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MANISH ABHINAV PLAZA-II, ABOVE FEDERAL BANK,  
PLOT NO-5, SECTOR-5, DWARKA, NEW DELHI, INDIA-110075,  
PHONE: - + (91)-(11)-47026006**

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## Contents

Sr. No.	Articles / Authors Name	Pg. No.
1	Trends In Micro Financing – <i>Amardeep Kaur</i>	01 - 07
2	Role Of Media In Consumer Protection – <i>Dr. E. Shanker</i>	08 - 15
3	Econometric Analysis Of Exchange Rate And Inflation Targeting In Emerging Economies: Issues And Evidences – <i>Dr. Imran Ahmad Khan</i>	16 - 31
4	The Implications Of Dwindling Oil Prices On The Nigerian Economy - <i>Olubunmilkeolape Olaifa</i>	32 - 43
5	Significance Of Employee Suggestions Systems To Handle Conflicts At Work Place - <i>Dr. .B.Swathi, M.B.A, PhD</i>	44 - 56



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# Trends In Micro Financing

**Amardeep Kaur**

(MBA , MSc (CS) , PGDCA, UGC- Net) D.A.V College, Amritsar

## **ABSTRACT**

*" Microfinance is the provision of financial services to low-income clients or solidarity lending groups including consumers and the self-employed, who traditionally lack access to banking and related services." The today use of the expression micro financing has its roots in the 1970s when organizations, such as Grameen Bank of Bangladesh with the microfinance pioneer Mohammad Yunus, were starting and shaping the modern industry of microfinancing. Shore bank was the first microfinance and community development bank founded 1974 in Chicago . Financial services for poor people are a powerful instrument for reducing poverty, enabling them to build assets, increase incomes, and reduce their vulnerability to economic stress . But it has been observed that more than 80 % of households have bank accounts in high-income countries, compared to well below 20 % in low-income countries. In countries like Bangladesh or Sudan, that number hovers just above zero The rapid growth of the industry over the past 15 years has reached approximately 130 million clients according to recent estimates. Yet microfinance still reaches less than 20 percent of its potential market among the world's three billion or more poor. The World Bank Group is working with private microfinance institutions and stakeholders to incorporate responsible finance practices into all aspects of business operations. When done responsibly, private microfinance can have significant development impact and improve people's lives.*

**Keywords:-poverty, economic, development, financing, institutions**

## **1. Introduction**

"I would say that I did something that challenged the banking world. Conventional banks look for the rich; we look for the absolute poor. All people are entrepreneurs, but many don't have the opportunity to find out that" -Mohammad Yunus (founder of Grameen Bank)

"The poor stay poor, not because they are lazy but because they have no access to capital. "– Laureate Milton Friedman Microfinance recognizes that poor people are remarkable reservoirs of energy and knowledge. And while the lack of financial services is not just a sign of poverty, today it is looked as an untapped opportunity to create markets, bring people in from the margins and give them the tools to help themselves." – Kofi Annan (Sec. General of UN)

Micro finance is emerged in need of meeting special aim to empower under- privileged class of society. The principles and foundations of Micro Finance are founded on the philosophy of cooperation and its core central values of equality, equity and mutual self-help. Microfinance is a tool against poverty by

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enabling the beneficiaries to create sustainable activities to increase their incomes, reduce external shocks ,improve the living conditions of entrepreneurs and of their families and empower people and mainly the women and the youth.

According to 2011 data from the World Bank, an estimated 2.5 billion working-age adults globally—more than half of the total adult population—have to a life without access to the types of financial services we take for granted. The 1.5 billion people between the ages of 12 to 24 in the world today represent the largest number of youth ever on the planet. Of these, 85 percent, or 1.3 billion people, live in developing countries (World Bank 2011).Although the youth population is declining in East Asia and Central Europe, the youth population is expected to grow in Sub-Saharan Africa for the next 40 years. In 97 developing countries, half of the population is 25 years of age or younger. Worldwide, 47 percent of the unemployed are young people . Most young people in developing countries like India do not have access tothe financial services and education that would help them to be productive, engaging and successful citizens in their economies.

India falls under low income class group according to World Bank. It is the second populated country in the world and around 70 % of its population lives in rural area . 60% of Indian people depend on agriculture, consequently there is chronic underemployment and per capita income is only \$ 3262 in 2006 . Result was severe poverty conditions , low rate of education, low sex ratio and exploitation. According to Reserve Bank of India, at that time about 51 % of people house possess only 10% of the total asset of Indiawhich result in low production capacity both in agriculture which contribute around 22- 25% of Gross Domestic Product and manufacturing sector . Rural people had very low access to institutionalized credit due to non-involvement and participation of commercial bank. India is said to be the home of one third of the world's poorclass . About 87 percent of the poorest householdsdid not have access to credit. The demand for microcredit was estimated at up to \$30 billion; the supply was less than \$2.2 billion combined by all involved in the sector. Microfinance had been present in India in one form or another since the 1970s and is now widely accepted as an effective poverty alleviation strategy .

## **2. Review of Literature**

Robert Peck Christen (2006) in his paper “Microfinance and Sustainable International Experience and lesson for India”, he articulates the changing general perception of bankers, that SHGs are profitable clients or bank.

Lanmdau Mayoux's study (1998) on Participatory Learning for Women's Empowerment in Micro Finance Programs (IDS Bulletin, Vol. 29 No.4, 1998) proposes a participatory approach for integrating



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women's empowerment concerns into ongoing programs learning, which itself would be a contribution to empowerment. Micro finance programs for women are currently promoted not only as a strategy for poverty alleviation but also for women's empowerment.

Dr.C.Rangarajan (2006) in his topic 'Microfinance and its future directions' in the introductory part of the book, outline the evolution of SHG through microfinance evolve through in three stages. First, to meet survival requirement need, in the second stage is to meet the subsistence level through investing in tradition activities and in the final stage by setting up of enterprises for sustainable income generation.

### **3. Objectives of the study**

This paper puts light on what is the trend of micro financing is there in Indian after comparing few some years. It also depicts How far India has come in the micro financing and major changes it has observed in this area. This paper puts thrust on the changes in main constituents and structure of micro finance over time . It gives answer to the following questions:-

1. Which areas in micro finance has observed changes??
2. How much change is Micro finance sector has occurred for last few years?/
3. What impact of these changes have seen over Micro Finance Industry??
4. A little focus towards betterment of this sector.

### **4. Research Methodology**

The study is basically based on secondary data. The secondary data is collected from various sources like journals, books, manuals, and reports of the state concerned for literature part. Data collected from secondary sources have been analysed for support of my topic. The contents taken from various sources have been verified to the best possible extent.

### **5. Trends and Findings:-**

Indian Microfinance Sector has witnessed a tremendous growth over the past 17 years. As of March 2016 , the quantum of 60,000 crore credit made available to the poor and financially excluded clients and the number of clients benefitted is close to 40 million . The outreach this industry grew by 8% and loan outstanding grew by 31% over the last year.

This sector reported an overall growth of 38% in the financial year 2015-16 as compared to 40% in financial year 2016-17 with the market size nearing Rs. 1.4 trillion (including Bandhan Bank) as on March 31, 2016. This growth was driven by an impressive 72% growth in portfolio of MFIs, SFB

licensees and banks, while the SHG bank linkage programme grew at only 11% in year 2016-17 . The growth was supported by new entrants, increase in client outreach and higher ticket sizes as well as continued fund flow to the sector.

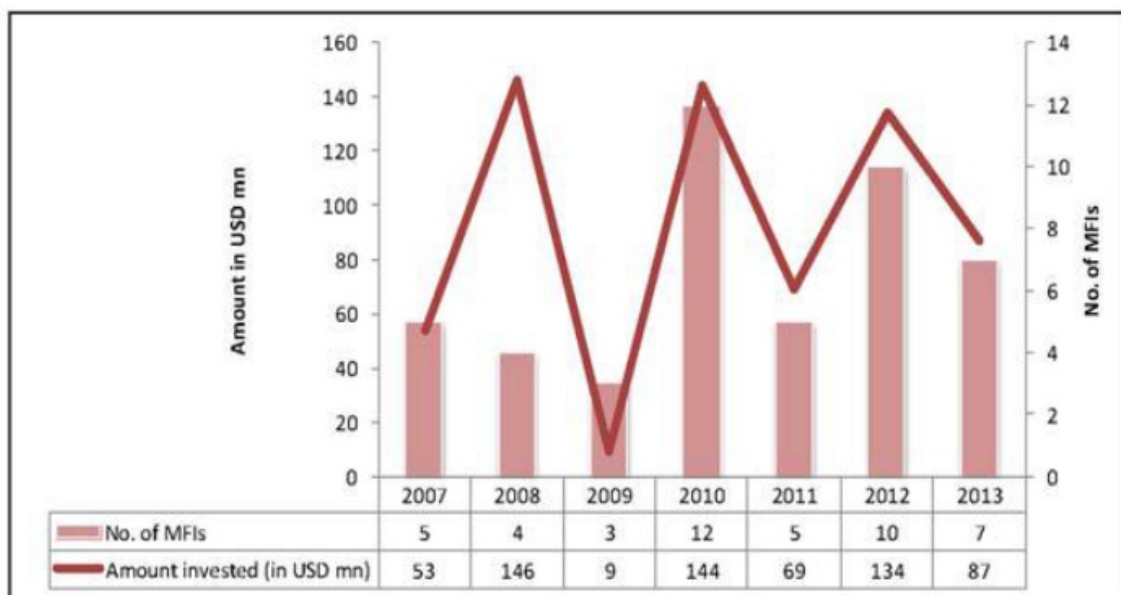
We can observe an interesting trend emerging in the microfinance investment landscape. The interest of investors is now focused on evaluating MFIs on the following matrices:

- a) Geographic and product wise diversification
- b) Promoter background in the industry and strong, supportive management team
- c) Strong and sound back end processes built on solid technology platform
- d) Funding sources from diverse areas
- e) capability to acquire and integrate smaller MFIs
- f) Aimimgat the client centric credit plus activities

While the above points remain generic to investment evaluations prior to October 2010 as well, what has changed is the increased focus of investors in evaluating MFIs these days.

### A. Equity to Debt Financing

The strong growth shown by Micro finance sector supported by increased flow of funding from debt providers leads us to believe that the sector is well poised for more equity infusion in days to come .Looking at the trends from 2007-2013 of equity disbursement for Micro credit we observe that



The year 2010 was the year of crisis in Microfinance and hence, is a year of dichotomy where in microfinance crescendo not only reached its peak but also had a dramatic fall. In India, year 2010 was a big changing point in MFIs and there is much discussion about the growth of microfinance at that time

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because it caused a repeat of the 2010 crisis, when the sector grew fast and there were allegations that multiple lending led to the overleveraging of clients. Having largely recovered from the 2010 crisis, the growth of microfinance today creates a new set of challenges. The findings given by Inclusive Finance India Report 2016:-

- 22 percent growth in branches
- 38 percent growth in staff strength
- 44 percent growth in number of clients
- 45 percent growth in number of loans

indicate that the loan portfolio grew at a relatively higher rate than branches, employees or clients. This means more debt flows within the same client segments, lead to overleveraging, which ended up in a large-scale default. Rating companies such as ICRA and Crisil expected about 35-40% growth for MFI loans in the next three to four years. Crisil estimated that MFIs MFI loan assets to reach Rs 35,000 crore by March 2015 and Rs45000 crores by March 2016. So much rely on loan disbursement in this sector lead Indian economy to several problems like increase in growth of NPA.

### **B. Rural to urban concentration**

The scene of MFIs has changed in region wise too. MFIs have shifted their focus from rural pockets to urban India. For the first time in its 25-year history, Indian MFIs have more urban clients than rural ones. The latest data, compiled by industry self-regulatory organization Sa-Dhan, shows 67% of the 37 million MFI customers live in urban India. The share of rural customers was 69% in fiscal year 2012. That dropped marginally to 67% in 2013. In the following two years, the share of rural customers has declined drastically. In 2014, rural customers constituted 56% of the total. It dropped further to 33% in the following year in 2015. This busts and shattered the myth that Indian microfinance is predominantly a rural phenomenon, very different from what we see in Latin America and large parts of Africa and Asia. The rise in urban clients of MFIs also tells us that probably banks in India have a cultural problem and they don't like small borrowers, be they in rural or urban India. The official reason for not reaching out to small borrowers are many which are still ranging from higher transaction costs and lack of reach to the absence of a competent rural cadre. Some of the leading MFIs have changed their focus on creating livelihood for consumer to asking how much from the poor family's purse they can earn by providing loans and consumer goods. This scenario has brought a great transformation in the purpose for which MFIs were originally initiated and made them stand in the row of profit earning businesses

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### **C. Women empowerment**

The outreach that the Indian microfinance industry has achieved, through both the microfinance institutions (MFIs) and the Bank-Self Help Group (Bank-SHG) linkage model over the last 10 years, is impressive..MFIs cater to over 55mn people in India, with 90% of them being women . The total market potential is to have a reach of about 275-300mn people in India .. I believe this is the main accomplishment of the Indian microfinance sector over the last 10 years.

