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# THE EDITORIAL

Dear Reader,

CU Global Management Review has created a platform for the authors to make their contribution towards the different fields of management. The journal publishes quality manuscripts and is committed to advance research by presenting different theoretical insights, conceptual and theoretical development and critical review of relevant literature. It covers a broad spectrum of research topics and encourages the scholars to submit manuscripts from wide range of academic disciplines. In the current issue of the journal, a diverse selection of inspiring manuscripts are presented.

This issue of journal concentrates insights on five different research dimensions. The first paper titled as "Technology & its role in accelerating financial inclusion" highlighted the measures taken by government and RBI to increase the level of financial inclusion. Further, the study has laid emphasis on India's Social Expenditure on Education since 2000 is an important contribution for the journal. The second paper titled as "Employee perception of safety practices at large scale chemical industries in Tuticorin, Tamil Nadu" focuses on developing a comprehensive scale and identifying the employee perception dimensions of safety practices at large scale chemical industries in Tuticorin. The next paper "Impressions of Entrepreneurial Management Methods in Intensifying Agrarian MSMEs Productivity in Chipinge District, Zimbabwe" explored that how strong entrepreneurial managerial concepts intensify the productivity of agrarian MSMEs in Chipinge district in Zimbabwe. Subsequently the paper titled as "India's Social Expenditure on Education examines the trend and pattern of the social expenditure on education in India since 2000. The next paper titled as "Identification of limiting factors of banking grievance redressal system: a customer's perspective" is a novel work done by the authors. The study also concerns the service quality factors of the Customer Grievance Redressal System and suggested strategies for timely and effective redressal of customer grievances.

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# TECHNOLOGY & ITS ROLE IN ACCELERATING FINANCIAL INCLUSION

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## Abstract

Economic growth of any country is dependent on the proper mobilization and allocation of financial resources among those who need money and those who have surplus money. Introduction and advancement in technology results in tremendous changes in the financial sector and changed the way business has been conducted in financial institutions. Technological innovation leads to transformation in financial markets and institutions in terms of accessibility to financial products and services, transparency, cost and risk associated with financial transactions. Advanced technology helps in offering more sophisticated services to the customers through the development of innovative financial products and increases the outreach, scale and depth of banking services. Automated teller machines, internet, electronic payment systems such as RTGS (Real Time Gross Settlement), electronic funds transfer (NEFT), mobile banking, and payment wallets helped banks widen their reach. Schemes such as Digital India, Bharat Interface for Money (BHIM), Aadhaar, Kisan Credit Card, Priority sector lending, Pradhan Mantri Mudra Yojana, Pradhan Mantri Suraksha Bima Yojana (PMSBY), Credit Enhancement Guarantee Scheme (CEGS) for Scheduled Castes (SCs), Venture Capital Fund for Scheduled Castes had been launched by government to India to achieve the objective of financial inclusion. The research paper focuses on analysing the role of technology in bringing more people in to the purview of financial system and to improve the status of financial inclusion. Paper also focuses on studying the various initiatives took by government in fostering financial inclusion in India.

**Keywords:** *Financial Inclusion, Technology, Mobile Banking, Electronic Payment, Government Schemes.*

## Introduction

Financial Exclusion may be attributed to factors like Demand side factors (Financial Literacy) & Supply side factors (Financial Inclusion). According to Dr. K.C. Chakrabarty “Financial Inclusion is the process of ensuring access to appropriate financial products and services needed by all sections of the society in general and vulnerable groups such as weaker sections and low income groups in particular at an affordable cost in a fair and transparent manner by mainstream institutional players”

“Financial inclusion, or broad access to financial services, is defined as an absence of price or non price barriers in the use of financial services” (World Bank). Financial inclusion include the opening of no-frill saving bank accounts, General credit cards, Kisan credit cards, Self Help Groups and branchless banking i.e. to appoint Business Correspondents in the unbanked areas. Under financial inclusion products and services such as access to payment & remittance facilities, loan, equity and Insurance products will be provided at an affordable cost.

In India financial inclusion was first familiarized in the year 2005. The Khan committee was formed in the year 2005 which laid emphasis on providing basic financial services and to open no frill account for the economically weaker sections of the society.

Information Technology refers to the use of computers and other electronic devices for processing, storing and transforming financial information. Introduction and advancement in information technology helps in replacing the brick and mortar stores with the virtual or digital banking. Technology has influenced the way products and services will be delivered to the customers at their door steps. Technology results in increasing the penetration level of financial services i.e. to made financial services and products available to the people living in rural and remote areas of India.

Financial Technology or Fintech is a use of technology by financial industry or financial sector to provide financial services to the clients. Fintech helps in including the under banked or unbanked people of the society. People living in rural areas can open bank accounts or apply for loan by using mobile banking technology. Techniques like crowd funding, digital payment systems, peer-to-peer (P2P), electronic wallets, etc can be used by people in rural and urban areas for banking purpose. hunger reduction and sustainable development. Since agriculture has been the economy's forte since the late Stone Age, robust and proactive gender mainstreaming strategy is nowadays applied to Financial inclusion intends to spread awareness about financial services and financial management among poor people of the society. Financial inclusion protects uneducated and poor people from any kind of cheating by the greedy and rich people.

## Literature Review:

**Alka Singh (2017):** Assessed the role of technology in Financial Inclusion. It was concluded that through technology basic financial services is extended to the unbanked population residing in the remote areas of the country. Products like e-KYC, IMPS, AEPS, mobile banking, etc had been introduced by RBI to provide banking facilities to the people living in various part of the country. In order to improve back end and front end services Core Banking Solution has been introduced by RBI. CBS system results in the introduction of services like NEFT, RTGS, mobile banking, Internet Banking, ATMs, etc.

**Gurpreet Kaur (2015):** Examined the effect of digital India initiative on financial inclusion. From the study it has been concluded that digitalization of financial services will increase the growth rate of financial inclusion. Through electronic system more and more people can be brought into the banking system. Mobile banking user base has increased from 36 million in 2014 to 170 million in 2018. With the digital India initiative there was a growth in number of people using mobile banking for banking transactions.

**Bhushan Singh & Sandeep Singh (2015):** has made a study on financial inclusion in India and it was found that RBI and GOI have started programs and schemes like introduction of GCC, Mobile banking, Business Correspondents, Simplified KYC Norms and Micro Finance institution to improve the status of financial inclusion. Government has launched scheme like Pradhan Mantri Jan Dhan Yojna and establish payment banks to improve access to banking service for every individual. Till 2015 more than 12.5 crore bank account had been opened under Pradhan Mantri Jan Dhan Yojna. It is also concluded that in the year 2013, 37953 bank branches has been opened in the rural areas of India. There is growth in number of accounts opened in various banks, BCs, OD facilities or KCCs. It was also found out that ATM network in India is very narrow, maximum banks have their ATM in urban areas.

**Sonu Garg & Parul Aggarwal (2014):** Conducted a study to examine the various approaches adopted by banks to achieve the objective of financial inclusion. It has been concluded that 65% of adults are excluded from the formal financial system. 55 percent population has deposit accounts and only 9 percent population have credit accounts with formal financial institutions. 18 percent are debit card holders and less than 2 percent are credit cards holders. Measures/ Schemes like KCC, GCC, No frill accounts, OD facilities, Mobile banking, ATM, Branchless Banking and Aadhaar enables payment system has been launched by RBI & GOI to achieve goal of financial inclusion. the number of bank branches including RRBs increased of from 33,378 in March 2010 to 40,837 in March 2013. Banking outlets through BCs has been also increased from 34,174 in March 2010 to 2, 21,341 in March 2013. Banks has been issued 34 million KCCs and million GCCs till March 2013.

**Shashank Bansal (2014):** in his study on Perspective of Technology in Achieving Financial Inclusion in Rural India found that in rural areas of India only 33% of population in rural area and 41% of population in urban area is included in the formal financial system. It was also found out that only 14% of agriculture and daily wage earners of rural area are having bank account. Only 8% of loans are taken from banks and other financial institutions. It was concluded that use of ICT in banking sector will help in strengthening the back and front end operations. Techniques like ATM, Rural internet kiosks & Mobile banking helps in bringing more people in the purview of financial system and to provide banking services to the unbanked population. Banks are using technology such as Geographical information system (GIS), Global positioning System (GPS), GPRS (General Packet Radio Services) to track the location of business

correspondents. Banks have adopted system like CBS, NEFT & RTGS to facilitate transfer of money from one bank branch to other in the country. ICT not only helps to bring down the cost of transaction significantly but also provide a competitive medium.

**Sanjeev Gupta (2011):** reveals that technology can play an important role in reducing operating cost of providing banking services, particularly in the rural and unbanked areas. RBI & GOI had taken various steps to achieve the objective of financial inclusion and to provide banking services to weaker section of the society. Use of IT will enhance the competitive efficiency of the banks by strengthening their back end and front end administrative processes and by reducing transaction cost for the customers. Major technological development like adoption of CBS, Mobile banking, Aadhaar, Micro ATM, ATM, Electronic payment system, GCC & POS results in improving the status of financial inclusion in India.

**Nagendra S & Narasimha Shenoy (2011):** Conducted a survey in the rural area to find the effectiveness of branchless banking in promoting financial inclusion among rural population.

It was found that more than half of the population is not aware of branchless facilities provided by banks. 60% of people living in rural area want to avail deposit/withdrawal facility through the help of business correspondents. It was also found out that approximately 35% people want banking services in their villages and only 16 people out of 200 thinks that branchless banking as a mean of safety purpose.

Corporation bank playing a important part in providing branchless banking facilities to the people but 40% of the customers have not yet accessed the branchless banking services and 60% customer out of those who are availing banking services are not facing any problem in availing banking services. It was concluded that branchless banking and services of business correspondents is a cost and time effective model which helps in saving of time and cost associated with delivery of banking services to rural masses.

#### OBJECTIVES

1. To study the impact of technology in achieving objective of financial inclusion.
2. To study the measures taken by government and RBI to increase the level of financial inclusion.
3. To know progress of modern banking facilities & electronic payment system in financial inclusion plan.

#### Sources of Data:

The paper is based on secondary data which was collected from various published sources i.e. Magazines, Journals, Newspapers & Websites of RBI and other government agencies.

## GOVERNMENT INITIATIVE FOR FINANCIAL INCLUSION

Government of India has introduced schemes like Digital India, Bharat Interface for Money (BHIM), retails banking services, payment banks, Aadhaar scheme, credit counselling centres, Kisan Credit Card, Priority sector lending to bring vulnerable groups such as weaker sections and low income groups in the purview of banking network and to encourage people to participate in financial system. Major schemes launched by government of India are as follows:

### 1) Pradhan Mantri Jan Dhan Yojana (PMJDY)

Scheme was launched by government on 15th August 2014. Main purpose of introducing the scheme is to provide at least one bank account, insurance, pension facility to every household and to ensure financial literacy and inclusion of households in the country. With the help of bank mitra Scheme will cover 6 lakh villages of the country. Person having Jan Dhan account can avail the benefit of overdraft, accidental insurance cover of Rs 1Lakh and they will be provided with Rupay debit card.

In the first phase of the scheme almost 10 crore households were targeted for inclusion through opening a bank account. As on February 6th 2019 total number of beneficiaries in public, private and regional rural banks is 34.26 crores. No of Rupay debit card issued till 6th February 2019 is 26.85 crores. Total amount deposit in the Jan Dhan account till 6th February 2019 is 90,217 crores.

