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# CONTENTS

| Sr.<br>No. | TITLE & NAME OF THE AUTHOR (S)   | Page<br>No. |
|------------|--|-------------|
| 1.         | <p><b>IMPACT OF MAHATMA GANDHI NATIONAL RURAL EMPLOYMENT GUARANTEE SCHEME (MGNREGS) ON INCOME, SAVINGS AND EXPENDITURE PATTERN OF BENEFICIARIES AT CUDDALORE DISTRICT</b></p> <p><i>T. VALLI &amp; Dr. K. RAMAKRISHNAN</i></p> | 1           |
| 2.         | <p><b>A STUDY ON WELFARE FACILITIES PROVIDED IN PRIVATE SECTOR BANKS</b></p> <p><i>SENTHURIYA.R &amp; Dr. ILANGO VAN</i></p>   | 3           |
| 3.         | <p><b>FORECASTING NATURAL GAS SPOT PRICES USING TIME SERIES SEASONAL AUTOREGRESSIVE INTEGRATED MOVING AVERAGE MODEL</b></p> <p><i>Dr. K. NIRMALA, SWARNA C &amp; SINDHU J</i></p>  | 8           |
| 4.         | <p><b>A STUDY ON CUSTOMER SATISFACTION TOWARDS SHAKTHI SUPER MARKET IN ERODE</b></p> <p><i>S. SELVAMOORTHY &amp; Dr. K. RAJINI</i></p>   | 16          |
| 5.         | <p><b>BLOCKCHAIN TECHNOLOGY - ROLE IN OIL AND GAS INDUSTRY</b></p> <p><i>Dr. S. RAJARAJESWARI &amp; K. SRINIVASAN</i></p>  | 19          |
| 6.         | <p><b>BANK EMPLOYEES' PERCEPTION TOWARDS CRM PRACTICES IN BANKS: A STUDY IN ERODE DISTRICT</b></p> <p><i>Dr. T. KOKILAPRIYA</i></p>  | 23          |
|            | <b>REQUEST FOR FEEDBACK &amp; DISCLAIMER</b>   | 26          |

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# IMPACT OF MAHATMA GANDHI NATIONAL RURAL EMPLOYMENT GUARANTEE SCHEME (MGNREGS) ON INCOME, SAVINGS AND EXPENDITURE PATTERN OF BENEFICIARIES AT CUDDALORE DISTRICT

**T. VALLI**  
**ASST. PROFESSOR**  
**DEPARTMENT OF COMMERCE**  
**PERIYAR MANIAMMAI INSTITUTE OF SCIENCE & TECHNOLOGY**  
**VALLAM**

**Dr. K. RAMAKRISHNAN**  
**PRINCIPAL**  
**VIVEKANANDA COLLEGE OF ARTS & SCIENCE FOR WOMEN**  
**SIRKALI**

## ABSTRACT

Poverty is a great sin. Human birth and death are no matter but the way in which they led their lives. Major portion of Indian civilisation are continuing the journey of poverty. Peoples in rural areas struggling to fulfil their own basic needs. They fight, fight and fight against poverty until they were buried. Very few could successfully come up from the situation. Remaining never or ever come forward to find solution to their ultimate livelihood. As a matter of survival of rural masses government passed many anti-poverty schemes but which serves unveil. While Mahatma Gandhi National Rural Employment Guarantee Act (MGNREGA) was passed with unique features as 100 days of assured wage employment to unskilled manual labour of rural households, equal wage for male and female and so on.

## KEYWORDS

poverty, rural development, government scheme, wellbeing.

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## I. INTRODUCTION

MGNREGS is unique scheme which enables inclusion of women, equal wages to men and women, three fourth of the participants could be women, unemployment allowances, 100 days of employment, inclusion of worksite facilities, worksite should be within 5 km, or provision of extra wages for extra distances, participation of state as well as central Governments and so on. It has scope for reducing migration and could solve the problem of poverty and unemployment problem which will leads to sustainable economic development.

## II. STATEMENT OF THE PROBLEM

As mentioned, MGNREGS is unique in its way which is very broad in scope and in other words it possesses the power of changing fate of poor India. Hence it should be free or at least in its dark side. Stake holders are at all levels; end users could be benefited at the multi-layered programme. Starting from policy making up to policy execution there are more chances and channels to be mishandled. If so the entire dream of crossing or giving helping hands to cross the rural people from poverty or poverty line could not be achieved. This implies significance of the scheme. This study aims at assessing whether the remedy is driven towards the problem or not.

## III. OBJECTIVES OF THE STUDY

General objective of the study includes assessing whether the MGNREGS is striving its need of being vanishing rural poverty.

Specific objectives of the study are,

1. Impact of MGNREGS on income, savings and expenditure pattern of beneficiaries.
2. Assessing the life upliftment of beneficiaries.

## IV. METHODOLOGY

The respondents selected for the study were beneficiaries of MGNREGS from Cuddalore district of Tamilnadu. The universe is defined with 2,605,914 as per the senses report 2011 and the population size is 764,385. The sample size was taken according to Margan sampling method. Hence the total number of responses collected from beneficiaries was 384.

### DATA COLLECTION

This study uses both primary and secondary data. Primary data is collected from beneficiaries in the form of interview schedule. Secondary data are collected from books, magazines, journals and from web sources of Government (MHRD) and private.

## V. ANALYSIS

### IMPACT OF (MGNREGS) ON INCOME, SAVINGS AND EXPENDITURE PATTERN

TABLE 1: INCOME LEVEL OF RESPONDENTS

|                     | N   | Mean | SD    | SS      | DF  | MS    | Statistical inference               |
|---------------------|-----|------|-------|---------|-----|-------|-------------------------------------|
| <b>Income level</b> |     |      |       |         |     |       |                                     |
| Between Groups      |     |      |       | 11.532  | 4   | 2.883 | F=3.088<br>.016>0.05<br>Significant |
| Below Rs. 12000     | 89  | 3.02 | .853  |         |     |       |                                     |
| Rs. 12001 to 24000  | 163 | 2.87 | 1.013 |         |     |       |                                     |
| Rs. 24001 to 36000  | 59  | 2.59 | 1.002 |         |     |       |                                     |
| Rs. 36001 to 48000  | 63  | 3.14 | .913  |         |     |       |                                     |
| Above Rs. 48000     | 10  | 3.20 | 1.229 |         |     |       |                                     |
| Within Groups       |     |      |       | 353.801 | 379 | .934  |                                     |

Source: primary data

Null Hypothesis ( $H_0$ ): There is no significant impact of MGNREGS on income of the households.

Research Hypothesis ( $H_1$ ): There is significant impact of MGNREGS on income of the households.

Therefore, Null Hypothesis ( $H_0$ ) accepted. Research Hypothesis ( $H_1$ ) rejected.

**TABLE 2: SAVINGS PATTERN OF BENEFICIARIES**

| Savings            | N   | Mean | SD    | SS      | DF  | MS    | Statistical inference                   |
|--------------------|-----|------|-------|---------|-----|-------|---|
| Between Groups     |     |      |       | 7.120   | 4   | 1.780 | F=1.262<br>.284<0.05<br>Not Significant |
| Below Rs. 12000    | 89  | 2.33 | 1.146 |         |     |       |   |
| Rs. 12001 to 24000 | 163 | 2.34 | 1.228 |         |     |       |   |
| Rs. 24001 to 36000 | 59  | 2.00 | 1.099 |         |     |       |   |
| Rs. 36001 to 48000 | 63  | 2.27 | 1.221 |         |     |       |   |
| Above Rs. 48000    | 10  | 2.70 | 1.160 |         |     |       |   |
| Within Groups      |     |      |       | 534.505 | 379 | 1.410 |   |

Source: primary data

Null Hypothesis ( $H_0$ ): There is no significant impact of MGNREGS on savings pattern of the households.

Research Hypothesis ( $H_1$ ): There is significant impact of MGNREGS on savings pattern of the households.

Therefore, Null Hypothesis ( $H_0$ ) rejected. Research Hypothesis ( $H_1$ ) accepted.

**TABLE 3: EXPENDITURE PATTERN OF BENEFICIARIES**

| Expenditure        | N   | Mean | SD    | SS      | DF  | MS    | Statistical inference               |
|--------------------|-----|------|-------|---------|-----|-------|-------------------------------------|
| Between Groups     |     |      |       | 16.920  | 4   | 4.230 | F=4.649<br>.001>0.05<br>Significant |
| Below Rs. 12000    | 89  | 2.67 | .963  |         |     |       |                                     |
| Rs. 12001 to 24000 | 163 | 2.65 | 1.003 |         |     |       |                                     |
| Rs. 24001 to 36000 | 59  | 2.32 | .730  |         |     |       |                                     |
| Rs. 36001 to 48000 | 63  | 2.30 | 1.042 |         |     |       |                                     |
| Above Rs. 48000    | 10  | 1.70 | .483  |         |     |       |                                     |
| Within Groups      |     |      |       | 344.869 | 379 | .910  |                                     |

Source: primary data

Null Hypothesis ( $H_0$ ): There is no significant impact of MGNREGS on expenditure pattern of the households.