### **D. Rely on Foreign Investment**

MFIs have been found to be more dependent on foreign equity sources now. Though Foreign investors have neither capabilities nor interest in supporting Indian economy but they are aiming to earn profits just by dispensing small loans . The share of foreign holding in Indian microfinance institutions has risen to nearly a third from just about a fifth a few years ago, data from rating companies show.Overseas investors are keen in taking exposure to MFIs and, thereby, indirectly financing entrepreneurial drive of the country's economically backward population," says Chandra Shekhar Ghosh, founder of Bandhan. All the top 10 MFIs have a diversified mix of investors — from International Finance Corporation to private players like Michael & Susan Dell Foundation, Citi Venture Capital International, Caspian, Sequoia capital, and Legatum. These investors have high stakes in the India micro 2,000 crore in capital in the past three years and they may need about Rs 1,800 crore of equity over the next two years, forecasts Crisil.

### **6. Conclusion:-**

Future is nurtured in the womb of the present. Many Tremendous changes are being observed in technology for the financial sector, that can alter the way micro finance is practiced. There is a great effort going on towards pan India coverage. It would not be wrong to assess that in the next20 years, micro finance could become the main conduit for channelizing financial and other resources in the informal, emerging into a highly product ivesector of the economy, through a long lasting partnership between the formal banking system and well governed MFIs. Microfinance would be seen as a provider of services from concept to credit for economically active people at the lower economic group of the society. There is need to infuse more equity domestic capital in this sector to bring more fruitful results. When these investments are channelized in proper direction these can prove a game changer for indian economy. Careful research on demand for financing and savings behaviour of the potential borrowers and their participation in determining the mix of multi-purpose loans are essential in making the concept work .

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# Role Of Media In Consumer Protection

**Dr. E. Shanker**

Asst. Professor of Commerce MVS Govt. Degree College, Mahabubnagar, Telangana

## **ABSTRACT**

*The reach of mass media extends the vast heterogeneous masses of the population of the country at the same time. With the help of mass media messages can be sent and received in any part of the world may be rural or urban. Role of media - print media as well as electronic media can be viewed as awareness of people. The media and non government organizations have an important role to play in the civil society. The media are the among the most important allies to the NGO's community some way in which the media can be important to the NGO's include writing articles / Telecast - Broadcast Programs that :*

- *Create an environment of political pressure.*
- *Convey general information, serving as a public education.*
- *Comment on an issue providing an alternative view point.*

*In this paper more emphasis is given on how media promote awareness about NGO's activities and also how NGO's need media to convey their message to society and government and also to form public opinion about various policies and lastly media and NGO's can work for betterment of society continuously.*

***Keywords: Consumer, Protection, Media, Education.***

## **1. Introduction**

Communication is a process to achieve mutual understanding or to have an interaction or exchange of ideas, opinions, facts, information, etc among all human beings or communication is the act of transmitting information, ideas, knowledge from one person to another. Media are viewed as mass media because their reach extends the vast heterogeneous masses of the population of the country at the same time. With the help of mass media messages can be sent and received in any part of the world may be rural or urban. Role of media- print media as well as electronic media is the awareness of people as well as society has increased enormously. Electronic media has more impact on society as compare to print media because it is visual aid of information. The press in India has always shown its solidarity with the socio economic problems of this country. There are no two opinions about the significant contribution that press, journalists, and the media people have done good work in bringing to light the major issues of social concern. The press in India has always been responsive in performing its duties so that those who are involved in the matters of policy making can give justice to their duties. There is no dearth example as to how the press has played a major role in unearthing certain scandals where people in the corridors of

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power were involved. It is not a singular matter for Indian media to take up issues, where a collective action, legislation, and policy decisions was an urgent need. Various legislations, administrative actions and even mass participations from different sections of society with divergent interest were possible only because of initiative and lead taken by media people. May it be a problem of national integration, social unity, and economic injustice, upliftment of down-trodden or educational and economic advancement?

Earlier the readership was the only criteria to assess the affectivity of media, as it was only print media that was its mark. The development of movies brought a big change. People now could see and listen what the communicator wanted to say? Literacy was no more a criteria to establish a link with audience and viewers. Multiplicities of communication media have brought a sea change in the psychology of people. People became more awakened, well-informed and cautious. They could know different views of the same problem; they could perceive, understand and analyze a situation well. Further advancement of media and mass literacy has also changed the composition of our society. Now, people are becoming conscious and logical thinking and rational bent of mind. The role of media has also broadened. It has undertaken many ventures, along with entertainment, education and enhancement of social structure. Thus, the new media is a mirror of modern society expressing its needs, aspirations, expectations and failures.

## **2. Consumer protection:**

**2.1. Meaning and Concept** Every individual is a consumer, regardless of occupation, age, gender, community or religious affiliation. Consumer rights and welfare are now an integral part of the life of an individual and we all have made use of them at some or the other point in our daily routine. Every year 15th March is observed as "World Consumer Rights Day". It commemorates a historic declaration (1962) by former US President John F. Kennedy of four basic consumer rights:

- The right to safety
- The right to be informed
- The right to choose

This declaration eventually led to the all citizens, regardless of their incomes or social standing, have basic rights as consumers. Another significant day is 9 April 1985, when the General Assembly of the United Nations adopted a setoff guideline for consumer protection and the Secretary General of the United Nations was authorized to persuade member countries to adopt these guidelines through policy

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changes or law. These guidelines constituted a comprehensive policy framework outlining what Governments need to do to promote consumer protection in the following areas:

- Physical safety Protection and promotion of consumer economic interests
- Standards for safety and quality of consumer goods and services
- Measures enabling consumers to obtain redressal
- Measures relating to specific areas (food, water, and pharmaceuticals) and
- Consumer education and information program

Now it is universally accepted that the consumer has a right to be provided with all relevant information in order to avoid exploitation and make a considered choice in availing of products and services from the market. These rights are well-defined, both on international and national platform and several agencies like the Government as well as voluntary organizations are constantly working towards safeguarding them. In India, 24th December is celebrated as "National Consumer Rights Day", since the Consumer Protection Act, 1986 was enacted on this day. The Consumer Protection Act was enacted in 1986 based on United Nations guidelines with the objective of providing better protection of consumers' interests. The Act provides for effective safeguards to consumers against various types of exploitations and unfair dealings, relying on mainly compensatory rather than a punitive or preventive approach. It applies to all goods and services unless specifically exempted and covers the private, public and cooperative sectors and provides for speedy and inexpensive adjudication. The rights under the Consumer Protection Act, 1986 flow from the rights enshrined in Articles 14 to 19 of the Constitution of India. The Right to Information Act (RTI), which has opened up governance processes of our country to the common public also, has far-reaching implications for consumer protection. As per the Act, a 'Consumer' has been defined as:

- Any person who buys goods for consideration, and any person who uses goods with the approval of the purchaser.
- Any person, who hires any service for a consideration and any beneficiary of such services, provided the service is availed with the approval of the person who had hired the service for a consideration.

Moreover, the consideration for either the goods or services may be either paid or promised, or partly paid or promised, or provided under a system of deferred payment. The Act envisages the promotion and protection of the following rights of consumers:

## **2.2. Consumer rights:**

### **2.2.1. Right to Safety**

Means right to be protected against the marketing of goods and services, which are hazardous to life and



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property. The purchased goods and services availed of should not only meet their immediate needs, but also fulfill long term interests. Before purchasing, consumers should insist on the quality of the products as well as on the guarantee of the products and services. They should preferably purchase quality marked products such as ISI, AGMARK, etc.

### **2.2.2. Right to be informed**

Means right to be informed about the quality, quantity, potency, purity, standard and price of goods so as to protect the consumer against unfair trade practices. Consumer should insist on getting all the information about the product or service before making a choice or a decision. This will enable him to act wisely and responsibly and also enable him to desist from falling prey to high pressure selling techniques.

### **2.2.3. Right to Choose**

Means right to be assured, wherever possible of access to variety of goods and services at competitive price. In case of monopolies, it means right to be assured of satisfactory quality and service at a fair price. It also includes right to basic goods and services. This is because unrestricted right of the minority to choose can mean a denial for the majority of its fair share. This right can be better exercised in a competitive market whereas variety of goods is available at competitive prices.

### **2.2.4. Right to be heard**

Means that consumer's interests will receive due consideration at appropriate forums. It also includes right to be represented in various forums formed to consider the consumer "welfare. The consumers should form non-political and non-commercial consumer organizations which can be given representation in various committees formed by the Government and other bodies in matters relating to consumers.

### **2.2.5. Right to Seek Redressal**

Means right to seek redressal against unfair trade practices or unscrupulous exploitation of consumers. It also includes right to fair settlement of the genuine grievances of the consumer. Consumers must make complaint of their genuine grievances. Many a times their complaint may be of small value but its impact on the society as a whole may be very large. They can also take the help of consumer organizations in seeking redressal of their grievances.

### **2.2.6. Right to Consumer Education**

Right to consumer education means the right to acquire the knowledge and skill to be an informed

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consumer throughout life. Ignorance of consumers, particularly of rural consumers, is mainly responsible for their exploitation. They should know their rights and must exercise them. Only then real consumer protection can be achieved with success. Thus, the concern of consumer protection is to ensure fair trade practices; quality of goods and efficient services with information to the consumer with regard to quality, quantity, potency, composition and price for their choice of purchase. Such a consumer protection policy creates an environment whereby the clients, customers, and consumers receive satisfaction from the delivery of goods and services needed by them.

### **3. Objectives of the Study:**

- To evaluate the response of media towards consumers' cause
- To know, as to what kind of awakening is created by media towards social-evil of consumer exploitation.
- To understand how media has come forward to create awareness about consumer protection and all such legislations.

### **4. Media and Consumers Problems:**

As a general rule, the problem of society, a social group or in some cases, the problems of individual are well expressed by no one else but media. Our civilization is characterized by impact of media on its structure, value system and outlook. Many socioeconomic problems, education of masses and social awakening can best be done by media. Media presently deals with problems of current importance. Where investigative journalism, reporting of pertinent and important facts and high lightening those events which otherwise cannot be noticed occupies prime position. Due to advent of T.V... a large section of society is now influenced by media activities to a great extent. It has become a silent opinion maker and hence it is working on a larger plane than any other institution. In the current past, media has undertaken the job of consumer education and fighting against exploitation of consumers.

### **5. Research Methodology:**

Research process includes research design, which tells about the nature of the study. Research comprises defining and redefining problems, and suggested solutions, collection, organizing and evaluating data, making deductions and reaching conclusion. This research is an exploratory research.

#### **5.1. Sample Design and Sample Size**

Random sample procedure was followed to select sample respondents. The total number of respondents was 150.

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## 5.2. Data Collection Procedure

Data were collected from the above respondents by using questionnaire specifically designed for the purpose.

## 5.3. Data Collection

In total 150 questionnaires were distributed out of which 120 sample was finally selected.

## 5.4. Analysis of Data

The statements on consumer awareness were framed after critical review of literature and discussions with experts in the field. The answer to these statements was sought in terms of „right", "wrong", not sure" and „don't know" which were scored as follows:

Right : 3 points

Not Sure : 2 points

Wrong : 0 points

Scoring pattern was reverse in case of wrong statements. Thus minimum score was [0] and maximum possible [105]. Mean and Standard deviation were calculated and range was formed to categorize the respondent's as follows: Low awareness: 0-35 Partial awareness: 36- 70 High awareness: 71-105

## 6. Data Analysis:

The research has made a survey as to, whether readers refer articles of consumer interest. The major observations in this connection are as follows:- It was observed from table 1 that out of total 41.6 percent of respondent has low-level of awareness regarding consumer terms.

**Table 1: Distribution of sample according to their level of consumer awareness (N=120)**

Respondents	Low		Partial		High	
	Frequency	%age	Frequency	%age	Frequency	%age
18-25	15	12.45	06	4.98	04	3.32
26-33	11	9.13	07	5.81	03	2.49
34-41	10	8.30	03	2.49	05	4.15
42-49	06	4.98	05	4.15	07	5.81
50-57	05	4.15	04	3.32	10	8.30
58-65	03	2.49	03	2.49	13	10.79
	50	41.6	28	23.3	42	35.0

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## 7. Result:

- There is a significant difference between the awareness levels of the respondent of different age group regarding consumer protection law. Respondent above the age group of 50 were more aware about the popular consumer terminology than the respondent below the age group of 49.
- Television was the main media which influence their buying most.
- There is a significant difference between the awareness levels of the respondent of different age group about consumer organization working in and around their area. Respondent above the age group of 42 were more aware about the consumer organization working in their area than the respondent below the age group of 41.

## 8. Discussion:

The research has made a survey as to, whether readers refer articles of consumer interest. The major observations in this connection are as follows:

- A majority of consumers read the articles regarding consumers' interest. However, the frequency of reading these articles on a regular basis is not very high
- The readership of these articles is limited and irregular which indicates that, there is a limited and lukewarm interest in the issues of consumer concern.
- The expectation of consumers in connection with consumers' column varies. However, most of the consumers prefer to read matters regarding consumers' interest and legal decisions and Government policies affecting consumers' interest. This indicates a purposive and limited interest of readers in the consumers' movement.
- There is a general disinterest to read about issues related with consumer movement and activities of the local consumers' associations.
- Most of the consumers feel that these articles do help them to know about consumers, right and about consumer movement

## 9. Conclusion:

Media in all its form, print or electronic, is a mirror of the times and society we live in. It connects us to the world and the world to us. Media is an integral part of our life. In today's world, where one's social circle is mostly just worked related, based on some or the other selfish motive, we tend to believe and depend more on the media for every type of information. Media thus has tremendous impact on the way a society conducts itself in the present, as well as the shape it would take in the future. It influences people of all age group. Media also plays a very useful role in setting up good or amicable relations between traders and buyers. The promotions of fair trade practices, establishing code of conduct for businessmen

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are the task that media alone can shoulder. The concept of ethics in the economy relates to "morality, ethics professional and organizational ethics. Each industry has its own guidelines for the ethical requirements. But on the four main requirements for marketing communications are legal, decent, honest and truthful. Unfortunately, in a society that is the way the company intended to profit from the use of marketing communication messages targets "can be a form of social pollution from potentially harmful and unintended effects of the consumer may have the decision represented". The words of Bernstein (1951), said fifty-six years ago are still very much a question of present interest: "It is not true that if we „save advertising, we save all,“ but it seems reasonable to assume that if we do not save advertising, we might lose all."