### 2) Pradhan Mantri Jeevan Jyoti Bima Yojana (PMJJBY)

PMJJY is one of the schemes of Jan Suraksha launched by government to provide social security to the poor and the under-privileged people of India. The PMJJBY is available to people in the age group of 18 to 50 years having a bank account through life insurance Corporation of India and other insurance companies. Insured have to pay premium of Rs 330 per annum and he will get Life cover of Rs 2 lakh for one year which is renewable and in case of death he will get risk cover of Rs 2 lakh. As on 31st March, 2017, cumulative gross enrollment reported by banks is over 3.10 crore under PMJJBY. A total of 62166 claims were registered under PMJJBY of which 59118 have been disbursed.

### 3) Pradhan Mantri Suraksha Bima Yojana (PMSBY)

PMSBY insurance scheme is available to people in the age group 18 to 70 years with a bank account through Public Sector General Insurance Companies or any other General Insurance Company. Insured have to pay premium of Rs 12 per annum and in case of accidental death and full disability he will get risk cover of Rs 2 lakh and Rs. 1 lakh for partial disability. As on 31st March, 2017, cumulative gross enrolment reported by banks is over 9.94 crore under PMSBY. A total of 12,534 Claims were registered under PMSBY of which 9,403 have been disbursed.

### 4) Atal Pension Yojana (APY)

APY was launched by government on May 9th 2015 to provide social security to people in the age group of 18 to 40 years with saving bank/post office saving bank account. Subscribers would receive the guaranteed minimum monthly pension of Rs. 1,000 or Rs. 2,000 or Rs. 3,000 or Rs. 4,000 or Rs. 5,000 at the age of 60 years. In case of death of the subscriber accumulated amount would be available to the spouse or nominee. If the accumulated corpus based on contributions earns a lower than estimated return on investment and is inadequate to provide the minimum guaranteed pension, the Central Government would fund such inadequacy. As on 31st March, 2017, a total of 48.54 lakh subscribers have been enrolled under APY with a total pension wealth of Rs. 1,756.48 crore.

### 5) Pradhan Mantri Mudra Yojana

Mudra Yojana was launched on 8th April 2015 to motivate young, educated and skilled generation of India to start their own business or to be an entrepreneur. Before MUDRA Yojana out of 5.77 crore business and micro units only 5% small business and micro units have access to formal credit institutions. Under Mudra (Micro Units Development & Refinance Agency) Yojana three sub schemes has been launched i.e. Shishu, Kishore and Tarun. Loan amount vary according to the sub scheme opted by the individual. Under Shishu scheme one can take loan upto Rs 50,000. Under Kishore scheme one can take loan between Rs.50, 000 to 5.0 Lakhs. Under Tarun scheme loan amount can range between Rs 5.0 Lakhs to Rs 10.0 Lakhs. According to financial report 2017-18 total loan amount sanctioned and disbursed is Rs 7,977 crore & Rs 7,501 crore against loan amount sanctioned i.e. Rs 3,708 crore and disbursed Rs 3,525 crore in the financial year 2016-17. States such as Rajasthan (54%), Gujarat (46%) & Odisha (46%) have shown a growth of 45% in the financial year 2017-18. Highest number of loan accounts i.e. 88.65% has been opened under Shishu loan sub scheme and 41.78% amount had been sanctioned under the scheme. In terms of number of accounts, the share of women borrowers was about 70% (i.e. 3,35,58,238) whereas SC/ST/OBC constituted about 55% (i.e.26, 224,114).

### 6) Electronic/Digital Payment System

Electronic wallets such as Bharat Interface for Money (BHIM), Aadhaar Pay etc have been launched by government of India to enable people to make cashless payments through online or offline mode. Individual can download the e-wallet app on their mobile phone and utilise it to make transactions like mobile recharges, utility bill payments, grocery stores, e-commerce portals, etc. In order to lure people towards the use of electronic wallets many offers, cash back options and rewards has been introduced by the companies.

### 7) Payment Banks

Payments banks were established on the recommendation of Nachiket More committee. These banks will only accept deposit from public and will not lend loans. These payment banks will provide payment

services and deposit products to small businesses and low-income households. Major payment banks operating in India are Paytm, Airtel, Indian postal payment bank, Phinopayment.

### 8) Swabhiman Campaign

This Campaign was introduced in 2004 on the recommendations of C. Rangrajan Committee. Campaign aims to include rural population into banking services and to link people in the financial sector in organised way. Main motive of the campaign is to make rural population aware about the benefits of financial services.

### ROLE OF TECHNOLOGY IN FINANCIAL INCLUSION

In order to make India self sufficient, to reduce poverty and to achieve the prerequisite of economic development it is necessary to increase the accessibility of banking services in the rural areas of India and to bring poor people to bank. Increase in Cost of maintenance, intermediary cost and operating cost is a big hurdle in achieving the target of financial inclusion. Technology can play an important role in providing the financial services to the people at low cost as brick and mortar stores can be converted in to digital banking. Banking industry had started using Information technology in the year 1980 on the recommendation of the report submitted by Rangrajan committee. In the late 1990s & early 2000s major reforms took place in the banking sector in the form digitalisation of banking services i.e. introduction of e-commerce and online banking system. Technological intervention like use of mobile phones for banking transactions helps in bringing down the percentage of unbanked population below 47%. Out of 1,166 million mobile subscribers only 318 million people are using mobile for banking transactions in India.

The use of information technology (IT) and intermediaries has made it possible to increase outreach, scale and depth of banking services at affordable cost. Major technological advancement which results in delivering the financial services to the poor and people living in remote areas of India are:

- 1) **Core Banking Solutions (CBS):** It is a system through which customers can operate their accounts from any bank branch through computers. CBS system aids in management of data and online banking. SLBC convenor banks were advised to open a CBS enabled banking outlet or a part time banking outlet in the villages with population less than 2000 that still remain unbanked in the year 2017.
- 2) **Inter- Bank Mobile payment services:** IMPS was introduced by National Payment Corporation of India. IMPS helps in transfer of funds directly to the beneficiary account within India using mobile phones.
- 3) **Mobile banking:** Telephone or Mobile banking is a service provided by a banks and financial institution where customer performs their transaction, over the telephone. This technology facilitates

to call the bank and give order to a bank computer for carrying out of operation under your account.

- 4) **Automated Teller Machine:** ATM was introduced in the year 1967. An automated teller machine is a computerized device that provides access for financial transaction in a public place. The customer can have access to his bank account to make cash withdrawals and check balances. Apart from these functions ATM facilitates to transfer money from one account to another and can request for a cheque
- 5) **Smart Card:** Smart card is a biometric authentication system through which state government can disburse social security amount or pension amount directly to the people registered under Rural Employment Generation Program. Smart cards are linked through bank accounts and even people can take short term loan for agriculture purpose through smart cards.
- 6) **Micro ATM:** Micro ATM is installed at local shops where people can transact financial services through this Business Correspondents can help individual to instantly deposit, withdraw & Transfer funds. Micro ATM is connected through a mobile phones. Authentication of UID number is necessary to avail the benefit of micro ATM.

Table I Banking Outlets			
Particulars	End-March 2010	End-March 2017	End-March 2018**
1	2	3	4
Banking Outlets in Villages – Branches	33,378	50,860	50,805
Banking Outlets in Villages>2000-BCs	8,390	1,05,402	1,00,802
Banking Outlets in Villages<2000-BCs	25,784	4,38,070	4,14,515
Total Banking Outlets in Villages – BCs	34,174	5,43,472	5,15,317
Banking Outlets in Villages – Other Modes	142	3,761	3,425
Banking Outlets in Villages –Total	67,694	5,98,093	5,69,547
ICT-A/Cs-BC-Total Transactions (Number in millions)	27	1,159	1,489
ICT-A/Cs-BC-Total Transactions (Amt. in ₹ billion)	7	2,652	4,292

Source: RBI Website.

Table 1 shows progress towards opening of bank branches in villages of India. There are total 5, 69,547 bank branches in villages in the year 2018 as against 67,694 bank branches in the year 2010. From the table it is also interpreted that as compared to the year 2017 there is 5% decrease in the number of bank branches opened in the year 2018 through banking correspondents. Table also shows that number of ICT based transaction had increased from 27 million to 1,489 million in the last 18 years.

Sr. No.	Year	Volume (Actual) Million	Value (In Rs'000) Billion
1	2018	486530085	2135234207
2	2017	206	1057
3	2016	110	1498
4	2015	39491499	490291434.1
5	2014	16	113
6	2013	8892790	22612967.9
7	2012	5221007	5981382.782
8	2011	2670488	1979847.644

**Source: RBI Website.**

Out of 1,166 million mobile subscribers only 318 million people are using mobile phone for banking transactions in India. Least cost of service and minimum investment make mobile banking a very handy tool promoting financial inclusion in different corners of the country. (Table IV) shows that there is a constant growth both in volume and value of mobile banking transaction in last 8 years, volume of mobile banking transactions increased from 26,70,488 million to 48,65,30,085 million.

Particulars	End-March 2010	End-March 2017	End-March 2018**
KCC - Total (No. in Million)	24	46	46
KCC - Total (Amt. in ₹ Billion)	1,240	5,805	6,096
GCC - Total (No. in Million)	1	13	12
GCC - Total (Amt. in ₹ Billion)	35	2,117	1,498

**Source: RBI Website**

From above table it can be interpreted that in last 18 years number of KCC card holders has increased from 24 million to 46 million. Total amount of KCC transaction has increased by 5% between the year 2017 & 2018. There was a sharp increase in number of people using GCC cards in last 18 years. Number of GCC card holders has increased from meagre 1 million to 12 million in the year 2018. There was 29% decrease in General credit card transaction between the year 2017 & 2018.

Sr.No	Year	No of ATM's (Urban + Rural)		No of POS	
		On-Site	Off-Site	Online	Offline
1	2018	107914	97751	3332484	0
2	2017	109908	97128	3027382	0
3	2016	107758	98102	1766481	1252
4	2015	97793	95975	1245110	337
5	2014	93119	83291	1058294	348
6	2013	71690	69826	1010332	15401
7	2012	51600	54184	784862	14840
8	2011	45275	42080	607094	11662

**Source: RBI Website**

The statistics show that there is a growth in the number of ATM's and Point of Sales (POS) machines installed in different parts of India in last eight years. There is 138% increase in number of onsite ATM's and 132% increase in number of offsite ATM's. We can see a constant growth in number of POS

machines installed in last few years. Number of POS machines increased from 6, 07,094 to 33, 32,484 in the year 2018 showing huge growth of 448%. Table also show growth in number of POS machines installed offline between the year 2011 & 2013 but after that there was reduction in the year 2014 & 2015. No POS machine was installed in recent years, so there is a mix trend related to installation of number of POS machine.

TABLE V IMPS & UPI					
Sr.No	Month	IMPS		UPI	
		Volume Million	Value Billion	Volume Million	Value Billion
1	Nov-16	36.2	324.8	0.3	0.9
2	Dec-16	52.8	431.9	2.0	7.0
3	Jan-17	62.4	491.2	4.2	16.6
4	Feb-17	59.7	482.2	4.2	19.0
5	Mar-17	67.4	564.7	6.2	23.9
6	Apr-17	65.1	562.1	6.9	22.0
7	May-17	66.7	585.6	9.2	27.7
8	Jun-17	65.8	596.5	10.2	30.7
9	Jul-17	69.1	604.8	11.4	33.8
10	Aug-17	75.7	651.5	16.6	41.3
11	Sep-17	82.9	717.6	30.8	52.9
12	Oct-17	88.1	750.4	76.8	70.3
13	Nov-17	89.5	782.6	104.8	96.4
14	Dec-17	98.0	871.1	145.5	131.4
15	Jan-18	99.6	882.1	151.7	155.4
16	Feb-18	99.2	882.7	171.2	191.0

**Source: RBI Website.**

From above table it was interpreted that people prefer to use electronic banking instrument like IMPS & UPI system over manual system for banking transactions. There is increase in the volume and value of IMPS & UPI transaction from November 2016 till February 2018. From November 2016 to February 2018 there is 175% increase in volume of transaction through IMPS system. Statistics also show constant growth in the value of IMPS transaction i.e. value increased from 324 billion in November 2016 to 882 billion in February 2018.