Research Hypothesis ( $H_1$ ): There is significant impact of MGNREGS on expenditure pattern of the households.

Therefore, Null Hypothesis ( $H_0$ ) accepted. Research Hypothesis ( $H_1$ ) rejected.

## VI. DISCUSSION

Analysing about the impact of MGNREGS on Income, Savings, Expenditure pattern of beneficiaries at Cuddalore district, the income level of the respondents are taken under five categories ranging from Rs. 12,000 per annum to Rs. 48,000 and above. Observing the beneficiary category whose annual income is up to Rs. 12,000, N value is 89, Mean value is 3.02, income, savings and expenditure pattern are 3.02, 2.33 and 2.67 respectively. It despites they are striving hard for their day to day living or to fulfil their basic amenities.

When comparing the second category whose annual income lies between up to Rs. 12,001 to 24,000 the N value is 163, Mean value of income is 2.87, savings pattern of the beneficiaries is 2.34 and the expenditure is 2.65. It underlies the truth of even though the income level has improved than the first category, but neither savings nor expenditure pattern does not have considerable variations rather it is equal to of the first category. This MGNREGS helps in fulfilling their needs.

The third category beneficiaries whose annual income is between Rs. 24,001 to 36,000 the N value is 59, Mean value of income is 2.59 savings level is 2.00 which is lowest of all other category, and the expenditure pattern is 2.32 which is more than the saving level. Thus, it can be interpreted that they are spending for their life needs or sophistication rather for other purposes, other groups are having a fluctuation in income, savings and expenditure, but this category of people is comparatively fall on average of income, savings and expenditure.

Fourth category whose annual income is between Rs. 36,001 to 48,000, the N value is 63, Mean value of income, savings, expenditure is 3.14, 2.27 and 2.30 respectively. Hence it can be interpreted that savings and expenditure are considerably similar which represent the expenditure is floating purposes and the savings does not be the real saving rather it is for near future consumption purposes. The income has increased at a level, but the savings pattern of this income group is spotted to be very low from all the other category, but expenditure is averagely distributed as other group.

The fifth category whose annual income is above Rs. 48,000 the N value is 10, Mean value of income, savings and expenditure pattern is 3.20, 2.70 and 1.70 respectively. Even though the annual income increases their expenditure is comparatively less than of others. This could imply exception to the 'law of demand' when there is increase in income it should results in increase in expenditure. It may channelize to savings or sometime useful investment too.

## VII. CONCLUSION

It can be concluded from the above study that MGNREGS have considerable impact on income, savings and expenditure pattern of beneficiaries. Income of the households have slightly improved after registering into the scheme, rather it enables the beneficiaries to earn decently than before in terms of improvement in wage, level of work, claiming of unemployment allowance, equal wage to male and female and so on. However, the income is mostly spent on floating expenditure of the households, like improving standard of living or improved access to the basic amenities of life than for savings or investment. Anyhow "something is better than nothing". A Proper implementation of the scheme brings laurels to the life of rural poor thus in turn uplifts the socio-economic development of the rural masses as the whole. Moreover, it aids sustainable development and make true the dream of Dr. APJ Abdul Kalam's vision of "India 2020" at least by 2025 where a nation's poverty has been totally eradicated, illiteracy removed, crime against women and children is absent, and no one in the society feels alienated. A nation that is prosperous, healthy, secure, devoid of terrorism, peaceful and happy, and continues a sustainable growth path.

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## A STUDY ON WELFARE FACILITIES PROVIDED IN PRIVATE SECTOR BANKS

SENTHURIYA.R

M. Phil. RESEARCH SCHOLAR  
PRIST (DEEMED TO BE UNIVERSITY)  
PUDUCHERRY CAMPUS, PUDUCHERRY

Dr. ILANGOVAN

ASSOCIATE PROFESSOR  
PRIST (DEEMED TO BE UNIVERSITY)  
PUDUCHERRY CAMPUS, PUDUCHERRY

## ABSTRACT

The present study aims at analyzing the welfare facilities provided for employees in private sector banks. This gives a clear note on how the facilities are provided in private banks where every bank provide equal welfare facilities for men and women. The study and a survey was conducted among 100 employees of 5 private banks in Puducherry, and the data were collected using a 5 point scale questionnaire. Private bank officers have higher levels of work or target which has to be attained in the prior month, where public sectors banks enjoy better facilities and supportive work environment. Work experience is first most important factor in private sector banks. The overall work experience of the bank officers is at the positive level. It also investigates the impacts of bank type, work experience, age, and sex differences on the attitudes toward their job. The result shows that salary, efficiency in work, fringe supervision, and co-worker relation are the most important factors contributing towards their work. The workers have great opportunity to upgrade their knowledge and rich exposure towards technology. In a certain bank there is a difference in performance level between men and women. The study is based on the information collected from respondent through questionnaire. The data analysed is presented in the form of graphs and on the basis of that conclusion are made.

## KEYWORDS

Private sector banks, welfare facilities.

## JEL CODE

I31

## INTRODUCTION

## EMPLOYEE WELFARE DEFINITION

Employee welfare means "the effort to make life worth living for workmen". When all basic facilities are provided and employees obtain satisfaction then the productivity can be increased and development of the organization will be possible. Labour welfare refers to the facilities provided to workers in and outside the banks like canteen facilities, compensation facilities, housing loan, insurance facilities etc. Welfare means faring or doing well. It is a comprehensive term, and the physical, mental, moral and emotion wellbeing of an emotion. The term welfare refers to a relative concept, relative in time and space. It therefore, varies from time to time, region to region and from country to country. Welfare is a comprehensive term including various services, benefits and facilities offered by the employees thought such a generous fringe benefits the employees make life worth living for employees the welfare amenities extend in addition to normal wages and economic rewards available to employees as per the legal provision.

## REVIEW OF LITERATURE

## LABOUR WELFARE

Labour welfare has been defined in various ways, though no single definition has found universal acceptance. The Oxford dictionary defines Labour welfare as "Efforts to make life worth living for workmen." The Report of the Committee on employee welfare (1969) includes under it "such services, facilities and amenities as adequate canteens, rest and recreation facilities, sanitary and medical facilities, arrangements for travel to and from work and for the accommodation of workers employed at a distance from their homes and such other services, amenities and facilities including social security measures as contribute to improve the conditions under which worker are employer."

## LABOUR WELFARE ACTIVITIES

Labour welfare Activities is combinations of various steps, the cumulative effect of which is to grease the wheels of industry and society. Sound industrial relations can only be based on human relations and good human relations dictate that Labour being, human being should be treated humanely which includes respect for Labour dignity, fair dealing and concern for the human beings physical and social needs. In 2011, Allender Colquhoun, and Kelley found that the Employee welfare schemes leads to the job motivation and satisfaction.

An environment where he is contended with his job, assured of a bright future and provided with his basic needs in life means an atmosphere of good working condition and satisfaction to labour welfare activities are based on the plea that higher productivity requires more than modern machinery and hard work. It requires co-operative endeavour of the parties, Labour and management. This is possible only when labour is given due importance and human element is taken into account at every stage.

The object of welfare activities is to promote economic development by increasing production and productivity. The underlying principle is to make the workers given their loyal services ungrudgingly in genuine spirit of co-operation, in return for obligations, voluntary and compulsory, accepted by the employee towards the general well-being of the employees.

Trevor Marshall, in his article explains about "how an employee welfare schemes plays a vital role in increasing the employee satisfaction". Good managers know from their own observations that employee attitude affects their work and eventually the company's output. It is essential that your welfare scheme will actually inspire and motivate them to work efficiently and not just be competitive with each other. Healthy competition among the company's employees is good but too much of it may also cause the company to disintegrate. The company should still be very much hands-on with the whole employee incentive program to ensure that the outcome of the employee incentive program will be good.

David, A Decenzo (2001) and Stephen P. Robbinsin their book, "Personnel / Human Resource Management explained the various benefits and services provided by the companies to their employees. According to them, the legally required benefits and services include social security premiums, unemployment compensation, workers compensation and state disability programs. Michael (2001) in his book, "Human Resource Management and Human Relations" said that the provision of intra-mural and extra-mural welfare facilities help in improving the quality of work life of employee's thereby good human relations will develop among different cadres of employees. Punekar, Deodhar and Sankaran (2004) in their book, "Labour Welfare, Trade Unionism and Industrial Relations" stated that labour welfare is anything done for the comfort and improvement, intellectual and social-wellbeing of the employees over and above the wages paid which is not a necessity of the industry.