### **10. Future Scope:**

There is a wide scope for further research since this study was limited to the role of media in consumer education and protection, but the arrival of e-commerce, m-commerce, and Right to Information Act 2005 which was passed by Indian Parliament by June 15, 2005 and came fully into force on October 13, 2005. Future research can focus on the study of the Indian consumer who are now enable to college, share, compile and analyze the information in certain cases such as fairness, values and ethics within the buying and selling in India.

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# Econometric Analysis Of Exchange Rate And Inflation Targeting In Emerging Economies: Issues And Evidences

**Dr. Imran Ahmad Khan**

Assistant Professor College of Administrative and Financial Sciences Saudi Electronic University  
Dammam, Saudi Arabia

## **ABSTRACT**

*The study empirically evaluates the impact of exchange rate fluctuation on inflation targeting in the Indian economy. The study adopted annual times series data spanning a period of 27 years (1991 to 2017). The findings of the results suggest that the theoretical modelling requirements for all the variables used in the regression satisfy the statistical requirements that determine the choice of the statistical model. The result from the estimated long-run model shows that all the variables (interest rate and exchange rate) were statistically significant. The interest rate positively influence the growth of inflation rate in the economy while exchange rate negatively impacts on the economy. Therefore, more concerted effort should be employed by the government to stabilize the exchange rate as this will in turn lead to a positive impact of exchange rate on the economy. This will boost the country's export as well as reduce import thereby reducing inflation in the economy.*

**Keywords:** *Exchange Rate Volatility, Inflation Targeting, Open Economy, Economic Growth*

## **1. Introduction**

It is widely accepted that the pursuit of price stability is primary to long-run growth and development and should be the core of monetary policy. Several factors are responsible for this: high and variable inflation rate is socially and economically costly because it affects perspective planning, distorts prices, lowers voluntary savings and investment and orchestrates flight to values. Given this scenario therefore when the focus of monetary policy is primarily narrowed to the deliberate pursuit of low inflation, rather than output or unemployment, it is regarded as inflation targeting. It contrasts with alternative monetary policy strategies such as money targeting or exchange rate targeting. Although the latter money and exchange rate, still seek to achieve low and stable inflation, their targets include intermediate variables such as the growth rate of money aggregates or the levels of the exchange rate of an anchor currency, in the case of exchange rate targeting. Therefore, inflation targeting is a policy in which an estimated inflation target is made public and deliberately pursued using the instruments of monetary management such as interest rate to steer actual inflation towards the desired policy target. For instance, the Central Bank of a country could raise interest rates when actual inflation is getting above the target. This

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monetary policy strategy started in New Zealand in the early 1990s and by the mid-1990s, Canada, United Kingdom, Sweden, Israel, Australia, and Spain adopted this policy while Japan announced its intention to adopt this regime (Dutkowsky, 2000). Presently, Egypt, South Africa, Brazil, South Korea, etc have all adopted the mechanism. This is so because the mechanism represents the core of new Keynesian monetary policy thrust. The main features of this policy framework include the followings: (a) Announcement of an official numerical inflation target for a specified period of time; (b) Designing monetary policy which is centred on inflation forecast in recognition of the fact that a low and stable inflation rate should be the foremost goals of the central bank; as well as (c) Perceived transparency and accountability.

Inflation-targeting mechanisms have been implemented with a view to bridle the well-known consequences of high inflation uncertainty which generally result in inefficient resource allocation and low productivity growth. The characteristics of the framework tend to strengthen transparency and coherency of monetary policy thereby eliminating uncertainties concerning future inflation rates. Overall it heightens the confidence level among households and other economic agents which the central bank is fighting inflation for as well as for future inflation expectations. This view is in consonance with the notion that in the absence of long-run (but only a short-run trade-off between variability's and not their levels in inflation and output) trade-off between inflation and output, it only makes more sense to aim at very low inflation rates. This trade-off between variability of inflation and the variability of output dominates current mainstream thinking in this respect. For instance, it is expected that the impact of an adverse macroeconomic shock such as oil price collapse or inflationary expectations thus increases inflations. Therefore, policy action in this instance will depend on how fast inflation is quickly brought back to the target level. If it is quickly brought back to the target level, it will be less variable and output will fluctuate around the trend. However, if on the contrary the central bank is slow to bring inflation back to the target level, output will fluctuate less, while inflation will be more variable. Inflation targeting is a monetary policy regime, which is characterized by public announcement of official target ranges or quantitative targets for price level increases and by explicit acknowledgement that low inflation is the most crucial long-run objective of the monetary authorities. According to Savensson (1999), inflation targeting framework sets out very clear the goals for monetary policy, defines responsibilities, and establishes measures of accountability and transparency. However, in an open economy(ies), exchange rate fluctuations affect the behaviour of domestic inflation. This is referred to as exchange rate pass-through effect. The magnitude of this effect is a key for monetary policy as it determines whether the central bank should devote efforts to control nominal depreciatory pressures that may jeopardise price stability. Moreover, recent studies such as Flamini (2007) and Adolfson (2007) pointed out that the characteristics of the pass-through may even affect the choice of the measure of inflation the central bank

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should target: either inflation involving exclusively locally produced goods or total inflation that includes imports. After the currency crashes of the late 1990s and early 2000, a growing number of emerging economies moved away from exchange rate rigidity and adopted a combination of flexible exchange rates policy as well as inflation targeting. This is so because of this move, the exchange rate has become less central in economic policy debate in most emerging markets. This, however, does not imply that the exchange rate has disappeared from policy discourse. Indeed, with the adoption of inflation targeting a number of important exchange rate-related questions, many of them new have emerged.

### **Theoretical Framework**

Two major goals of interest to economic policy makers are low inflation and low unemployment, but quite often, these goals conflict. The adoption of monetary and/or fiscal policy moves the economy along the short-run aggregate supply curve to a point of higher price level. As higher output is recorded, this is followed by lower unemployment, as firms need more workers when they produce more and vice-versa. This trade-off between inflation and unemployment is described as the Phillips curve. Phillips (1958), showed the existence of an inverse relationship between wage and unemployment rates, using United Kingdom data plotted over the period 1862-1957. The discovery is strengthened by the fact that movement in the money wages could be explained by the level and changes of unemployment. An argument in favour of the Phillips curve is the extension that establishes a relationship between prices and unemployment. This rests on the assumption that wages and prices move in the same direction. The strength of the Phillips curve is that it captures an economically important and statistically reliable empirical relationship between inflation and unemployment. The monetarists following the Quantity theory of money (QTM), have propounded that the quantity of money is the main determinant of the price level, or the value of money, such that any change in the quantity of money produces an exactly direct and proportionate change in the price level. The QTM is traceable to Irving Fisher's famous equation of exchange:

$$MV = PQ \dots\dots\dots(1)$$

where M stands for the stock of money; V for velocity of circulation of money; Q is the volume of transactions which take place within the given period; while P stands for the general price level in the economy .

Transforming the equation by substituting Q for Y (i.e. the total amount of goods and services exchanged for money), the equation for exchange becomes thus:

$$MV = PY \dots\dots\dots(2)$$



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The introduction of  $Y$  in equation (2) provides the linkage between the monetary and the real side of the economy. In this framework, however,  $P$ ,  $V$ , and  $Y$  are endogenously determined within the system. The variable  $M$  is the policy variable, which is exogenously determined by the monetary authorities. The monetarists emphasize that any change in the quantity of money affects only the price level or the monetary side of the economy, with the real sector of the economy totally insulated. This indicates that changes in the supply of money do not affect the real output of goods and services, but their values or the prices at which they are exchanged for only. An essential feature of the monetarists' model is its focus on the long-run supply-side properties of the economy as opposed to short-run dynamics (Dornbush, et al, 1996). Therefore economic policies aimed at controlling inflation should focus on the monetary sector controlling variables such as the quantity of money in circulation, interest and exchange rates.

On the other hand, the Keynesian opposed the monetarists' view of direct and proportional relationship between the quantity of money and prices. According to them, the relationship between changes in the quantity of money and prices is non-proportional and indirect, through the rate of interest. The strength of the Keynesian theory is its integration of monetary theory on the one side and the theory of output and employment through the rate of interest on the other side. Thus, when the quantity of money increases, the rate of interest falls, leading to an increase in the volume of investment and aggregate demand, thereby raising output and employment. In other words, the Keynesians see a link between the real and the monetary sectors of the economy and economic phenomenon that describes equilibrium in the goods and money market (IS-LM). Equally important about the Keynesian theory is that it examined the relationship between the quantity of money and prices in both under unemployment and full employment situations. Therefore, as long as there is unemployment, output and employment will change in the same proportion as the quantity of money, but there will be no change in prices. At full employment, however, changes in the quantity of money will induce a proportional change in price. This approach has the virtue of emphasizing that the objectives of full employment and price stability may be inherently irreconcilable.

The Neo-Keynesian theoretical exposition combines both aggregate demand and aggregate supply. It assumes a Keynesian view on the short-run and a classical view in the long-run. The simplistic approach is to consider changes in public expenditure or the nominal money supply and assume that expected inflation is zero. As a result, aggregate demand increases with real money balances and, therefore, decreases with the price level. The Neo-Keynesian theory focuses on productivity, because, declining productivity signals diminishing returns to scale and, consequently, induces inflationary pressures, resulting mainly from over-heating of the economy and widening output gap.

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## Literature Review

Ball and Sheridan (2003) in their study of twenty OECD economies, out of which seven have adopted inflation targeting in the 1990s which was not responsible for low inflation or its volatility concluded that there is no evidence that inflation targeting improves economic performance as measured by the behaviour of inflation, output and interest rates. Other studies have also shown that the much mouthed beneficial claims do not necessarily derive from adopting inflation targeting mechanism. Example is the study of Honda (2000), who opined that inflation targeting had no effect on either inflation or any other variable in Canada, New Zealand and the UK. Also, studies focusing on advanced economies mainly showed insignificant and small effects of inflation targeting on the various performance measures used. Ball and Sheridan (2005), using a difference-in-difference approach, indicated that there is no significant effect of inflation targeting on inflation, inflation variability, output growth, output variability and long-term interest rates. Furthermore, inflation persistence is very similar between the targeting and non-targeting group. Using the same method with more data as well as taking into account the establishment of the European Monetary Union, Ball (2010) findings were in consonance with findings of earlier studies. Lin and Ye (2007) in their study adopted the propensity score matching method that gives room for controls for self-selection bias, revealed that inflation targeting does not have any significant impact on the level and volatility of inflation. The Study by Vega and Winkelried (2005) found the exact opposite results while adopting the same method but with an expanded sample which included both advanced as well as emerging economies. Their study also analysed the impact of inflation targeting on inflation persistence. They concluded that inflation targeting lowers the persistence of inflation, although its impact is very small. Wu (2004) adopted the panel estimations method and found a contrasting result. Using a panel dataset of 22 OECD countries, he found that inflation targeting significantly reduces inflation. However, Willard (2006) using the same dataset as Wu (2004), but different methods, found only small and insignificant effects. This is in consonance with the study by Mishkin and Schmidt-Hebbel (2007) who found that, although inflation targeting economies have improved their macroeconomic performance in terms of reducing inflation, inflation volatility, and output volatility over time, compared to non-inflation targeting economies, the difference is insignificant.

Analysing inflation expectations in industrialized countries, Johnson (2002) found that after the announcement of inflation targeting the level of inflation expectations were significantly reduced in inflation targeting countries, whereas the effect on uncertainty and forecast errors was not significant. Levin, Natalucci and Piger (2004) suggested that inflation targeting has a significant role anchoring long-run inflation expectations. Whereas empirical evidence for industrialized countries reveals the irrelevance of inflation targeting for macroeconomic improvement compared to non- inflation targeting

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countries, empirical evidence for emerging economies indicated a more favourable picture of the effects of inflation targeting. This may be due to a stronger degree of performance heterogeneity in the sample of emerging markets that adopted inflation targeting (Batini and Laxton, 2006) and the weaker credibility of emerging countries face when implementing macroeconomic policies (Goncalves and Salles, 2008). Most studies focusing on emerging economies found that inflation targeting significantly reduces average inflation. This result is robust to country selections, time periods and estimation methods although the magnitude of the impact differs and performance of an inflation targeting regime is very heterogeneous across countries. There are fewer consensuses on the impact of inflation volatility. Batini and Laxton (2006), Li and Ye (2009), and Vega and Winkelried's (2005) results showed a significant dampening effect of IT on inflation volatility, whereas the effects in Goncalves and Salles (2008) and Brito and Bysted (2010) are insignificant. Similarly, the impact of inflation targeting on the real economy is not unanimous. Brito and Bystedt (2010) found a significant negative effect of inflation targeting on average growth suggesting that inflation targeting and the associated lower average inflation come at the cost of lower growth. Naqvi and Rizvi (2009) find an insignificant effect of inflation targeting (IT) on growth, but their country sample is very small and restricted to Asian economies. Theoretically, output volatility might fall or increase following IT adoption, however, empirically the effect found, if at all significant, is one of falling output volatility. Goncalves and Salles (2005) found that IT reduces output volatility, whereas Batini and Laxton (2006) did not find a significant effect for output volatility. Also, there are only a few studies that have assessed the performance of IT during the recent crisis. Filho (2010) found that the monetary policy of IT countries appears to have been more suited to dealing with this crisis. He found that relative to other countries, IT countries lowered nominal policy rates by more and this loosening translated into an even larger differential in real interest rates. With this monetary stimulus, IT countries on average seem to have dodged the deflation bullet better than other countries. Based on macroeconomic forecasts, Roger (2010) also found that inflation-targeting countries may be less adversely affected by the financial crisis. Gemayel, Jahan, and Peter (2011) found that inflation targeting appears to be associated with lower inflation and inflation volatility. At the same time, there is no robust evidence of an adverse impact on output. This may explain the appeal of IT for many LICs, where building credibility of monetary policy is difficult and minimizing output costs or reducing inflation is imperative for social and political reasons.