From above table it was interpreted that usage of UPI app in terms of value and volume is also increasing year by year. Volume of UPI app increased from 2 million in 2016 to 171 million in February 2018.

#### CONCLUSION:

Inaccessibility of banking and financial services to the poor and low income group residing in urban and rural areas of India result in exclusion of people from financial system. ICT play important role in delivering financial and banking services to the people at their door step. Various IT tools have been used by banks to reach, connect low income and vulnerable section of the society to banking system. Government has launched various schemes to bring more and more people into mainstream financial system. Government schemes such as Pradhan Mantri Jan Dhan Yojana (PMJDY), Pradhan Mantri Suraksha Bima Yojana (PMSBY), Pradhan Mantri Mudra Yojana scheme plays important role in increasing the number of bank account holders, (34.26 crores), enrollment under life insurance (3.10 crores) and number of people availing loan facility for starting their own business (88.65%). Adoption and advancement in technology results in replacing the brick and mortar stores with the virtual or digital banking, Introduction of Digital or online banking system helps in increasing the volume of IMPS, POS, UPI, EFT and Debit card transactions. IT enabled services like Debit cards, E-Banking, SMS services Electronic payment and settlement services and Micro ATM has adopted by banks to meet growing demand for financial products and services. Constant growth in number of mobile banking users results in increasing the volume of mobile banking transactions from 26, 70,488 million to 48, 65, 30,085 million and also reduce the percentage of unbanked population below 47%. So it can be concluded that information technology has become the backbone of financial system and is helpful in overcoming the challenges faced by physical stores in reaching the customers. Information technology not only helps in bringing down the cost of financial transaction but also accelerate the pace of delivery of financial product & services hence helps in achieving the objective of financial inclusion.

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## Employee perception of safety practices at large scale chemical industries in Tuticorin, Tamil Nadu

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### Abstract

Safety management involves setting up the work place in a manner where the employees work in a safe environment and in the worst case is protected from injuries. Most industries have an action plan to ensure an accident free operation that should start at the top of the hierarchy and permeate to the bottom and needs the understanding and involvement of all employees to be implemented successfully. Hence beyond the design and layout of the industry and the concern of the management, human factor has a major role to play in the safety record of that industry. Safety management in chemical industries has been discussed based on eight dimensions namely work infrastructure, personal protective equipments, work pattern, safety motivation, participative management, fire protection, safety training, and safety personnel. This paper focuses on safety management from the view point of employees and to develop a scale on how they perceive the safety factors of their industry.

**Keywords:** *Gender, Equality, Gender policy, Development, Economic Growth, Empowerment*

### Introduction

Safety management in industries entails the protection of the physical, mental and social health of employees by creating a work environment devoid of industrial accidents. Safety management involves setting up the work place in a manner where the employees work in a safe environment and in the worst case is protected from injuries. Hughes and Ferret(2008) refer health as the as the safeguarding of employees from sickness resulting from resources and processes at work place while safety concerns safeguard of people from physical injury. An unsafe act or an unsafe condition can lead to an accident which may depending on circumstances have a long-standing impact on the industry, individual, other employees and society as a whole. Heinrich (1941) identified accident as an unexpected and unrestrained occurrence in which the action or reaction of an object, material, individual, or radiation results in personal injury. Hence the focus of safety management is the prevention of accidents which in turn augur the well being of employees. Modern industries are beset with mechanical, electrical,



chemical and physical (due to slippery conditions and ill conceived work areas) hazards which cause accidents due to human and technical error. This paper focuses on safety management from the view point of employees and to develop a scale on how they perceive the safety factors of their industry.

O'Reilly (2001) stated that death and injuries were accepted as a part of Industrial engineering in its earlier years but the advent of employee's liability law in 1911 put the onus of financial responsibility of injuries on the employers thereby necessitating the economic need to develop safety programs. However safety is a by-word in modern industries and every aspect of design and operation has a focus on safety. The industries are statutorily obliged to report to the prescribed authorities lost time accidents that prevent the employee to report for work within forty eight hours from the time of the accident. The cost of an accident is both tangible and intangible. The tangible costs include expenses due to medical treatment, absence of employee, statutory strictures and the intangible costs include lowering of employee morale and lowering of the image of the industry. Most industries have an action plan to ensure an accident free operation that should start at the top of the hierarchy and permeate to the bottom. This action plan is more pronounced when management takes a very serious view of safety. Wu, Chen & Li (2007) defined safety leadership as the practice of interaction between leaders and employees, through which leaders put forth their influence on employees to achieve organizational safety goals. O'Dea & Flin (2001) referred to safety concern as the degree to which senior management stresses the significance of safety equipment. Whatever the design of the industry and the concern of the management, human factor has a major role to play in the safety record of that industry. Barling, Loughlin & Kelloway (2002) recognized Safety consciousness as an individual's own responsiveness of safety issues.

## Review of Literature

Margolis (1973) commented on the importance of recognizing worker behaviour and found that engineering remedies to accidents were in themselves inadequate in the prevention of accidents. Mortensen (1988) observed that hazards cropping up from workplaces could harm the health of the workers and makes it imperative to foresee, identify, evaluate and control such hazards. Hammer, (1985) highlighted the significance of management and their responsibilities for developing effective coordinated safety policies and procedures within the place of work. Cox & Cox (1991) emphasized safety culture as the ways in which safety is handled in the workplace, and tend to replicate the attitudes, beliefs, perceptions and values that employees share in relation to safety. Grantham, (1992) clarified the necessity for personal protective equipment when there is a probability of employees being in contact with a dangerous substance which may cause impairment to their health. Timpe, (1993) argued that occupational health and safety is a key constituent in achieving strong preventive safety cultures through sustained decent working conditions. Johnston, Cattedledge & Collins (1994) identified safety training as

a means to assist employees to attain knowledge, create an attitude change and enable them to perform work in a safe manner. Cooper (1998) emphasized safety training as an attempt to change people's safety behaviour and attitude towards safety in the workplace

Black and Lynch (2001) explained that workplace environment and implementation of workplace safety practices have constructive impact on firm performance. Mahadevan, H. (2009) identified safety and health as a concern for all employees on the work spot and is not restricted to just specialists and professionals. Subramani (2014) predicted that safety managers have a chance to persuade and augment a sense of safety and the quality to the work environment. Reilly, Paci, & Holl (1995) found that establishments with joint consultative committees exclusive for health and safety matters – and with all employee representatives chosen by unions – have, on average, have 5.7 fewer injuries per 1000 employees compared with establishments where management deals with health and safety matters without any form of worker consultation. Choudhry, Fang & Ahmed, (2008), found that management's commitment to safety is a vital factor influencing the success of an organization's safety programs. Becker and Morawetz (2004) accentuated safety training as an ongoing process to intended to educate employees in safety details to bring about positive outcomes in safety procedure and legislation within organisations

## Objective

To develop a comprehensive scale and identify the employee perception dimensions of safety practices at large scale chemical industries in Tuticorin.

## Method

The questions were based on the perception of employees concerning safety practices at large scale chemical industries of Tuticorin district. The main research instrument was an interviewer administered survey. The research instrument was developed using the conceptual base of the employee perception of safety practices and the contextual basis of the focus group outcomes. The resultant questionnaire comprised 41 questions on Likert scales (5 point scale) reflecting the different dimensions of perception of safety practices in industry. A total of 150 respondents employed on a permanent basis in large scale industries were taken for the study. The study was restricted to large chemical industries of Tuticorin with employee strength above 500. The industries were selected using convenience sampling method while the respondents were selected based on systematic random sampling technique while leaving the industries after the completion of their shifts.

**Table 1: Exploratory Factor loading of employee perception of safety management in chemical industries**

	Components of employee perception of safety factors in chemical industries	Dimensions	Loadings	
SAF23	I am part of Frequent mock drills conducted on a regular basis	Work infrastructure	.961	
SAF37	Coal storage areas are water sprayed to avoid spontaneous combustion		.955	
SAF26	insulated vessels are frequently inspected for metal thickness at scheduled intervals		.942	
SAF41	All equipments are provided with stop push button latch in push button box		.937	
SAF36	A thorough off site emergency preparedness plan is maintained in the company		.934	
SAF40	Proper lighting is available throughout the industry		.921	
SAF28	All belt conveyors are provided with pull chord switches for emergency stop options		.919	
SAF27	The plant maintains very good housekeeping through constant upkeep		.892	
SAF32	I am satisfied with the comfort level of personal protective equipments		Personal protective equipments	.935
SAF29	I am satisfied with the quality of personal protective equipments			.933
SAF34	I am satisfied with use of common usage personal protective equipments such as goggles	.931		
SAF31	I am satisfied with the replacement policy of worn out personal protective equipments	.929		
SAF30	I am satisfied with the types of personal protective equipments	.908		
SAF13	Areas where cutting / welding works are undertaken are cordoned off properly	Work pattern	.968	
SAF16	Scaffolding are checked properly and can be used only after receiving work permits		.966	
SAF15	Personnel working in hanging position should compulsorily use safety belts	Safety motivation	.958	
SAF14	Wet gunny bags are used to cover rubber items like belts during hot work		.954	
SAF33	A line clear (removal of fuse) is initiated before handing over equipment for maintenance		.934	
SAF5	Safety bonus is given for specific accident free man hours	Participative management	.960	
SAF11	Employees are motivated to write in the half yearly safety bulletin brought out by company		.954	
SAF10	I am happy with the frequent safety slogan contest conducted by the company		.950	
SAF12	Once a year the department with maximum safety outcomes are felicitated		.945	
SAF35	safety quiz contests are frequently carried out in the company	Fire protection	.922	
SAF4	Workers part of quality circle can put forth safety suggestions taken from the field		.919	
SAF6	Department level safety reviews are held every month attended by employees		.911	
SAF3	Modification that better safety are carried out once found feasible		.910	
SAF38	Situations of near accidents are discussed for immediate action		.909	
SAF2	Suggestions on safety practices can be put in a box which is evaluated every month	Safety training	.888	
SAF7	Employees have adequate awareness on procedures for usage of extinguishers		.945	
SAF9	The fire hydrants and hose stations are provided at the right spot		.944	
SAF1	The right type of fire extinguishers are provided at right location	Safety personnel	.944	
SAF8	Vantage areas are covered by fire and smoke detectors monitored by control room		.935	
SAF21	Discussion of accidents in other industries through these training enlighten safety aspects		.966	
SAF20	I am satisfied with the way the trainers handle the class		.947	
SAF17	I am satisfied with the first aid training arranged through professional organizations		.941	
SAF19	I am satisfied with the safety films used in the company		.912	
SAF25	Safety officer reprimands personnel involved in unsafe acts		.927	
SAF18	Safety department personnel provides hands-on training on usage of fire hydrants		.913	
SAF22	Safety officer necessarily sign permits before taking a job		.912	
SAF24	Safety officer visits the work spots frequently		.833	

**Table 2 Eigen Value and Variance of dimensions of employee perception of safety aspects in chemical industries**

Summary Statistics	F1	F2	F3	F4	F5	F6	F7	F8
Eigen Values	9.25	7.09	5.92	3.63	3.22	2.53	2.25	1.76
% of variance explained	24.34	18.65	15.58	9.56	8.46	6.67	5.92	4.64
Cum % of variance explained	24.34	42.99	58.57	68.13	76.59	83.26	89.18	93.82
N =200	Sample = All respondents				Unit = Factor loadings			

The first factor identified as work infrastructure includes statements such as frequent mock drills (on site emergency preparedness), control of coal auto ignition, inspection of insulated vessels for metal thickness, stop push button latch, off site emergency plan, safety provisions in equipment usage, adequate lighting and good housekeeping. An offsite emergency plan ensures the plant is ready in case something happens in the near vicinity other than inside the plant. Good housekeeping involves an attention to detail in ensuring everything in its place, keeping the premises dust free, skimming oil from drains and reprocessing spilled process material as per accepted procedure. The metal inside an insulated vessel is not visible outside and can pose a hazard if not inspected at regular intervals. The stop push button latch provides a visible reassurance to the maintenance man that the equipment does not get started. Bird and Germain(1990) indicated that the level of housekeeping in industry is understood to signify to some extent the heights of safety in that industry. Reber and Wallin (1983) studied housekeeping performance as a constituent of safety behaviour. Industries tend to stock a variety of coals as per availability and certain coals have a tendency for spontaneous combustion necessitating a careful vigilance on the part of industry. Duzy and Land (1985) said that fires originated by self-oxidation of coal can cause the loss of natural wealth and money which in turn leave a harmful effect on environment. The work place emergency is an unanticipated situation that can cause damage to the plant, employees and community at large and this is the reason for companies to concentrate on both the onsite and offsite emergency preparedness plan. This factor accounts for 24.34 percent of variance The second factor identified as personal protective equipments (PPE) included statements on comfort level, quality, types and replacement policy of personal protective equipments as also those personal protective equipments kept for common usage as per work requirements such as speciality gloves and goggles. PPE's happen to be the last line of defence where the employee by himself maximises the safety precaution possible for him. Joel (2007) revealed that protective devices are developed to interpose an effective barricade between harmful object or environment while Alli (2008) observed that usage of personal protective equipment (PPE) necessitates an active cooperation and acquiescence by the employees. This factor accounted for 18.65 percent of variance.

