lanka

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Abstract- This paper examines whether FDI generates productivity spillovers in Sri Lanka, using the annual data over the period from 1978 to 2015. The autoregressive distributed lag model has been estimated to investigate the effects of FDI, research and development, human capital, international trade, technological gap, rate of inflation, population growth and civil war on total factor productivity (TFP). The results reveal that FDI positively influences TFP. The results also confirm that research and development, human capital and international trade have positive effects. The findings suggest that Sri Lanka needs to increase investment in human capital and in research and development and needs to introduce policies to attract FDI inflows.

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1. INTRODUCTION

Over the last three decades, in many developing countries, FDI has been considered to be element of a development strategy. Most countries today recognize that FDI can play a significant role in economic growth and development. It is widely believed that the inflows of FDI are beneficial to host countries in terms of providing additional capital, creating jobs, and accelerating economic growth. Many countries rely, to a large extent, on the assumption that FDI generates positive externalities in the host country (Caves, 1974; Javorcik, 2004; Branstetter, 2006; Liu, 2008; Hoi and Pomfret, 2010; Tang et al., 2012; Baltabaev, 2014; Liu et al., 2016; Thang et al., 2016; Zhang, 2017). Generally, a foreign presence in any sector is associated with technical knowledge and managerial know-how that not only improves the productivity but also creates spillover into the economy, however, according to Moura and Forte, 2009; Del Bo, 2013; Herzer and Donaubauer (2018) the spillover effects of FDI can negatively affect growth through the host country. Therefore, an understanding of the spillover effects of FDI is very significant in the economy.

Dunning's research work (1977, 1981) provides a comprehensive analysis based on ownership, location and, the internalization (OLI) paradigm (eclectic theory). The United Nations Conference on Trade and Development (UNCTAD, 1998), applying Dunning's OLI paradigm, confirms that FDI tends to go to countries where it is possible to combine the ownership advantages with the location-specific of the host countries through the internalization of foreign investments.

Productivity spillovers take place through contacts between Multinational Enterprises (MNEs) and domestic firms. Both the neoclassical and endogenous growth models support the proposition that FDI can generate positive spillovers to firms in the host country. Since MNEs are part of international capital and technology, their entry into a country can facilitate the transfer of technology and business know-how. MNEs can also provide both training for staff and managers and technical assistance to local suppliers, leading to improved productivity and competitiveness in the local firms in the host country. According to Crespo and Fontoura (2007), FDI spillovers can occur through five main channels: (i) demonstration/imitation, (ii) labor mobility, (iii) exports, (iv) competition, and (v) backward and forward linkages with domestic firms. Thus, the demonstration effect may help firms imitate product and process technologies. In domestic sectors, labor mobility could allow the hiring of workers from foreign firms. By permitting foreign firms to export, domestic firms could enter the market with lower costs. The competitive atmosphere in the host country provides an incentive for using the existing resources and technology more efficiently. When domestic firms establish local markets in which MNEs are buyers (backward linkages) or sellers of intermediate inputs (forward linkages), linkages are created. These five channels of the spillover effects of FDI to the domestic industries can be classified into two forms: (a) intra-industry (horizontal FDI) and (b) inter-industry (vertical FDI). Horizontal spillover takes place when MNEs carry out the same activities in the host country as at home. Vertical spillover arises from the MNEs engaging in different stages of activities in the host country.

The objective of this research is to investigate the impact of FDI on total factor productivity (TFP) in Sri

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Lanka. This study contributes to the spillover effect of FDI literature in the following ways. First, to our knowledge, this is the first study to investigate the relationship between FDI and TFP in Sri Lanka. Second, we have employed a more recent econometric technique, the Autoregressive Distributed Lag (ARDL) approach. This method, in our estimation, captures the short-run and long-run effects of the relationship between FDI and TFP. It is believed that analyzing these effects of the relationship between FDI and TFP is more useful to design policies at different time horizons. Third, this study uses more recent data. The rest of the paper is organized as follows. Section 2 reviews the relevant theoretical and empirical literature on FDI and spillovers. Section 3 briefly describes the Sri Lankan economy. Section 4 demonstrates model specification for the relationship between FDI and total factor productivity. Section 5 describes the variables and data sources. Section 6 presents the empirical analysis and estimation results. Section 7 comprises the conclusions and policy implications.

II. FDI AND SPILLOVERS: A REVIEW OF THE LITERATURE

a) *Theories of FDI*

The theoretical models for FDI and spillovers fall within the frameworks of the theories of growth and FDI. The neoclassical growth model of Solow (1956) shows that output growth is linked to increases in labor and capital, and the progress in technology. The lack of economic growth in many countries is due to the nature of their production and technological constraints that inhibit their capacity to obtain the necessary technology required to increase their productivity, thus reducing economic growth. The FDI becomes an ingredient in many countries to promote growth and to be capable of maximizing the utilization of existing productive capabilities and the opportunities of creating new ones.

The endogenous growth theory (Romer, 1986; Lucas, 1988) treats technological advances as an endogenous factor. It stimulated research on the path by which FDI accelerates a country's economic growth in the long-run by way of two ways. First, FDI advances new foreign technology or imports new intermediary goods in the production function and accelerates economic growth by fuelling capital accumulation in capital import countries. Second, FDI enhances economic growth by contributing to the accumulation of human capital using labor training or absorption of technology and new management techniques. In the endogenous growth models, FDI raises growth through technological diffusion from the developed countries to the developing countries. Helpman (2004) argues that the range of available products and the stock of knowledge accessible for Research and Development

(R&D) are the channels through which investment affects economic growth.

Considering the FDI theories, Hymer (1976) introduces the concept of firm-specific advantages and demonstrates that FDI takes place only when the benefits of exploiting firm-specific advantages outweigh the relative costs of the operations abroad. The firm-specific advantages are in the form of brand name, patent-protected superior technology, marketing, and managerial skills, cheaper sources of financing, preferential access to markets, and economies of scale. Kindleberger (1970) agrees with Hymer that firms invest abroad because of the possession of monopolistic advantages such as product differentiation, marketing skills in the goods market, proprietary knowledge, discrimination in access to capital, and managerial skills in factor markets. Viewed this way, FDI creates spillovers into the host country.

Findlay (1978), one of the pioneers of FDI spillovers theory, investigates the relationship between FDI and technological change in a backward region. In this model, the rate of technological progress in the advanced region was assumed to increase at a constant rate. His model based on the earlier ideas of the relative backwardness of Gerschenkron (1962), states that the greater relative disparity in development levels between the backward country and the advanced country, the faster the catch-up rate. Findlay (1978) then proposes a hypothesis that the technological progress in a 'backward' region is an increasing function of the technology gap between it and the 'advanced' region. Moreover, Findlay followed the idea of diffusion of technology, suggested by Arrow (1971), considering it an analogy of the spread of a contagious disease. The basis of the analogy was that technological innovations are most efficiently diffused when there is personal contact between those with the knowledge of the innovation and those who adopt it. In this way, Findlay (1978) formalized the Hymer approach to endogenize the rate of technological change in the backward region as a function of the degree to which it is exposed to FDI.

b) *Empirical Studies*

During the last three decades, numerous empirical studies have investigated the relationship between FDI and spillovers in both developed and developing countries. The spillover effects of FDI attracted relatively more attention with the pioneer study coming from Caves (1974). Previous studies focus on exploring the channels of technological diffusion from MNEs to the host countries. In the literature, FDI-spillover relationship has been investigated based on , industry-level, and country-specific data. However, the majority of the studies have been conducted using data.

Table 1 presents a summary of the studies on FDI and spillovers, based on the data period, country of

study, type of methodology used, and their findings. As can be seen, results from most of the empirical studies reveal that FDI brings positive externalities to host countries. That is, FDI positively affects productivity (Caves, 1974; Cheung and Lin, 2004; Javorcik, 2004; Branstetter, 2006; Sasidharan, 2006; Liu, 2008; Hoi and Pomfret, 2010; Piyaarekul and Peridy, 2010; Fu, 2012; Karunaratne, 2012; Tang et al., 2012; Baltabaev, 2014; Lenaerts and Merlevede, 2015; Liu et al., 2016; Thang et al., 2016; Zhang, 2017); however, Del Bo (2013) finds a negative effect of FDI on productivity. Bruhn and Calemario (2014), Merlevede et al. (2014) and Thang et al. (2016) confirm that FDI both positively and negatively affects productivity when considering the forward and backward linkages, capital intensive and labor intensive capacity, as well as the short and long runs.

Studies by Aitken and Harrison (1999), Cheung and Lin (2004), Javorcik (2004), Branstetter (2006),

Sasidharan (2006), Liu (2008), Hoi and Pomfret (2010), Fu (2012) and Del Bo (2013) provide evidence of FDI spillovers through vertical or/and horizontal channels. Among the reviewed studies, some studies (Piyaarekul and Peridy, 2010; Karunaratne, 2012; Del Bo, 2013; Baltabaev, 2014; Bruhn and Calemario, 2014; Lenaerts and Merlevede, 2015; Thang et al., 2016) have used total factor productivity to measure the spillover effects, while others such as Caves (1974), Kokko et al. (1996) and Buckley et al. (2007) have used labor productivity. Attempting to establish the relationship between FDI and spillovers from the review of the findings reveals a mix of positive and negative relationships between FDI and spillovers. This may be due to data sets, the alternative econometric methods, and the different country characteristics.

Table 1: Empirical Studies on the Spillover Effects of FDI: A Summary

Author(s) , Year	Period	Country	Technique	Variables	Findings
Caves (1974)	1965 – 1967	Canada and Australia	OLS	Value added per worker, foreign-owned firms' share of industry, average profit on equity, sales by corporations and total assets of firms	Higher subsidiary shares make higher productivity levels in competing domestic firms.
Kokko et al. (1996)	1988	Uruguay	OLS	Labour productivity, capital-intensity, plant's capacity utilization, use of disembodied proprietary technology, labour quality, plant's share of total sales and FDI technology gap	Spillovers effect is positive and statistically significant in the sub-sample of plants with moderate technology gaps compared to foreign firms, but not in the group of local plants facing large technology gaps.
Aitken and Harrison (1999)	1976 – 1989	Venezuela	OLS and WLS	Output, foreign ownership in the plant, foreign ownership in the sector and number of plants	A negative spillover from FDI to domestic enterprises.
Schoors and Tol (2002)	1997 – 1998	Hungary	OLS	Output, fixed assets, human capital and Firm's sales	Foreign firms have a positive spillover effect on labour productivity of local firms in the same sector; spillover effects between sectors are found to be relatively more important than spillover effects within sectors.
Cheung and Lin (2004)	1995 – 2000	China	OLS	R&D inputs, expenditures on science and technical development, number of technical personnel, export-output ratio, level of per capita and FDI	Among the three spillovers channels, backward linkages are statistically the most important channel through which technology spillovers from FDI to domestic firms.
Javorcik (2004)	1996 – 2000	Lithuania	OLS	Real output, capital, labour, material inputs, firm's total equity, horizontal, backward and forward FDI	There are positive intra industry spillovers from FDI.
Branstetter (2006)	1980 – 1997	Japan and America	OLS	U.S. patent applications of Japanese firm, FDI, R&D expenditure and firm's age	FDI is a channel of knowledge spillovers, both from investing firms to indigenous firms and from indigenous firms to investing firms.
Sasidharan (2006)	1994 – 2002	India	OLS	Output, capital, labour, material cost, horizontal and vertical FDI	Vertical spillovers are positive and significant; horizontal is negative and is not statistically significant.
Buckley et al. (2007)	1995	Chinese overseas firms (Hong Kong, Macau and Taiwan- HMT)	OLS	Labour productivity, capital intensity, R&D intensity, labour quality, firm's size, HMT firm (Hong Kong, Macau and Taiwan) capital share and other capital share	The relationship between HMT capital and locally owned enterprises productivity is curvilinear.
Gorodnichenko et al. (2007)	2002 – 2005	17 Transition countries	OLS	Sales revenues, forward, backward and horizontal FDI, exports, imports, a firm's	No support for the hypothesis that spillovers are greater for FDI with more advanced technology.