Hu, (2003) empirically investigated issues associated with inflation targeting using a dataset of 66 countries for the 1980–2000 period. The paper focused on two issues. First, which factors are systematically associated with a country's decision to adopt inflation targeting as its monetary framework? Second, does inflation targeting improve the performance of inflation and output? Does the

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trade-off between inflation and output variability change under such a framework? The empirical results are informative and encouraging. A number of economic conditions, structure, and institution variables were found to be significantly associated with the choice of inflation targeting. Both descriptive statistics and regression results suggested that inflation targeting does play a beneficial role in improving the performance of inflation and output. The paper explores an evident and positive relationship between inflation and output variability, but a limited support for the proposition that the adoption of inflation targeting improves the trade-off between inflation and output variability.

Ecevit and Kayham (2011) examined the Turkish economy by the beginning of inflation targeting era using monthly data for the period 2002 to 2009 to establish Taylor type monetary policy reaction function and to test whether exchange rate has a place in reaction function by using structural VAR methodology. They found that exchange rate has no weight on short term nominal interest rate decisions of the Central Bank of Republic of Turkey. However, Calvo and Reinhart (2000) reported that although there is an increase in the number of countries practicing floating exchange rate system, emerging countries intervene exchange rate instead of leaving it floating. They named intervention policy of central banks as "fear of floating". Indeed fear of floating is only one part of a more general fear of large exchange rate swings. According to Mohanty and Klau (2005), exchange rate is likely to assume special importance for monetary policy when the pass through of the exchange rate is high because it will affect real and financial sector directly and indirectly. It means that pass through effect is important for central bank even if it does not target inflation. According to Amato and Filardo (2005), in small open economies, in particular emerging markets, capital inflows can fuel the expansion of domestic credit. In turn, a tightening of monetary policy might encourage those inflows further. This makes these economies vulnerable to a sudden withdrawal of foreign capital.

Zettelmeyer (2004) examined effects of monetary policy on exchange rate for Canada, New Zealand and Australia. He used three months market interest rate as monetary policy to measure it by using OLS regression methodology. At the end of the study, he concluded that a 1 percent increase in the three month interest rates will appreciate the exchange rate by 2 to 3 percent. Kearns and Manner (2006) has also examined intraday data of Canada, New Zealand, Australia and United Kingdom to determine effects of monetary policy on exchange rate. They used an event study and they found that monetary policy change is exogenous to the exchange rate. According to them an unanticipated tightening of 25 basis points leads to a rapid appreciation of around 0.35 percent. Another important conclusion is that expectations about monetary policy actions affect degree of appreciation. Calvo and Reinhart (2000) examined 39 countries which chose floating exchange rate regime for years between 1970 and 1999 and found that most of these countries' central banks weigh exchange rate in the reaction function, although they choose floating

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exchange rate regime. Mohanty and Klau (2004) investigated monetary policy shocks to introduce effects on output gap, inflation and exchange rate and examined emerging economies including India, Korea, Philippines, Taiwan, Thailand, South Africa, Brazil, Chile, Mexico, Peru, Czech Republic, Hungary and Poland. They implied that interest rate responds strongly to the exchange rate in most of emerging economies. In some of them the response is higher than responses to inflation and output gap. In this respect their results supported the "fear of floating" hypothesis.

Brojmland and Halvorsen (2008) analysed Australia, Canada, New Zealand, Norway, Sweden and United Kingdom economies to understand relationship between monetary policy actions and exchange rate. They found that the impact of monetary policy shocks on exchange rate to be non-trivial and consistent with Dornbusch overshooting hypothesis. A contractionary monetary policy shock that increases the interest rate by one percent, appreciates the exchange rate by 2.5 – 4 percent. As a result of analysis they concluded that countries have taken exchange rate into their policy reaction functions. Isik and Duman (2008) took on Turkey, Israel, Chile, Brazil, Poland, South Korea and Czech Republic those target inflation and choose floating exchange rate regime to understand behaviours of governments and central banks in the case of exchange rate appreciation. They concluded that all these central banks do not intervene exchange rate markets unless there is high volatility in the market. Also, they implied that The Central Bank of Republic of Turkey does not weigh into the exchange market to affect long term equilibrium. As another sequence of this analysis they emphasized that credibility is an important point, while central banks target inflation and allow exchange rate to float.

### **Research Methodology**

This study adopted an econometric model to test the long-run relationship between exchange rate volatility and inflation targeting in the Indian economy. The study uses annual times series from 1991 to 2017. The sources of these data are Statistical Bulletin, published material and different websites. A majority of the macroeconomic time series are characterized by a unit root so that their first differences are stationary (Engel and Granger, 1987; Nelson and Ploster, 1982). Ahmed and Harnhirun (1995) opined that there is a statistical test like cointegration establishes co-movements in these times series, then the residuals from the regression can be used as error correction term in the dynamic difference equation. Thus, given two time series that are integrated of order one that is  $I(1)$  and cointegrated then there exists Granger Causality in at least one direction in the  $I(0)$  variables (Engel and Granger, 1987) and hence a VAR model can be set up with an error correction term for doubled cointegrated time series to cover the short-run dynamics and thus decrease the chance of observing spurious regression in terms of the level of the data or their first difference.

Therefore, after estimating the multiple regression models, the study tests for stationarity, cointegration and error correction model so as to know the long-run reliability of the model.

Therefore, this study specifies the following multiple regression equation using aggregate data thus:

$$INFR = \beta_0 + \beta_1 INTR + \beta_2 EXCHR + \mu$$

$$\beta_1 < 0; \beta_2 < 0$$

Where INFR = Inflation rate; INTR = Interest rate; EXCHR = Exchange rate;  $\mu$  = Stochastic term

### Descriptive statistics

The descriptive statistics of variables used in this estimation is presented in Table 1. Exchange rate (EXCHR), inflation rate (INFR) and interest rate INTR) averages 44.90, 18.75 and 16.99 respectively while they also range from 145.00 to 0.55, 78.80 to 3.20 and 36.09 to 6.00 for the respective parameters with a standard deviation of 56.55, 16.04 and 7.12. The variables also exhibit increasing return to scale given the JB statistics values of 7.12, 29.73 and 2.91 respectively.

**Table 1: Descriptive statistics**

	EXCHR	INFR	INTR
Mean	44.89897	18.75349	16.99453
Median	9.909492	13.00000	17.34000
Maximum	145.0000	72.80000	36.09000
Minimum	0.546781	3.200000	6.000000
Std. Dev.	56.54561	16.04165	7.118296
Skewness	0.748540	1.694195	0.622831
Kurtosis	1.683096	5.261690	2.732735
Jarque-Bera	7.122743	29.73527	2.908061
Probability	0.028400	0.000000	0.233627
Sum	1930.656	806.4000	730.7650
Sum Sq. Dev.	134291.0	10808.05	2128.146
Observations	43	43	43
<i>Source: Author's computation using EViews7</i>			

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### Correlation matrix

A positive correlation exists among all the variables except between INFR and EXCHR that is negative; some with moderate correlation and some with very low correlation as shown in Table 2. For example, there is a moderate positive correlation between INTR and INFR (32.8%), while the correlation between INTR and EXCHR is relatively low (28.7%), and that between INFR and EXCHR is very low (−26.4).

**Table 2: Correlation matrix**

	EXCHR	INFR	INTR
EXCHR	1.000000		
INFR	-0.264163	1.000000	
INTR	0.286821	0.327838	1.000000

*Source: Author's computation using EViews7*

### Unit root test

The regression for the purpose of clarifying the result for the Phillips–Perron test (PP) class of unit root test is presented in Table 1. The result reveals that all the variables used in the study exhibited unit root process at various critical levels but mostly at 5% level of significance. In other words, all the variables except INFR and ECM(-1) were found to be non–stationary at their levels but stationary at their first differences.

**Table 3: Phillip –Perron unit root test**

Variables	Order of integration	Level of significance (%)	PP	Critical values	Lag
INFR	I(0)	5	-3.126626	-2.933158	2
INTR	I(1)	5	-8.855843	-2.935001	2
EXCHR	I(1)	5	-5.530185	-2.935001	2
ECM(-1)	I(0)	5	-6.118034	-2.938987	2

Cointegration analysis We use cointegration approach to test if there exist at least a linear combination of the variables with unit roots that are stationary. The Johansen cointegration analysis we adopted because it helps to clarify the long–run relationship between integrated variables. Johansen's procedure is the maximum likelihood for finite–order vector autoregressions (VARs) and is easily calculated for such systems, so it is used in this study. The Johansen's technique was chosen not only because it is VAR based but also due to evidence that it performs better than single–equation and alternative multivariate methods. The results of the cointegration test are presented in Table 4. The max–eigenvalue tests shows that there are two cointegrating equation in the analysis. The PT–matrix of the beta coefficients from the

Johansen cointegration analysis and the preferred cointegrating (CI) equation of the model are presented in Annex 1. Only one cointegrating relation was chosen among the two, based on statistical significance and conformity of the coefficient with economic theory. As shown in the chosen CI equation, which normalized the coefficient of INFR, all the explanatory variables are significantly influencing changes in INFR. The most significant of the determinants of INFR are EXCHR and INTR. The relationship depicted in Annex 1 suggests that in the long-run INTR exerts positive influences on INFR while EXCHR affects INFR negatively

**Table 4: Johansen Max–Eigen statistics Unrestricted Cointegration Rank Test (Maximum Eigenvalue)**

Hypothesized No. of CE(s)	Eigenvalue	Max-Eigen Statistic	0.05 Critical Value	Prob.**
None *	0.999998	487.2740	27.58434	0.0001
At most 1 *	0.591974	33.16772	21.13162	0.0007
At most 2	0.200681	8.287818	14.26460	0.3502
At most 3	0.020879	0.780687	3.841466	0.3769
Max-eigenvalue test indicates 2 cointegrating eqn(s) at the 0.05 level				
* denotes rejection of the hypothesis at the 0.05 level				
**MacKinnon-Haug-Michelis (1999) p-values				
<i>Source: Author's computation using EViews7</i>				

Having ascertained that the variables are non-stationary at their levels but stationary after first differencing once and that they are cointegrated, the stage is set to formulate an error correction model. The intuition behind the error correction model is the need to recover the long-run information lost by differencing the variables. The error correction model rectifies this problem by introducing an error correction term. The error correction term is derived from the long-run equation based on economic theory. The error term enables us to gauge the speed of adjustment of INFR to its long-run equilibrium. It gives us the proportion of the disequilibrium error accumulated in the previous period which is corrected in the current period. The results indicate that the speed of adjustment of INFR to the long-run equilibrium part is moderate. Specifically, about 47.9% of the disequilibrium errors, which occurred in the previous year, are corrected in the current year. It also shows a relatively high persistence of INFR (52.3.8%) thereby suggesting the existence of a strong inertia.

Preceding the dynamic analysis, the result of the estimated static model shows that interest rate and exchange rate are the long-run determinants of INFR. The results of the parsimonious ECM are in Table 5.



**Table 5: Parsimonious error correction model Dependent Variable: INFR Included  
observations: 40 after adjusting endpoints**

Variable	Coefficient	Std. Error	t-Statistic	Prob.
INFR(-1)	0.522553	0.131159	3.984119	0.0004
INFR(-2)	-0.56116	0.136004	-4.126087	0.0002
C	3.200535	4.828584	0.662831	0.512
INTR	0.479088	0.182727	-2.621878	0.0715
INTR(-2)	1.944736	0.416034	4.674465	0.0000
EXCHR	-0.18095	0.039457	-4.585908	0.0001
ECM(-1)	-0.47858	0.150511	-	0.0038
R-squared	0.677684	Mean dependent var		19.335
Adjusted R-squared	0.619081	S.D. dependent var		16.42426
S.E. of regression	0.873682	Akaike info criterion		3.627854
Sum squared resid	33.9092	Schwarz criterion		3.923408
Log likelihood	-145.557	F-statistic		11.56401
Durbin-Watson stat	2.311488	Prob(F-statistic)		0.000001

Source: Author's computation using Eviews7

The over-parameterized model from which the parsimonious ECM emanated is presented in Annex 2. The adjusted  $R^2$  of the estimated model shows about 61.9% of the variation in INFR is explained by the combined effects of all the determinants while the F-statistics shows that the overall regression is significant at both 1% and 5% levels. Also, the equation's standard error of 0.8737 signifies that in about two-third of the time the predicted value of INFR would be within 87.37% of the actual value while given the DW value of 2.31 suggests the absence of serial correlation are presented in Table 5. The first and second lagged of INFR exerts a very high significant positive and negative influence on the growth of current INFR. In a similar vein, both the current and second lagged value of interest rate (INTR) impacted positively on INFR growth in the country. The current EXCHR was statistically significant in influencing INFR but the impact was negative.