Regina Barr, stated that Employee Welfare program is based on the management policy which is aimed shaping perfect employees. Therefore the concept of employee welfare includes two aspects namely physical and mental welfares Applications of merit system or work performance system as the basis for employee rewarding. Providing the retired employees with the old age allowance. Employee insurance program to provide the employee with better security. Improvement in health security for the employees and their families so that they can work confidently and productively. Increase in basic salaries and pension as adjustment to the needs providing all work units and their officials with vehicles to help support smooth mobility.

Workers are essential to the means of production (Drucker, 2010); they deserve to be treated with respect and given proper welfare packages and incentives (Noguera, 2005). These will improve their sense of worth, boost their self-esteem, financial status and act as, a sort of motivation to drive them to have more passion for their job, increasing their productivity (Thorsen, 2006). This is what is expected to be pursued by employers who look beyond instant profit making as opposed to enduring sustainable business earning of profits in perpetuity (Deeprise, 2006).

Lack or inadequate welfare packages and other incentives leads to poor worker's motivation which greatly affect their outcomes and productivity hence, there is need for employers to give staff welfare package and other incentives for the benefits of the employees, employers and the organization (Okereke and Daniel 2010). There has been a lot of concerted efforts at national and international levels to set standards with minimal government interference and free market forces that would serve as framework to guide labour relations between employees and employers and thus confer on workers certain rights once there is an established contract of employment (Oginni and Adesanya, 2013) With regard to how workers welfare is advanced and the most important instrument which provide ample protection and entitlement to the workers is the Constitution which prescribes for rights, obligations, duties and responsibilities of the corporate and non-corporate entities (Okene, 2009) "labour, including trade unions, industrial relations; conditions, safety and welfare of labour industrial disputes; prescribes a national minimum wage for the federation on any part thereof, and industrial arbitrations."

Thus, all labour statues apply throughout the country unless a particular labour statute provides otherwise. Workers all over the world deserve recognition, good salaries, wages and great improvements in the terms and conditions of work (Narasimhan et al. 2004), thus workers have formed associations for realizing their main objectives dignify and sustainable welfare packages in the workplace (Aldrich, 2008) and to realize improvements in their working conditions (Schneider and Bowen, 2010).

It is against the backdrop of this gap in oversight that Adewunmi and Adenugba (2010) point out that employers in an organization are taking advantage of the weak institutional and regulatory framework to the detriment of their employees (Okene, 2006). As long as this situation persists, workers' right to collective bargaining especially for essential welfare package would continue to be abridged (Adenugba, 2010). The truth is that, employers do not want to share the control of employment relations with their employees (Whitener, 1998). That is why they are coming up with a new managerial ideologies and philosophies to justify their position (Marcuse, 2013).

In employee relations, since there is no union and union leaders, opinion leaders are invited to participate in Joint Consultative Council. This new trend in industrial relations is nothing other than the situation that has been promoted by the ascendancy of neo-liberalism as the framework of global trends (Terry, 2003). The issues surrounding welfare and good quality of life for workers who are used in productive activities but denied basic social economics incentives to improve their quality of life are becoming more challenging and controversial these days (Bowen, 2013).

These issues often result into conflicts leading to union members declaring dispute which may culminate to strike actions or lock-outs (Stiglitz et al. 2009). Although there are ample laws that have been put in place to compel employers to provide welfare packages to the employees, implementation and enforcement are the major impediments to the realisation of the provisions of the laws (Weiler, 2009). Most times, employees renege in their promises to provide welfare knowing very well that employees are vulnerable and would rather keep silence in the face of blatant violation of their rights to welfare than face the reprisal (Little, 2001). Lack of or inadequate welfare package to the employees limits the social and organizational conditions of workers and impact on their productivity (Elson and Pearson, 1981). It could impact also on the team spirit which according to Valla's (2003) limits "the firm's ability to provide an overarching normative or moral framework within which workplace change might unfold, leaving team systems vulnerable to anomic tendencies, to status distinctions among hourly employees, and to other sources of instability"

A full time employee is supposed to be entitled to a living wage, good working conditions, leave allowance benefits and vacations. The extent to which these are actually made available and beneficial to the employees in the workplace however leaves much to be desired (Becker and Huselid, 2006). In order to promote sustainable output in the workplace, apart from what the law prescribed to be given as welfare to employees, employers should also be more innovative when it comes to dealing with welfare (Native, 2006). Undoubtedly, this will serve as incentive and motivate workers to go the extra mile by working harder. The importance of upgrading skills is also vital as part of welfare in the workplace. Against this backdrop, Vallas (2003:34) points out that "the governments of OECD member countries have begun to acknowledge the importance of upgrading the human capital of those workers trapped in low-skilled, low-paid and often insecure jobs.

Okereke et al. (2010) examined "staff welfare and organization's productivity, Data revealed general awareness about staff welfare among the employees and ability to identify the elements of welfare. There was absence of staff welfare in the council. The working environment was poor, in terms of office accommodation and furniture, paucity of working materials, scarcely available monetary incentives and unreliable health and safety facilities, which altogether reduce morale (job satisfaction) and efficiency in job performance." One of the notable recommendations from the work of Okereke and Daniel (2010) is that "pragmatic efforts should be made to enhance employee's job capabilities through training; to improve working conditions of the employees and their general welfare in order to elicit job satisfaction and motivation for increased productivity."

The study of Chirda et al. (2009) showed that workers will be more motivated to do their work if salaries are competitive and market related, if the management supports staff welfare and encourage "managerial support for staff career development, availability of tools and consumables in the workplace and progress towards personal professional goals appears play a role in worker motivation." With regard to the issue of realization of the incentives and welfare suggested by Chirda et al. (2009), there is need to be administrative will on the part of the employers to implement and also political will on the part of the regulator to compel and enforce compliance and performance.

Akintayo (2012:251) investigated "the relationship among working environment, workers' morale and perceived productivity in industrial organizations. Studies have also shown that the issues of welfare and incentives in the workplace are now becoming global phenomenon and there is increase in welfare-related activism to ensure that workers welfare is taking more seriously by the employers. (Daly, 2002). In spite of this, there have long been conflicting expectations of the nature of companies' responsibilities to the employees and the society (Eichhorst and Hemerijck, 2008). Employers are therefore enjoined to do this in order to motivate their employees (Moir, 2001).

In the employment sphere, according to Griffin (1986) "Well-being," welfare, utility," and quality of life are all closely related concepts. They are also at the center of morality, politics, law, and economics (Griffin, 1986). Nadler and Lawler (1983) indicated that "the real thrust of quality-of-work-life programs-improving organizational life and behavior and the fundamental health of the organization-should result in a higher level of organizational performance and a better work environment."

Hollar (2003) has warned that "assessing the human impact of policy change requires more than evaluating economic outcomes; it requires knowing the resources of beneficiaries of social services and their conditions of life from various perspectives. Thus, we must strive for greater understanding about the socio cultural aspects of people's lives that create the whole person-aspects such as health, family and friendship networks, housing situations, public and private support service and program use, conditions of work, and so forth. This is how we come to understand one's quality of life. The present research creates a conceptual model of quality of life and illustrates the model using data from a follow-up study of former welfare recipients in a county in northern Virginia. Evaluation activities that are premised on a quality-of-life model will help policy actors understand the impact of policies and how public institutions can be managed strategically within their very complex contexts, especially in an era of welfare reform."

Mirvis and Lawler (1984) study "describes the development and issuance of an independent report on the quality of work life in a Corporation. The theory underlying the report, criteria, definitions, measurement procedures, the properties of the measures, and report itself are presented. A survey indicating a favourable reception to the data by stockholders, financial analysts, and employees is analysed. Recommendations for increased collaboration between accountants and

behavioural scientists in the measurement and assessment of the quality of work life are presented in an effort to stimulate further research in the development of standardized measures and in the preparation of independent reports on the quality of work life in organizations."

The concept of 'Employee welfare' is flexible and differs widely with times, regions, industry, country, social values and customs, the degree of industrialization, the general social economic development of people and political ideologies prevailing at particular moments.

According to the Labour welfare Committee on Labour Welfare (1969) defined as "Such facilities and amenities as adequate canteens, rest and recreation facilities, sanitary and medical facilities arrangements for travel to and from and for accommodation of workers employed at a distance from their homes, and such other services, amenities and facilities including social security measures as contribute to conditions under which workers are employed.

The term welfare refers to an act of seeking physical, mental, moral and emotional well-being of an individual. According to the traditional economic theory labour can be defined as, "A factor of production which consists of manual and mental exertion and receives some return in form of wages, salaries or professional fees" (Railkar, 1990). The Committee of experts on welfare facilities for employees constituted by the International Labour Organization (ILO) in 1963 has divided the welfare measures in to intramural and extramural schemes. The Intramural welfare amenities are those provided within the premises of the establishments such as sanitary facilities, crèches, rest shelters and canteens, drinking water, prevention of fatigue, health services including occupational safety, administrative arrangements, uniforms and protective clothing, shift allowance, etc. Employer secures the benefits of high efficiency and low employee absenteeism and minimum employee turnover. Facilities like housing, medical benefits and education facilities help to increase productivity of workers.