				sales to MNEs, competition and capital stock	
Liu (2008)	1995 – 1999	China	OLS	Output, capital stock, employees, TFP, foreign equity weighted average of firm's equity owned by foreign investors at industry level and weighted average of FDI in upstream and downstream	Among the three spillovers channels, backward linkages are statistically the most important channel through which technology spillovers from foreign-invested to domestic firms.
Hoi and Pomfret (2010)	2000 – 2005	Vietnam	OLS	Wages per employee in a domestic private firm, horizontal and vertical wage spillovers (training activities of foreign firms), capital intensity, skills, scale, concentration and technology gap	Horizontal wage spillovers from foreign firms to domestic private firms; vertical wage spillovers exist, but depend on the specific characteristics of firms and industries.
Piyaareeku I and Peridy (2010)	1970 – 2005	Indonesia, Malaysia, Philippines, Singapore and Thailand	Yamamoto Granger causality test and ECM	FDI and TFP	Positive productivity spillovers effects from inward FDI in all the selected ASEAN countries.
Fu (2012)	1998 – 2004	Britain	OLS and 3SLS	Management practices of local firms, horizontal management practices, backward management practices, firm size, size of the company group, human capital, competition pressure, openness to foreign markets and industry dummies	Existence and significance of intra- industry linkage, and inter-industry spillovers of managerial knowledge from foreign to local firms.
Karunaratne (2012)	1983 – 2007	25 OECD Countries	Panel cointegration and causality	TFP, FDI inward stocks, FDI outward stocks, openness to trade, R&D expenditure, capital formation and government expenditure, rate of inflation and unemployment	Both inward and outward FDI positively contribute to TFP growth in the OECD.
Tang et al. (2012)	1987 – 2004	China	Cointegration and ECM	Consumption, real disposable income, FDI spillover effects (taste and consumption pattern), wealth, real interest and uncertainty	A consumption propensity shift has occurred due to FDI spillover effects.
Del Bo (2013)	2002 – 2009	European Union	OLS	TFP, public ownership, horizontal spillover and total assets	In the generation sector, negative vertical spillovers arise only within regional boundaries, but positive horizontal and vertical spillover effects in the distribution sector are distance-related, increasing in magnitude the closer the presence of foreign firms is.
Baltabaev (2014)	1974 – 2008	49 countries	GMM	TFP, distance to the technological frontier, R&D expenditure, human capital, FDI, trade openness, rate of inflation, population growth, and existence of investment promotion agency	FDI is an important factor of technological transfer.
Bruhn and Calemario (2014)	2011	Brazil	OLS and GLM	TFP, capital, labour, qualification, and rate of return on assets, absorptive capacity of industries, technological intensity, FDI, rate of inflation and capital cost	FDI inflows lead to positive spillover effects in high absorption capacity industries and negative effects in labour intensive industries.
Merlevede et al. (2014)	1996 – 2005	Romania	OLS	Real output, real capital, number of employees and material inputs	FDI initially negatively affects local competitors' productivity but then positively impacts later on.

Lenaerts and Merlevede (2015)	1996 – 2005	Romania	OLS	TFP, FDI, Herfindahl index, firm age and firm size	Only medium sized foreign firms generate spillovers.
Liu et al. (2016)	2003 – 2008	China	OLS, EGLS and TSLS	Output, number of employees, capital, foreign equity participation, productivity gap, fixed assets, management skills, firm market share, foreign capital share in each province's electronic industry, MNE's employment share in each province's electronic industry, science & technology investment, industry human capital, firm dummy and regional dummy	FDI has a positive effect on TFP in the Chinese electronic industry.
Thang et al. (2016)	2000 – 2005	Vietnam	OLS	TFP, horizontal, backward and forward FDI, economic density, diversification, ratio of urban population of each province, labour quality of each province and competitiveness of the province	Within short distances between foreign and domestic firms, foreign firm presence creates positive spillovers for local firms in supplier sectors (backward spillovers), but negative effect on firms in customer sectors (forward spillovers) and negative effect on firms in the same sector
Zhang (2017)	2004 – 2012	China	OLS	R&D output, number of personnel working in the research sector in province, R&D stock, share of expenses on basic research and experiment research, per capita real GDP in province, absorptive capacity of a province, stock of FDI and time dummies	FDI contribute positively to the productivity.
Herzer and Donaubauer (2018)	1981 – 2011	49 developing countries	Panel cointegration and DOLS	TFP, FDI, GDP, capital, labour, labor share, human capital per worker	FDI has a negative long-run effect on TFP; long-run causality runs in only one direction, from FDI to TFP and in the short run, TFP has a negative effect on FDI.

Note: Total Factor Productivity (TFP), Ordinary Least Squares (OLS), Weighted Least Squares (WLS), Error Correction Model (ECM), Three Stage Least Squares (3SLS), Generalised Method of Moments (GMM), Generalised Linear Model (GLM), Estimated Generalised Least Squares (EGLS), Dynamic Ordinary Least Squares (DOLS), Two Stage Least Squares (TSLS).

III. SRI LANKAN ECONOMY: AN OVERVIEW

Sri Lanka, an island located off the southern coast of India in South Asia, has a total area of about 65,610 square kilometres and a total population of 20.9 million people in 2015 (World Bank 2017). At the time of gaining independence from Britain in 1948, Sri Lanka has represented a classic example of the dualistic export economy, which comprised an export-oriented modern plantation economy and a traditional subsistence-oriented agricultural economy (Snodgrass, 1966). During the period between 1948 and 1977, the two distinct phases of government policies that occurred showed that private investment in Sri Lanka responded to changed regulatory conditions. For example, during the second half of the 1960s, there was a partial liberalization that generated better conditions for the private sector. This had a beneficial impact on economic growth, which averaged 5.3 percent per annum during the period 1966–1970. The period 1971–1977 saw a reversal of intensified government

intervention and several policy measures that were adverse for private-sector investment. As a result, economic growth sharply decelerated to an annual average of 2.9 percent from 1971–1977.

In 1977, the country's direction of economic policy changed with the introduction of a market-oriented policy package featuring the deregulation of market activities and the reduction of direct government participation in the economy. Sri Lanka was the first among the South Asian countries to pursue such an open economic policy, targeted to achieving its national development. Trade liberalization began with the removal of quantitative restrictions and licensing requirements for imports and exports, as well as tariff reforms. Such reforms resulted in new incentives for export-oriented foreign investment under an attractive Free Trade Zone scheme. As a result, external market liberalization took place rapidly after 1977, with the removal of exchange controls and the adoption of a floating currency (managed float) in 2001. Sri Lanka has been committed to prudent macroeconomic policies

and regional integration, joining the World Trade Organization (WTO) in 1995.

Sri Lanka is one of the developing countries that badly needs investment, as its capacity to allocate its funds for development is low due to its lower level of domestic savings (Ravinthirakumaran et al., 2015), which was only 24 percent of its gross domestic product (GDP) in 2015 (World Bank, 2017). To achieve its desired growth, it will require high levels of foreign investment. With these open economic policies, the FDI inflows have started to increase in Sri Lanka. Between 1978 and 2014, FDI inflows have generally increased from \$ 1m to \$ 944m (World Bank, 2017). The investment-favourable policies adopted by the successive governments over the past three decades resulted in FDI inflows into Sri Lanka. Throughout this period, even though there is a general upward trend in FDI inflows to Sri Lanka, there have been sharp falls in certain years (1983, 1989, 1995, 1998 and 2009) due to the civil war.

Providing an attractive business environment has been the basis of Sri Lankan policy since the end of the civil war. Currently, Sri Lanka focuses on long-term strategic and structural development challenges as it strives to transition to an upper-middle-income country. The main challenges to these involve boosting investment, including human capital; realigning public spending and policy with the needs of a middle-income country; enhancing the role of the private sector,

including the provision of an appropriate environment for increasing productivity and exports; and ensuring that growth is inclusive (World Bank, 2017). Continued growth depends mainly on fostering private sector development and private investment, especially increased FDI. Through the diversity of mechanisms, including supplier linkages, competition and demonstration effects, as well as labor mobility, FDI spillovers could increase the efficiency, competitiveness, and, ultimately the productive capacity of the domestic economy.

IV. MODEL SPECIFICATION

The concept of TFP can be combined with the foreign presence (FDI) of a country. FDI (multinational enterprises) represents the existence of the spillover effect on an aggregate level. To investigate the relationship between FDI and TFP, a model is constructed in which the following variables are included¹. Then, a country's TFP level becomes a function of FDI, research and development (R&D), human capital (HC), trade (TRA), technology gap (TGAP), rate of inflation (INF), population growth (POPG) and civil war (WAR). These are the dominant determinants identified in the majority of the studies in Table 1. In our model, this WAR is considered as an exogenous variable. The linear regression framework for determinants of TFP is as follows:

$$LTFP = \delta_0 + \delta_1 LFDI + \delta_2 LR \& D + \delta_3 LHC + \delta_4 LTRA + \delta_5 LTGAP + \delta_6 INF + \delta_7 POPG + \delta_8 WAR + \varepsilon \quad (1)$$

All explanatory variables are in natural logarithm, with the exception of rate of inflation, population growth and war. The ε is the error term.

The expected signs of the determinants on TFP are as follows: R&D, human capital, trade, and population growth are expected to have a positive effect on TFP, while rate of inflation and dummy variable (civilwar) are expected to have a negative effect. The FDI and technology gap could have either positive or negative effects on TFP. If FDI inflows bring positive technological externalities to host countries, then FDI positively influences TFP, allowing the host countries to enjoy positive spillovers. However, if FDI inflows bring negative technological externalities to host countries, then they enjoy negative spillovers, implying that FDI could have either positive or negative spillover effects on TFP.

As R & D can be regarded as reflecting an invention in the production process, the development of new products with superior quality improves the TFP. The level of knowledge indicated by human capital plays an important role in TFP. Higher levels of knowledge can help countries increase TFP. Technology transfer, which

leads to increased TFP, can take place through international trade, a channel of technological diffusion. The larger technology gap between the home and the host countries will result in lower TFP due to insufficient absorptive capacity. However, if there is sufficient absorptive capacity in the host country, then there may be higher TFP. Since the rate of inflation causes misperception of the relative price levels and leads to inefficient allocation, a higher rate of inflation is associated with lower TFP. A population that has more ideas and innovation helps a society to increase its ability to acquire and use relevant knowledge.

V. DATA SOURCES AND DESCRIPTION OF THE VARIABLES

In the literature of FDI and spillovers reviewed, a majority of studies use firm level data to analyze the spillover effect of FDI. However, due to the limitation of firm level data in Sri Lanka, this study uses aggregate level data to investigate the impact of FDI on TFP. We use annual data over the years from 1978 to 2015 to estimate model (1). TFP is calculated at constant

purchasing power parity rates relative to the US, in terms of the prices in that period. FDI is defined as FDI net inflows in US\$. Trade is measured in terms of exports plus imports (US\$). Patent applications filed by residents is proxy for R&D. Index of human capital per person for Sri Lanka (annual, not seasonally adjusted) is used as a proxy for human capital. The technology gap is calculated as the ratio of US labor productivity to the labor productivity of Sri Lanka. The labor productivity is measured as per hour labor in US\$. The rate of inflation is measured as a GDP deflator (annual %). Population growth is measured as a percentage growth rate of the total population. A dummy variable (WAR) is used to capture the effect of the civil war on TFP during relevant periods. The 'war' variable takes the value 1 for the civil war years 1983–2009 and 0 otherwise.

The TFP data are obtained from *Penn World Tables PWT 9* (Feenstra et al., 2015). The data for FDI, patent applications, trade, rate of inflation, and population growth are collected from *World Development Indicators*. The Index of human capital per person is gathered from *FRED, Federal Reserve Bank of*

St. Louis. The data on labor productivity are collected from the *Conference Board: Total Economy Database*.