### Stability analysis

We examine the stability properties of the short-run dynamics model. In the graph of the recursive residual, in some periods, particularly between 2009 and 2015, the residuals either went outside the  $\pm 2$  standard error bounds or become close to the bounds (Fig. 1). The plot of the CUSUM test and CUSUM squares in figures 3 and 4 tends to corroborates this view. In fig 3, the plot was close to the 5% significance bound in 1990 and was actually outside the bound between 1991 and 2013. Further examination reveals that the main source of this instability over this period comes from the instability in the coefficients on the short-run HCD and BLSME as shown in figure 5. This collaborate our earlier view that the period of sustained deregulation of economy, interest rate and foreign exchange market which had some inflationary impact on the economy.

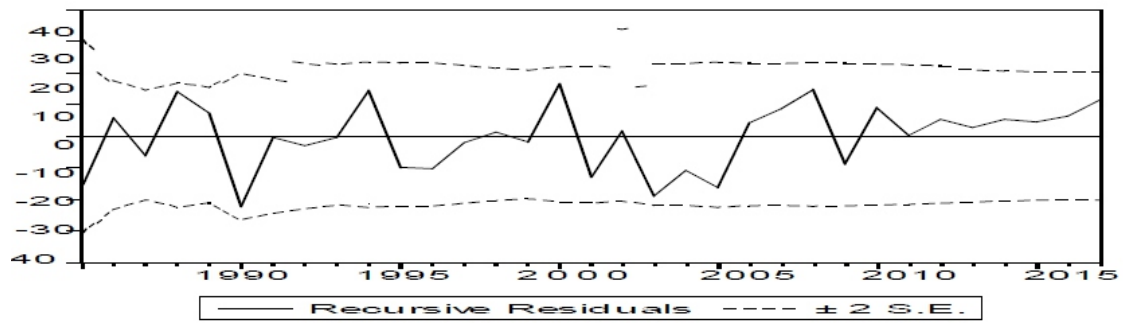


Figure 1: Recursive residual graph

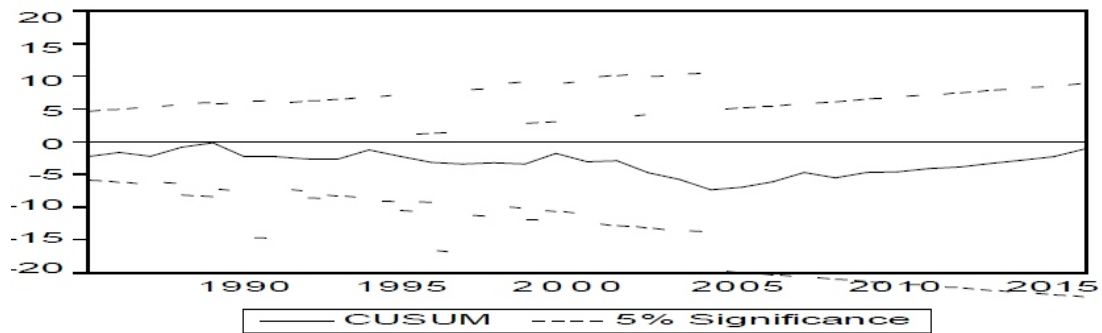


Figure 2: CUSUM test graph

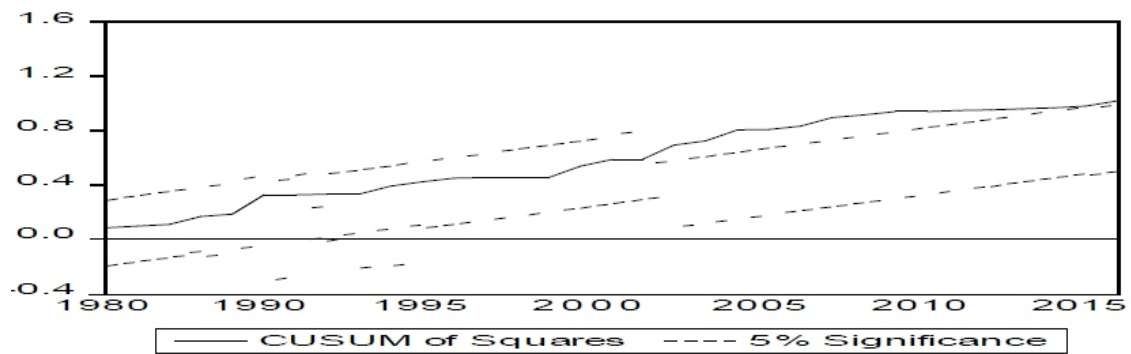


Figure 3: CUSUM of square test graph

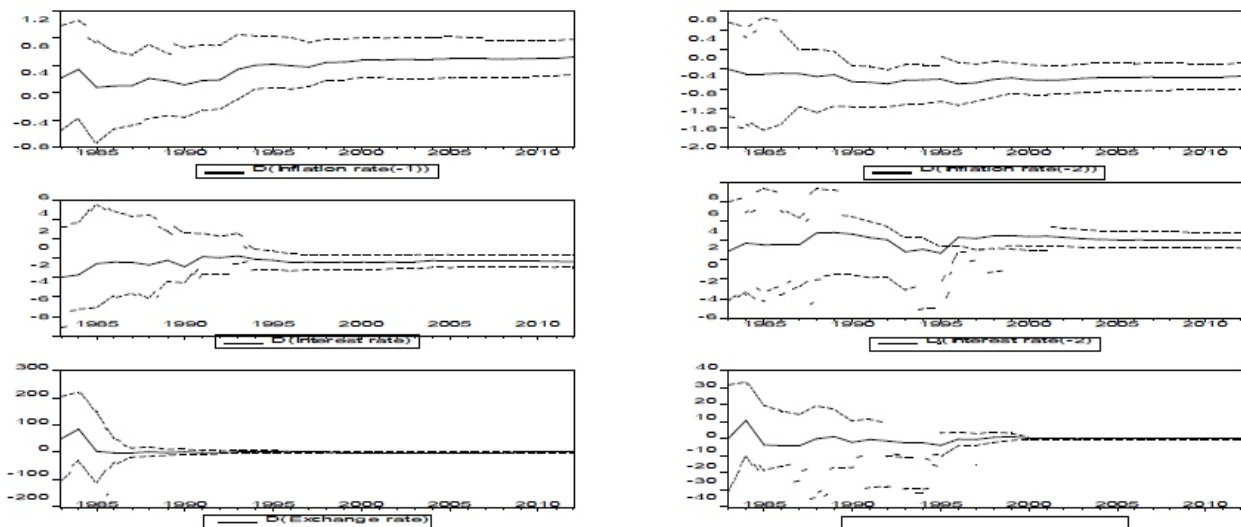


Figure 4: Recursive coefficients

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## Policy implications

The following policy implications emanate from the study.

- a) Exchange and interest rates play a very significant role in explaining inflation targeting. However, this may be due to the prolonged period of price control as against that of deregulation as well as the failure of the study to take into consideration structural breaks and regime shifts.
- b) To curb inflation, there is the need for high transparency in monetary policy making and inflation. Similarly, the fiscal posture of the government must also be made to regularly align with monetary targets.
- c) The policy linkage between exchange rate, interest rate and inflation targeting instruments in the country are very strong in the short-run.
- d) The growth of inflation is more of inertia than exchange and interest rates.
- e) There is need to interpret the findings with cautions as the annual time series data span through different governments with different exchange and interest rate regimes.

## Conclusion

Having examined the impact of interest rate and exchange rate on inflation, we conclude that both interest rate and exchange rate are good explanatory variables in explaining the changes in inflation. Inflation is caused by these two variables as well as other factors not included in our model such as low productivity, concentration of wealth in the hands of the minute few, financial dualism, among others. Therefore, efforts that are geared towards curbing inflation should not just focus on interest rate and exchange rate policies but equally on those variables that are intertwined with them. The financial sector does not operate in a vacuum but in a macroeconomic environment. It is therefore necessary that the environment should be one that is amenable to contemporary market situations. We therefore recommend that in order to curb inflation through inflation targeting, efforts must be made towards gathering financial data at a more precise level such that majority of financial transactions is captured in the database. Also, lending rates should be made flexible while other means should be employed towards raising the value of the rupee as this will reduce greatly the inflation rate in the country.

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**Annex 1: Unrestricted Cointegrating Coefficients (normalized by  $b'S11*b=I$ )**

**PT-matrix of the beta coefficients from the Johansen cointegrating analysis**

INFR	INTR	EXCHR	ECM	
7.45E-05	-0.000128	1.61E-05	(-1) 74.99718	
-0.168004	0.263901	-0.030061	-12.24030	
0.008811	0.072363	0.020171	30.65460	
-0.011574	-0.150815	0.011183	-1.169862	
Unrestricted Adjustment Coefficients (alpha):				
D(INFR)	2.624806	6.917101	1.234315	1.043368
D(INTR)	0.571677	1.128710	-1.339490	-0.104617
D(EXCHR)	1.653724	3.434268	0.952049	-1.412211
D(ECM(-1))	-0.013336	-3.51E-06	2.23E-06	2.30E-07
1 Cointegrating Equation(s): Log likelihood -30.64009				
Normalized cointegrating coefficients (standard				
INFR	INTR	EXCHR	ECM(-1)	
1.000000	4.618386	-7.941916	4649435.	
	(1.67479)	(3.73043)	(1282.22)	

**Annex 2: Over-parameterized error correction model**

Dependent Variable: INFR

Method: Least Squares

Sample(adjusted): 1991 2017

Included observations: 27 after adjusting endpoints

Variable	Coefficient	Std. Error	t-Statistic	Prob.
INFR(-1)	0.494990	0.135227	3.660446	0.001
INFR(-2)	-0.606866	0.145809	-4.162048	0.0002
C	4.848545	6.305989	0.768879	0.448
INTR	-0.487400	0.442102	-1.102459	0.279
INTR(-1)	0.169172	0.510819	0.331179	0.7428
INTR(-2)	2.007979	0.482533	4.16133	0.0002
EXCHR	-0.355130	0.163174	-2.17638	0.0375
EXCHR(-1)	-0.826654	1.472239	-0.561495	0.5786
EXCHR(-2)	1.000169	1.469883	0.680441	0.5014
ECM(-1)	0.887781	1.462857	0.606881	0.5485
R-squared	0.695787	Mean dependent var		19.33500
Adjusted R-	0.604523	S.D. dependent var		16.424
S.E. of regression	10.32872	Akaike info criterion		7.720051
Sum squared resid	3200.472	Schwarz criterion		8.1422
Log likelihood	-144.4010	F-statistic		7.623897
Durbin-Watson stat	2.385827	Prob(F-statistic)		0.00001

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# The Implications Of Dwindling Oil Prices On The Nigerian Economy

**Olubunmilkeolape Olaifa**

Department of Management and Accounting, Ladok Akintola University of Technology, P. M.B.  
4000, Ogbomoso, Nigeria.

## **ABSTRACT**

*The main objective of the study is to ascertain the implications of dwindling oil prices in the Nigeria economy. This study adopts descriptive statics such as mean and standard deviation and inferential statistics which include Regression and Correlation analysis. Operational variables used in this study are gross domestic product (GDP) as a measure of national productivity and crude oil, industrial/services products, and capacity utilization. The study thereby concluded that dwindling oil price indicators significantly influence Nigeria Economic Development within the study period and that dwindling oil price and Nigeria economy exhibit significant relationship within the study period. In the light of the above findings, the study recommends that the Government should give a clear economic policy direction to develop and assist key financial industry players in stabilizing the financial economy. Also, the budget should be built based on the prevailing economic realities occasioned by the oil price fall to ensure prudence and accountability and to discourage wasteful allocation of the meager resources to non-productive expenditures.*

**Keywords: Oil price fall, Banks, Economy, Financial crisis, Diversification, Economic policy**

## **1. Introduction**

First and foremost, Nigeria is endowed with vast resources including such minerals as petroleum, limestone, tin, natural gas and others (Adeoye, 2005). All these minerals have remained untapped, except petroleum which has dominated Nigeria's economy since the 1970s. Today, petroleum is by far the most widely used energy resource worldwide. Its production and distribution, according to Aliyu, (2016), affects the relations among nations and even the purchasing power of some individual citizens. The first discovery of oil in commercial quantity in Nigeria was made in 1956. Shell-Bp was the principal company undertaking oil exploration and production activities in the country, although there were sporadic explorations by other companies, prior to that date

In addition, according to (Habib, 2014) the Nigerian government did not embark on serious oil policies for the country until 1967. The rapid inflow of oil revenue to the country in the early 1970s, led to the complete abandonment of agriculture which was Nigeria's economic mainstay. It was observed that since the beginning of oil production in commercial quantity, Nigeria has been rated high, the world

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over, such that she is declared Africa's second largest producer after Libya, eight largest exporter in the world and the worlds tenth largest oil reserves (Olomola, 2014).