The third was classified as work pattern and included usage of wet gunny bags to avoid fire in rubber based items such as drive belts and conveyors, cordoning areas where work is undertaken above a certain height, scaffoldings being double checked, wearing of safety belts made compulsory for work without regular work platform and a line clear system before release of equipment for maintenance. Iverson and Erwin (1997) identified that occupational injuries can be ascribed to either of causes like the characteristics of the work environment (work practices) and the characteristics of the human being. Oliver, Cheyne, Tomas and Cox (2002) stated that initiatives intended at improving the safety of working environments have reached some success. The work pattern dimension accounted for 15.58 percent of variance.

The next dimension sorted was safety motivation and the components included safety bonus, contributing messages in safety bulletin, safety slogan, safety quiz contest and inter department safety outcome contests. Smith and Mustard (2007) stated that in order to prevent to prevent injury and it is mandatory for employers to inform employees the process of safe usage of machinery. This factor accounted for 9.56 percent of variance. Carraher, Gibbson & Buckley (2006) pointed out that motivation accompanied by rewards is of utmost importance in affecting employee motivation. Cabrera, Fernaud & Diaz, (2007) identified motivational patterns that organizations as intrinsic rewards when related to job content, and as extrinsic rewards when connected with economic rewards and social recognition. The motivation to act with a safety first approach should be imbibed in the minds of the employee by the way the management tunes the employee.

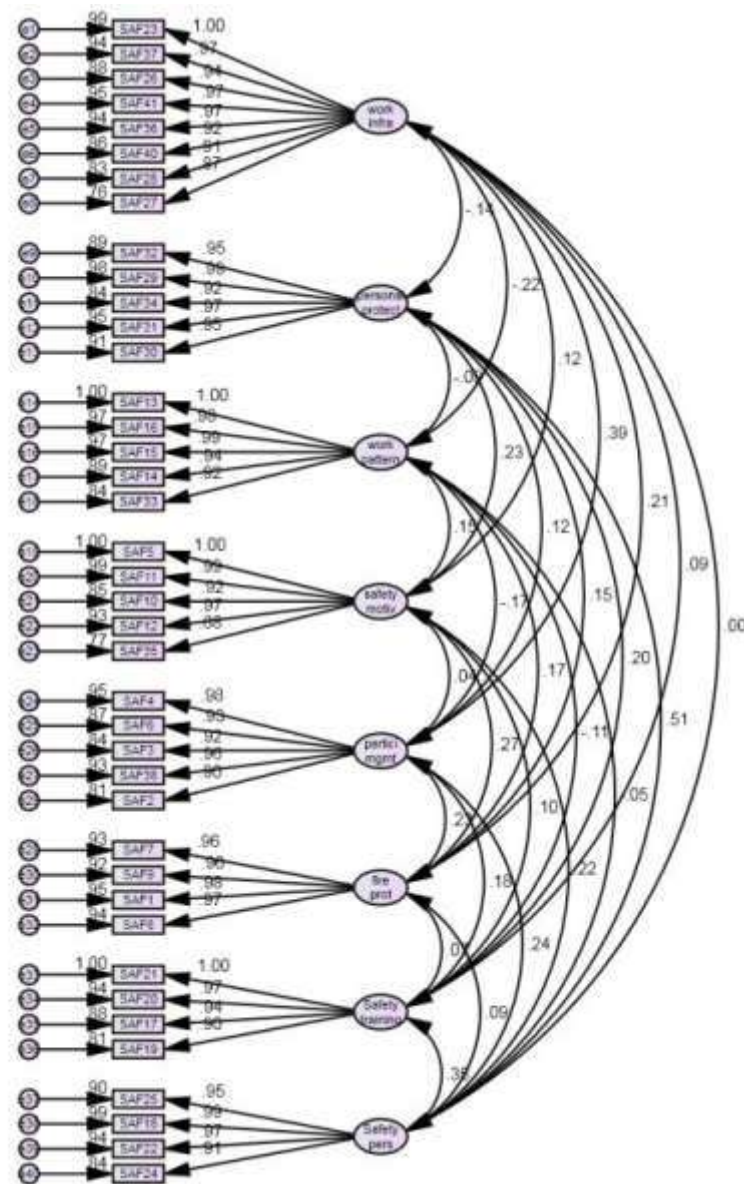
The next dimension that emerged was participative management and included statements such as workers being part of quality circle, department level safety reviews, minor modifications, situation of near accidents for immediate action and usage of safety suggestion boxes. The quality circle provides employees a forum to discuss their suggestion. The involvement of employees on issues affecting their safety and health can take advantage of their unique and relevant experience. Most of the inconvenience in operation like having valves in pipe rack instead of having it at operating level will be known only to hands on employees rather than higher management and hence worker involvement in safety discussions are inevitable. Near accidents involves scenarios like ripping of water cooler fan blades after the material of construction was changed over to fibre reinforced plastic from cast aluminium to save on power where in that case inspection was increased to avoid such calamities. Cascio (2006) explained that employees are the life line of an enterprise and there will be a direct bearing on the production of the organization when suitable safety measures are not maintained. Vredenburg (2002) identified that safety committees are presently a standard feature of workplace safety programs and the committee tends to be effective when its members are in positions where they make a constructive impact on the committee's work in addition to being well trained..

The sixth dimension was categorized as fire protection and included statements such as adequate awareness in usage of extinguishers, fire hydrants and hose stations at right spot, fire extinguisher of the correct types and usage of fire and smoke detector. It is necessary to have the right type of fire extinguisher at the right place. The procedure of using each type of extinguisher will be different and requires skill on the part of the user to use it properly in case of emergencies. Huda & Ahmed (2011) in a study on garment factory workers of Bangladesh found a considerable number of fatalities occurred because of fire incidences caused by panicked stampede and locked and blocked exit doors that are ascribed to lack of proper fire management practices.

The next dimension categorized was safety training dimension and included statements such as case studies on industrial accidents, trainer capabilities, first aid training by professional organizations and safety films. Oberman (1996) identified safety training as the first line of defence against accidents and perilous situations and as well the cost associated with these occurrences. Safety as a way of life in industry is ingrained in the mind of the employee right from the orientation training stage. Employees before being absorbed have a training schedule where safety is a major topic other than training concerning operation and equipments. Roughton, (1993) highlighted that in order to develop the quality of safety and health of all employees, organizations should maintain a methodical and all-inclusive safety and health training program for fresh employees and use a buddy system to ensure the orientation of new employees in the safety and health quality systems. Vredenburg and Cohen (1995) underlined that when employees perceived a higher danger their compliance was more and hence it was imperative for the employees to be trained to identify a hazard. Zohar (1980) identified training as a feature of positive safety culture. Safety discussion has the double benefit of enlightening the employee as well as to prevent over confidence in job that can dampen the safety attitude of the employee. Goetsch (2005) found that all employees required appropriate and adequate amount of safety training to advance their safety awareness. The approach towards accidents is influenced by prior experience of having either seen or being near one and this often contributes to the attitude towards them, and has potential to initiate an attitude change. This dimension accounted for 5.92 percent of variance

The final dimension separated was safety personal attributes and included statements on safety officer reprimanding errand workmen, hands-on training on fire hydrant usage, safety officer's necessity to sign permits and frequent visit of safety officer. The fire hydrant training is vital as for an untrained handler that itself can turn out to be an accident considering the high outlet pressure of water hydrant pumps. Blair (2004) revealed that the challenge for safety manager is to streamline management roles and capabilities into action plans.

**Fig 1 - Confirmatory Factor Analysis with the eight dimensions of employee perception of safety in chemical industries**



The above measurement showed a suitable data fit. The CMIN/DF ratio was 2.816, which is within the agreed range of less than 3 which is indicative of an acceptable fit between the sample data and hypothetical model. The values of the fit indices are given in the table below and the values confirm the model as adequate.

**Table 3 Model fit indices for the eight dimensions of employee perception of safety practices in chemical industries**

Index of fit	CMIN	DF	CMIN/DF	GFI	AGFI	NFI	IFI	CFI	RMSEA
Value	2005.318	712	2.816	.639	.584	.846	.0.895	.895	.110

From above table Bollen's (Bollen, 1989) incremental fit index (IFI) values close to 1

indicate a very good fit. Bollen's (Bollen, 1986) relative fit index (RFI) values close to 1 indicate a decent fit. The GFI (goodness of fit index) identified by Joreskog and Sorbom (1984) value is less than 1 where a value of one indicates a perfect fit.

The reliability of the eight dimensions were established through Cronbach's alpha calculation and they varied from 0.903 – 0.987 and were considered adequate as they are above 0.70

The above study brings out the perception of employees on the safety aspects of chemical industries in Tuticorin region. Safety has to be incorporated in every aspect of design of the plant though the cooperation of employee is imperative as human error can undo any aspect of safety design. This brings out the importance of safety training and the role of safety department who need to play a proactive role. Industries often make it compulsory to wear certain personal protective equipments. In that case, industries need to have a proper replacement policy as PPE's tend to get worn out after a period of time in which case their function is redundant. The wear and tear of PPE varies with individuals and hence companies need to have a flexible policy regarding the same. Companies do tend to save on lighting loads at night times by switching of alternative light in conveyor walk ways and areas which are sparsely used or are used only during day shifts without compromising on the safety aspects of industries.

Safety in industries is more like the hygiene factors devised in Herzberg's (1959) motivation theory. People do not talk about safety in an industry as far as there is no such incident but when an accident occurs it results in plenty of negative publicity. Even small accidents can have huge consequences as it can cause injuries to employees, damage equipments, can cause production loss and lower the morale of employees. Hence industries should leave no stone unturned in their effort to maintain a safe environment. Safety in industries can have a repercussion on the whole environment as an accident like a gas leak does not stay contained in the industry and tends to spill over into areas beyond the industry and often into neighbourhoods.

## Conclusion

The above scale takes a look at the safety management in industries across eight dimensions. Safety management is a critical entity of any industrial operation and the scale developed above will be highly useful to industries to check whether the steps taken towards safety has been properly understood by the employees or if there is any short fall in case of which the industries will be in a position to make

corrective steps. In future the scale may be developed individually for each of the seven dimensions identifies as also for industries in domains other than chemical industries where the safety dimensions can be very different.