VI. EMPIRICAL RESULTS AND ANALYSIS

a) Unit root tests

First, the time-series properties of these data series are investigated using Augmented Dickey-Fuller (ADF) (Dickey-Fuller, 1979) and Phillips-Perron (PP) (Phillips and Perron, 1988) unit root tests, to avoid the spurious regression estimation results. Table 2 presents the results based on the two unit-root tests. For them, the null hypothesis is that the series has a unit root (i.e., the series is non-stationary). As can be seen, the null hypothesis of a unit root cannot be rejected for all eight variables in their level form, except for three: human capital, rate of inflation, and population growth. However, at the first difference, the null hypothesis of the unit root can be rejected for all five variables. Hence, the results confirm that human capital, rate of inflation and population growth are integrated of order zero, $I(0)$, and all other variables are integrated of order one, $I(1)$.

Table 2: Unit Root Test Results

Variables	ADF		PP		Order of Integration
	Levels	First Differences	Levels	First Differences	
LTFP	-0.109	-3.457***	-0.182	-3.422***	$I(1)$
LFDI	-1.372	-5.842***	-1.517	-6.025***	$I(1)$
LR&D	-0.289	-8.759***	-0.576	-8.525***	$I(1)$
LHC	-3.586**	-	-3.371**	-	$I(0)$
LTRADE	-2.868	-6.851***	-2.896	-7.333***	$I(1)$
LTGAP	-1.817	-3.632**	-1.270	-4.372***	$I(1)$
INF	-4.837***	-	-4.893***	-	$I(0)$
POPG	-4.046***	-	-4.047***	-	$I(0)$

Note: ** and *** indicate statistical significance at the 5 per cent and 1 per cent levels, respectively.

b) ARDL Model and Estimation Results

When there is a linear relationship with time-series variables in which some series are stationary, $I(0)$, and some non-stationary, $I(1)$, it is recommended to use the ARDL bounds test to confirm whether a long-run relationship exists between the model variables. In model (1), the variables human capital, rate of inflation, and population growth are $I(0)$, and the others are $I(1)$. We employ the ARDL bounds test for cointegration, developed by Pesaran et al., (2001), to test cointegration. The ARDL model has some desirable

features. First, it can be used regardless of whether the regressors are purely of $I(0)$ or $I(1)$. Second, it estimates the short- and long-run relationships of the model simultaneously. Third, it determines the cointegration relation in small or finite samples (Ravinthirakumaran, 2014; Li and Lin, 2015). The ARDL model is also sufficient to simultaneously correct for residual serial correlation and the problem of endogenous regressors (Pesaran and Shin, 1999). The unrestricted error correction model for the ARDL representation can be written as:

$$\begin{aligned} \Delta LTFP_t = & \beta_0 + \beta_1 LTFP_{t-1} + \beta_2 LFDI_{t-1} + \beta_3 LR \& D_{t-1} + \beta_4 LHC_{t-1} + \beta_5 LTRA_{t-1} + \beta_6 LTGAP_{t-1} \\ & + \beta_7 INF_{t-1} + \beta_8 POPG_{t-1} + \beta_9 WAR_{t-1} + \sum_{i=1}^f \alpha_{1i} \Delta LTFP_{t-i} + \sum_{i=0}^g \alpha_{2i} \Delta LFDI_{t-i} \end{aligned} \quad (2)$$

$$\begin{aligned}
& + \sum_{i=0}^h \alpha_{3i} \Delta LR \& D_{t-i} + \sum_{i=0}^i \alpha_{4i} \Delta LHC_{t-i} + \sum_{i=0}^j \alpha_{5i} \Delta LTRA_{t-i} + \sum_{i=0}^k \alpha_{6i} \Delta LTGAP_{t-i} \\
& + \sum_{i=0}^l \alpha_{7i} \Delta INF_{t-i} + \sum_{i=0}^m \alpha_{8i} \Delta POPG_{t-i} + \sum_{i=0}^n \alpha_{9i} \Delta WAR_{t-i} + \varepsilon_t
\end{aligned}$$

Where Δ is the first difference operator, β_0 is the drift component, and ε is the white noise residuals. The coefficients $(\beta_1, \beta_2, \dots, \beta_9)$ represent the long-run relationship, whereas the remaining coefficients with the summation sign $(\alpha_1, \alpha_2, \dots, \alpha_9)$ represent the short-run dynamics of the model. The structural lags f, g, h, i, j, k, l, m and n are determined by using the minimum Akaike Information Criterion (AIC). The bound test is conducted

in order to investigate the existence of the long-run relationship among the variables in the system. The bound test, based on the F-statistic for the joint significance of the coefficients $(\beta_1, \beta_2, \dots, \beta_9)$, follows a non-standard distribution. Under this, the null hypothesis of no cointegration is tested against the alternative of cointegration.

$$H_0: \beta_1 = \beta_2 = \beta_3 = \beta_4 = \beta_5 = \beta_6 = \beta_7 = \beta_8 = \beta_9 = 0$$

(no cointegration or no long-run relationship)

$$H_1: \text{At least one } \beta_i \neq 0, i = 1, 2, \dots, 9$$

(cointegration or long-run relationship)

The two sets of critical values are $I(0)$ and $I(1)$ (Pesaran et al., 2001). If the calculated F statistic falls below the lower bound $I(0)$, the null hypothesis H_0 cannot be rejected, which means that no cointegration exists among the nine variables. In contrast, if the F-statistic is above the upper bound $I(1)$, H_0 should be rejected, meaning that a cointegration relationship exists among the nine variables in the longrun. If the F-statistic lies between $I(0)$ and $I(1)$ as bounds, the inference is inconclusive.

The calculated value of the F-statistic to test the above null hypothesis is 4.79, which is greater than the upper critical bound values in Pesaran et al., 2001, which in Table C1 (iii) Case III) are at the 1 percent [2.96, 4.26], 5 percent [2.32, 3.50] and 10 percent [2.03, 3.13] levels of significance. Therefore, it can be concluded that cointegration exists among the variables considered. That is, a long-run relationship exists between TFP and the eight variables in model (1). Also, the F-statistic 4.79 is compared with the finite-sample critical values (provided by Narayan (2005), Table: Case III, for $T = 38$) to see whether the conclusions remain the same. The results also reveal that there exists a long-run relationship among the variables, since the calculated value of the test statistic is greater than the upper bound values at 5 percent (2.75, 4.21) and 10 percent (2.30, 3.61) significant levels.

Since the cointegration between TFP and other variables is found, the long-run model (1) has been estimated. The estimated coefficients for the model are given in Table 3. As can be seen, in the longrun, the estimated coefficient for the FDI is positive and statistically significant at the 10 percent level, implying that FDI is one of the factors that influence TFP. This infers that there are positive spillovers from FDI in the Sri Lankan economy. A similar finding is reported in several studies, such as those of Piyaarekul and Peridy (2010),

Karunaratne (2012), and Baltabaev (2014). R & D contributes positively to TFP and is statistically significant at the 1 percent level, confirming that R&D plays a significant, and positive role in determining TFP growth. This finding about R & D is also in line with the results reported by Romer (1990), Jones (1995) and Baltabaev (2014). The coefficient of human capital is also positive and significant at the 5 percent level, indicating that human capital plays an important role in determining TFP. This result is also similar to the findings of Kneller (2005) and Baltabaev (2014).

The trade coefficient is positive and significant at the 1 percent level. It thus has a positive effect on TFP, which confirms that international trade in goods and services leads to an increasing accumulation of knowledge that can increase TFP. This result is comparable with the results reported in Keller (2004) and Baltabaev (2014). The coefficient corresponding variable TGAP is negative, indicating that the technology gap negatively effects on TFP and is estimated significantly at the 1 percent level. This implies that a large technology gap tends to reduce TFP due to a lack of absorbing capability. The result about the technology gap is consistent with the study by Kokko et al. (1996). The inflation is negative and statistically significant at the 1 percent level, suggesting that a higher rate of inflation is associated with lower TFP. The finding is line with the result reported by Baltabaev (2014). However, population growth is positive and statistically insignificant, suggesting that the population growth has no significant effect on the TFP. This may be because the population is poorly trained, which fails to help society to increase TFP. The WAR variable coefficient is negative and significant, indicating that civil war adversely influences the TFP.

Table 3: Estimated Long-run Coefficients of the ARDL Model

Regressor	Parameter	Coefficient	Standard Error	p-value
LFDI	δ_1	0.026	0.014	0.060*
LR&D	δ_2	0.191	0.037	0.001***
LHC	δ_3	0.429	0.171	0.023**
LTRA	δ_4	0.120	0.040	0.009***
LTGAP	δ_5	-0.482	0.066	0.000***
INF	δ_6	-0.004	0.001	0.003***
POPG	δ_7	0.045	0.027	0.112
C	δ_0	3.655	0.890	0.001***
WAR	δ_8	-0.028	0.012	0.026**

Note: *, ** and *** indicate statistical significance at the 10 per cent, 5 per cent and 1 per cent levels, respectively.

To estimate the short-run dynamic parameters, we use an error correction model of the form:

$$\begin{aligned} \Delta LTFP_t = & \alpha_0 + \sum_{i=1}^f \alpha_{1i} \Delta LTFP_{t-i} + \sum_{i=0}^g \alpha_{2i} \Delta LFDI_{t-i} + \sum_{i=0}^h \alpha_{3i} \Delta LR \& D_{t-i} + \sum_{i=0}^i \alpha_{4i} \Delta LHC_{t-i} + \sum_{i=0}^j \alpha_{5i} \Delta LTRA_{t-i} \\ & + \sum_{i=0}^k \alpha_{6i} \Delta LTGAP_{t-i} + \sum_{i=0}^l \alpha_{7i} \Delta INF_{t-i} + \sum_{i=0}^m \alpha_{8i} \Delta POPG_{t-i} + \sum_{i=0}^n \alpha_{9i} \Delta WAR_{t-i} + \lambda ECT_{t-1} + \varepsilon_t \end{aligned} \quad (3)$$

where α_{ij} ($i = 1, 2, \dots, 9$) are the short-run dynamic coefficients, λ is the speed of the adjustment parameter, and ECT is the error correction term that is calculated from the estimated model (1) in the following form:

$$\begin{aligned} ECT = & LTFP - \delta_0 - \delta_1 LFDI - \delta_2 LR \& D - \delta_3 LHC - \delta_4 LTRA \\ & - \delta_5 LTGAP - \delta_6 INF - \delta_7 POPG - \delta_8 WAR \end{aligned} \quad (4)$$

The ARDL (2, 1, 0, 1, 2, 2, 2, 1) is selected based on AIC, and the results of the short-run dynamic coefficients associated with the long-run relationships are shown in Table 4. The equilibrium error correction coefficient ECT is -0.53, which has the expected negative sign and is significant at the 1 percent level.

The absolute value of the coefficient of error correction term (i.e. 0.53) implies that about 53 percent of the disequilibrium of the previous year's shock adjusts back to the long-run equilibrium in the current year. Hence, there is a moderate adjustment process.

Table 4: Estimates of the Error Correction Model

Regressor	Parameter	Coefficient	Standard Error	p-value
$\Delta LTFP(-1)$	α_{10}	0.412	0.114	0.002
$\Delta LFDI$	α_{20}	0.024	0.010	0.031
$\Delta LR \& D$	α_{30}	0.064	0.012	0.000
ΔLHC	α_{40}	1.580	0.649	0.023
$\Delta LTRA$	α_{50}	0.055	0.029	0.072
$\Delta LTRA(-1)$	α_{51}	0.044	0.024	0.082
$\Delta LTGAP$	α_{60}	-0.284	0.057	0.000
$\Delta LTGAP(-1)$	α_{61}	0.091	0.055	0.108
ΔINF	α_{70}	-0.001	0.000	0.000
$\Delta INF(-1)$	α_{71}	0.000	0.000	0.096
$\Delta POPG$	α_{80}	0.000	0.007	0.908
ΔWAR	α_{90}	-0.015	0.007	0.072
ECM(-1)	λ	-0.532***	0.148	0.002

Note: *** indicate statistical significance at the 1 per cent level.

Diagnostic Tests

To check whether the estimated results are reliable, three diagnostic tests are employed: serial correlation, functional form, and heteroscedasticity. The results given in Table 5 reveals that residuals are serially

uncorrelated, normally distributed and homoscedastic at the 5 percent level of significance and have a correct functional form. Therefore, there is no evidence of a diagnostic problem with the model.