Since Nigeria's export of first crude oil in 1959, it has become the major contributor to the country's economy, and that is why over 80% of the country's foreign exchange earnings come from the oil sector. Nigeria has been enjoying consistent increase in the revenue from oil. For instance, a barrel of oil was sold at 3.00 dollars per barrel in 1971, 12.42 dollars and 37.00 dollars a barrel in 1971 and 1980 respectively. Following steady increases in the sales, receipts swelled as well from 300 million dollars in 1970 to 4.2 billion dollars by the end of 1974, when oil production was 2.3 million barrels per day (Chris, 2016).

The oil sector is a key sector in the Nigerian economy. This is because; the revenue from oil is the major growth factor in the Nigerian economy. Resources generated from it, fund virtually all capital expenditures in the Nigerian system. The oil sector is closely linked with the financial sector, because the financial sector in every country is the oil which fuels the economy of such country and the bedrock for the sustenance and continuity of the sovereignty of a country. The impact of the oil price fall is disastrous on the Nigerian economic system; consumers are feeling the hit through escalating price of goods and commodities, massive sack of workers in the labor force among others. Therefore, there is a need for the Nigeria state to look inwards amidst the abundance of its untapped natural resources to diversify the economy of the nation, and increase export with a view to checkmating the insidious impact of the oil price fall on the economy (Sanusi, 2013)

## **1.2 Statement of the Problem**

Nigeria economy is almost singularly hinged on crude oil export and therefore, highly sensitive to internal and external market shocks in the oil sector. What this means is that a fractional rise in cost of fuel has unmitigated ripple effect on the industrial sector and key components of basic need indicators such as food, housing and health. Secondly, the ripple effects are without boundary as social liberties for example, become less accessible to the average Nigerian and well removed from the less privileged who consist the vast majority of the over 145 million population. If Nigeria should borrow a leaf from these nations and allow the downstream sector to be fully deregulated, we are sure to have a success story to tell. Otherwise, Nigeria becomes an on-looker in the polity of oil producing nations (Obasi, 2014). As the recent event unfolds, dwindling oil prices becomes inevitable. There is no point running away from grasping reality, efforts should instead be made to face challenges stoically. It is of a paramount importance that petroleum tax be implemented because it is a must food to be eaten one day. Nigeria's daily fuel imports went down 45 percent in 2016 or by 27 million litres a day, on the back of the partial

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removal of petroleum subsidies by the Federal Government. Meanwhile government is said to have borrowed N850 billion in 2016 to import products. A look at the pricing template of the Petroleum Pricing Regulatory Agency (PPRA) for PMS for December 2016 showed that the landing cost of a litre of petrol is N124.76 while the distribution margin for transporters, retailers, bridging fund, marine transport average (MTA) and administrative charge is put at N15.49. This however brought the total cost of petrol to N140.25.

Meanwhile, when the initial official pump price was N97 per litre, the government is said to subsidize the difference of N43.25. Most of the scholars were talking about how subsidy removal will lead to employment, some are of the opinion that it would bring hardship and others were talking about the inflation rate. This study therefore, shall explore the strengths and weaknesses of dwindling oil prices in the Nigeria economy.

### **Objectives of the Study**

The main objective of the study is to ascertain the implications of dwindling oil prices in the Nigeria economy. Other specific objectives of the study include:

1. To determine the effect of dwindling oil prices in the Nigeria economy
2. To ascertain if there is any significant relationship between dwindling oil prices and the Nigeria economy

### **Research Hypothesis**

The following hypothesis is to be stated in null and norm form. The research will focus on this hypothesis, which may lead to rejection or acceptance.

**H<sub>0</sub>:** There is no significant relationship between dwindling oil prices and the Nigeria economy

**H<sub>1</sub>:** There is significant relationship between dwindling oil prices and the Nigeria economy.

### **Literature Review**

#### **The Impact of oil price fall on the Nigeria economy.**

The oil crisis has been around for sometimes, the two oil crises in 1973 and 1979 are evidences of its persistent prevalence. To forestall the oil crisis, Organization of the Petroleum Exporting Countries (OPEC) was formed in September 1960 to regulate oil pricing between member state signatories, which became effective in 1973.<sup>6</sup>Nigeria became a member of OPEC in 1971.<sup>7</sup> However, in recent times, they have been flurry of arguments as to the possible cause(s) of the oil price fall; some commentators had noted that it arose from US refinery maintenance, OPEC inaction, infiltration of global oil production by



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oil countries that are not part of OPEC,<sup>8</sup> and the untoward activities on some country members of OPEC (Obasi, 2014)

Clearly, blame games are being traded daily by the oil industry players and oil nations as to who is to blame for the price fall and the possible causes of the oil price fall, with the solution farfetched. However, what is glaring to the global economy is the fact that the oil price had fallen and still on a steady decline. Failure to come up with a timeous holistic approach to solve the global oil price fall can affect countries and put their economy in bad shape. This oil price fall has affected the Nigerian economy in a huge way. To stem the tide of the oil price fall on the Nigeria economy, the current Central Bank of Nigeria (CBN)'s Governor, Godwin Emefiele, who was appointed in 2014, embarked on rigorous banking sector reforms to steady the economy. For example, to ensure an adequate regulation of the financial sector, the Central Bank of Nigeria in a report released on 30 October 2015, but reported on the 21th November 2015, directed three commercial banks to recapitalize after they failed to hit the minimum capital adequacy rate of 10% before June 2016 or risk being liquidated (Ogundipe, 2014).

The three commercial banks, where however not named to avoid bank rush on the current accounts of such banks. Furtherance to that report, the CBN also reiterated its commitment to monitor the re-capitalization plans of the three commercial banks. This is a reasonable and ingenious approach, because naming the commercial banks could cause a stare at other banks as well and such attitude could have a chain reaction on the already tensed and volatile financial sector in Nigeria. Also, monitoring the implementation plans of the three banks are commendable and encouraged, because, only adequate reforms and enforcement of regulation can stabilize, strengthen and secure the Nigerian banking sector in the current oil price fall.

Similarly, financial scandals are also identified as one of the impacts of the oil price fall on Nigerian economy. This is because; companies will be looking to maintain their luxurious lifestyle during the oil price steady and also during the oil price crash era. This will encourage the directors and executives of such firms to carry out activities contrary to the firms' policies. Notable in Nigeria, is the recent one being the AFREN Oil and Gas Company which had led to the firm sacking its Executive Directors and subsequently being put into administration. The oil price fall provides the leeway for such executives to fiddle with companies accounts, to assign huge bonuses to themselves and their cronies.

The oil price fall crisis incidence had in fact affected the Nigerian economy by causing paucity of funds for financial services. Recently, it was revealed by the banks, that several oil marketers owed some Nigerian banks to the tune of about ₦5 trillion. This is disastrous to the financial balance sheets of the

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affected banks, and could subject them to credit crunch for engagement in core banking businesses and dearth of funds to pay their staff strengths, leading to retrenchment of their staffs and adding more unemployment into the already clustered Nigerian unemployed workforce.

The impact of the oil price fall spills over to the banks in such a fluid manner, because activities in the oil sector are financed by the banks and a well-developed banking sector contributes to economic growth by mobilizing savings and efficiently allocating them among the competing investment projects and other demands for funds (Chris and Onyinye, 2015). The falling oil prices cause serious financial problem for the oil sector and the capital market due to their link to the financial world and the Nigerian banks. Since, banks sit at a vantage position in the economy, failure to repay the loans advanced to the oil marketers left a bad effect on the banks' balance sheet, and such loans became bad loans, which is a strain on banks' capital adequacy. Hence, the oil price fall calls for several regulatory measures to be adopted to cushion the effect on the economy because, only a sustained and stable macroeconomic environment and a sound and vibrant financial system can propel the economy to achieve our national desire to become one of the 20 largest economies in the world by the year 2020 (Soludo 2007).

Therefore, to curb the effect of the bad loan debts on the loan profile of some affected banks, the CBN through a circular directed all banks to restrict loan defaulters from further access to loan facilities, some of the loan defaulters were oil marketers. The CBN also engaged them in a rigorous manner to recover the money, such as through a circular directive to the banks, dated April 22 2015, that the names of those who defaulted for a period of at least one year on the servicing of their loans facilities be published on three national dailies and shaming them, and that the exercise to be done every three months. The circular directive also banned them from participating in Nigerian foreign exchange market. Although, it is a well calculated effort to recover loan debts and keep the affected banks in shape, however, care needs to be taken so that it does not erode confidence and confidentiality trust of investors who want to borrow from Nigerian banks. The affected banks also sanctioned themselves and their erring staffs, who signed off on the loans and some of the banks stopped advancing loans to the energy sector.

Furthermore, Patti and Ratti, (2015) noted that, oil price increase has a greater influence in the economy compared to an oil price decrease. Korhonen and Juurikkala (2013) argued that when oil price appreciates, there is a real exchange rate appreciation in oil exporting countries; this is because, they earn a significant amount of money from oil exportation. Therefore, when the oil price falls, oil dependent nation suffers exchange rate depreciation. Nigeria is renowned as being one of the major oil importer and exporter and it is experiencing oil price decrease. Flowing from this, it will be logical to state that when the price of oil falls, the exchange rate in Nigeria will depreciate. This translates to the depreciation of the

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Nigerian currency, the Naira as it goes to a steady decline. As at the 16th February 2016, the Naira had declined to ₦345 to the Dollars in the parallel market. Although, it has been alleged that the sharp decline is due to the huge demand for the dollars, with no commensurate supply of the commodity. This made the few Bureau d Change operators to sell Dollars at astronomical prices. This could be a factor; however, dominant as a prevailing factor, is the fact that the oil price has fallen and has hit the Nigerian capital market.

### **The need for diversification of the Nigerian economy**

Although, the oil price fall crisis may not persist always, however, since the Nigerian economy is renowned to be oil dependent, there is a need to look inwards for a re alignment of priorities for the economy to be viable, and forestall any present or future oil price fall crisis on the economy, thus a call for a shift from the oil sector into areas that were neglected or not paid rapt attention. The cry for diversification of the Nigerian economy has been long overdue and overwhelming. Considering the harsh economic realities the falling oil price had shown on the economy, there have been series of renewed calls for the diversification of the Nigerian economy by various individuals. This is because of the prevailing urgency of the effect of oil price fall on the Nigerian economy, which is frying the Nigerian economy.

Diversification is seen as a panacea for stabilizing the Nigeria financial economy and taking it away from oil price fall implications. This is because, in other climes battling with oil price fall, the impact is not severe, due to the non-reliance on the oil sector. Focus and energy was dedicated to other non-oil sectors, for example, China and South Korea are known for manufacturing of commodities, India is known for Information technology infrastructures; these countries' economies are sustained and blooming in this oil price fall era.

The Nigerian financial environment is not left out, as they were calls on the need for diversification of their lending portfolio and re focus of their lending priorities to other areas and sectors of the economy. For example, in the area of Small and Medium Scale Enterprises (SME)'s, Duru and Kehinde (2015) had argued that 'Small and Medium Scale Enterprises' (SME)'s play important roles in the process of industrialization and economic growth, apart from increasing the per capita income and output, SME's create employment opportunities; enhance regional/ sectoral economic balance through industrial dispersal and the promotion of resource utilization.' To inspire this idea, the CBN directed Nigerian banks to diversify and increase their lending portfolio to other sectors of the economy in ways that would re jig the production wheel and fuel economic activities in the country. In December 2015, 7 the CBN governor had lamented on the less attention paid to the SME's sector. He noted that less than 50 percent of the ₦220 billion of the Micro Small and Medium Scale Enterprises (MSME)'s loan has been assessed

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since its creation in 2012, despite the sum of ₦40.3 billion been disbursed to state government, commercial banks, microfinance banks and financial cooperatives. Also, to support lending to the SME's, in December 2015, the CBN Governor and commercial banks under the aegis of the banker's committee, at a two days seventh banker's committee retreat in Lagos, Nigeria, titled; creating an enabling environment for SME's growth, had mandated commercial banks to lower their risk rating for SMEs or lose their cash reserves ratio (CRR). The cash reserve ratio (CRR) is a portion of the banks 'deposit kept with the CBN as reserves.

### **Oil and the Nigerian Economy**

Prior to the discovery of crude oil in commercial quantity in 1956 (Adedipe, 2004; Odularu, 2007), the Nigerian economy, though largely agrarian (Canagarajah and Thomas, 2001), was stable and steadily growing. The pleasant situation continued into the 1960s when agriculture played a dominant role in her economy in terms of contribution to GDP and foreign exchange earnings (Kwanashie, Ajilima and Garba, 1998). The stability and gradual growth of the economy reversed in the era of oil-dominant economy. The reversed situation was synonymous with decline in the roles played by agriculture.