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# Impressions of Entrepreneurial Management Methods in Intensifying Agrarian MSMEs Productivity in Chipinge District, Zimbabwe

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## **Abstract:**

Agricultural led economies are adopting entrepreneurship management concepts to intensify the productivity of agrarian MSMEs so that they improve food security, economic development and wellness of the local people. Such studies have been frequently debated and as such it is a positive step to improve agriculture in the Zimbabwe through promoting the use of entrepreneurial managerial concepts by agrarian MSMEs. This management methodology has propagated the economy to be agricultural driven, thereby engendering MSMEs to grow into large companies and meet their fair competitiveness. This study aims to measure how strong entrepreneurial managerial concepts intensify the productivity of agrarian MSMEs in Chipinge district in Zimbabwe. This research used quantitative data with questionnaires as the primary data source which were distributed using a survey to 70 MSME respondents. These valuable experiences draw valuable lessons from Zimbabwe in effectively utilising entrepreneurial managerial concepts on agrarian MSMEs to sustain the economy and improve their productivity. This study examined the analysis path of entrepreneurial managerial concepts on intensifying the productivity of MSMEs. The results show that the concepts of entrepreneurial managerial concepts have a positive and significant impact on agrarian MSME intensification of producing more food to attain food security. The study also shows that MSME entrepreneurial management concepts contribute both to the academic community and to entrepreneurs to develop effective MSMEs management for them to become more competitive and dynamic. However, interesting findings were presented and deemed useful to other African countries and beyond.

**Keywords:**

Entrepreneurial Managerial Concepts, Agrarian MSMEs, Intensification, Productivity Economic Development, Competitiveness

**Introduction and Background of the Study:**

As agrarian MSME competitiveness is unyielding, MSME need to understand how the concept of entrepreneurial management concepts can improve their productivity and competitiveness (Wong, 2015; Şerban, 2015). The results by Fatoki (2014) indicate that entrepreneurial managerial concepts have a research gap in regard to the effectiveness and efficiency of MSMEs to intensify their productivity in the agricultural sector. Therefore this study aims to evaluate how entrepreneurial managerial concepts influence the intensification of productivity of SMEs in Chipinge, Zimbabwe. However, many strategic management scientists have developed interest in entrepreneurship management theories to increasingly develop MSMEs which have become important in the current economic settings in most countries (Şerban, 2015). Thus the entrepreneurial managerial concepts for agrarian SME intensification of productivities have become a stringent necessity to attain food security in the context of transitional economies. However agrarian MSMEs are very predominant and are very inexperienced to intensify production scales (Mutambara, 2016). The existing literature on entrepreneurial managerial concepts are very difficult to reconcile in terms of the conflicting theories opined in the management field. However this appears even further flawed in the management terms (Kotter, 2012; Durst and Wilhelm, 2012). On the other hand, if there is a single difference between the entrepreneurial managerial concepts of agrarian MSMEs and transnational companies, in that the latter are difficult to manage hence they seem to be heading in different directions. Whilst agrarian MSMEs appear to intensify their activities, their informal farming have been characterized by weak management initiatives occupying Chipinge area (Durst and Wilhelm, 2012; Mutambara, 2016). However, of late entrepreneurial management concepts have taken a storm in provoking the intensification of productivity of agrarian MSMEs to improve food nutriment (Kotter, 2012). Therefore, to ensure a provocation on its economy development, Zimbabwe has started promoting the adoption of effective MSMEs management methods as it revitalizes the agrarian sector competitiveness. It is therefore imperative that governments deliver stable environments to unleash the exigency of MSMEs vivacities to promote food security (Maunganidze, 2013; USAID; 2012; WFP, (2014). Chipinge district needs to address her prevailing challenges) as well as maintaining policy consistency to re-engineer the intensification of MSMEs using entrepreneurial management concepts gizmos (Mutambara,

2016; Maunganidze, 2013; Şerban, 2015). Thus, the objective of this study is to examine a critical overview of literature on entrepreneurial management concepts of agrarian MSME seeking to stimulate their productivity as a measure to rebuild the Zimbabwean economy led by agriculture (Durst and Wilhelm, 2012; Kotter, 2012). Furthermore the hypothesis of the study is that; there is a positive relationship between management and the intensification of MSMEs in the agrarian sector in Zimbabwe.

**Literature Review:**

Owner managers find it difficult to cope with the complex challenges of entrepreneurial managerial concepts which is plagued by low-uptake creating a massive toll on the intensification of MSME productivity coupled by economic crisis (Wong, 2015; Mutambara, 2016). Apart from this noble management system, which is frequently criticized and entrepreneurs have lobbied for adaptation of management concept seeking to stimulate agrarian MSME productivity to enhance food security and the welfare of its customers (Durst and Wilhelm, 2012; Fatoki, 2014). Therefore the study paid special attention on assessing whether entrepreneurial management concepts provoke the intensification of productivity of agrarian MSMEs. This study argues that entrepreneurial management concepts cannot be relegated to a lower priority and should actually prevail to grow MSMEs into transnational companies (Kotter, 2012). Systematically the impact of provoking the intensification productivity of agrarian MSMEs shifts in the balance of economic development and plays a critical role in sustaining livelihoods (ZimVac, 2013; Katua, 2014). Therefore literature review explained and discussed the state of agriculture in Zimbabwe, characteristics of agrarian MSMEs, entrepreneurial managerial concepts, and the intensification of agrarian MSME productivity.

**The State of Agriculture in Zimbabwe**

Methodologically, the agricultural sector in Zimbabwe is on auto decline and has affected the standard of living where people are experiencing unemployment and extreme food shortages (USAID, 2012; Katua, 2014; World Food Summit, 2017). These authors have argued that use of entrepreneurial management concepts for emerging farmers intensify productivity lead to massive economic reconstruction (ZimVac, 2013; Katua, 2014; Wong, 2015). Thus they require urgent and effective management concepts to address food insecurity in Zimbabwe (Zimvac, 2013; World Food Summit, 2017). From the research conducted by various

economists and other social scientists, it appears that MSMEs management play a crucial role in the design of work flow to allow their intensification (Durst and Wilhelm,2012;Kotter, 2012;Fatoki,2014).This section therefore briefly reviews relevant literature on the complex nexus of interactions between management and intensification of MSMEs to stimulate agricultural productivity in Zimbabwe( Wong,2015; OECD,2016).

### Characteristics of Agrarian MSMEs

Zimbabweans have defined agrarian MSME, as agrarian MSME entities that have fewer laborers than commercial farms. Furthermore, they are stand-alone productive economic small scale enterprises (Jason, 2012). In general, the Zimbabwean agrarian MSMEs are characterized as:

- ▶ The owner is the manager.
- ▶ The agrarian MSME is self-funded.
- ▶ The agrarian MSME is usually run immediate family members.
- ▶ The agrarian MSME is labor-intensive

In these circumstances, agrarian MSMEs lack management skills hence the need to embrace the following entrepreneurial management; concepts.

### Entrepreneurial MSME Managerial Concepts

Throughout history, effective management is the key to the establishment and intensification of MSMEs in the agrarian sector (Şerban, 2015).Durst and Wilhelm (2012) and ILeona (2013) reported that the entrepreneurial competencies of MSMEs are strong predictors of what drives agrarian MSMEs to succeed. The methods of entrepreneurial managerial concepts for MSME intensification measurement still remain the subject of debate for both agrarian MSME practitioners and academic communities. However, research tends to agree that in general agrarian MSMEs may use entrepreneurial managerial concepts for their intensification measurement. In general, a review of the literature on MSME intensification in developing countries shows that focused research on the impact of entrepreneurial managerial concepts on the SME's intensifications is still limited.

Therefore the key to successful management of agrarian MSMEs is to examine the environment to invigorate the intensification of agrarian MSMEs(Jason, 2012; Fatoki, 2014).The MSMEs in

American have adopted interesting management concepts to enhance their skills (Kotter, 2012). As such the field of SME management offers another option for understanding how in recent years, planning, organizing, leading and controlling related activities of MSMEs is necessary to develop MSMEs(Kotter, 2012;Şerban,2015), and this require the following managerial tactics to stimulate the intensification of MSMEs in the agrarian sector.

- ✓ **Delegating** functions improves SME operations and helps to expand the MSMEs' intensification
- ✓ Agrarian SME **structures** show the organizational structure that identifies roles and expectations of the workflow .These elements are coordinated into a structural design that helps achieve the objectives through assigned responsibilities by consideration of divisions of labour which are accomplished through departmentalization
- ✓ **Skills competency** develop hard and soft skills to allow MSMEs to deliver value to their consumers and assist in solving problems
- ✓ **Change management** is associated with a conscious decision to foster and promote the continual development of employees, and to ensure that key positions maintain some measure of stability, thus enabling a MSME to achieve its objectives.
- ✓ **Training and development** increases resource utilization and entrepreneurial intensification.
- ✓ **Networking** and information dissemination approach create relationships to expand and make MSMEs in the agrarian sector have access to information elsewhere in the world. As such, according to Fatoki (2014) management concepts can be divided into clusters as illustrated in the above discussions.

### Intensification of Agrarian MSME Productivity

Intensification of productivity by agrarian MSMEs is a mufti-faceted phenomenon used to measure their growth. Wong (2 015) articulates that increase in their productivity shows their success. Further, [the author](#) argues that productivity is also an indicator that capture whether an agrarian MSME is performing or not. However the uses of entrepreneurial managerial concepts by agrarian MSMEs are a productivity drive because they tend to have concentrated focus on their effective investments and expansion intent (Katua, 2014). Largely, this refers to an increase in their sales volumes, employment, use of raw materials and resource utilization (Charisa, Dumba, Makura, 2012). Therefore given the notion that yields are always recorded, this attaches



the high belief by agrarian MSMEs yield volumes are an indicator of intensification of productivity (Wong, 2015). Bass (2012) therefore states that the agrarian MSMEs increase in productivity maintains their long-term survival. These indicators are useful in assessing the SME misfits affecting their productivity to initiate effective management concepts so that they generate significant positive earnings. Thus, the productivity of an MSME is realized through an entrepreneurial management concept to net more profitability. OECD (2016) conducted a study to determine SME productivity and sustainability, and a large number of respondents ascertained that SME outcome variables have greater influence on food autonomy in the agrarian sector. Therefore; the determinants of the productivity of SMEs have been supported by (Jason, 2012) in line with the internal precursors. These include SME size, evolution history, economies of scale and other antecedents referring to changes in management characteristics such as improvement and staff training are considered as well as those that relate to SME characteristics such as background level covering production strategies, relationship with government and stakeholders, product adaptation, geographical diversification and cluster intensity involvement, which also have greater impact on the productivity of agrarian SMEs (OECD,2016).

## Methodology

A survey methodological path began with an observation of facts related with the subject, through a discussion of concepts of entrepreneurial managerial concepts and the intensification of agrarian MSME in Zimbabwe with particular evidence from Chipinge(Wangombe, 2013).A combination of quantitative and qualitative research methodologies which includes explanatory statistics and management concepts were used(Şerban,2015).The management concepts cluster analysis method was used to detect patterns of the relationships of the variables. The study area is buoyed by agricultural SME activities (Finscope Survey, 2012; Saunders, Lewis and Thornhill, 2013).Chipinge is in the Manicaland province and it is sustained by agricultural SME activities .This study concentrated in Chipinge district in Zimbabwe since it has fertile land suitable for agrarian activities. This has motivated the researcher to explore management concepts to intensify MSMEs in the agrarian sector using a sample of 70 SMEs to gather data (Yin, 2014).

## Discussions and Findings

Generally from the hypothesis, the study shows that there was a positive relationship between management and the intensification of productivity of MSMEs in the agrarian sector in Zimbabwe.