### NEED FOR THE STUDY

To know that whether welfare facilities play an important role on the working of employees.

### STATEMENT OF THE PROBLEM

To assess whether the employee welfare from banks is given properly to the employees or not.

### OBJECTIVE OF THE STUDY

To analyse regarding the procedure for leave fare concession and home travel concession.

### HYPOTHESIS

- H1 There is a significant difference between GENDER AND STUDY VARIABLE.
- H2 There is a significant difference between AGE AND STUDY VARIABLE.
- H3 There is a significant difference between EXPERIENCE AND STUDY VARIANCE.
- H4 There is a significant difference between SALARY AND STUDY VARIABLE.
- H0 There is no significant difference between STUDY VARIABLE AND DEMOGRAPHIC VARIABLE.

### RESEARCH METHODOLOGY

The data collected regarding leave fare concession and home travel concession is primary data. This shows percentage analysis of the data.

### RESULTS AND DISCUSSION

TABLE 1

| VARIANCE    | MALE | PERCENTAGE | FEMALE | PERCENTAGE |
|-------------|------|------------|--------|------------|
| GENDER      | 79   | 7.9        | 21     | 2.1        |
| AGE:        |      |            |        |            |
| 20 - 30     | 39   | 3.9        | 21     | 2.1        |
| 31 - 40     | 28   | 2.8        |        |            |
| 41 - 50     | 6    | 0.6        |        |            |
| 51 - 60     | 5    | 0.5        |        |            |
| EXPERIENCE: |      |            |        |            |
| 0 - 5       | 39   | 3.9        | 5      | 0.5        |
| 6 - 10      | 25   | 2.5        | 16     | 1.6        |
| ABOVE 11    | 15   | 1.5        |        |            |
| SALARY:     |      |            |        |            |
| 15 - 25     | 48   | 4.8        | 21     | 2.1        |
| 26 - 30     | 22   | 2.2        |        |            |
| ABOVE 30    | 9    | 0.9        |        |            |

### INFERENCE

From this table we come to know that the leave fare concession and the home fare concession is much useful only for men not for women. Men are much satisfied with the leave facilities and when they are need of any travel concession they are very much satisfied with their facilities in banks. At age 20 - 30 39% of male employees are much satisfied with the leave fare facilities women are not much satisfied with the leave fare where only 21% at the age of 20 - 30 are only satisfied, where we found that 0 - 5 yrs of experienced employees are also much satisfied and women employees are not much satisfied only 16% of women having 6 - 10 yrs of experience are much satisfied with the leave facilities. The employees are given a good pay of Rs. 15,000 - 25,000 where 48% of employees are well satisfied with the leave fare and travel facilities women employees who are getting Rs. 15000 - 25,000 salary are 21% satisfied with these facilities.

### FINDINGS

Therefore we found that women employees are not much satisfied with the facilities provided in provided in private sector banks. Men employees are much satisfied with the leave facilities and travel concessions. Women employees are not much satisfied with the facilities where women also has to be given a preference and they are also employees in a banks.

### SUGGESTIONS

Women employees also has to been taken into consideration and they have to provide facilities in banking sectors. Private Banks has to provide certain facilities where when they need an emergency leave or they have to be given an emergency medical facilities when they are not well. Employees has to be provided a clean and clear environment in workspace, where the Private Banks has to take into consideration regarding the women employees. Now a days, Women are being a part in many banks where they performance level has become higher so they have to be taken into consideration and has to be provided many facilities in banks.

**CONCLUSION**

This study has made a methodological research of employee welfare practices and its availability for employees of Private Banks. This study gives the following conclusions. Banks are providing superior employee welfare facilities to its employees in private sector banks. Employees of private sector banks are satisfied as far as welfare practices are concerned. A direct and positive correlation has been observed in the study of employee welfare facilities.

Tools and techniques used in the present study include Primary data, Secondary data. The chapter on Data Analysis & Interpretation puts forth the most important and detailed aspect of the study. Percentage analysis is used to know regarding the welfare facilities provided in private banks. Banks has to provide facilities also for women employees.

**LIMITATIONS**

Sample taken is of 100 and the study can be carried out by taking a large number in the sample.

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APPENDIX

QUESTIONNAIRE

The survey is purely based for research purpose. All information given by you will be kept confidential and will be used for our research purpose. Your cooperation will be highly appreciated. Please give your assessment of these employee welfare variables in the bank and tick the appropriate answer in terms of **EXCELLENT, ABOVE AVERAGE, AVERAGE, BELOW AVERAGE AND UNSATISFACTORY.**

1. NAME :
2. GENDER :
3. AGE :  
a) 20-30                      b) 31-40                      c) 41-50                      d) 51-60
4. MARITAL STATUS :  
a) SINGLE                      b) MARRIED
5. DEPARTMENT :
6. EDUCATIONAL QUALIFICATION :  
a) DIPLOMA                      b) ENGINEERING                      c) UG                      d) PG
7. YOU'RE EXPERIENCE AT THIS CONCERN :  
a) 0-5 YEARS                      b) 6-10 YEARS                      c) ABOVE 11 YEARS
8. SALARY RANGE (IN TERMS OF THOUSANDS) :  
a) 15-25                      b) 26-35                      c) 36 and above
9. Table for Reply

| Sl.no | Statements  | Excellent | Above Average | Average | Below Average | Unsatisfactory |
|-------|---|-----------|---------------|---------|---------------|----------------|
| 1     | You are satisfied with the drinking water facility  |           |               |         |               |                |
| 2     | Employees are satisfied with canteen facility   |           |               |         |               |                |
| 3     | You are satisfied with the medical and first aid facility   |           |               |         |               |                |
| 4     | You are satisfied with non-statutory welfare scheme provided by the bank like transportation facility |           |               |         |               |                |
| 5     | You are satisfied with education welfare scheme provided The bank                                     |           |               |         |               |                |
| 6     | The cordial relationship with the supervisor and the other worker is good.                            |           |               |         |               |                |
| 7     | The settlement of grievances and complains of employees with regard to service condition is satisfied |           |               |         |               |                |
| 8     | You are satisfied with the supporting environment at the workplace.                                   |           |               |         |               |                |
| 9     | You are satisfied with the improvement in living condition of the employees.                          |           |               |         |               |                |
| 10    | The extra-mural facility like social insurance provided The bank.                                     |           |               |         |               |                |
| 11    | The recreation facility provided The bank   |           |               |         |               |                |
| 12    | Your satisfaction level with regard to the welfare measure like earned leave.                         |           |               |         |               |                |
| 13    | Employee's satisfaction level with regard to sick leave.  |           |               |         |               |                |
| 14    | You are satisfied with casual leave welfare measure.  |           |               |         |               |                |
| 15    | The medical benefits welfare provided The bank  |           |               |         |               |                |
| 16    | You are satisfied with leave travel allowance welfare measure.  |           |               |         |               |                |
| 17    | The employee welfare facility like library/lounge is provided to you at your work place.              |           |               |         |               |                |
| 18    | The bank is providing games and sports facility   |           |               |         |               |                |
| 19    | The employee's welfare facility like gymnasium is provided to you at your work place                  |           |               |         |               |                |
| 20    | You are satisfied with yoga center welfare facility   |           |               |         |               |                |
| 21    | You are satisfied with cultural facility  |           |               |         |               |                |
| 22    | You are satisfied with training provided to you in your work  |           |               |         |               |                |
| 23    | The relation between employees and management are harmonious  |           |               |         |               |                |
| 24    | The unions playing an important role for welfare of the employees.                                    |           |               |         |               |                |
| 25    | Employees are participated in decision making in the work place                                       |           |               |         |               |                |
| 26    | You are happy with the hygiene factor like personal life relating to welfare of employees.            |           |               |         |               |                |
| 27    | The hygiene factor like working conditions are provided to you in your work place.                    |           |               |         |               |                |
| 28    | The interpersonal relationship with subordinates is good  |           |               |         |               |                |
| 29    | You are satisfied with interpersonal relationship with the supervisors                                |           |               |         |               |                |
| 30    | The interpersonal relationship with peers is good   |           |               |         |               |                |
| 31    | You are satisfied with the motivational factor like achievement relating to welfare of employees.     |           |               |         |               |                |
| 32    | You are satisfied with the motivational factor like recognition.                                      |           |               |         |               |                |
| 33    | You are happy with the factor like advancement.   |           |               |         |               |                |
| 34    | The possibility of growth factor is satisfactory.   |           |               |         |               |                |