Table 5: Diagnostic Tests Results

Tests	F-Statistic	p-value
Serial Correlation(a)	0.366	0.554
Functional Form(b)	1.482	0.242
Normality(c)	0.215	0.898
Heteroscedasticity(d)	0.143	0.708

Note: Null hypothesis in a = No serial correlation; b = Functional specification is correct, c = Residuals are normal, and d = Residuals are homoscedastic.

Stability Tests

In the final stage, the cumulative sum (CUSUM) and the CUSUM of square (CUSUMSQ) tests have been used to examine the stability of the long-run coefficients. The graphical presentation of these tests is shown in

Fig.1. Since the plots of the CUSUM and CUSUMSQ statistics are within the critical lines at the 5percent significance level, there exists stability in the parameters and error terms of the estimated the model over the sample period.

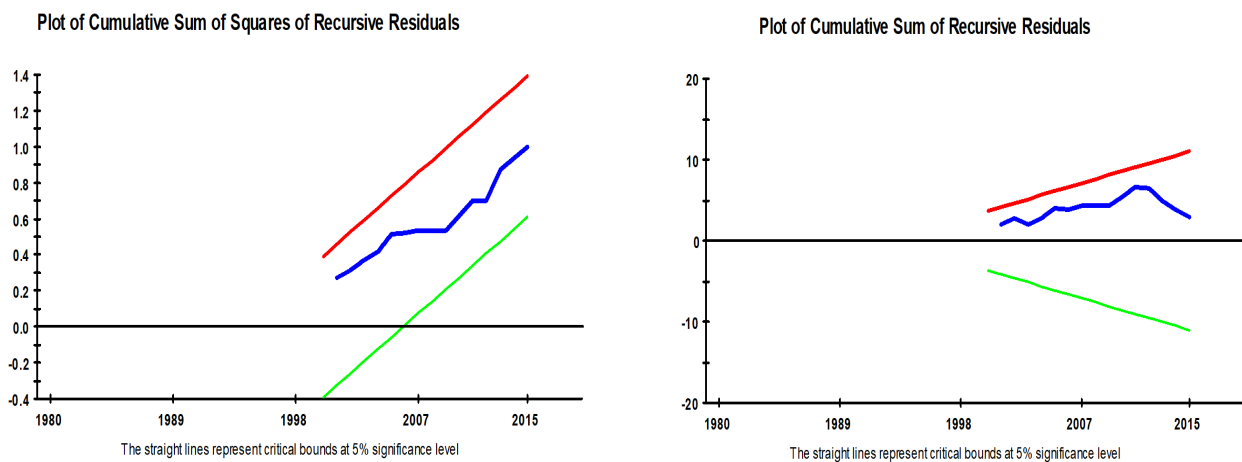


Figure 1: CUSUM and CUSUMSQ Tests for Parameter Stability

The linear ARDL function in model (2) shows that the relationship is stable over time, regardless of how the individual time-series behaves. It may be feasible that the co-movement of variables compensates for breaks in individual series when an error correction process is modeled with long-run equilibrium (the variables are cointegrated). Our model satisfied the diagnostic tests and stability tests.

VII. CONCLUSIONS AND POLICY IMPLICATIONS

This study has examined the spillover effects of FDI in Sri Lanka by using time-series data for the period 1978–2015. The review of previous research identified seven important determinants that generally determine total factor productivity: FDI, R&D, human capital, trade, technology gap, rate of inflation, and population growth. We have also included a dummy variable (WAR) to

analyze the effect of the civil war on TFP. The estimated results suggest that there is a long-run relationship among the variables considered. FDI has a positive effect on total factor productivity, indicating that FDI is one of the important determinants of TFP. Thus, FDI brings positive spillovers into the Sri Lankan economy.

R & D has a positive effect on TFP, meaning that a larger amount of R & D facilities leads to higher total factor productivity. Therefore, increasing the level of R&D facilities is necessary for Sri Lanka to maintain sustainable total factor productivity. Human capital has a positive effect on total factor productivity, suggesting that increasing investment in human capital leads towards technical and/or labor efficiency. International trade also positively influences total factor productivity in Sri Lanka. This implies that implementing greater trade liberalization policies enhances international trade,

which increases total factor productivity. The technology gap in Sri Lanka has a negative impact on total factor productivity, revealing that it is necessary to increase the ability for absorption in order to reduce the technology gap. As the rate of inflation negatively affects productivity, Sri Lankan government intervention is necessary to eliminate the inflationary environment.

Population growth does not have an effect on total factor productivity. This indicates that increasing the size of the workforce with more innovative ideas is crucial for Sri Lanka, to increase the total factor productivity, as a well-educated population has a greater ability to create new technologies. In addition, the civil war in Sri Lanka had a negative impact on total factor productivity, implying that civil war is associated with greater uncertainty regarding future economic policy and does adversely affect productivity. The findings of the analysis confirm that encouraging FDI inflows into Sri Lanka should be expected to have a beneficial effect on total factor productivity. The results thus support the argument of the positive spillover effects of FDI. The conclusion from this study gives practical suggestions for promoting FDI and for introducing policies to attract FDI in flows in developing countries, particularly countries like Sri Lanka.

Disclosure statement

No potential conflict of interest was reported by the authors.

Notes

Before estimating the model, we checked the correlation among the explanatory variables and found that multicollinearity does not seem to be an issue with this data. In order to conserve space, we did not provide the correlation matrix of explanatory variables but it is available upon request.

ACKNOWLEDGEMENTS

The authors would like to thank anonymous referees and the editor of this journal for their valuable comments. The usual disclaimers apply.

This paper was presented by Kalaichelvi Ravinthirakumaran at the 34th International Business Research Conference (Imperial College, London) on 4–5 April 2016. The abstract is available only in the conference proceeding.

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GLOBAL JOURNAL OF MANAGEMENT AND BUSINESS RESEARCH: D
ACCOUNTING AND AUDITING
Volume 20 Issue 1 Version 1.0 Year 2020
Type: Double Blind Peer Reviewed International Research Journal
Publisher: Global Journals
Online ISSN: 2249-4588 & Print ISSN: 0975-5853

Profitability Performance of HDFC Bank and ICICI Bank: An Analytical and Comparative Study

By Ahmed Mahdi Abdulkareem

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Abstract- The article is an attempt to analyze and examine the profitability performance of two selected private banks in India; HDFC bank and ICICI bank. The article also aims to draw a comparison between the profitability performances of these two banks in order to come up with clear understanding of new banking strategies. Mathematical and statistical tools and techniques such as Ratio, Trends, Simple & multiple correlations are used to analyze data. The most appropriate Parametric and Non parametric test are employed and the analysis of data is presented through different graphs and tables. The findings reveal that HDFC Bank is generating more profitability than ICICI bank.

Keywords: profitability analysis, deposits, sectors, channels, investments, advances.

GJMBR-D Classification: JEL Code: M49



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I. INTRODUCTION

The Indian economy is emerging as one of the strongest economy of the world with the GDP growth of more than 8% every year. This has helped in shaping the current banking system all over the country. In addition, globalization contributed to the evolution of banking industry by increasing the competition among domestic banks and opening opportunities for further development. Banks in the country whether private or public have a potential to enhance economic growth by increasing their market shares and serving the growing upper and middle class categories. Given all this, the consumer is in a comfortable position with multiple choices and better services since banks are continuously trying to offer better service in order to increase market share and sustain their growth.

Before independence, there were three banks established under charters from the British East India Company. For many years, these Presidency banks functioned as quasi-central banks, and some similar banks continued in the same tradition. It was later in 1925 that the three banks were merged; forming what came to be known as 'the Imperial Bank of India'. The imperial bank was also named state bank of India after independence. In 1839, a group of Indian merchants in Calcutta formed a new bank named 'Union Bank. Nevertheless, this bank failed due to the economic crisis of 1848. Few years later, another bank was stabled under the name Allahabad Bank. This bank is considered as

one of the oldest in the country and it is still functioning. The trade of cotton also promoted the establishment of banks in India. After the end of the civil war in the United States, the Indian cotton was on demand and this pushed the traders to establish new banks to ease their business deal and transactions.

Obviously, finance is undoubtedly the life blood of trade, commerce, and industry, and it plays an active role in sustaining economic activities. Nowadays, banking sector is considered as an essential component of modern business and it evolves continually to meet the expectations of economists. Therefore, it can be firmly stated that the development of any nation is largely dependent on the efficacy of its banking system. In the beginning of the human civilisations, money was not in existence and the requirements of the commodities and services were fulfilled through barter system. In this system, services and goods were simply exchanged for other different on-demand services and goods in return. But the modern invention of 'currency' transformed people's exchange and trade of goods, and subsequently banking was developed to a great extent. The invention of money and the establishment of banks solved almost all the problems related to age-old barter system which definitely suffered from many shortcomings.

HDFC and ICICI are two important banks in India today. They emerged as successful banks in the last few years, securing slots in the ten top banks in the country. Hence, this study aims at analyzing the profitability performances of these two banks and finding out how they adopted and followed effective banking methods for sustaining considerable profit. The secondary data that was obtained is analyzed using ratio method and the results are compared in order to reflect the differences and similarities between the two selected banks.

II. LITERATURE REVIEW

Given the continual evolution banking system in India, competition between banks is ignited resulting in better services, innovation, and upgrade. Subsequently, banks in India are under the pressure to develop, differentiate, and innovate in order to attract more clients in a competitive market. To seize a market share, banks

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have to actively engage in product development and micro-planning. Moreover, prudent pricing and relevant customization of services should be adopted to meet the needs of the customers. In addition to the frequent technology up-gradation, banks in India are obliged to consider cost reduction and also adapt their lending strategies. In her work profitability of commercial banks, Amandeep (1993) has made an attempt to explore the different trends in profitability of twenty banks in India. She used trend analysis ratio analysis and concentration indices of the selected parameters. She also used multi variant analysis. Amandeep concluded that to have excellent profitability performance, banks need to have excellent performance in managing burden (p.17). In the same vein, Ashok Kumar (2013) in his study "Opportunities and challenges in the Indian retail banking industry" concludes that for the development of retail banking in India, a paradigm shift is required in bank financing through innovative products and mechanisms involving constant up-gradation of the banks internal systems and processes (p.14). He point out that retail banking has more scope for generating profit than any other traditional methods. Cheema and Agarwal (2002) analyzed the productivity of commercial banks in India and compared the performance of public sector banks, private sector banks and foreign banks in India. In her analysis, public sector banks were divided into two categories, i.e., State bank group and nationalized banks (p.66). The input variables like owned funds, deposits, borrowings and wage bills were used. The output variables like spread, non-interest income were used. Among public sector banks, State Bank of Patiala and Allahabad Bank were found to be most efficient banks in their bank groups, and Jammu & Kashmir Bank in private sector bank group (p.73). ING Bank was on the top among foreign banks group. The study revealed that the inefficiency among public sector banks was found due to excessive amount of owned funds, and inefficiency among foreign banks was due to excessive borrowings (p.76).

Similarly, Delvin James (1995) carried out a case study that aimed at examining the retail banking services offered in UK, using First Direct, a subsidiary of Midland Bank. His analysis reveals that banks can increase their market share through proper communication and prompt delivery of their products (p.44). In India, Goyal and Kaur (2008) studied the performance of a group of private banks (seven in number), analyzing their data from 2001 to 2007. The various statistical tools like mean, standard deviation, annual compound growth rate and one-way ANOVA have been applied. The researchers calculated various ratios relating to capital adequacy, asset quality, employee productivity, earning quality and liquidity of banks. The study concluded that the capital adequacy ratio of all the banks of the study is calculated above 9 per cent. Moreover, the study reveals that the average

debt/equity ratio is registered higher in Axis Bank. On the other hand, Kotak Mahindra Bank received maximum percentage increase with regard to NPAs. The study witnessed significant differences among the mean ratios of all parameters except for liquid assets to total assets, liquid assets to total deposits, net profit to average assets and percentage change in NPAs.