The study also captured data on entrepreneurial management concepts as a variable that affects MSMEs intensification. A Tobit test was run to verify the study sample's level of education and the results showed below are what came out of the Tobit test.

Figure 1: **Agrarian MSMEs Entrepreneurial Management Concepts**

Model 1: Tobit, using observations 1-70

Dependent variable: MSMEs Entrepreneurial Management Concepts

	Coefficient	Std. Error	Z	p-value	
Delegating	-2.95946	0.0419804	-70.4963	<0.00001	** *
Structure	1.28941	0.0371269	34.7299	<0.00001	** *
Competencies	0.0405405	0.0606837	0.6681	0.50409	
Change Management	3.57883	0.0684883	52.2546	<0.00001	** *
Training and Development	-0.959459	0.0659532	-14.5476	<0.00001	** *
Networking	0	0.0550987	0.0000	1.00000	
Log-likelihood	60.99966		Akaike criterion	-105.9993	
Schwarz criterion	-77.89189		Hannan-Quinn	-94.68434	

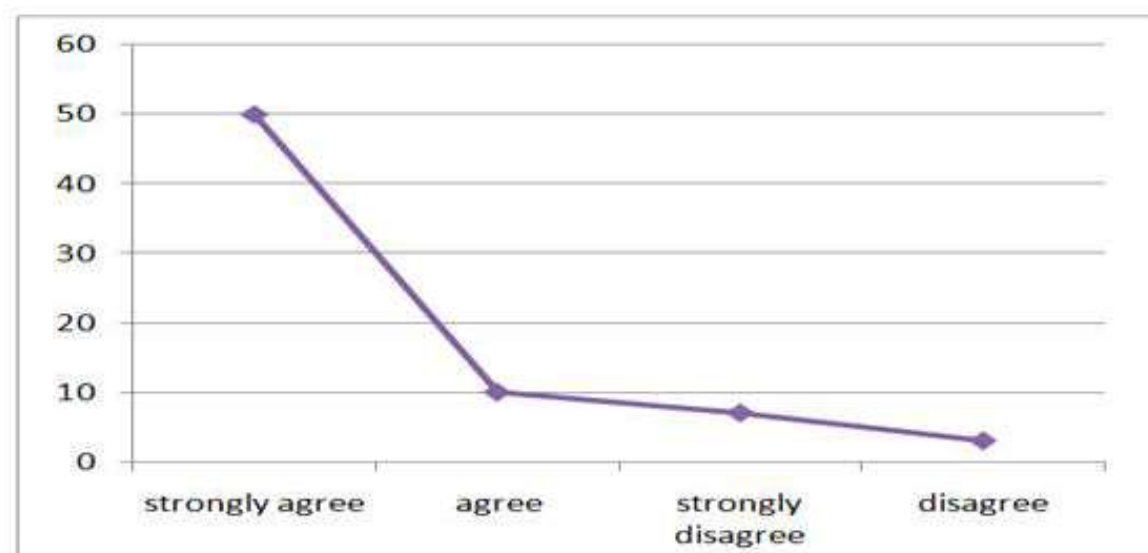
Sigma = 0.189209 (0.00849572)

Left-censored observations: 0

Right-censored observations: 0

Results of Tobit analysis on the relationship between Intensification of MSMEs (dependent variable) and various entrepreneurial management concepts (Independent variables) indicated that entrepreneurial managerial concepts have significant variables that had potential to catalyze intensification of MSMEs ( $p < 0.05$ ) (Yin, 2014; Wangombe, 2013; Kotter, 2012).

### Extend of Managerial Concepts on the intensification of Productivity of Agrarian MSMEs



The majority of respondents agreed that to a great extent entrepreneurial management concepts have a positive effect on the intensification of the MSMEs agrarian MSME (Kotter, 2012). This was also the same understanding as indicated by the respondents themselves. Participants in this research were of the opinion that effective management increases productivity (Wong, 2015). The participants were of the opinion that skills mattered more than theoretical knowledge. It is implied that indigenous knowledge by some of the MSMEs plays a role in successful running of the enterprises. The statements also strongly suggest that there are always managerial and proper accounting procedures inadequacies among MSMEs that retard their intensification from small scale to large scale entities (Kotter, 2012). Thus, it can be inferred that MSMEs rely mostly on management to influence their intensification.

## Conclusions and Recommendations

Given the entrepreneurial management concepts and intensification of agrarian MSMEs paradigm interconnectedness, it is critical to correct the whole anomalies obtained in poor management of MSMEs to improve their productivity in Zimbabwe. Modern management approach process must not discriminate any SME as a means to encourage agricultural intensification across the divide to sustain livelihoods. Implement management concepts using an SME monitoring and implementation framework on productivity scales to encourage MSME growth. It can be observed lately that agrarian MSME are becoming more and more conscious of the need for use of entrepreneurial managerial concepts. It also can be concluded that with increasing use of management concepts there is an improvement on their productivity. There is relative intensification of agrarian MSMEs since management concepts have shown to be useful.

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# India's Social Expenditure on Education

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## Abstract

The traditional growth model focuses more on physical investment to promote the growth of the nation. This approach does not consider the effects of knowledge and skills on the production of the nation. The neo-classical growth model talks about the role of education in the growth and development of the nation. The method of measuring the human development started in 1990. The first human development report also published in the same year which talks about the importance of human development. The human development reports also talk about the public spending on human development indicators like health and education. This paper examines the trend and pattern of the social expenditure on education in India since 2000. The paper shows that government is not spending the enough amounts on education. The lack of public spending on education leads to the poor performance in the indicators of education in India.

**Keywords:** *Economic growth and development, social Expenditure, Public expenditure on education*

## Introduction

The classical theories of economic development emphasize the growth of the GDP of the nation. These theories explain that higher the level of GDP growth rate higher the welfare of the society. The classical approach of the development relies on the income growth and that too depends on the capitalist structure of the economy. The mercantilist structure of the economy prevails before the capitalism which focuses on the exports of the nation. This approach says that higher exports lead to the more welfare. The British economist Adam Smith criticised the concept of mercantilism and gave the idea of market-based economy which is known as capitalism. Capitalist structure of the economy believes in the trickledown effect. The trickledown theory explains that part of the increased wealth of the reach people trickles down to the poor section of the society. But the increasing level of inequality and poverty shows that this theory does not ensure the welfare of the poor. The even distribution of the income among the masses shows the lower inequality in the nation. But in both developed and developing economies, the benefits of growth are seldom evenly distributed (Badr Jafar, 2015). This paper is also pointed out that an unequal rise in the income actually would result in the slow economic growth rate. The approach of GDP growth focuses more on physical capital like land, factories equipment etc. rather than human capital (Angela Fantom Kern, 2009).

The concept of development and growth is restricted to the growth of the income in the traditional

approach. This approach only talks about the growth of material wealth. The concept of human capital is also very important in the debate of the measuring development and growth. Human capital talks about health, education, poverty amid economic growth. The neo classical growth models include the role of education in the production function. Economists like Shultz, Becker, Bowles, and Mankiw put more focus on the human capital, specifically education, rather than the physical capital in the theory of growth and development. After the increasing concentration on human capital more than that of income growth rate the alternative approach of measuring the development of the nation was developed by renowned economists Mehbub-Ul-Haq and Amartya Sen. UNDP published the first human development report in the year of 1990. They both calculated Human Development Index (HDI) which consists of education, health and income. The growth in HDI reflects the progress of education and health sectors both. The idea behind the new approach is that human development is as necessary and important as economic growth.

Economic development without ensuring human development cannot create a better world to live. Economic development talks about the growth of income where as human development talks about the choices of the humans. It is imperative that economic development would result in development of the human capabilities and use of the capabilities humans have. The development is inevitably treated as normative concept as almost the synonym of improvement (Seers, 1969). It means that the basic difference between growth and development is the "improvement". The concept of human development does not exclude the income growth rate. But it takes other parameters along with the growth of income. Investment in education is very important for individual and society both. Higher education often creates spill over benefits which indirectly help in increasing income growth of the nation. Many research papers have shown that the expenditure on education increases the production level of the nation. Another paper has also shown that the quality of education also affects economic growth of the nation. Phillips Stevens and Martin Weale (2003) shows that there a significant impact of education on the GDP of the nation. The paper shows that 1 per cent increase in the enrolment rate increase the GDP by 0.35 percent.

## II Literature Review

Subhanil Chaudhary and Prasenjit Bose (2004) analyse the combined expenditure of central and state governments on education as a percent of GDP for the time period of 1999-2000 to 2002-03. The paper explains that the combined expenditure of central and state governments on education as a percent of GDP for the same time period was pegged around 3 percent. They also noted that the combined expenditure of central and state governments' on education as a percent of budgetary expenditure was around 2.50 percent in the given time period. The state governments bear the larger burden of the education expenditure. If central government does not take the step to increase the expenditure on education the target set by the Kothari Commission of spending 6 percent of GDP on education cannot be achieved.

Seema Joshi (2006) paper examines the effects of economic reforms on the social sector expenditure in India. The paper suggest that the share of expenditure on education, sports in and youth services aggregate expenditure before economic reforms was 10.59 per cent during 1986-87 to 1990-91. It increased to 13.87 per cent during 1991-92 to 2002-03 (post reform period). The paper also suggests that the expenditure on education increased from 3.2 per cent of GDP in 1980-81 to 4.1 per cent in 1989-90. But the share of education expenditure in GDP of the nation shows the declining trend since then. The centre and states combined allocated 40 per cent of their budgetary allocations to primary education and 30 per cent to secondary education during 1991-92 to 1998-99. The higher allocations to primary and secondary education lead to lower allocations to higher education. The paper tells that the more than 90 per cent of the public expenditure on education is incurred by the states under non plan heads and this result in the not recruiting vacancies.

Essays UK (2013) prepare a paper on Public Expenditure on Education in India. It shows that the expenditure on the education in the revenue account and capital account was 98.99 per cent and 1 per cent respectively. In 2010-11 the share remained the same. It means that the share of capital account in the total education expenditure is almost negligible which in turn hinder the growth in acquisition of assets in the education sector. This paper also talks about the plan and non-plan expenditure of the centre and states. During 2005-06 to 2010-11 the plan expenditure for centre is higher and non-plan expenditure of the states was more. The paper states that the most of education expenditure was under the revenue account and the share of non-plan expenditure was higher in the revenue account. The public expenditure on education as a percentage of GDP for elementary education was 1.61 per cent in 2005-06 which marginally increased to 1.7 per cent in 2010-11. Similarly, there was no change in the secondary education too whereas for university and higher education and technical education the share has increased twice and more than doubled respectively.

Tasleem Araf C (2016) focuses on planed and non plan expenditure. The plan expenditure of central government's total expenditure on education was 84.11 per cent and remaining 14.89 per cent was under the head of non plan expenditure. In the case of states and UTs only 21.03 per cent of the expenditure on education in 2013-14 was under plan. The paper exhibits that the rising trend of the share of plan expenditure in total expenditure in education and declining trend of the share of non-plan expenditure in the total education expenditure for centre and states both during 2004-05 to 2013-14. The share of elementary education in total education expenditure decreased to 44.59 per cent in 2013-14 from 50.91 per cent in 2000-01. The share of expenditure on secondary education also shows the declining trend during the same time period where as the share of university and higher education expenditure in the total expenditure shows the increasing trend during 2001-02 to 2007-08 and then after it starts declining. The paper also tells that the public spending on the higher education is less than 1 percent of the GDP.