# FORECASTING NATURAL GAS SPOT PRICES USING TIME SERIES SEASONAL AUTOREGRESSIVE INTEGRATED MOVING AVERAGE MODEL

**Dr. K. NIRMALA**  
**ASSOCIATE PROFESSOR**  
**DEPARTMENT OF COMMERCE**  
**BANGALORE UNIVERSITY**  
**BANGALORE**

**SWARNA C**  
**RESEARCH SCHOLAR**  
**DEPARTMENT OF COMMERCE**  
**BANGALORE UNIVERSITY**  
**BANGALORE**

**SINDHU J**  
**STUDENT**  
**DEPARTMENT OF STATISTICS**  
**BANGALORE UNIVERSITY**  
**BANGALORE**

## ABSTRACT

*Natural gas is a flammable gas, consisting mainly of methane (CH<sub>4</sub>), occurring in underground reservoirs often with oil. Natural gas is mostly used for domestic or industrial heating and to generate electricity, a spot price is the current price in the market place at which a given asset such as a security, commodity or currency can be bought or sold for immediate delivery. Spot prices tend to be subject to extreme volatility. While the spot price of security, commodity or currency is important in terms of immediate buy and sell transactions, it perhaps has more importance in regard to the multi-trillion-dollar derivatives markets. Hence, forecasting spot price of a natural gas is focused in this paper.*

## KEYWORDS

SARIMA, natural gas, forecasting.

## JEL CODES

C50, C53.

## INTRODUCTION

Commodity refers to any good that possesses a physical attribute. It is a thing of value, with uniform quality, produced by different producers, but will be considered equivalent. The commodity can be produced by different producers, but will still be considered equivalent. Commodities are frequently used as inputs in the production of the other goods or services.

Natural gas is a flammable gas, consisting mainly of methane (CH<sub>4</sub>), occurring in underground reservoirs often with oil. It was formed millions of years ago when dead marine organisms sunk to the bottom of the ocean and were buried under deposits of sedimentary rock. Subject to intense heat and pressure, these organisms underwent a transformation in which they were converted to a gas over millions of years.

Natural gas is found in underground rocks called reservoirs. The rocks have tiny spaces in them (called pores) that allow them to hold water, natural gas and oil. The natural gas is trapped underground by impermeable rock (called caprock), and stays there until it is extracted.

Conventional natural gas can be extracted through drilling wells. Unconventional forms of natural gas like shale gas, tight gas, sour gas, coalbed methane and gas hydrates have specific extraction techniques.

Natural gas can also be found in reservoirs with oil and is extracted alongside oil, and this is called associated gas. In the past, this gas was commonly flared or burned as a waste product but in most places today it is captured and used.

There are two general types of natural gas, defined by their methane content, that reflect differences in the formation processes:

- Biogenic gas
- Thermo genic gas

**Biogenic gas**, or 'dry' gas, which was formed by bacterial decay at shallow depth.

**Thermo genic gas**, or 'wet' gas, which is a lower quality gas formed at high temperatures. Wet gas on the other hand contains compounds such as ethane and butane, in addition to methane.

These natural gas liquids can be separated and sold individually for various uses, such as refrigerants and to produce petrochemical products, like plastic.

Natural gas is mostly used for domestic or industrial heating and to generate electricity. It can also be compressed and used to fuel vehicles and as a feedstock for fertilizers, hydrogen fuel cells and other chemical processes

## SPOT PRICE

A spot price is the current price in the market place at which a given asset such as a security, commodity or currency can be bought or sold for immediate delivery. While spot prices are specific to both time and place, in a global economy the spot price of most securities or commodities tends to be fairly uniform worldwide. In contrast to spot price, a security, commodity or currency's futures price is its expected value at a specified future time and place.

## BREAKING DOWN SPOT PRICE

In financial markets, spot prices are most frequently referenced in relation to the price of commodity futures contracts, such as contracts for oil, wheat or gold.

A futures contract price is commonly determined using the spot price of a commodity, expected changes in supply and demand, the risk-free rate of return for the holder of the commodity, and the costs of transportation or storage in relation to the maturity date of the contract. Futures contracts with longer times to maturity normally entail greater storage costs than contract with nearby expiration dates.



Spot prices tend to be subject to extreme volatility. While the spot price of security, commodity or currency is important in terms of immediate buy and sell transactions, it perhaps has more importance in regard to the multi-trillion-dollar derivatives markets.

Options, futures contracts and other derivatives allow buyers and sellers of securities or commodities to lock in a specific price for a future time when they expect to make a transaction. Through derivatives, buyers and sellers can partially mitigate the risk posed by constantly fluctuating spot price.

Future contracts also provide an important means for producers of agricultural commodities to hedge the value of their crops against future price fluctuation.

### THE RELATIONSHIP BETWEEN SPOT PRICES AND FUTURES PRICES

The difference between spot prices and future contract prices is usually significant. The most common relationship between spot prices and future prices, referred to as a normal market, is one where futures contract prices are increasingly higher over time as compared to the current spot price. The higher futures prices reflect carrying costs such as storage, the additional risk posed by the uncertainty of future supply and demand conditions in the market place, and the fact that prices for goods generally tend to increase over time.

In an inverted market, futures prices decrease in comparison with the current spot price. Inverted markets are most frequently caused by extreme demand pressures in the current market place that enable sellers to command premium prices for immediate sale and delivery

### COMMODITY MARKETS

Every commodity that is produced (or grown) must eventually come to a market where it can be bought and sold. It is in this market place that all the elements of commerce will come together to settle a price at which the commodity will get traded. The market where a commodity is traded can be either the spot market or the forward market or futures market. The spot price or spot rate of a commodity is the price that is quoted in the physical market for immediate or spot settlement. Spot settlement is normally one or two business days from trade date. This is in contrast with the forward price establishment in a forward contract or future contract, where contract terms (price) are set now, but delivery and payment will occur at a future date.

Hence, forecasting spot price of a natural gas is focused in this paper.

### REVIEW OF LITERATURE

**John T. Cuddington · Zhongmin Wang (2006)** this paper talks about the daily spot prices at seventy six market locations to examine the geographical extent of the market the speed with which forces will the prices to equilibrium during price shocks. They found east and central regions form a highly integrated market.

**JC Cuaresma, J Hlouskova, S Kossmeier (2004)** they studied forecasting abilities of univariate model on early electricity spot prices The results show that specifications, where each hour of the day is modelled separately present uniformly better forecasting properties than specifications for the whole time-series, simply inclusion of probability of extreme price events can lead to improvements in forecasting abilities.

**SJ Koopman, M Ooms (2007)** the daily prices are very persistent the Nord Pool power exchange of Norway are effectively modelled The daily log prices of the other three electricity markets—EEX in Germany, Powernext in France, and APX in The Netherlands—are less persistent, but periodicity is also highly significant. The dynamic behaviour differs from market to market and depends primarily on the method of power generation: hydro power, power generated from fossil fuels, or nuclear power.

**Arthur S.De Vany, W.DavidWalls (1991)** estimate a vector error correction model using peak and off-peak electricity spot prices during 1994–1996 covering 11 regional markets in the western United States and test these prices for evidence of market integration. The results show evidence of an efficient and stable wholesale power market.

**Kalok Chan Y. Peter Chung (1993)** author examines the intraday relationship among cash and future volatility, and cash trading volume, arbitrage spread changes in the spread have a significant impact on cash and futures price volatility as well as on cash trading volume. The impact of the spread, however, is attenuated by the short-sale restriction in the cash market. Contrary to popular beliefs, a more volatile market leads to subsequent *decreases* in the spread,

### OBJECTIVES

1. To develop time series model to study the behaviour of spot price over the years 2014-2017.
2. To predict the spot price for the future years using the best fitted time series model

### METHODOLOGY ADOPTED

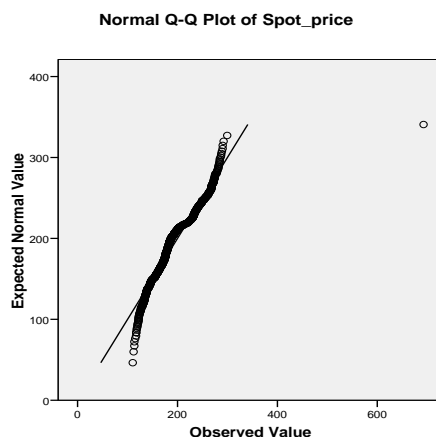
The study is mainly analytical and descriptive in nature, the secondary data has been collected from MCX website, seasonal autoregressive integrated moving average (SARIMA) model has been used to fit the Data and forecasting spot price by using the fitted model.

### ANALYSIS AND DISCUSSION

#### Normality Assumption

To check for normality of the spot price the Q – Q plot is used.