The sector shrank in GDP contribution from 66% in 1958/59 (Kwanashie, Ajilima and Garba, 1998) to 16% in 2004 (United State Agency for International Development, 2006). Its contribution to the nation's export revenues and foreign exchange earnings plummeted from 86% in 1955-59 (Aigbokan, 2001) to 1.8% in 1996 (Balogun, 2001). These worrisome declines have been attributed to growing activities of oil and mining industry in the country (Kwanashie, Ajilima and Garba, 1998). Balogun (2001) attributes this problem to the poor management of public resources and inappropriate incentives, which in turn may not be unconnected with overwhelming inflow of oil revenues in the 1970s. Crude oil has metaphorically been referred to as the 'black gold' Bamisaye and Obiyan, 2006). The resource has redefined the global economy in general and the Nigerian economy in particular. The impact of crude oil on Nigerian economy has been double-edged. It has benefited the country in some ways, and has in many other ways turned out to be a curse (Ogwumike and Ogunleye, 2008). Crude oil's contribution to GDP rose from 1.6% in 1960 to 11% in 2001 (Adenikinju, 2006). This contribution consists of proceed from oil export, local sale of crude oil for domestic refining and local sale of natural gas. However, the contribution has been limited due to substantial involvement of foreign investors in the oil sector, and consequent repatriation of the sector's profits and dividends abroad (Odularu, 2007). Crude oil also contributes over 90% of foreign exchange earnings in Nigeria (Adedipe, 2004; Adenikinju, 2006). Ogwumike and Ogunleye (2008) concur that the sector dominates other sectors in contributing to export revenues. For instance, it was responsible for over 98% of total export from the country in 2005. Moreover, the sector contributes to provision of employment in the country (Odularu, 2007). The

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contribution has however not been relatively significant because it has limited linkages with the rest of the economy (Ibrahim, 2007). As a result, the sector employs only 1.3% of the total modern sector employment in Nigeria (Odularu, 2007). This is due to setbacks caused by oil-related activities.

### **Methodology**

The study focuses on finding out the impact of dwindling oil prices in the Nigeria economy. The population of the study comprises of Nigeria economy institution which includes, regulatory and operating institution. Operating institution in the Nigeria economy include gross domestic product (GDP) as a measure of national productivity and crude oil, industrial/services products, and capacity utilization. The method of data collection to be used is mainly secondary. This is informed by the nature of the study being mainly explanatory. For the purpose of this research, the data for this study was obtained mainly from secondary sources particularly from the Federal Office of Statistics (FOS), Central Bank of Nigeria (CBN) research and development department, Nigerian Stock Exchange (NSE) Fact books, Security and Exchange Commission (SEC) market Bulletins. However, the bulk of the information used was gotten from the Central Bank of Nigeria (CBN) statistical bulletin (2007-2016). This study adopts descriptive statics such as mean and standard deviation and inferential statistics which include Regression and Correlation analysis.

### **Model specification**

Operational variables used in this study are gross domestic product (GDP) as a measure of national productivity and crude oil, industrial/services products, and capacity utilization. The model is developed as:

$GDP = f(COP, AGP, ISP, CUZ, VTR)$  where

GDP = Gross Domestic Product.

COP = Crude Oil production.

ISP = Industrial/Services Production.

CUZ = Capacity utilization.

VTR = Value Traded Ratio

### **Result and Discussion**

#### **Decision Criteria:**

Findings based on the use of correlation shall adjudge significance at 5% level of significance where about correlation is  $\geq 50\%$ . Where P-test is  $\leq 0.05$  and T-test  $\pm 1.96$ .

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## Relationship between Dwindling Oil Price and Nigeria Economic.

### Preamble

The empirical analysis of the activities and performance of Nigerian economy within a period of ten years (2007-2016) was presented in this section. Data obtained from secondary sources were analyzed in relation to the various objective of the study. This part of the study is divided into two; the first part gives the descriptive analysis while the second part gives the inferential statistical analysis of the data.

### Descriptive Statistics of the variables

Presented in the table below is the descriptive statistics of the variables. The result shows that Gross Domestic Product (GDP) has a mean value of (N716.009billion), maximum and minimum value of (N950.11billion) and (N527.58billion) respectively. The standard deviation of (143.1997) shows there is significant deviation from the mean. Crude Oil Production (COP) has a mean value of (1233.737), maximum value of (2078.31) and minimum value of (400.41). The standard deviation of (578.56) shows a significant dispersion from the mean. Industrial Service Production (ISP) has a maximum value of (249798.2) and a minimum of (42802.99). The standard deviation of (76139.38) shows a significant dispersion from the mean value (120143.5). Capacity Utilization (CUZ) has maximum and minimum values of (57990.2) and (20730.6) respectively with a mean value of (30629.69). The standard deviation of (11518.5) shows a significant deviation from the mean. Value Traded Ratio (VTR) variable has mean value of (206.3), a maximum value of (215) and a minimum value of (192). The standard deviation of (8.628763) shows significant dispersion from the mean.

### Descriptive Analysis of Variables showing the relationship between Dwindling Oil Price and Nigeria Economic.

Variable	Observation	Mean	Standard Deviation	Minimum	Maximum
Year	10	2008.5	3.02765	2004	2013
GDP	10	716.009	143.1997	527.58	950.11
COP	10	1233.737	578.5552	400.41	2078.31
ISP	10	120143.5	76139.38	42802.99	249798.2
CUZ	10	30629.69	11518.5	20730.6	57990.2
VTR	10	206.3	8.628763	192	215

Source: Researcher's Computation, 2017.

### Regression Analysis of the relationship between Dwindling Oil Price and Nigeria Economic.

A multiple regression analysis whose equation is presented below found that the coefficient of determination (R-square) is 0.9132. This shows that the predictive power of the independent variable (Dwindling Oil Price variables) as used to explain variation in the dependent variable (Nigeria Economic proxied by GDP) is about 91% with a high adjusted R-square of (0.8438). The combined P value of 0.0073 and F-Value of 60.43 shows there is a significant relationship and effect between the variables examined. The regression equation is as shown below.

$$GDP=1468.087+0.2810COP+0.00059ISP-0.0104CUZ-3.8632VTR$$

The result shows that COP shows a positive contribution of 28%, COP had a marginal positive contribution of about 0.059% to the variation in GDP. CUZ indicated a negative but marginal contribution of 1.04% to changes in GDP while VTR showed a negative contribution of about 3.863 to changes in GDP. The regression table is as shown below:

### Results of the Regression Analysis Showing the Relationship Dwindling Oil Price and Nigeria Economic.

Dependent variables	Independent variables	Coefficient	Standard Error	T	p> t	[95% conf. interval]
GDP	COP	0.2899558	0.0689144	4.21	0.008	.1128057 .467106
	VTR	0.0000599	0.0003994	0.15	0.887	-.0009667 .0010865
	CUZ	-0.0104484	0.0025184	-4.15	0.009	-.0169223 -
	VTR	-0.863164	2.643678	-1.46	0.204	-10.65895 2.932626
	constant	1468.087	551.2917	2.66	0.045	50.94668 2885.228
<b>R-squared =0.9132</b>		<b>Adj. R-squared = 0.8438</b>		<b>P?0.05</b>		<b>F (4,5)= 60.43</b>

Source: Researcher's Computation, 2017.

A pairwise correlation test between the variables indicates similar result given correlation between GDP and other explanatory variables. The coefficient of correlation (R) between COP and GDP is (0.6604), an indication of significant and positive relationship. ISP has a moderate positive correlation of (0.4038) with GDP and the variable CUZ has a weak correlation coefficient of (0.0148) with GDP. VTR shows a negative but moderate correlation coefficient of (0.5974) with GDP.

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### Result of pairwise correlation between Dwindling Oil Price and Nigeria Economic.

	GDP	COP	ISP	CUZ	VTR
GDP	1.0000				
COP	0.6604*	1.0000			
ISP	0.4038	0.7389*	1.0000		
CUZ	0.0148	0.7184*	0.5791	1.0000	
VTR	-0.5974	-0.2973	0.0301	0.0207	1.0000

Source: Auditor's Computation, 2017

#### Test of Hypothesis:

**Decision criteria:** If  $F_{calc} > F_{tab}$ ; reject Null hypothesis and accept alternative hypothesis.

If  $F_{calc} < F_{tab}$ ; accept Null hypothesis and reject alternative hypothesis.

#### Hypothesis:

**H<sub>0</sub>:** There is no significant relationship between dwindling oil prices and the Nigeria economy

**H<sub>1</sub>:** There is significant relationship between dwindling oil prices and the Nigeria economy

#### Decision criteria:

With a calculated F-value of 60.43 as compared with a tabulated F-value of 5.19 (at 5% level of significance), the null hypothesis is rejected while the alternative hypothesis is accepted, with the conclusion that there is significant relationship between dwindling oil prices and the Nigeria economy.

#### Conclusion

This study examined the activities and performance of dwindling oil price. With respect to the objectives of the study, the following conclusions were reached;

- i. Dwindling oil price indicators significantly influence Nigeria Economic Development within the study period.
- ii. Dwindling oil price and Nigeria economy exhibit significant relationship within the study period.

This conclusion is consistent with results reported by ( Ogundipe, Oluwatomisin et al, 20114 )

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# Significance Of Employee Suggestions Systems To Handle Conflicts At Work Place

**Dr. .B.Swathi , M.B.A, P.hD**

Associate Professor, Department of M.B.A, St.Martin's Engineering College, Secunderabad.

## **ABSTRACT**

*Managers have to deal with conflict in the workplace every day. Conflict management is the ability to be able to identify and handle conflicts sensibly, fairly, and efficiently. Conflict is not simply inevitable; rather, conflict is central to what an organization is. (Putnam 1995, 183-4) Conflict management is the practice of being able to identify and handle conflicts sensibly, fairly, and efficiently. Since conflicts in a business are a natural part of the workplace, it is important that there are people who understand conflicts and know how to resolve them. This is important in today's market more than ever. Everyone is striving to show how valuable they are to the company they work for and at times, this can lead to disputes with other members of the team. The research examines a variety of dimensions of employee suggestions ,conflict management and dispute resolution systems. It examines the role of conflict management and dispute resolution, how employers are managing and resolving conflict within their organizations, the various dispute resolution procedures being used, and their effectiveness has been depicted in the research. Organizations selected belong to twin cities of Hyderabad and were stratified into nine (9) public sector and seven (7) private service organizations. The sample size of respondents chosen has been 60. Questionnaires were either self-administered or through the face-to-face interview.*

**Keywords: Employee Suggestions Systems, Communication system, Working Environment, Job Analysis, Conflict at Work**

### **1. Introduction**

Suggestion Systems are introduced with an intention that employees can contribute their views ,thoughts and help organizations in efficient management of resources.It acts as a contract between employer and employee where the latter is rewarded for worthy ideas.[ESS] is a tool that managers can utilize to help employees bridge the gap between their present level of performance and their desired level of performance. The challenge for the organization is to keep the working environment free from conflicts and misunderstandings. However, this seems to be a herculean task. Employees from different age groups, educational backgrounds ,working experience and culture work in the organization. Hence there lies this urge to encourage employees to participate in issues concerning their professional development.

### **Need for the Study:**

Organization leaders are responsible for creating a work environment that enables people to thrive. If turf wars, disagreements and differences of opinion escalate into interpersonal conflict, you must

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intervene immediately. It's important to understand that most employees do not come to their jobs with the total knowledge and experience required to perform perfectly. Hence there may be instances that conflicts arise because of ego, inferiority complex, frustration so on and so forth. Employee Suggestions Systems [ESS] can help to solve conflicts to a large extent.

### **Research Objectives**

The primary objective of this study is to assess the impact of Employee Suggestions Systems on Conflict resolution as given below:-

1. To examine conflict management style.
2. To determine empirically the relationship between Employee Suggestions Systems and Conflict resolution
3. To examine strategies used to manage conflict effectively and Introduce of a new conceptual model for enriched employee suggestion system

### **Research methodology**

The basic principle in the research has been adopted in the overall methodology. The following methodology has been used for meeting the requirements,

- Defining objectives
- Developing the information sources
- Collection of information
- Analysis of information
- Suggestions

The methodology followed for collection, analysis under interpretation of data is explained below.

#### **1. Research designs:**

There are generally three categories of research based on the type of information required, they are

1. Exploratory research
2. Descriptive research
3. Casual research

The research category used in this article is descriptive research, which is focused on the accurate description of the variable in the problem model.

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## **2. Data collection method**

Data collected through the following sources: Primary data and Secondary data

### **Primary Data:**

- Questionnaire method
- Interview method

### **Questionnaire method:**

Set of questions was prepared on the subject matter and was given to employees from the different companies. They were requested to give their opinion by selecting one of the options for each question so as to study their attitude, level of knowledge on the subject to measure the effectiveness of under taken study.

### **Interview method:**

This followed after filling up the questionnaire so as to derive some of their opinions, which were neither reflected nor revealed while answering the questionnaire

### **Secondary data:**

It has been collected from books, journals, websites, case studies.

## **3. Sample design**

- a) Sampling unit: the study is directed towards the executives of managerial level.
- b) Sample size: sample size of 60 is taken in this study.

### **Scope of the study**

We used data from a 2013 survey of 60 employees. Karl Pearson Coefficient of correlation is used to study the relationship between Employee Suggestions Systems and Conflict resolution

### **Literature Review**

In the world of work, businesses have many information sources to draw upon in their quest to attract, retain and develop the best talent. Those sources include resumes, references, and less frequently psychometric tests, structured or semi-structured interviews, and potentially assessment centres. The purpose of this essay is to demonstrate the importance of this new role by first describing Employee Suggestions Systems of Organization, its training and development planning system, and the intended links between these two systems.

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Conflict: Meaning and Definition:- Competitive or opposing action of incompatibles, such that gains to one side come at the expense of the other.

**Five types of Conflict Resolution Strategies:-**

- 1]Competing/Controlling: Assertive and Uncooperative
- 2]Accommodating: Unassertive and Cooperative
- 3]Avoiding: Unassertive and Uncooperative
- 4]Collaborating: Assertive and Cooperative
- 5]Compromising: Intermediate in both assertiveness and cooperativeness.

**Employee Suggestions Systems [ESS]: Meaning and Definition:-** Suggestion systems are among the instruments for channelling creativity. companies will be able to transfer employee creativity optimally into practicable ideas.