According to Goel and Chitwan Bhutani Rekhi (2013), efficiency and profitability of the banking sector in India is regarded of a prime importance for several reasons among which are the intense competition (p.30). Moreover, it is realized that the greater customer demands today add more pressure on banking sector to customize its services. More recently, certain indicators are used to measure the productivity of banks and evaluate their performance. Meanwhile, it is recognized that the public sector banks cannot be compared to private banks in terms of profit. As a result, they are under less competition and, since efficiency and profitability are interrelated, it means that their performance is too cannot be compared to private banks. Mahalakshmi Krishnan (2012) found out that in Retail Banking development shows in Urban-centric and in rural area the concept is beyond the thinking of people. So attempt is made to strengthen the Indian Banking system (p.19).

In 2007, Mittal, R. K. and Dhingra, S. conducted a research study that assessed the impact of computerization on productivity and profitability of Indian Banks. The study covered the period from 2003-2004 and 2004-05. The results of the study demonstrated the efficacy of ICICI Bank in all indicators (p.102). Nevertheless, it has been so long since that study was conducted, which means new changes might have created new situations. In connection to the previous studies, this study aims to measure and evaluate the relative profitability performance of HDFC bank and ICICI bank in India. The analysis will add value to existing knowledge about banking and profitability performance of banks in India. The data of five years will be analyzed using statistical tools like arithmetic mean, one-way ANOVA, Tukey HSD Test. The profitability of these banks will be evaluated by using various parameters like Operating Profit Margin, Gross Profit Margin, Net Profit Margin, and Earning per Share, Return on Equity, Return on Assets, Price Earnings Ratio and Dividend Payout Ratio.

III. AIMS AND METHODOLOGY

Certain aims have been formulated to guide the researcher in conducting the study. The more specific aims are stated below:

- To study conceptual framework of profitability in two top banks in india.
- To compare the overall performance of the HDFC bank and ICICI Bank with the help of the selected ratios

- To study the financial performance of HDFC Bank and ICICI Bank
- To study the profitability performance of HDFC Bank and ICICI Bank

The sample of the study only includes two banks; HDFC Bank and ICICI Bank. Simple random sampling was used to select the sample from top five banks which are functioning in the stock market based on the current situation. The study relies largely on secondary data that was obtained from the annual reports of the selected banks. To supplement the data IBA Bulletin, RBI publication, different publications, Bank Quest, various books, periodicals, journals and relating banking industry etc. have also been used for better reliability. Opinions expressed in Business Standard, News Papers, accounting literature, Annual report and different publications have also been used in this study.

The collected data is duly edited, classifies, tabulated according to the needs of the objectives and hypothesis. Mathematical and statistical tools and techniques like Ratio, Trends, Simple & multiple correlations have been used. The most appropriate Parametric & Non parametric test have been used by the researcher. The data has been presented through different graphs and tables. Data has been converted in to relative measure such as ratios, percentages, indices rather than the absolute data.

The data has been analyzed and hypotheses have been tested by the researcher at 5% level of significance, by employing t - test, ANOVA technique, chi-square (X²) test, Karl Pearson's simple correlation, multiple correlations, multiple regressions etc. according to the need of the study. In this study, the used tools for data analysis are Ratio Analysis as an Accounting Tool and T- test as Statistical Tool.

IV. HYPOTHESIS OF THE STUDY

Some hypotheses have been formulated in line with the stated aims of this study. These hypotheses are stated below:

H_0 = There is no significance difference of gross profit ratio in selected HDFC Bank and ICICI Bank.

H_1 = There is a significance difference of gross profit ratio in selected HDFC Bank and ICICI Bank.

H_0 = There is no significance difference of Net profit ratio in selected HDFC Bank and ICICI Bank.

H_1 = There is a significance difference of Net profit ratio in selected HDFC Bank and ICICI Bank.

H_0 = There is no significance difference of Return on assets ratio in selected HDFC Bank and ICICI Bank.

H_1 = There is a significance difference of Return on assets ratio in selected HDFC Bank and ICICI Bank.

H_0 = There is no significance difference of Return on capital employed ratio in selected HDFC Bank and ICICI Bank.

H_1 = There is a significance difference of Return on capital employed ratio in selected HDFC Bank and ICICI Bank.

V. RESEARCH PROBLEM

There are a considerable number of private banks all over Indian offering banking services to millions of clients. However, most of them do not enjoy much popularity and most importantly derive lower annual profit. This can be attributed to several factors either related to marketing, professional service offered, or added value services. Profitability of banks determines the success of strategies being implemented and approached adopted for expanding customer base and increase profit. HDFC and ICICI are two notable private banks that more often feature as leading in the banking sector in the country. To get a closer examination of the profitability performance of these banks, this study analyzes the secondary data released by these banks in five consecutive years.

VI. DATA ANALYSIS

To analyze the data, various statistical techniques are used, including average, range, 'F' test and 't' test. The analysis is limited to Gross Profit Ratio, Net Profit Ratio, Return on Asset, and Return on Capital Employed. All the data related to these aspects are presented and discussed below.

a) Gross Profit Margin Ratio

The gross profit margin is calculated as follows:

$$\text{Gross Profit Ratio} = \frac{\text{Sales} - \text{Cost of Good Sold}}{\text{Sales}} \times 100$$

The ratio measures the gross profit margin on the total net sales made by the company. The gross profit represent the excess of sales proceeds during the period under observation over their cost, before taking into account administration, selling and distribution and financing charges.

Significance

- This ratio shows the relationship between gross profit and net sales.
- Higher ratio means lower cost of goods sold.

Table 1: Gross Profit Ratios during 2015-16 to 2019-20

Year	HDFC Bank			ICICI Bank		
	GP	Business Income	Ratio (%)	GP	Business Income	Ratio (%)
2015-16	8408.11	48469.90	17.35	7543.77	49091.14	15.37
2016-17	10611.82	60221.45	17.62	8540.48	52739.43	16.19
2017-18	13435.9	69305.96	19.38	6982.26	54156.28	12.89
2018-19	17404.47	80241.36	21.69	7321.9	54956.89	13.32
2019-20	22123.85	98972.05	22.35	8925.73	63401.19	14.07
Maximum	22123.85	98972.1	22.35	8925.73	63401.2	16.19
Minimum	8408.11	48469.9	17.35	6982.26	49091.1	12.89
Mean	14396.83	71442.1	19.678	7862.83	54869	14.368

(Sources: Comute from Annual Report of HDFC Bank and ICICI Bank.)

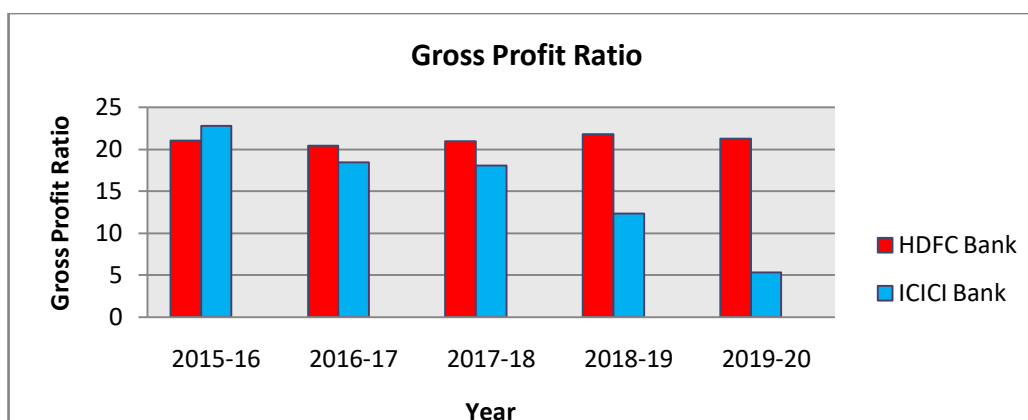


Chart 1: Gross Profit Ratios during 2015-16 To 2019-20

The table above, the Gross Profit Ratio of the HDFC and ICICI Banks are presented during the period of the study from 2015-16 to 2019-20. In HDFC Bank the Ratio shows continuously increasing trend. The average Profit Ratio of the HDFC Bank was 19.678% during the study period. The ratio was the highest of 22.23% during 2019-20, where as it was the lowest of 17.35% during 2015-16. In case of ICICI Bank the Ratio shows fluctuated trend during the study period. It was 15.37% in 2015-16 which increase to 16.19% in 2016-17 it was

highest. In HDFC Bank the Ratio was higher during the study period.

Hence the performance of HDFC bank is good than ICICI Bank.

Hypothesis

H_0 = There is no significance difference of gross profit ratio in selected HDFC Bank and ICICI Bank.

H_1 = There is a significance difference of gross profit ratio in selected HDFC Bank and ICICI Bank.

Table 2: Gross Profit Ratio

Two-Sample Assuming Equal Variances

t-Test: Two-Sample Assuming Equal Variances		
Particulars	HDFC GP Ratio (%)	ICICI GP Ratio (%)
Mean	19.678	14.368
Variance	5.23287	1.92382
Observations	5	5
df	8	

t Stat	4.438369	
P(T<=t) one-tail	0.001086	
t Critical one-tail	1.859548	
P(T<=t) two-tail	0.002173	
t Critical two-tail	2.306004	

(At 0.05 % level of Significance)

Above table number 2 shows the result of t-test. According to that calculated value of 't' is 4.4383, while table value of 't' is 2.306 which is less than the calculated value. So null hypothesis is rejected and alternative hypothesis is accepted at 5% level of significant. It shows that there is a significance difference in Gross Profit Ratio of HDFC Bank and ICICI Bank.

VII. NET PROFIT MARGIN RATIO

This is the ratio of net profit to net sales. The concept of net profit is different from net operating profit. In calculating the net profit, all Non-operating expenses

and losses are also deducted and all non-operating income is added. The net profit ratio is the overall measure of a firm's ability to turn each rupee of business income into profit. It indicates the efficiency with which a business is managed. A firm with a high net profit ratio is in an advantageous position to survive in the face of cost of firm .where the net profit is low, the firm will find it difficult to withstand these types of adverse conditions.

It's computed as,

$$\text{Net profit margin} = \frac{\text{Net Profit}}{\text{Business Income}}$$

Where, Net profit = Net operating Profit + Non-operating Incomes- Non-operating Expenses

Business Income = Interest earned

Table 3: Net Profit Ratios during 2015-16 to 2019-20

Year	HDFC Bank			ICICI Bank		
	NP	Business Income	Ratio (%)	NP	Business Income	Ratio (%)
2015-16	10215.92	48469.90	21.07	33375.35	49091.14	22.76
2016-17	12296.21	60221.45	20.41	9726.29	52739.43	18.44
2017-18	14549.04	69305.96	20.99	9801.09	54156.28	18.09
2018-19	17486.73	80241.36	21.79	6777.42	54966.89	12.33
2019-20	21078.17	98972.05	21.29	3363.30	63401.19	5.304
Maximum	21078.17	98972.1	21.79	33375.4	63401.2	22.76
Minimum	10215.92	48469.9	20.41	3363.3	49091.1	5.304
Mean	15125.21	71442.1	21.11	12608.7	54871	15.3848

(Sources: Compute from Annual Report of HDFC Bank and ICICI Bank.)

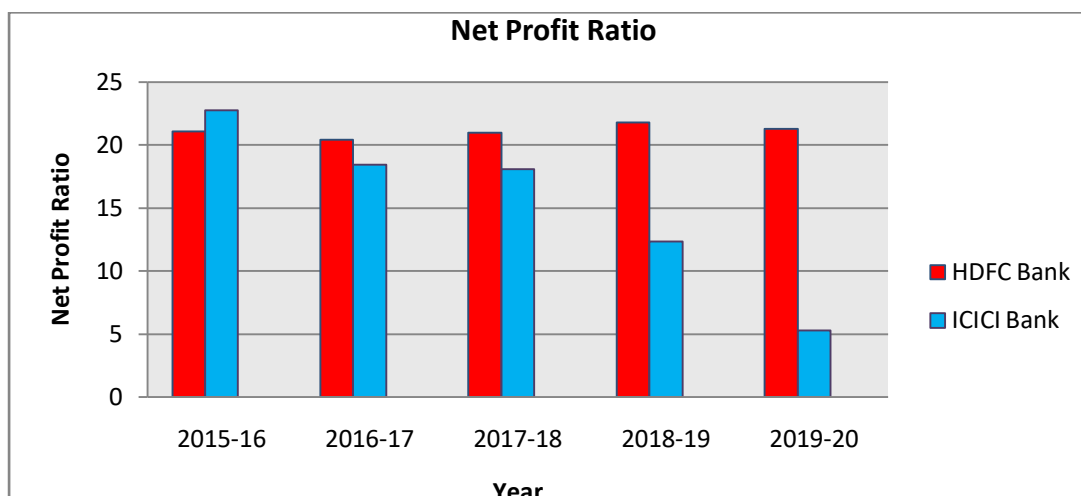


Chart 2: Net Profit Ratios During 2015-16 To 2019-20

The above table 5.1 indicates the Net Profit Ratio of the HDFC and ICICI Banks during the period of the study from 2015-16 to 2019-20. In HDFC Bank the Ratio shows fluctuated trend. The average Profit Ratio of the HDFC Bank was 21.11% during the study period. The ratio was the highest of 21.79% during 2018-19, where as it was the lowest of 20.41% during 2016-17. In case of ICICI Bank the Ratio shows decreasing trend during the study period. It was 22.76% in 2015-16 which decrease to 5.304% in 2019-20 it was lowest. In HDFC

Bank the Ratio was higher during the study period, Hence the performance of HDFC bank is good than ICICI Bank except in one year.