GRAPH 1

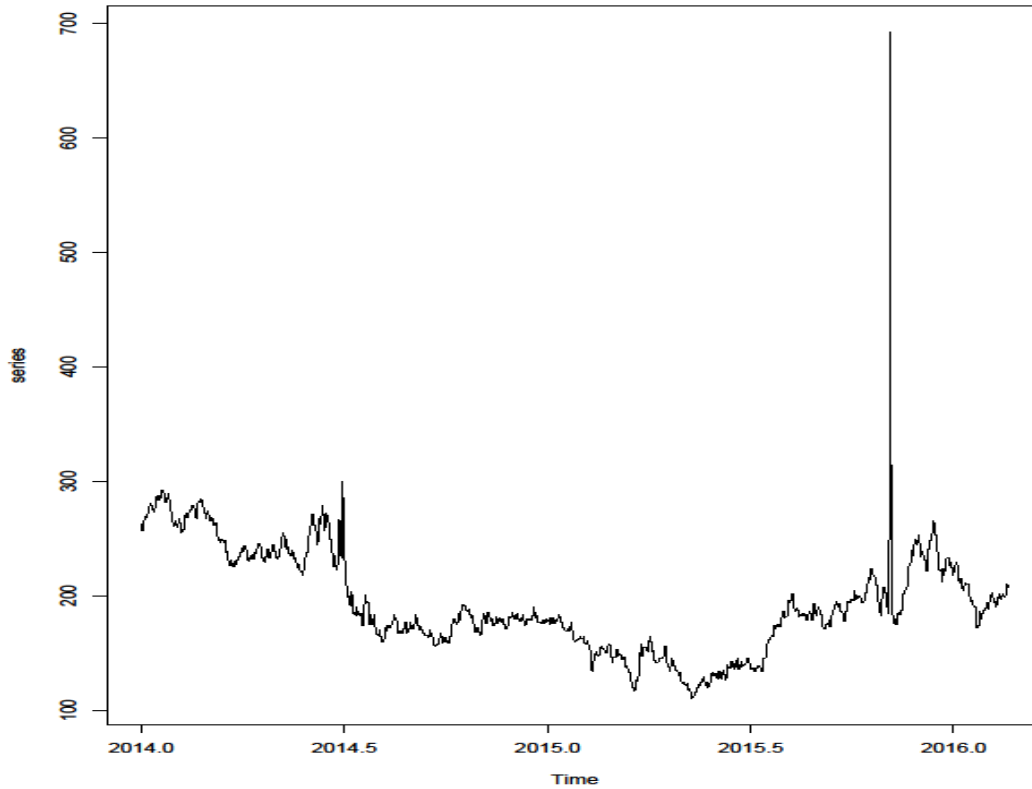


Comment: Since most of the observations lie along straight line, it indicates normality

**PLOT OF SPOT PRICE VERSUS DATE**

Comment: From the graph we observe that price varies differently over time hence the series is not stationary

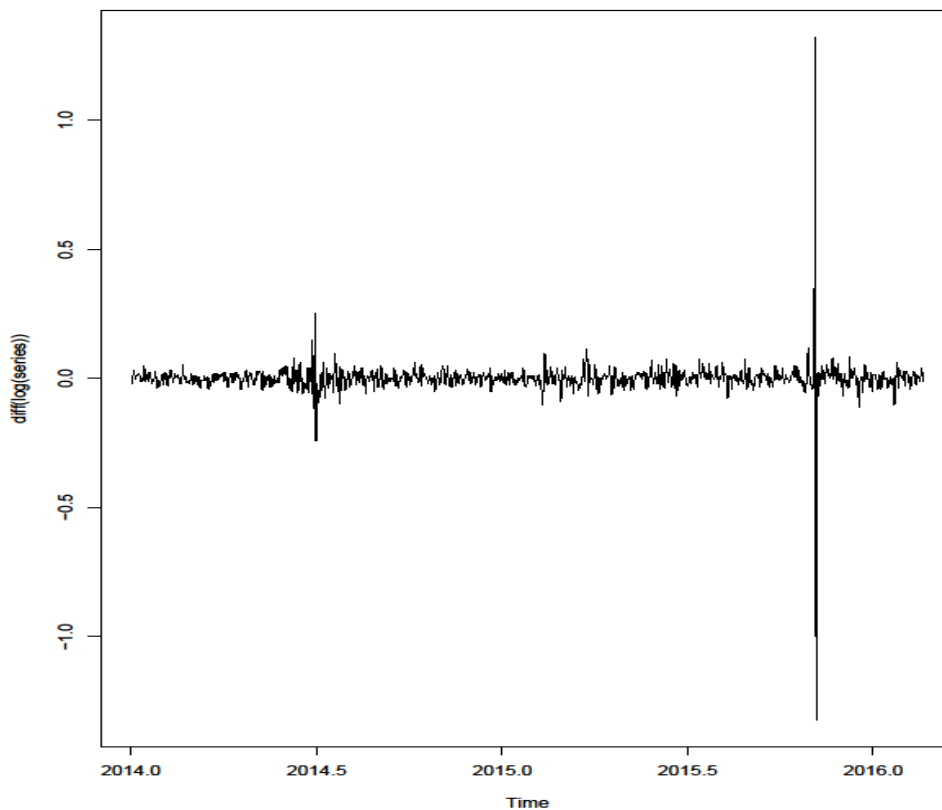
**GRAPH 2**



Comment: From the graph we observe that price varies differently over time hence the series is not stationary

**PLOT OF DIFF [LOG(SERIES)] VERSUS DATE**

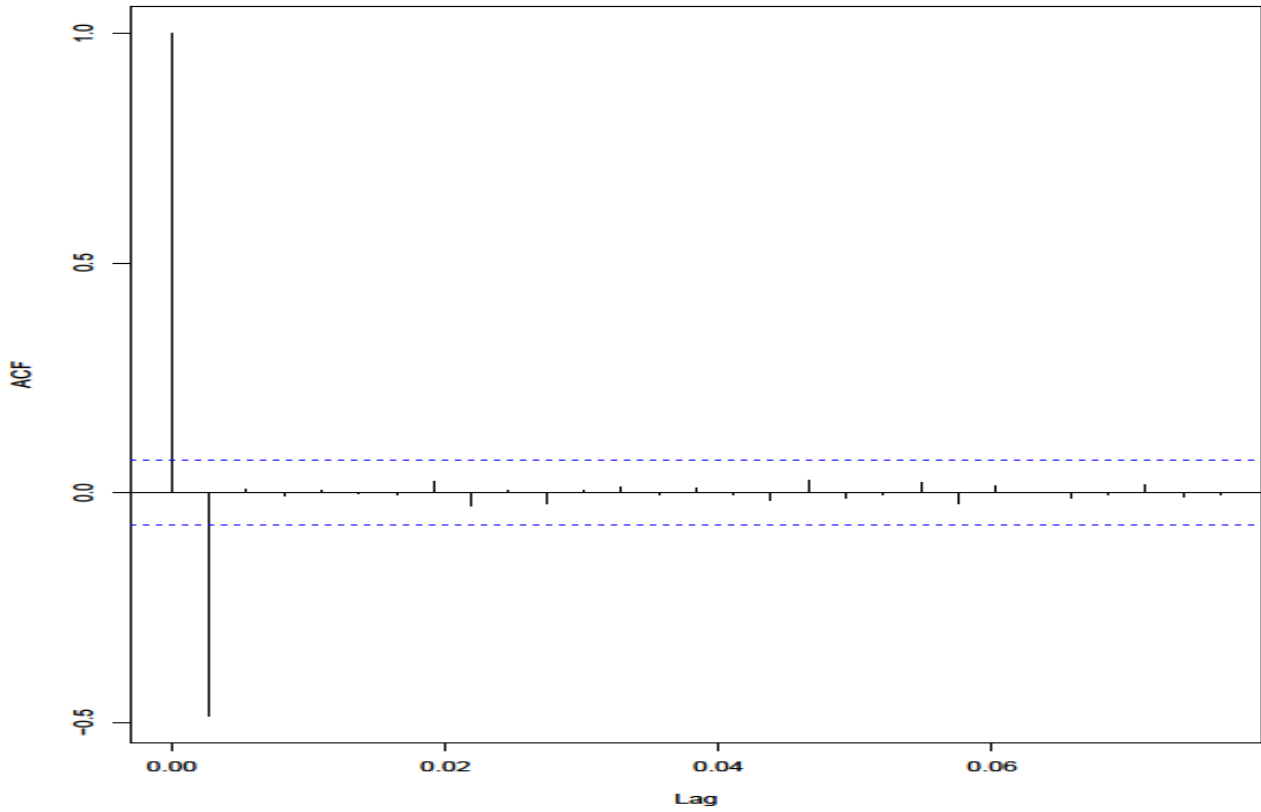
**GRAPH 3**



**Comment:** Since the time series plot is not stationary we have transformed the observations by taking log transformation and then by taking the difference of the transformed observations. Now the series is stationary.