"Suggestion programs create a win-win situation," Kate Walter wrote in HR Magazine. "More involvement and input for employees and improved efficiency and cost-savings for employers."

**Research Population**

The study was conducted in twin cities of Hyderabad and Secunderabad. These companies deliver products and services in a very stiff competition at a national and global level.

**Table 1 Population of the study**

<b>Variables (n=60)</b>	<b>Number of employees</b>	<b>%</b>
Public sector	30	50
Private sector	30	50
Total	60	100

**Tools used:** The tools used for hypothesis testing Karl Pearson's Coefficient Correlation.

**Hypotheses :**

**Ho:** Employee Suggestions Systems is not positively related to Conflict resolution.

**Ha:** Employee Suggestions Systems is positively related to Conflict resolution.

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## Results and Discussions

**Table 2:- Employee Suggestions Systems Constructs: Mean and Standard Deviation of Employees Agreeing and Disagreeing**

S.N	Employee Suggestions Systems Constructs	Mean	SD
1	Do you agree there is a designated place or person to collect and implement employee suggestions?	3.5	1.2
2	Do you agree employees are encouraged to submit improvement ideas?	3.6	1.2
3	Do you accept that potentially useful ideas are never stifled by employees or supervisors?	3	1.7
4	Do you agree your organization ensures consistent rewards and recognition for employees to make creative ideas?	4.1	0.7

**Table 3:- Employee Suggestions Systems Constructs: Frequency and Percentages of**

S.N	Employee Suggestions Systems Constructs	SDA	DA	NE	AG	SA	Total
1	Do you agree there is a designated place or person to collect and implement employee suggestions?	0 [0%]	10 [16.6% ]	30 [50%]	0 [0%]	20 [33.3%]	60
2	Do you agree employees are encouraged to submit improvement ideas?	0 [0%]	20 [33.3% ]	10 [16.6%]	10 [16.6%]	20 [33.3%]	60
3	<b>Do you accept that potentially useful ideas are never stifled by employees or supervisors?</b>	<b>10 [16.6% ]</b>	<b>0 [0% ]</b>	<b>0 [0% ]</b>	<b>0 [0% ]</b>	<b>50 [83.4% ]</b>	60
4	Do you agree your organization ensures consistent rewards and recognition for employees to make creative ideas?	0 [0%]	0 [0%]	10 [16.6%]	30 [50%]	20 [33.3%]	60
	Total	10[4.1]	30[12.5]	50[20.8 %]	40[16.6%]	<b>110[45.8 % ]</b>	240

### Employees Agreeing and Disagreeing

**Table 4: Conflict at work Constructs: Mean and Standard Deviation of Employees Agreeing and Disagreeing**

S.N	Conflict at work Constructs	Mean	SD
1	Do you accept there is difference of opinion among group members?	3.4	0.8
2	Do you accept members of your group are supportive of each other's ideas?	3.1	0.7
3	<b>Do you accept there are personality clashes between your group and other groups?</b>	3.5	0.5
4	Do you accept other groups withhold information necessary for the attainment of your group tasks?	3.1	1.1

**Table 5: Conflict at work Constructs: Frequency and Percentages of Employees Agreeing and Disagreeing**

S. N	Conflict at work Constructs	SDA	DA	NE	AG	SA	Total
<b>1</b>	<b>Do you accept there is difference of opinion among group members?</b>	0 [0%]	10[16.6%]	10 [16.6%]	40 [66.66%]	0[0%]	<b>60</b>
<b>2</b>	Do you accept members of your group are supportive of each other's ideas?	0 [0%]	10 [16.6%]	30 [50%]	20 [33.3%]	0 [0%]	<b>60</b>
<b>3</b>	Do you accept there are personality clashes between your group and other groups?	0 [0%]	0 [0%]	30 [50%]	30 [50%]	0 [0%]	<b>60</b>
<b>4</b>	Do you accept other groups withhold information necessary for the attainment of your group tasks?	10 [16.6%]	0 [0%]	20 [33.3%]	30 [50%]	0 [0%]	<b>60</b>
	Total	10[4.1%]	20[8.33%]	90[37.5]	120[50%]	0[0%]	<b>240</b>

### Findings and Discussions

This section presents the research findings and discussion of the results with reference to the specific research objectives. "Impact of Employee Suggestions Systems on Conflict at Work."

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- As shown in the above table.2, Q.No.4 , has got the highest mean value with 4.1 which shows employees are given rewards and recognition to make creative ideas and help in overall growth of the organization. Its a positive sign of employee participation through employee suggestion system.
  - Table.3, gives a fair picture of frequencies and percentages. With special reference to Q.No.3, majority of the respondents i.e., 50 , amounting to 83.4% strongly agree their ideas are not misinterpreted or misrepresented by their immediate supervisors. It indicates the originality of the employee suggestions is ethically preserved by the management
  - Conflict at work is inevitable and unavoidable as we can see through table 4. Q.No.3, with the highest mean value 3.5. The respondents feel there are personality clashes among the members of different groups which is not a welcome sign.
  - Table 5 depicts the frequencies and percentages of employees agreeing and disagreeing. According to the research statistics, Q.No.1 in table 5. Has the highest percentage of employees agreeing i.e., 40 in number and 66.66% , there is difference of opinion among group members.
  - 10% of respondents strongly disagree and 12.5% disagree their employee suggestion system is not efficient. 20.8% are neutral and 16.6% agree. A majority of 45.8% strongly agree that their employee suggestion system is efficient in reducing conflict at work.
  - The study sought to find out the impact of conflict at work on employee productivity. The results obtained were as shown in figure below. As shown in the above figure, 4.1% of respondents strongly disagree and 8.3% disagree conflict at work can be reduced with effective employee suggestion systems. 37.5% are neutral. A majority of 50% agree that employee suggestion systems can reduce conflict at work.

### **Correlation Between Employee Suggestions Systems and Conflict at Work.**

This section deals with the determination of correlation between Employee Suggestions Systems and Conflict at Work.



**Table 6: Pearson Correlation Between Employee Suggestions Systems and Conflict at Work.**

S.N	X [Employee suggestion systems]	Y [Conflict at work]	X <sup>2</sup>	Y <sup>2</sup>	XY
1	4	3.5	16	12.2	14
2	4	3.1	16	9.6	12.4
3	4.6	3.5	21.1	12.2	16.1
4	4.5	3.1	20.2	9.6	13.9
<b>Total</b>	?X = 17.1	? Y = 13.2	? x <sup>2</sup> = 73.3	? y <sup>2</sup> = 43.6	?xy = 56.4

$$r_{xy} = \frac{n \sum XY - \sum X \sum Y}{\sqrt{[n \sum X^2 - (\sum X)^2] * [n \sum Y^2 - (\sum Y)^2]}} \quad r=1$$

{1} coefficient of determination =  $1 \times 1 = 1$  [r<sup>2</sup>] {2} coefficient of non-determination =  $1 - 1 = 0$  [1 - r<sup>2</sup>] {3} determination of alienation =  $0 = 0[\sqrt{1 - r^2}]$  {4} significance of correlation = P.E. =  $0.6745 \times 1 - r^2 / \sqrt{N} = 0.6745 \times 0/2 = 0$

$1 > 0$ ;  $r > 6P.E$ ; Coefficient of correlation is certain; r is significant. The value 1\*\* shows the correlation is significant at 0.05 level. There is a significant association between Employee Suggestions Systems and Conflict at Work. Hence, H<sub>0</sub> is rejected. H<sub>a</sub> is accepted.

### Recommendations

Employee Suggestions Systems is a tool that managers can utilize to reduce the conflict at workplace. Give employees the information or skills they need and then measure whether those options were effective in employee participation. Continually updating Employee Suggestions based on performance appraisal feedback can boost your workforce's productivity and efficiency over time. It can be an effective technique to keep conflicts at workplace away.

### Conclusion

Providing opportunities to build Employee Suggestions Systems' benefits both the employee and employer. It helps in motivating employees to achieve higher standards in work and thereby increasing overall efficiency. It is important to understand that Suggestions in and of itself can motivate a workforce. Hence, it is an integral part of what is needed to accomplish the long-term goals of the agency.

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Despite a century of speculation by managers and scholars, we know very little about whether certain cues or signs exhibited by employees can predict whether they're about to quit.

To help managers and companies identify employees at risk of quitting, we investigated this very question and uncovered a set of behavioral changes exhibited by employees—what we dub pre-quitting behaviors—that are strong predictors of voluntary quits in the 12 months after they are observed by managers. Our inquiry was inspired by a study by evolutionary psychologists David Buss and Todd Shackelford showing that romantic partners give off cues that indicate whether they are committing infidelity. A series of classic studies by psychologist John Gottman supports this, identifying how certain verbal and nonverbal cues expressed by married couples during brief videotaped interactions can forecast their eventual divorce.

But the romantic realm isn't the only place where cues can take place. Poker players give off “tells” that reveal the strength of their hands, while American football players read their rivals' behaviors to decide

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how they will act after the ball is snapped. And research shows that criminals have become savvy at identifying informants or undercover officers in their midst.

To understand how tells might play out in the workplace, we first sought to identify a large set of behavioral changes employees exhibit that signal their future turnover. We asked nearly 100 managers to answer the following question: Think for a moment of the peers and subordinates who have voluntarily quit your organization in the last two years. How was their behavior different in the months prior quitting that might have told you they were on their way out? We also asked 100 employees to describe their own changes in behavior before leaving a previous job. These inquiries yielded over 900 different pre-quitting behaviors. The survey respondents reported relatively odd behavioral changes (e.g., “stopped caring about their personal appearance;” “became aggressive toward other employees”) as well as many common ones (e.g., “less willingness to volunteer for special projects;” “decreased attendance at staff meetings”).

For the next phase of the research, we edited and pruned the list of 900+ behaviors into a structured 116-item questionnaire. We administered this provisional survey to three additional samples of managers. The first set of managers rated how often previous leavers enacted these behaviors before quitting. Half of the 116 behaviors were eliminated because they occurred infrequently (e.g., “They asked co-workers for contacts at other companies;” “They exhibited sudden and frequent changes in their mood”). We then circulated this reduced survey to another group of managers who rated how often their current subordinates exhibit these actions. We next analyzed these ratings and isolated a cluster of 13 highly correlated behaviors that best represent employees' proclivity toward near-future voluntary turnover. Finally, we double-checked this finding by asking one more group of managers to describe their employees' behaviors with the final 13-item survey. The pre-quitting behaviors that made the cut are below:

1. Their work productivity has decreased more than usual.
2. They have acted less like a team player than usual.
3. They have been doing the minimum amount of work more frequently than usual.
4. They have been less interested in pleasing their manager than usual.
5. They have been less willing to commit to long-term timelines than usual.
6. They have exhibited a negative change in attitude.
7. They have exhibited less effort and work motivation than usual.
8. They have exhibited less focus on job related matters than usual.
9. They have expressed dissatisfaction with their current job more frequently than usual.

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10. They have expressed dissatisfaction with their supervisor more frequently than usual.
  11. They have left early from work more frequently than usual.
  12. They have lost enthusiasm for the mission of the organization.
  13. They have shown less interest in working with customers than usual.

More specifically, when they rated an employee based on each behavior (1 = strongly disagree; 2 = disagree; 3 = neither agree nor disagree; 4 = agree; 5 = strongly agree), those with an average score of 4.2 or higher had an expected probability of turnover two times the typical employee. Other factors can affect whether someone leaves an organization, of course, but a score this high suggests the risk of turnover is high enough to warrant attention.

The next logical question is what you should do when someone you manage is exhibiting these behaviors—or how you should think about them if you yourself are looking for another job.

For managers, our advice is to focus on retaining star employees in the short-term. Typically, organizations handle a turnover problem with large scale interventions to improve departmental or firm-level commitment, job satisfaction, and job engagement. These strategies may work, but they take time to design and implement. Thinking in terms of the turnover risk of specific employees allows you to invest your time and resources into those employees who create the most value and are actually at risk of leaving.

There are many ways to invest in employees you fear may be looking: pay increases, promotions, special projects, etc. One technique is to use what are called “stay interviews.” Instead of conducting only exit interviews to learn what caused good employees to quit, hold regular one-on-one interviews with current high-performing employees to learn what keeps them working in your organization and what could be changed to keep them from straying.

It's also worth noting that employees in the midst of leaving often take customers or proprietary product information with them. And as most of us know, a quick departure can leave a hole in company operations that creates long term harm. While it's important to realize that there is no guarantee that employees exhibiting pre-quitting behaviors will definitely leave, those identified as flight risks should be monitored for unsavory behavior. Succession planning for their departure may prevent damages arising from unexpected quits.

And if you're in the market for a new job? Hiding your own pre-quitting behaviors may prove difficult.

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Given the negative consequences of turnover, know that your managers and peers are likely watching for obvious and subtle changes in behavior—and that no single action is a dead giveaway. Instead, patterns of behavior over time that may seem subtle to you might tip off your boss. We suggest that you stay engaged with your work, continue to show enthusiasm for the mission of the organization, and project a consistent level of relational energy to the members of your work team.

The basic tenet of managing turnover is that everyone eventually leaves. But the “when” can feel like a mystery. While our research shouldn't be considered the only way to identify an employee on the verge of quitting, it does point to a set of behaviors that, taken together, can provide a clue—and it discounts behaviors that have mistakenly been seen as tells. So the next time you have an inkling about whether someone is about to leave, know that you may be onto something when you take the right indicators into account. As Dolly Parton sang, “Though you haven't left me yet, I know you're just as good as gone.”

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