Hypothesis

H_0 = There is no significance difference of Net profit ratio in selected HDFC Bank and ICICI Bank.

H_1 = There is a significance difference of Net profit ratio in selected HDFC Bank and ICICI Bank.

Table 4: Net Profit Ratio

Two-Sample Assuming Equal Variances

t-Test: Two-Sample Assuming Equal Variances		
Particulars	HDFC NP Ratio (%)	ICICI NP Ratio (%)
Mean	21.11	15.3848
Variance	0.2502	45.50007
Observations	5	5
df	8	
t Stat	1.892687	
t Critical one-tail	1.859548	
P(T<=t) two-tail	0.095032	
t Critical two-tail	2.306004	

(At 0.05 % level of Significance)

Above table number 2 shows the result of t-test according to that calculated value of 't' is 1.8926, while table value of 't' is 2.306 which is less than the calculated value. So, null hypothesis is accepted and alternative hypothesis is rejected at 5% level of significant. It shows that there is no significance difference in Net Profit Ratio of HDFC Bank and ICICI Bank.

VIII. RETURN ON TOTAL ASSETS RATIO

Return on assets (ROA) is an indicator of how profitable a company is relative to its total assets. ROA gives a manager, investor, or analyst an idea as to how efficient a company's management is at using its

assets to generate earnings. Return on assets is displayed as a percentage.

Businesses (at least the ones that survive) are ultimately about efficiency: squeezing the most out of limited resources. Comparing profits to revenue is a useful operational metric, but comparing them to the resources a company used to earn them cuts to the very feasibility of that company's existence. Return on assets (ROA) is the simplest of such corporate bang-for-the-buck measures. ROA is calculated by dividing a company's net income by total assets. As a formula, it would be expressed as:

$$\text{Return on Assets Ratio} = \frac{\text{Net Income}}{\text{Total Assets}}$$

Table 5: Return on Assets Ratios during 2015-16 to 2019-20

Year	HDFC Bank			ICICI Bank		
	Return on Assets	Total Assets	Ratio	Return on Assets	Total Assets	Ratio (%)
2015-16	10215.92	590503.07	1.730	11175.35	826079.18	1.353
2016-17	12296.21	708845.57	1.734	9726.29	915938.73	1.062
2017-18	14549.04	863840.20	1.683	9803.09	982659.54	0.997
2018-19	17486.73	1063934.31	1.643	6777.42	1121253.40	0.604
2019-20	21078.17	1244540.59	1.694	3363.30	1235723.90	0.272
Maximum	21078.17	1244540.6	1.734	11175.4	1235724	1.353
Minimum	10215.92	590503.07	1.643	3363.3	826079	0.272
Mean	15125.21	894332.75	1.6968	8169.09	1016331	0.857

(Sources: Compute from Annual Report of HDFC Bank and ICICI Bank.)

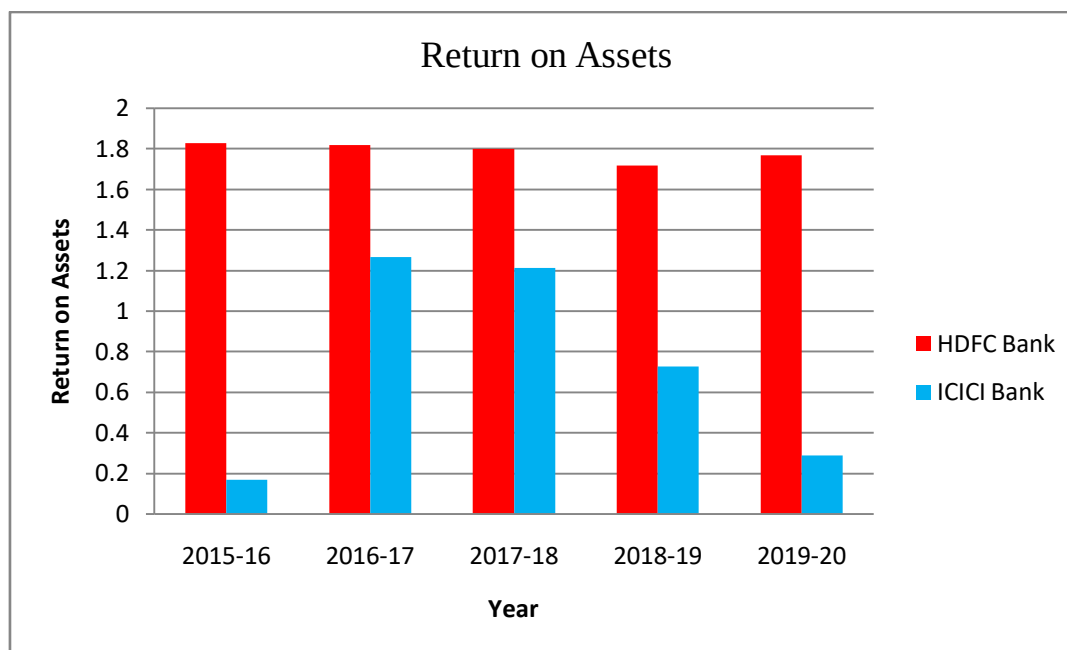


Chart 3: Return on Assets Ratios During 2015-16 To 2019-20

The above table 5.1 indicates the Return on Assets Ratio of the HDFC and ICICI Banks during the period of the study from 2015-16 to 2019-20. In HDFC Bank the Ratio shows fluctuated trend. The average Profit Ratio of the HDFC Bank was 1.69 during the study period. The ratio was the higher of 1.73 during 2016-17, where as it was the lower of 1.643 during 2018-19. In

case of ICICI Bank the Ratio shows decreasing trend during the study period. It was 1.735 in 2015-16 which decrease to 0.272 in 2019-20 it was lowest. In HDFC Bank the Ratio was higher during the study period, Hence the performance of HDFC bank is good than ICICI Bank in the year.

Hypothesis

H_0 = There is no significance difference of Return on assets ratio in selected HDFC Bank and ICICI Bank.

H_1 = There is a significance difference of Return on assets ratio in selected HDFC Bank and ICICI Bank.

Table 6: Return on Assets Ratio
Two-Sample Assuming Equal Variances

t-Test: Two-Sample Assuming Equal Variances		
Particular	HDFC Return on Assets Ratio (%)	ICICI Return on Assets Ratio (%)
Mean	1.6968	0.8576
Variance	0.001395	0.178468
Observations	5	5
df	8	
t Stat	4.424657	
P(T<=t) one-tail	0.001106	
t Critical one-tail	1.859548	
P(T<=t) two-tail	0.002213	
t Critical two-tail	2.306004	

(At 0.05 % level of Significance)

Above table number 6 shows the result of t-test according to that calculated value of 't' is 4.424, while table value of 't' is 2.306 which is greater than the calculated value. So, null hypothesis is *rejected* and alternative hypothesis is *accepted* at 5% level of significant. It shows that there is a significance difference in *Return on Assets Ratio* of HDFC Bank and ICICI Bank.

plus current assets minus current liabilities excluding bank loan. Alternatively, capital employed is equal to net worth plus total debt

Return on Capital Employed

$$= \frac{\text{Net Profit Before Interest and Tax}}{\text{Capital Employed}}$$

Significance:

- The success of enterprise is judge with the help of this ratio.
- It is perhaps the most important ratio from the viewpoint of management.

IX. RETURN ON CAPITAL EMPLOYED

The term investment may refer to total assets or net assets. The funds employed in net assets are known as capital employed. Net assets equal net fixed assets

Table 7: Returns on Capital Employed During 2015-16 To 2019-20

Year	HDFC Bank			ICICI Bank		
	Return on Capital Employed	Capital Employed	Ratio	Return on Capital Employed	Capital Employed	Ratio (%)
2015-16	10215.92	558018.61	1.83	11175.35	684417.62	0.171
2016-17	12296.21	672120.44	1.82	9726.29	766103.94	1.269
2017-18	14549.04	807130.88	1.80	9803.09	807306.22	1.214
2018-19	17486.73	1018170.59	1.72	6777.42	928808.18	0.729
2019-20	21078.17	1189432.3	1.77	3363.30	1161783.76	0.289
Maximum	21078.17	1189432.3	1.83	11175.4	1161784	1.269
Minimum	10215.92	763860.13	1.72	3363.3	684418	0.171
Mean	15125.21	848974.56	1.788	8169.09	869684	0.7344

(Sources: Compute from Annual Report of HDFC Bank and ICICI Bank.)

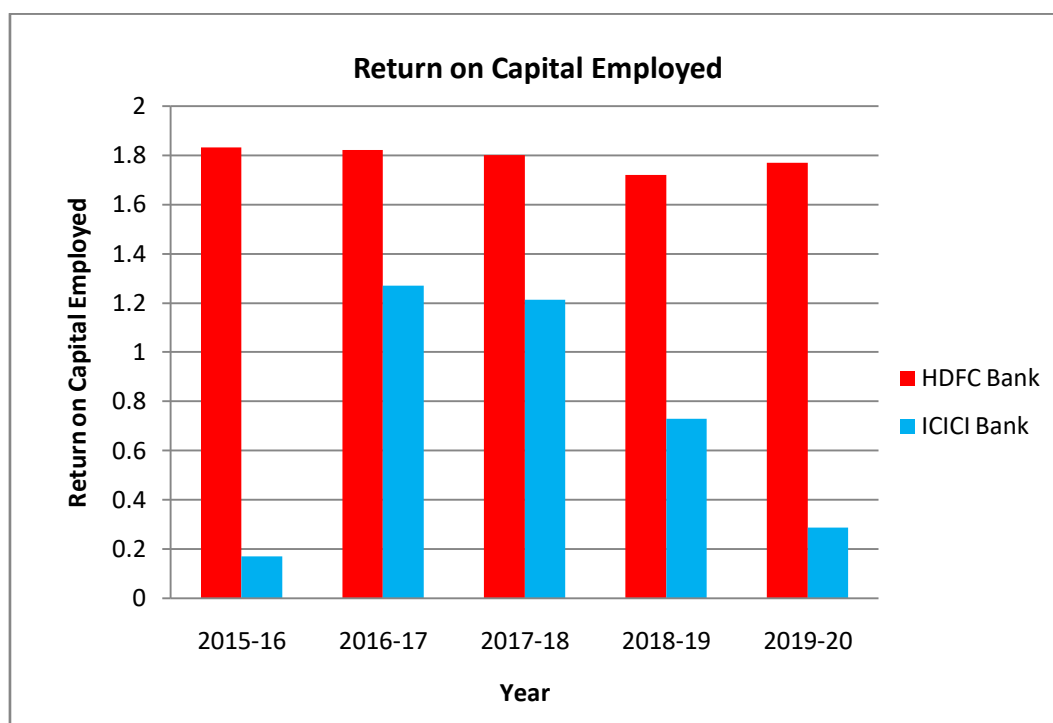


Chart 4: Return on Capital Employed Ratios During 2015-16 To 2019-20

The above table 5.1 indicates the Capital Employed Ratio of the HDFC and ICICI Banks during the period of the study from 2015-16 to 2019-20. In HDFC Bank the Ratio shows fluctuated trend. The average Profit Ratio of the HDFC Bank was 1.788 during the study period. The ratio was the higher of 1.83 during 2015-16, where as it was the lower of 1.72 during 2018-19. In case of ICICI Bank the Ratio shows fluctuated trend during the study period. It was 0.171 in 2015-16 which decrease to 0.289 in 2019-20 it was lowest. In HDFC Bank the Ratio was higher during the study

period, Hence the performance of HDFC bank is good than ICICI Bank in the year.