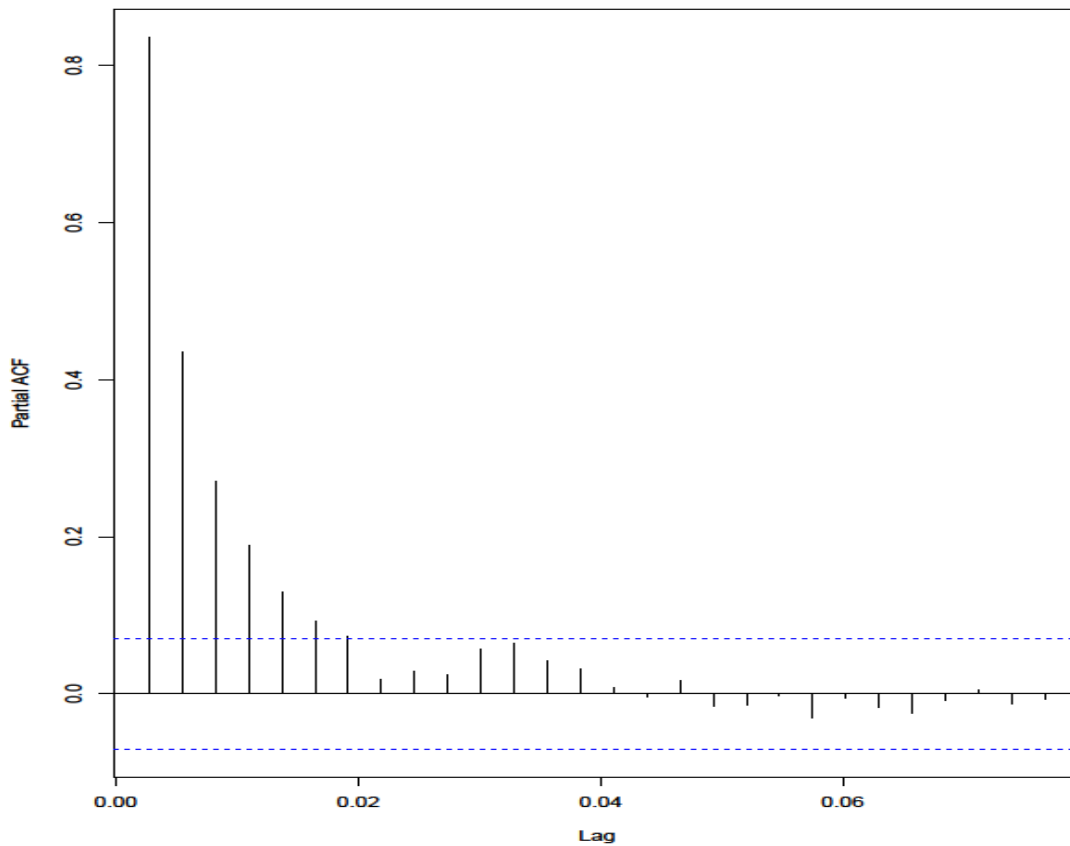
**ACF PLOT**

**GRAPH 4**  
**Series diff(series)**



**PACF PLOT**

**GRAPH 5**  
**Series (series)**



**Comment:** From differenced data ACF and PACF can be observed that after differencing once ACF and PACF declines exponentially but not at a gradual rate, thus the seasonal component is removed and the process becomes stationary

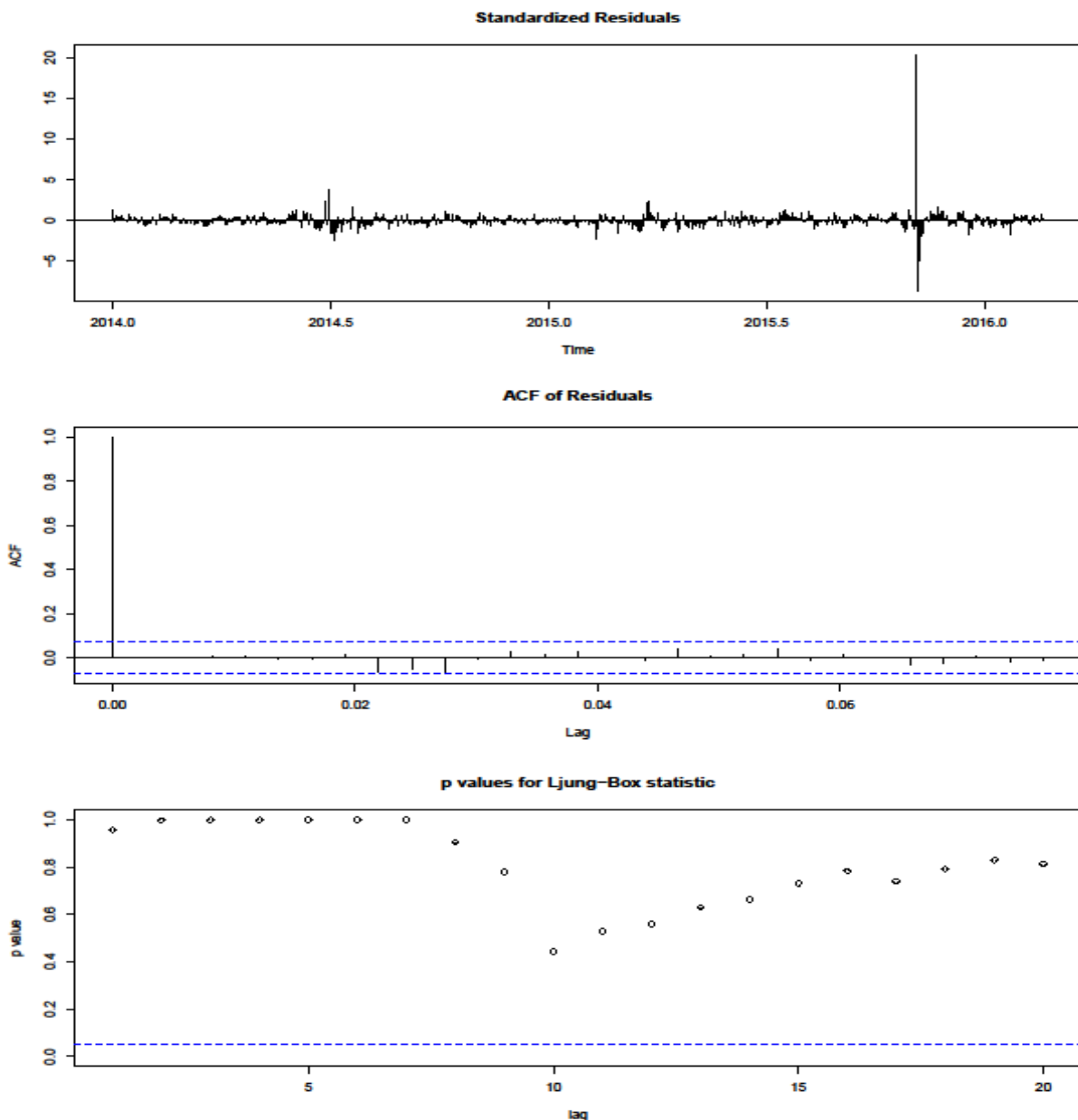
TABLE 1: ESTIMATION AND MODEL ADEQUACY

| (p,d,q) | Coefficients | Standard error | AIC Value | Sigma square |
|---------|--------------|----------------|-----------|--------------|
| (1,0,3) | 0.9932       | 0.0040         | 0.004065  | -2065.67     |
|         | -0.5486      | 0.0361         |           |              |
|         | 0.0068       | 0.0415         |           |              |
|         | -0.0143      | 0.0374         |           |              |
|         | 5.2789       | 0.1171         |           |              |
| (2,0,3) | 0.5579       | 1.3686         | 0.004065  | -2063.64     |
|         | 0.4322       | 1.3586         |           |              |
|         | -0.1492      | 1.3696         |           |              |
|         | -0.2494      | 0.8098         |           |              |
|         | -0.0107      | 0.0424         |           |              |
| (2,0,2) | 5.2968       | 0.1198         |           |              |
|         | 0.3301       | 0.0897         | 0.004066  | -2065.55     |
|         | 0.6583       | 0.0998         |           |              |
|         | 0.0772       | 0.1058         |           |              |
|         | -0.3851      | 0.1165         |           |              |
|         | 5.2967       | 0.1171         |           |              |

**Comment:** Based on the estimation and model selection criterion AIC values are compared and the model with least AIC value is preferred  
**Diagnostic checks**

Diagnostic plots of the model (1,0,3)