### III Rational for Public Expenditure on Education

The financing education is one of the problems of the developing nations like India. The concept of public spending is more or less associated with the ideas and philosophies of economic systems. Externalities are highly present in the case of education and therefore market fails to achieve the efficiency in the production of education survives. The study of Svetlana Batara (2012) shows that the most of the education system in Europe are publicly financed. Another study of Gonand has shown that if input remains same, there is appositive relationship between additional year of education and GDP growth rate. He has shown that at constant input, one additional year of education (10 percent rise in education output) might raise the GDP by, on average 3 to 6 percent in the long run.

Economic and Social Survey of Asia and the Pacific (2003) has clearly stated that the state should continue to be the lead actor in financing basic education. The report also shows that only allocation of money does not ensure the betterment of the education but utilization of the survives is more important. It means that only allocation of resources doesn't solve the problems of poor education service but the efficient utilization helps in improving the education services. HDR (1991) shows that private spending is important in developing and developed nations both but public spending plays an important role in providing social infrastructure to poor section of the society in developing nations. This report talks about the four ratios to measure the public expenditure on human development. The ratios are as follows:

1. The Public Expenditure Ratio (PER): the share of public expenditure in national income
2. The Social Allocation Ratio (SER): the share of social expenditure in public expenditure
3. The Social Priority Ratio (SPR): the share of human development expenditure in social expenditure
4. The Human Expenditure Ratio (HER): the percentage of national income devoted to human priority. This is the product of the first three ratios.

### Table-1: Indicators of Education in India

#### IV Indicators of Education in India

Indicators	Value
Literacy Rate (7 + age group)	73.0 (2011)
Adult Literacy Rate (15 + age group)	69.3 (2011)
<b>Gross Enrolment Ratio (2014-15)</b>	
Primary	98.9
Upper Primary	87.7
Elementary	94.8
Secondary	78.1

Senior Secondary	54.6
Higher education	25.3
<b>Average Annual Dropout Rate (2013-14)(in Percentage)</b>	
Primary	4.33
Upper Primary	3.77
Secondary	17.86
Senior Secondary	1.54
Source: Educational Statistics at a Glance, GoI, MHRD.	

The indicators of education in India is shown in table-1. The average of the world adult literacy rate was 84.59 percent in 2011. India is far behind the world average of adult literacy rate. The adult literacy rate has been increasing in India but very slowly. It has increased to 69.3 percent in 2011 from 61.01 percent in 2001. The data on GER (Gross Enrolment Ratio) shows that lower GER for higher education. In case of primary education, the GER is 98.9 but when it comes to higher education GER drops to 25.3 percent only. It means that all those who complete the senior secondary education are not enrolling for higher education. The data exhibits that higher the level of education, lower the level GER. In case of primary and upper primary education the dropout rate is very low. But in case of secondary education the rate is high and again it low for senior secondary education. It means that those who attend secondary are likely to attend senior secondary level of education but all those who attend upper primary do not continue with schooling. The pupil-teacher ratio in primary education was 23.43 percent in 2015 for the world whereas during the same time period the value of the same ratio in India was 31.40. It shows the ratio is higher in India than that of world average.

### V Public Expenditure on Education an India

The international comparison gives scenario of the world about the public spending on education. Table 2 shows the share of government expenditure on education as a percentage of GDP.

**Table 2: Share of Government Expenditure Education as a Percentage of GDP (2013)**

Nations	Ratio
<b>European Countries</b>	
Austria	5.56
Germany	4.93
France	5.49
Finland	7.17
Italy	4.17
<b>Euro Area</b>	<b>5.40</b>

<b>Asian Counties</b>	
India	3.84
Nepal	3.47
Bangladesh	1.95
Pakistan	2.49
Sri Lanka	1.62
Singapore	2.90
Thailand	4.10
<b>Other countries</b>	
USA	4.93
U.K.	5.63
Brazil	5.99
South Africa	6.02
<b>World</b>	<b>4.70</b>
Source: World Bank. Retrieved from <a href="http://data.worldbank.org">data.worldbank.org</a>	

The table shows that Asian countries like India, Pakistan, and Bangladesh are not spending enough money on education. The share of education expenditure in GDP of the nation in India is 3.84 percent in 2013 which is lower than the world average of 4.70 percent. Table also reveals that European countries spend higher amount on education out of the GDP of nations. The world bank data also shows that high income nations spend on average 5.3 percent of GDP on education whereas the ratio for low income countries is around 4.0 percent in 2014. It means that in case of India this ratio is smaller than the average of low income nations. In India it is not the problem of lack of income but the problem of the sufficient allocation of the income to education. Even countries like Ghana, Israel, Jamaica, Kenya, Malaysia, Oman have higher ratio of public expenditure on education to GDP. The Economic Survey 2017-18 also recognizes the role of public expenditure on education. The survey says that investment in human capital is necessary for the development of the nation. But developing nations like India always faces the problems of lower fiscal space for the social services. Government argued that because of the lack of enough fiscal space the human development expenditure remains low in the nation.

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# IDENTIFICATION OF LIMITING FACTORS OF BANKING GRIEVANCE REDRESSAL SYSTEM: A CUSTOMER'S PERSPECTIVE

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## Abstract

Banking is pre-dominantly a customer oriented business and dependable customer service are the key to the bank's growth and constancy. In prospect of the enhanced competition, it is customer service that becomes a sole differentiating factor that has to be leveraged to stay relevant and forge in the lead in the line. Excellence in customer service is coming forth as the valuable way to distinguish themselves from their rivals. An effective grievance redressal mechanism helps to understand customer from his point of view which always provide scope for improving service quality. This paper is an attempt to extract the grievance redressal service quality variables into relevant factors and identify the limiting factors among them to suggest alternate strategies towards increasing the effectiveness of the grievance redressal system in the Indian banks.

**Keywords:** *Customer Service, Service Quality and Limiting factors.*

## Introduction

Banking Regulation Act of India, 1949 defines Banking as “Accepting, for lending or investment of deposits of money from the public, repayable on demand or otherwise and withdrawals by cheques, draft, order or otherwise.”

The Customer Grievance Redressal System of banks is required to be a system of assessing the grievances and redressing the complaints of dis-satisfied customers in a quick and inexpensive way. Customers should be able to register their grievances when they feel distressed with the services offered by a bank or face problems while dealing with a bank. The significance of existence and functioning of such a system is indispensable for survival and expansion of any banking organization and poses a case for extensive study on the performance of this system. This study is an attempt to identify the limiting factors of the Customer Grievance Redressal System (CGRS) in banks in India. This research identifies

the important service quality dimensions of CGRS in Banks to enable the bank to develop strategies and improve the grievance redressal mechanism of banks. The limiting factors of CGRS have been identified from the customers' perspective.

## II Literature Review

According to the Consumer Protection Policy Diagnostic Report India 2010, complaint procedures are needed to be modest and hassle free. Procedure for lodging complaints should be made easier for customers. Customer awareness campaigns are needed for customers to make them knowledgeable of their rights and responsibilities towards consumer protection.

Siddiqui and Tripathi (2010) attempted to assess the perception of customers towards the complaint handling mechanism of banks. The respondents are clustered based on 13 statements of complaining behaviour, named as Non-complaining customers, Switchers, Prompt complainers and Positive thinkers. The maximum number of customers belonged to 'non-complainers,' segment. The customers could be switchers, who did not discourage defection, but preferred to switch to some other bank. The third category of customers could 'be prompted complainers,' who preferred to lodge complaint against a bank, whenever dissatisfaction occurred. The complaint handling system of banks would have focussed on such customers. Efforts related to the complaint handling system would be such that customers are satisfied both with the grievance redressal procedure of the system and the fairness of the outcome. The customers belonging to the fourth segment called, positive thinkers, believed in the seriousness and honesty of the grievance redressal system of the firm, thus, carefulness needed to be worked out at every service encounter with the aim of getting it right the first time itself.

Uppal (2010) analysed the extent of complaints lodged in banks in India for the period 2006 to 2008 and found that most of the complaints are related to deposit, credit cards and housing loans, from the public-sector bank customers. The researcher suggested that there is the requirement of separate customer care centers in every branch of banks to resolve the customer complaints under the guidelines of the RBI.

According to Chakrabarty, deputy governor, Reserve Bank of India (2011), the customer grievance redressal system in Indian banks is far from satisfactory and needed to further develop in terms of customer faith and effective functional system of receiving and handling customer complaints. The banks' internal structure needed to be strengthened to redress the grievances of pensioners and small borrowers, including farmers.

Selvi (2011) evaluated the nature and progress of complaints received and disposed related to the banking services. It is also inferred from the analysis that although the redressal mechanism is functioning well in adhering to the needs of the customers with speedy disposal of complaints, more awareness can also be created among the public with regards to the grievance cell and its functioning. It is suggested that scheduled commercial banks should improve the grievance redressal mechanism to resolve the customers' complaints. Kumar (2011) studied the attitude of customers regarding the functioning of the

Consumer Redressal Forum, and accessed the level of consumers' awareness about their rights. The study analysed the functioning of consumer forums from complainants' view point and revealed that every third respondent is aware about consumer forums either by electronic or print media or through word of mouth communication within their close interaction group. But, most of the respondents are not correctly aware about the amount of the fee, stipulated disposal time, the role of voluntary consumer organization in district consumer forums etc.

Pierre and Russo (2012) analysed criticism of the services of the banking sector by the customers through online platforms; and the actions taken by banks to counter this criticism. Al-Azzam (2015) used the service quality model with five dimensions to gauge its effect on customer satisfaction, among Arab bank customers in the Irbid city. The extracted factors of service quality are tangibility, responsiveness, reliability, empathy, and security. Therefore, the banking sector could use such dimensions to evaluate, support, and improve the quality of their services.

## III OBJECTIVES OF THE STUDY

The objectives of the present study are the following:

- i. To extract the service quality factors of the Customer Grievance Redressal System as perceived by customers.
- ii. To identify the limiting factors and suggest alternate strategies for timely and effective redressal of customer grievances.

## III RESEARCH METHODOLOGY

The empirical study collected primary data from 600 bank customers of public and private sector banks of four selected districts of Punjab i.e. Amritsar, Jalandhar, Ludhiana, and Patiala, through a well structured questionnaire. The questionnaire consists of the 32 service quality statements along with 5 statements of customer satisfaction with five-point Likert scale ranging from '1' for Strongly Disagree, '2' for Disagree, '3' for Neutral, '4' for Agree and '5' for Strongly Agree. The data have been subjected to exploratory factor analysis to identify and examine the service quality dimensions of CGRS, as used by Singh, 2008 and Tandon, 2012. Exploratory factor analysis (EFA) has been applied to explore the possible underlying factor structure of a large set of observed variables without imposing a preconceived structure on the outcome (Child, 1990; Garson, 2006)

## IV DATA ANALYSIS AND INTERPRETATION

The results of KMO and Barlett's test, applied to the variables, show that KMO index is high at 0.717 greater than 0.5, hence acceptable (Tabachnick & Fidell 2007) and the approx. chi square is 19454.4, with the significance less than 0.05. The thirty-two service quality variables of CGRS have been split into six components. The results of analysing exploratory factors (EFA) are shown in table 1.1. The



thirty-two service quality variables of CGRS had been extracted into six perceived service quality dimensions of CGRS including: Reliability, Responsiveness, Accessibility, Tangibles, Empathy and Assurance, from the customers' perspective.