Hypothesis:

H_0 = There is no significance difference of Return on capital employed ratio in selected HDFC Bank and ICICI Bank.

H_1 = There is a significance difference of Return on capital employed ratio in selected HDFC Bank and ICICI Bank.

Table 8: Return on Capital Employed Ratio
Two-Sample Assuming Equal Variances

t-Test: Two-Sample Assuming Equal Variances		
Particulars	HDFC Return On Capital Employed Ratio (%)	ICICI Return On Capital Employed Ratio (%)
Mean	1.788	0.7344
Variance	0.00197	0.257911
Observations	5	5
df	8	
t Stat	4.621401	
P(T<=t) one-tail	0.000854	
t Critical one-tail	1.859548	
P(T<=t) two-tail	0.001707	
t Critical two-tail	2.306004	

(At 0.05 % level of Significance)

Above table number 8 shows the result of t-test according to that calculated value of 't' is 4.621, while table value of 't' is 2.306 which is greater than the

calculated value. So, null hypothesis is rejected and alternative hypothesis is accepted at 5% level of significant. It shows that there is a significance

difference in Return on Capital Employed of HDFC Bank and ICICI Bank.

X. FINDINGS

The findings of the study reveal that the gross profit ratio is found to be higher in HDFC Bank. This indicates that HDFC Bank has better profit earning capacity. Nonetheless, the net profit ratio in both the bank is found to be similar. This denotes both the banks have the same profit margin. Moreover, the results of the study demonstrate that the return on assets ratio is higher in HDFC bank. This indicates the return on assets earned by the bank is higher. Notably, the Net profit ratio is similar in both the banks. This indicates the banks have same earning capacity.

In terms of the return on capital employed, the study reveals that it is higher in HDFC bank. This indicates that the bank has better earning capacity of return on capital employed than ICICI bank. Overall, the profitability performance of HDFC bank is higher in terms of profit ration, and the bank possesses better earning capacity than ICICI bank. When compared to ICICI bank, HDFC bank stands better in almost all aspects of profitability performance. Nevertheless, ICICI bank can multiply return on assets by increasing assets or by increasing profitability of the bank. Profitability may be increased by granting more loans, earning higher interest on loans and passing the same to depositors.

XI. CONCLUSION

The study aimed at analyzing and measuring the profitability performance of HDFC bank and ICICI bank. The results of the study reveal that HDFC bank profitability performance is better and higher than ICICI bank. Overall, the HDFC Bank is generating more profitability in this comparison. The similar steps can be adopted by ICICI Bank in order to earn profit capacity. In ICICI Bank, average gross profit ratio is lower than HDFC Bank. To increase the gross profit, the bank should control the costs and expenses associated with bank operations. In comparison to ICICI bank, performance of the HDFC bank during the study period can be described as dynamic and flexible in attracting profit; ICICI bank can take suggestion from HDFC bank also. Average Net Profit Margin ratio is lowest in ICICI Bank. The net profit ratio indicates the efficiency and advantageous position to cover the cost. So it is suggested that ICICI Bank should increase its income and reduce its expenses to maximize the profit.

Net profit ratio of the HDFC bank is continuous in increasing trends and ICICI bank should examine the strategies employed by HDFC bank. ICICI bank should reduce variable cost and improve the customer loyalty and improve services offered to customers. According to return on total assets, total assets of both banks are nearby the same but earning capacity of the ICICI bank

is lower. Therefore, ICICI bank has to invest its cash in order to give maximum benefits to ICICI bank and charge more interest from the beneficiary companies.

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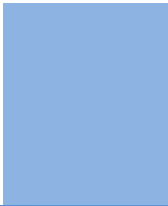
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It may take the discovery of only one important paper to steer in the right keyword direction because, in most databases, the keywords under which a research paper is abstracted are listed with the paper.

Numerical Methods

Numerical methods used should be transparent and, where appropriate, supported by references.

Abbreviations

Authors must list all the abbreviations used in the paper at the end of the paper or in a separate table before using them.

Formulas and equations

Authors are advised to submit any mathematical equation using either MathJax, KaTeX, or LaTeX, or in a very high-quality image.

Tables, Figures, and Figure Legends

Tables: Tables should be cautiously designed, uncrowned, and include only essential data. Each must have an Arabic number, e.g., Table 4, a self-explanatory caption, and be on a separate sheet. Authors must submit tables in an editable format and not as images. References to these tables (if any) must be mentioned accurately.



Figures

Figures are supposed to be submitted as separate files. Always include a citation in the text for each figure using Arabic numbers, e.g., Fig. 4. Artwork must be submitted online in vector electronic form or by emailing it.

PREPARATION OF ELETRONIC FIGURES FOR PUBLICATION

Although low-quality images are sufficient for review purposes, print publication requires high-quality images to prevent the final product being blurred or fuzzy. Submit (possibly by e-mail) EPS (line art) or TIFF (halftone/ photographs) files only. MS PowerPoint and Word Graphics are unsuitable for printed pictures. Avoid using pixel-oriented software. Scans (TIFF only) should have a resolution of at least 350 dpi (halftone) or 700 to 1100 dpi (line drawings). Please give the data for figures in black and white or submit a Color Work Agreement form. EPS files must be saved with fonts embedded (and with a TIFF preview, if possible).

For scanned images, the scanning resolution at final image size ought to be as follows to ensure good reproduction: line art: >650 dpi; halftones (including gel photographs): >350 dpi; figures containing both halftone and line images: >650 dpi.

Color charges: Authors are advised to pay the full cost for the reproduction of their color artwork. Hence, please note that if there is color artwork in your manuscript when it is accepted for publication, we would require you to complete and return a Color Work Agreement form before your paper can be published. Also, you can email your editor to remove the color fee after acceptance of the paper.

TIPS FOR WRITING A GOOD QUALITY MANAGEMENT RESEARCH PAPER

Techniques for writing a good quality management and business research paper:

1. Choosing the topic: In most cases, the topic is selected by the interests of the author, but it can also be suggested by the guides. You can have several topics, and then judge which you are most comfortable with. This may be done by asking several questions of yourself, like "Will I be able to carry out a search in this area? Will I find all necessary resources to accomplish the search? Will I be able to find all information in this field area?" If the answer to this type of question is "yes," then you ought to choose that topic. In most cases, you may have to conduct surveys and visit several places. Also, you might have to do a lot of work to find all the rises and falls of the various data on that subject. Sometimes, detailed information plays a vital role, instead of short information. Evaluators are human: The first thing to remember is that evaluators are also human beings. They are not only meant for rejecting a paper. They are here to evaluate your paper. So present your best aspect.

2. Think like evaluators: If you are in confusion or getting demotivated because your paper may not be accepted by the evaluators, then think, and try to evaluate your paper like an evaluator. Try to understand what an evaluator wants in your research paper, and you will automatically have your answer. Make blueprints of paper: The outline is the plan or framework that will help you to arrange your thoughts. It will make your paper logical. But remember that all points of your outline must be related to the topic you have chosen.

3. Ask your guides: If you are having any difficulty with your research, then do not hesitate to share your difficulty with your guide (if you have one). They will surely help you out and resolve your doubts. If you can't clarify what exactly you require for your work, then ask your supervisor to help you with an alternative. He or she might also provide you with a list of essential readings.

4. Use of computer is recommended: As you are doing research in the field of management and business then this point is quite obvious. Use right software: Always use good quality software packages. If you are not capable of judging good software, then you can lose the quality of your paper unknowingly. There are various programs available to help you which you can get through the internet.

5. Use the internet for help: An excellent start for your paper is using Google. It is a wondrous search engine, where you can have your doubts resolved. You may also read some answers for the frequent question of how to write your research paper or find a model research paper. You can download books from the internet. If you have all the required books, place importance on reading, selecting, and analyzing the specified information. Then sketch out your research paper. Use big pictures: You may use encyclopedias like Wikipedia to get pictures with the best resolution. At Global Journals, you should strictly follow here.



6. Bookmarks are useful: When you read any book or magazine, you generally use bookmarks, right? It is a good habit which helps to not lose your continuity. You should always use bookmarks while searching on the internet also, which will make your search easier.

7. Revise what you wrote: When you write anything, always read it, summarize it, and then finalize it.

8. Make every effort: Make every effort to mention what you are going to write in your paper. That means always have a good start. Try to mention everything in the introduction—what is the need for a particular research paper. Polish your work with good writing skills and always give an evaluator what he wants. Make backups: When you are going to do any important thing like making a research paper, you should always have backup copies of it either on your computer or on paper. This protects you from losing any portion of your important data.

9. Produce good diagrams of your own: Always try to include good charts or diagrams in your paper to improve quality. Using several unnecessary diagrams will degrade the quality of your paper by creating a hodgepodge. So always try to include diagrams which were made by you to improve the readability of your paper. Use of direct quotes: When you do research relevant to literature, history, or current affairs, then use of quotes becomes essential, but if the study is relevant to science, use of quotes is not preferable.

10. Use proper verb tense: Use proper verb tenses in your paper. Use past tense to present those events that have happened. Use present tense to indicate events that are going on. Use future tense to indicate events that will happen in the future. Use of wrong tenses will confuse the evaluator. Avoid sentences that are incomplete.

11. Pick a good study spot: Always try to pick a spot for your research which is quiet. Not every spot is good for studying.

12. Know what you know: Always try to know what you know by making objectives, otherwise you will be confused and unable to achieve your target.

13. Use good grammar: Always use good grammar and words that will have a positive impact on the evaluator; use of good vocabulary does not mean using tough words which the evaluator has to find in a dictionary. Do not fragment sentences. Eliminate one-word sentences. Do not ever use a big word when a smaller one would suffice. Verbs have to be in agreement with their subjects. In a research paper, do not start sentences with conjunctions or finish them with prepositions. When writing formally, it is advisable to never split an infinitive because someone will (wrongly) complain. Avoid clichés like a disease. Always shun irritating alliteration. Use language which is simple and straightforward. Put together a neat summary.

14. Arrangement of information: Each section of the main body should start with an opening sentence, and there should be a changeover at the end of the section. Give only valid and powerful arguments for your topic. You may also maintain your arguments with records.

15. Never start at the last minute: Always allow enough time for research work. Leaving everything to the last minute will degrade your paper and spoil your work.

16. Multitasking in research is not good: Doing several things at the same time is a bad habit in the case of research activity. Research is an area where everything has a particular time slot. Divide your research work into parts, and do a particular part in a particular time slot.

17. Never copy others' work: Never copy others' work and give it your name because if the evaluator has seen it anywhere, you will be in trouble. Take proper rest and food: No matter how many hours you spend on your research activity, if you are not taking care of your health, then all your efforts will have been in vain. For quality research, take proper rest and food.

18. Go to seminars: Attend seminars if the topic is relevant to your research area. Utilize all your resources.

19. Refresh your mind after intervals: Try to give your mind a rest by listening to soft music or sleeping in intervals. This will also improve your memory. Acquire colleagues: Always try to acquire colleagues. No matter how sharp you are, if you acquire colleagues, they can give you ideas which will be helpful to your research.

20. Think technically: Always think technically. If anything happens, search for its reasons, benefits, and demerits. Think and then print: When you go to print your paper, check that tables are not split, headings are not detached from their descriptions, and page sequence is maintained.



21. Adding unnecessary information: Do not add unnecessary information like "I have used MS Excel to draw graphs." Irrelevant and inappropriate material is superfluous. Foreign terminology and phrases are not apropos. One should never take a broad view. Analogy is like feathers on a snake. Use words properly, regardless of how others use them. Remove quotations. Puns are for kids, not grunt readers. Never oversimplify: When adding material to your research paper, never go for oversimplification; this will definitely irritate the evaluator. Be specific. Never use rhythmic redundancies. Contractions shouldn't be used in a research paper. Comparisons are as terrible as clichés. Give up ampersands, abbreviations, and so on. Remove commas that are not necessary. Parenthetical words should be between brackets or commas. Understatement is always the best way to put forward earth-shaking thoughts. Give a detailed literary review.

22. Report concluded results: Use concluded results. From raw data, filter the results, and then conclude your studies based on measurements and observations taken. An appropriate number of decimal places should be used. Parenthetical remarks are prohibited here. Proofread carefully at the final stage. At the end, give an outline to your arguments. Spot perspectives of further study of the subject. Justify your conclusion at the bottom sufficiently, which will probably include examples.

23. Upon conclusion: Once you have concluded your research, the next most important step is to present your findings. Presentation is extremely important as it is the definite medium through which your research is going to be in print for the rest of the crowd. Care should be taken to categorize your thoughts well and present them in a logical and neat manner. A good quality research paper format is essential because it serves to highlight your research paper and bring to light all necessary aspects of your research.

INFORMAL GUIDELINES OF RESEARCH PAPER WRITING

Key points to remember:

- Submit all work in its final form.
- Write your paper in the form which is presented in the guidelines using the template.
- Please note the criteria peer reviewers will use for grading the final paper.

Final points:

One purpose of organizing a research paper is to let people interpret your efforts selectively. The journal requires the following sections, submitted in the order listed, with each section starting on a new page:

The introduction: This will be compiled from reference matter and reflect the design processes or outline of basis that directed you to make a study. As you carry out the process of study, the method and process section will be constructed like that. The results segment will show related statistics in nearly sequential order and direct reviewers to similar intellectual paths throughout the data that you gathered to carry out your study.

The discussion section:

This will provide understanding of the data and projections as to the implications of the results. The use of good quality references throughout the paper will give the effort trustworthiness by representing an alertness to prior workings.

Writing a research paper is not an easy job, no matter how trouble-free the actual research or concept. Practice, excellent preparation, and controlled record-keeping are the only means to make straightforward progression.

General style:

Specific editorial column necessities for compliance of a manuscript will always take over from directions in these general guidelines.

To make a paper clear: Adhere to recommended page limits.

Mistakes to avoid:

- Insertion of a title at the foot of a page with subsequent text on the next page.
- Separating a table, chart, or figure—confine each to a single page.
- Submitting a manuscript with pages out of sequence.
- In every section of your document, use standard writing style, including articles ("a" and "the").
- Keep paying attention to the topic of the paper.



- Use paragraphs to split each significant point (excluding the abstract).
- Align the primary line of each section.
- Present your points in sound order.
- Use present tense to report well-accepted matters.
- Use past tense to describe specific results.
- Do not use familiar wording; don't address the reviewer directly. Don't use slang or superlatives.
- Avoid use of extra pictures—include only those figures essential to presenting results.

Title page:

Choose a revealing title. It should be short and include the name(s) and address(es) of all authors. It should not have acronyms or abbreviations or exceed two printed lines.

Abstract: This summary should be two hundred words or less. It should clearly and briefly explain the key findings reported in the manuscript and must have precise statistics. It should not have acronyms or abbreviations. It should be logical in itself. Do not cite references at this point.

An abstract is a brief, distinct paragraph summary of finished work or work in development. In a minute or less, a reviewer can be taught the foundation behind the study, common approaches to the problem, relevant results, and significant conclusions or new questions.

Write your summary when your paper is completed because how can you write the summary of anything which is not yet written? Wealth of terminology is very essential in abstract. Use comprehensive sentences, and do not sacrifice readability for brevity; you can maintain it succinctly by phrasing sentences so that they provide more than a lone rationale. The author can at this moment go straight to shortening the outcome. Sum up the study with the subsequent elements in any summary. Try to limit the initial two items to no more than one line each.

Reason for writing the article—theory, overall issue, purpose.

- Fundamental goal.
- To-the-point depiction of the research.
- Consequences, including definite statistics—if the consequences are quantitative in nature, account for this; results of any numerical analysis should be reported. Significant conclusions or questions that emerge from the research.

Approach:

- Single section and succinct.
- An outline of the job done is always written in past tense.
- Concentrate on shortening results—limit background information to a verdict or two.
- Exact spelling, clarity of sentences and phrases, and appropriate reporting of quantities (proper units, important statistics) are just as significant in an abstract as they are anywhere else.

Introduction:

The introduction should "introduce" the manuscript. The reviewer should be presented with sufficient background information to be capable of comprehending and calculating the purpose of your study without having to refer to other works. The basis for the study should be offered. Give the most important references, but avoid making a comprehensive appraisal of the topic. Describe the problem visibly. If the problem is not acknowledged in a logical, reasonable way, the reviewer will give no attention to your results. Speak in common terms about techniques used to explain the problem, if needed, but do not present any particulars about the protocols here.

The following approach can create a valuable beginning:

- Explain the value (significance) of the study.
- Defend the model—why did you employ this particular system or method? What is its compensation? Remark upon its appropriateness from an abstract point of view as well as pointing out sensible reasons for using it.
- Present a justification. State your particular theory(-ies) or aim(s), and describe the logic that led you to choose them.
- Briefly explain the study's tentative purpose and how it meets the declared objectives.



Approach:

Use past tense except for when referring to recognized facts. After all, the manuscript will be submitted after the entire job is done. Sort out your thoughts; manufacture one key point for every section. If you make the four points listed above, you will need at least four paragraphs. Present surrounding information only when it is necessary to support a situation. The reviewer does not desire to read everything you know about a topic. Shape the theory specifically—do not take a broad view.

As always, give awareness to spelling, simplicity, and correctness of sentences and phrases.

Procedures (methods and materials):

This part is supposed to be the easiest to carve if you have good skills. A soundly written procedures segment allows a capable scientist to replicate your results. Present precise information about your supplies. The suppliers and clarity of reagents can be helpful bits of information. Present methods in sequential order, but linked methodologies can be grouped as a segment. Be concise when relating the protocols. Attempt to give the least amount of information that would permit another capable scientist to replicate your outcome, but be cautious that vital information is integrated. The use of subheadings is suggested and ought to be synchronized with the results section.

When a technique is used that has been well-described in another section, mention the specific item describing the way, but draw the basic principle while stating the situation. The purpose is to show all particular resources and broad procedures so that another person may use some or all of the methods in one more study or referee the scientific value of your work. It is not to be a step-by-step report of the whole thing you did, nor is a methods section a set of orders.

Materials:

Materials may be reported in part of a section or else they may be recognized along with your measures.

Methods:

- o Report the method and not the particulars of each process that engaged the same methodology.
- o Describe the method entirely.
- o To be succinct, present methods under headings dedicated to specific dealings or groups of measures.
- o Simplify—detail how procedures were completed, not how they were performed on a particular day.
- o If well-known procedures were used, account for the procedure by name, possibly with a reference, and that's all.

Approach:

It is embarrassing to use vigorous voice when documenting methods without using first person, which would focus the reviewer's interest on the researcher rather than the job. As a result, when writing up the methods, most authors use third person passive voice.

Use standard style in this and every other part of the paper—avoid familiar lists, and use full sentences.

What to keep away from:

- o Resources and methods are not a set of information.
- o Skip all descriptive information and surroundings—save it for the argument.
- o Leave out information that is immaterial to a third party.

Results:

The principle of a results segment is to present and demonstrate your conclusion. Create this part as entirely objective details of the outcome, and save all understanding for the discussion.

The page length of this segment is set by the sum and types of data to be reported. Use statistics and tables, if suitable, to present consequences most efficiently.

You must clearly differentiate material which would usually be incorporated in a study editorial from any unprocessed data or additional appendix matter that would not be available. In fact, such matters should not be submitted at all except if requested by the instructor.



Content:

- o Sum up your conclusions in text and demonstrate them, if suitable, with figures and tables.
- o In the manuscript, explain each of your consequences, and point the reader to remarks that are most appropriate.
- o Present a background, such as by describing the question that was addressed by creation of an exacting study.
- o Explain results of control experiments and give remarks that are not accessible in a prescribed figure or table, if appropriate.
- o Examine your data, then prepare the analyzed (transformed) data in the form of a figure (graph), table, or manuscript.

What to stay away from:

- o Do not discuss or infer your outcome, report surrounding information, or try to explain anything.
- o Do not include raw data or intermediate calculations in a research manuscript.
- o Do not present similar data more than once.
- o A manuscript should complement any figures or tables, not duplicate information.
- o Never confuse figures with tables—there is a difference.

Approach:

As always, use past tense when you submit your results, and put the whole thing in a reasonable order.

Put figures and tables, appropriately numbered, in order at the end of the report.

If you desire, you may place your figures and tables properly within the text of your results section.

Figures and tables:

If you put figures and tables at the end of some details, make certain that they are visibly distinguished from any attached appendix materials, such as raw facts. Whatever the position, each table must be titled, numbered one after the other, and include a heading. All figures and tables must be divided from the text.

Discussion:

The discussion is expected to be the trickiest segment to write. A lot of papers submitted to the journal are discarded based on problems with the discussion. There is no rule for how long an argument should be.

Position your understanding of the outcome visibly to lead the reviewer through your conclusions, and then finish the paper with a summing up of the implications of the study. The purpose here is to offer an understanding of your results and support all of your conclusions, using facts from your research and generally accepted information, if suitable. The implication of results should be fully described.

Infer your data in the conversation in suitable depth. This means that when you clarify an observable fact, you must explain mechanisms that may account for the observation. If your results vary from your prospect, make clear why that may have happened. If your results agree, then explain the theory that the proof supported. It is never suitable to just state that the data approved the prospect, and let it drop at that. Make a decision as to whether each premise is supported or discarded or if you cannot make a conclusion with assurance. Do not just dismiss a study or part of a study as "uncertain."

Research papers are not acknowledged if the work is imperfect. Draw what conclusions you can based upon the results that you have, and take care of the study as a finished work.

- o You may propose future guidelines, such as how an experiment might be personalized to accomplish a new idea.
- o Give details of all of your remarks as much as possible, focusing on mechanisms.
- o Make a decision as to whether the tentative design sufficiently addressed the theory and whether or not it was correctly restricted. Try to present substitute explanations if they are sensible alternatives.
- o One piece of research will not counter an overall question, so maintain the large picture in mind. Where do you go next? The best studies unlock new avenues of study. What questions remain?
- o Recommendations for detailed papers will offer supplementary suggestions.



Approach:

When you refer to information, differentiate data generated by your own studies from other available information. Present work done by specific persons (including you) in past tense.

Describe generally acknowledged facts and main beliefs in present tense.

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BY GLOBAL JOURNALS

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Topics	Grades		
	A-B	C-D	E-F
<i>Abstract</i>	Clear and concise with appropriate content, Correct format. 200 words or below	Unclear summary and no specific data, Incorrect form Above 200 words	No specific data with ambiguous information Above 250 words
<i>Introduction</i>	Containing all background details with clear goal and appropriate details, flow specification, no grammar and spelling mistake, well organized sentence and paragraph, reference cited	Unclear and confusing data, appropriate format, grammar and spelling errors with unorganized matter	Out of place depth and content, hazy format
<i>Methods and Procedures</i>	Clear and to the point with well arranged paragraph, precision and accuracy of facts and figures, well organized subheads	Difficult to comprehend with embarrassed text, too much explanation but completed	Incorrect and unorganized structure with hazy meaning
<i>Result</i>	Well organized, Clear and specific, Correct units with precision, correct data, well structuring of paragraph, no grammar and spelling mistake	Complete and embarrassed text, difficult to comprehend	Irregular format with wrong facts and figures
<i>Discussion</i>	Well organized, meaningful specification, sound conclusion, logical and concise explanation, highly structured paragraph reference cited	Wordy, unclear conclusion, spurious	Conclusion is not cited, unorganized, difficult to comprehend
<i>References</i>	Complete and correct format, well organized	Beside the point, Incomplete	Wrong format and structuring



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ISSN 9755853



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