The mean value ranges between 3.22 to 3.37 for the five variables of the reliability dimension of CGRS. This shows that there is reasonably fair perception of the service reliability of the CGRS in banks. The mean value is highest (3.37) for the variable, 'Maintain accurate records' followed by the variables,

Table 1.1 Results of Exploratory Factor Analysis

Statements	Factor Loadings	Factors	Cronbach's Alpha
Maintain Accurate Records	.908	Factor 1 Reliability	0.906
Grievances are Satisfactorily Resolved	.901		
Redress of complaint First Time	.886		
Acknowledgement of Complaint	.776		
Redress Within Time Frame	.762		
System is Trustworthy	.897	Factor 2 Responsiveness	0.778
Never too busy staff	.894		
Bank Staff Ability	.892		
Prompt Response	.891		
Inform Customers	.408		
Easy to find the Correct Person	.833	Factor 3 Accessibility	0.757
Approach Bank Manager	.823		
Modes of Complaining	.801		
Approach Banking Ombudsman	.748		
Approach Nodal Officer	.747		
Complaint Box or Register Placed	.882	Factor 4 Tangibility	0.836
Website Has Detailed Information	.860		
Materials understandable	.859		
Booklets of Information placed	.656		
Information of Officials are displayed	.642		
Customer Best Interest	.867		

Efforts to Understand	.862	Factor 5 Empathy	0.703
Polite and Courteous	.651		
Sincere Concern	.615		
Individual Attention	.571		
Personal Attention	.531	Factor 6 Assurance	0.751
Dealt Equitable Manner	.876		
System Not Dependable	.870		
Employees Trained	.651		
Employees Knowledgeable	.651		
Take the ownership	.549		
Enhances Confidence	0.30		

The limiting factors have been identified using descriptive mean scores and standard deviations of all the parameters of the individual factors.

**Reliability:** Table 1.2 depicts that the average mean score obtained by the sample respondents for reliability dimension as the service quality variable of CGRS is 66.24 per cent. It shows that bank customers perceived reliability, as a moderately dominant dimension of CGRS. Thus, Reliability is a limiting factor from the customers' perspective and the banks need to improve the different parameters of this factor.

Table 1.2 Descriptive Statistics-Reliability

S. No.	Parameter	Mean	Mean Score (Per cent)	Std. Deviation
1	Complaints are acknowledged	3.22	64.4	0.47
2	Redress within time frame	3.25	65	0.50
3	Redress of complaint first time	3.36	67.2	0.53
4	Maintain accurate records	3.37	67.4	0.52
5	Grievances are satisfactorily resolved	3.36	67.2	0.52
<b>Overall (N=600)</b>		<b>16.56</b>	<b>66.24</b>	<b>0.51</b>

Source: Computed from the Primary Data

'Redress of complaint first time' (3.36) and 'Grievances are satisfactorily resolved' (3.36). The least rated parameters are, 'Complaints are acknowledged' (3.22) and 'Redress within the time frame' (3.25). Thus, banks are required to make necessary efforts to improve the system of acknowledging the complaints and banks should ensure the redressal of complaints within the prescribed time frame.

**Tangibles:** Table 1.3 depicts that the average mean score obtained by the sample respondents for tangibles dimension as the service quality variable of CGRS is 76.96 per cent, with standard deviation 0.58. It inferred that bank customers perceived 'Tangible' as a dominant dimension of CGRS. The mean value ranges between 3.68 to 3.98 for the five variables of the tangibility dimension of CGRS. This shows good performance by banks in providing physical aspects to the customers for using grievance redressal services of banks.

**Table 1.3 Descriptive Statistics Tangibles**

S. No.	Parameter	Mean	Mean Score Per cent	Std. Deviation
1	Information of Officials Displayed	3.68	73.6	0.49
2	Booklets of Information Placed	3.68	73.6	0.46
3	Complaint Box or Register placed	3.98	79.6	0.66
4	Materials Understandable	3.95	79	0.66
5	Website has detailed information	3.95	79	0.67
<b>Overall (N=600)</b>		<b>19.24</b>	<b>76.96</b>	<b>0.58</b>

*Source: Computed Primary Data*

The mean value is highest (3.98) for the variable, 'Complaint Box or Register placed' followed by the variables, 'Materials understandable' (3.95) and 'Website has detailed information' (3.95). Thus, it is found that the perception towards such tangibles available in banks had been highly rated by the customers. The least rated parameters are, 'Information of officials displayed' (3.68) and 'Booklets of information placed' (3.68). Thus, banks are required to make necessary efforts to improve such parameters. Thus, banks should display the information of their officials on notice board in each branch and the booklets of information should be kept at prominent places. It is also concluded that the physical aspects and its facilities are widely acknowledged as essential determinants of the CGRS in banks.

**Accessibility:** Table 1.4 depicts that the average mean score obtained by the sample respondents for 'Accessibility' dimension as the service quality variable of CGRS is 87.4 per cent, with standard deviation 0.70. It shows that bank customers perceived accessibility as the most dominant factor of CGRS. The mean value ranges between 4.27 to 4.51 for the five variables of accessibility dimension of CGRS. This shows good performance by banks in providing accessibility aspects to the customers for using grievance redressal services of banks.

**Table 1.4 Descriptive Statistics - Accessibility**

S. No.	Parameter	Mean	Mean Score Per cent	Std. Deviation
1	Modes of Complaining	4.32	86.4	0.80
2	Easy to find the correct person	4.51	90.2	0.64
3	Approach Bank Manager	4.48	89.6	0.63
4	Approach Nodal Officer	4.27	85.4	0.72
5	Approach Banking Ombudsman	4.27	85.4	0.72
<b>Overall (N=600)</b>		<b>21.85</b>	<b>87.4</b>	<b>0.70</b>

*Source: Computed Primary Data*

The mean value is highest (4.51) for the variable, 'Easy to find the correct person' followed by the variables, 'Approach Bank Manager' (4.48) and 'Modes of Complaining' (4.32). Thus, it is found that the perception towards these parameters of accessibility available in banks had been highly rated by the customers. The least rated parameters are, 'Approach Nodal Officer' (4.27) and 'Approach Banking Ombudsman' (4.27). Thus, banks are required to make necessary efforts to improve such parameters. Banks should display the information of their officials on notice board in each branch and the booklets of information should be kept at prominent places. Thus, it is concluded that approachability and accessibility of the grievance redressal services, matter much, as perceived by the bank customers.

**Responsiveness:** Table 1.5 shows that the average mean score obtained by the sample respondents for responsiveness dimension as the service quality variable of CGRS is 55.92 per cent. It shows that bank customers perceived responsiveness as the less dominant dimension of CGRS. Thus, it is the limiting factor as it is evident that banks, being non-responsive towards customer queries and problems.

**Table 1.5 Descriptive Statistics Responsiveness**

S. No.	Parameter	Mean	Mean Score Per cent	Std. Deviation
1	Bank Staff Ability	2.55	51.0	0.63
2	Inform Customers	3.37	67.4	0.98
3	Prompt Response	2.55	51.0	0.63
4	System Trustworthy	2.76	55.2	0.86
5	Never Too busy	2.75	55.00	0.84
<b>Overall (N=600)</b>		<b>13.98</b>	<b>55.92</b>	<b>0.78</b>

Source: Computed from the Primary Data

The mean value ranges between 2.55 to 3.37 for the five variables of 'Responsiveness' dimension of CGRS. This shows that there is reasonably fair perception of responsiveness aspects of banks towards redressing customer grievances. The mean value is highest (3.37) for the variable, 'Inform Customers' followed by the variables, 'System Trustworthy' (2.76) and 'Never Too busy' (2.75). Thus, it is clearly understood that the perception towards these parameters of accessibility available in banks had been moderately rated by the customers. The least rated parameters are, 'Prompt Response' (2.55) and 'Bank Staff Ability' (2.55) and banks need to improve such parameters of responsiveness. Thus, banks are required to make necessary efforts to provide customer support services in order to improve such parameters. The information of their officials on notice board should be properly displayed in each branch and the booklets of information should be kept at prominent places. It is also concluded that the physical aspects and its facilities are widely acknowledged as essential determinants of the CGRS in banks.

**Table 1.6 Descriptive Statistics Assurance**

S. No.	Parameter	Mean	Mean Score Per cent	Std. Deviation
1	Employees are trained	3.83	76.6	0.53
2	Employees are knowledgeable	3.79	75.8	0.46
3	Enhances Confidence	3.85	77	0.51
4	Take the Ownership	3.65	73	0.71
5	Dealt Equitable Manner	3.63	72.6	0.57

6	System not dependable	3.62	72.4	0.58
<b>Overall (N=600)</b>		<b>22.37</b>	<b>74.56</b>	<b>0.56</b>

Source: Computed Primary Data

Table 1.6 shows that the average mean score obtained by the sample respondents for assurance dimension as the service quality variable of CGRS is 74.56 per cent with standard deviation 0.56. The mean score for assurance in providing the grievance redressal services by the bank to the customers is between 3.62 to 3.85 for the six variables, which is a good score showing the assurance provided by banks to their customers. The mean value is highest (3.85) for the variable, 'Enhances Confidence' followed by the variables, 'Employees are trained' (3.83) and 'Employees are knowledgeable' (3.79). Thus, it is clearly understood that the perception is good towards these parameters of assurance given by banks. The least rated parameters are, 'Take the Ownership' (3.65) 'Dealt Equitable Manner' (3.63) and 'System not dependable' (3.62). and banks need to improve such parameters of responsiveness. Thus, banks are required to make necessary efforts to provide assurance of grievance redressal to their customers, in order to improve such parameters.

**Empathy:** Table 1.7 shows that the average mean score obtained by the sample respondents for empathy dimension as the service quality variable of CGRS is 60.00 per cent, and standard deviation 0.88. Thus 'Empathy' is the limiting factor and banks need to improve different parameters of this factor.

**Table 1.7 Descriptive Statistics Empathy**

S. No.	Parameter	Mean	Mean Score Per cent	Std. Deviation
1	Individual Attention	2.76	55.2	0.84
2	Personal Attention	2.81	56.2	0.85
3	Efforts to Understand	3.14	62.8	0.90
4	Customers' Best Interest	3.14	62.8	0.92
5	Sincere Concern	3.14	62.8	0.92
6	Polite and Courteous	3.01	60.2	0.86
<b>Overall (N=600)</b>		<b>18.0</b>	<b>60.0</b>	<b>0.88</b>

Source: Computed from Primary Data

The mean score on empathy ranges between 2.76 to 3.14 for the six variables, which shows a fair performance by banks in being empathetic to customers while providing grievance redressal services. The mean value is highest 3.14 for the variables, 'Efforts to Understand,' 'Customers' Best Interest' and 'Sincere Concern'. Thus, it is clearly understood that the perception is average towards these parameters of empathy given by banks. The least rated parameters are, 'Polite and Courteous' (3.01) 'Personal Attention' (2.81) and 'Individual Attention' (2.76) and banks need to improve such parameters of empathy. Thus, banks are required to make necessary efforts to provide individual and personal attention to the customers, being polite and courteous towards resolving problems of the customers.

From the above analysis, it can be clearly inferred that the bank customers perceive 'Tangibles,' 'Accessibility' and 'Assurance' as the dominating service quality dimensions of CGRS. Furthermore 'Reliability,' 'Responsiveness' and 'Empathy' are the limiting factors of CGRS which are required to be improved for proper implementation and increasing effectiveness of the grievance redressal system in the Indian banks.

#### **V CONCLUSION**

The bank customers perceived high level of agreement with 'Tangibles,' 'Accessibility' and 'Assurance' dimensions of CGRS. Whereas, 'Reliability,' 'Responsiveness' and 'Empathy' are the limiting factors of CGRS which are required to be improved for proper implementation and increasing effectiveness of the grievance redressal system in the Indian banks. The limiting factors provide a prospect for banks to review their procedures and amend them; they are opportunities to grow more satisfying relationships with clients. Furthermore, from the customers' perspective, Tangibles, Accessibility and Assurance are identified as limiting factors of CGRS which are required to be improved for proper implementation and increasing effectiveness of the grievance redressal system in the Indian banks.

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# AUTHOR GUIDELINES

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- 8h. For newspaper articles (authored): surname, initials (year), "article title", newspaper, date, pages. E.g. Sanyal, S. (2010), "Government won't make CSR spending mandatory", The Economic Times, December 23, pp. 1.
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