GRAPH 6

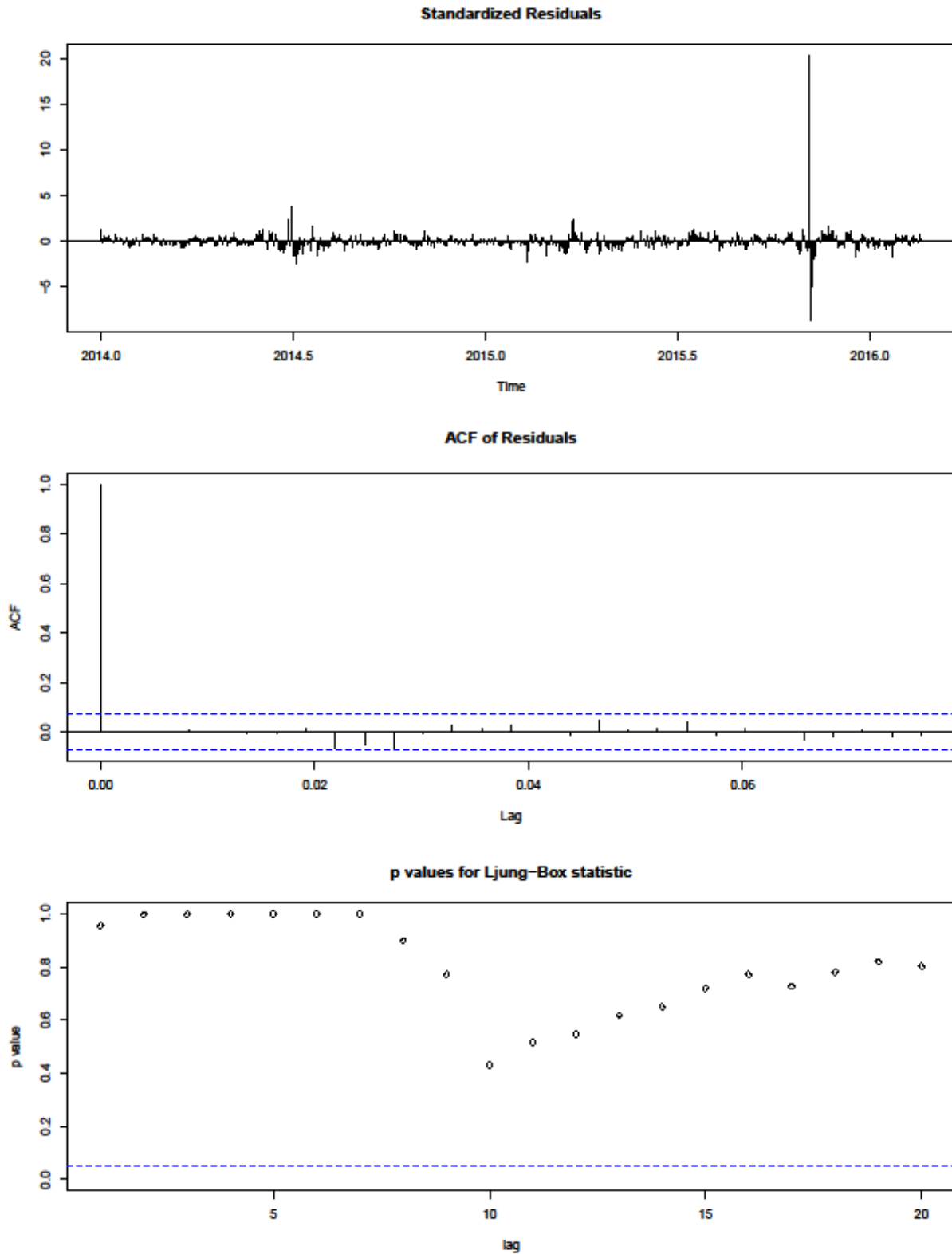


**Comment:** From the ACF of residuals for fitted model, we observed that none of the lag coefficients are significant (the points doesn't fall outside the boundary) also from the p values for Ljung-Box statistic, we conclude that the auto correlation coefficients of the residuals is significant. Hence we conclude that the residuals follow white noise process and hence the fitted model is appropriate.

**Diagnostic checks**

**Diagnostic plots of the model (2,0,3)**

GRAPH 7

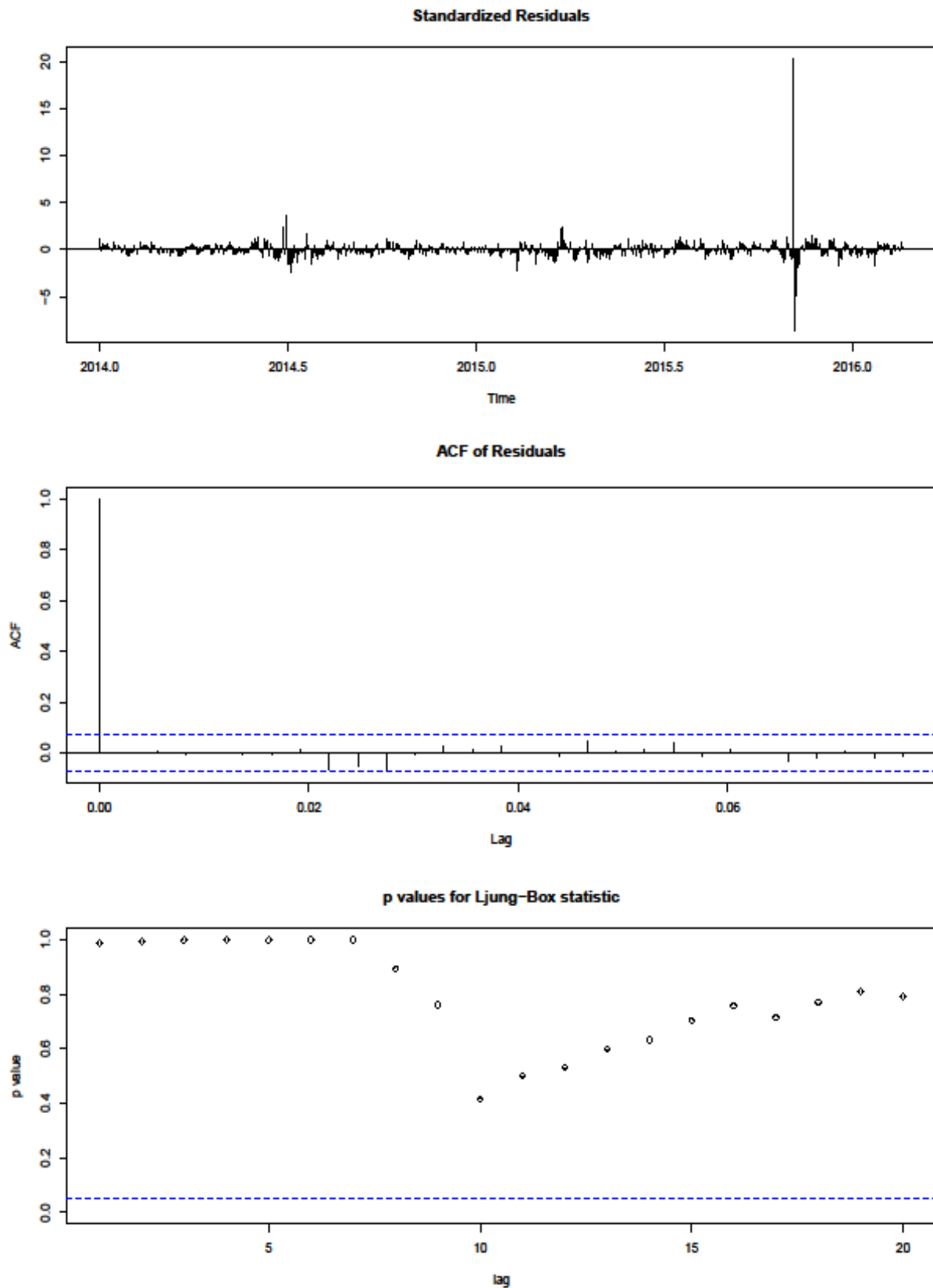


**Comment:** From the ACF of residuals for fitted model, we observed that none of the lag coefficients are significant (the points doesn't fall outside the boundary) also from the p values for Ljung-Box statistic, we conclude that the auto correlation coefficients of the residuals is significant. Hence we conclude that the residuals follow white noise process and hence the fitted model is appropriate.

Diagnostic checks

Diagnostic plots of the model (2,0,2)

GRAPH 8



**Comment:** From the ACF of residuals for fitted model, we observed that none of the lag coefficients are significant (the points doesn't fall outside the boundary) also from the p values for Ljung-Box statistic, we conclude that the auto correlation coefficients of the residuals is significant. Hence we conclude that the residuals follow white noise process and hence the fitted model is appropriate.

TABLE 2: FORECAST VALUES OF SPOT PRICE FOR FITTED MODEL (1,0,3) FROM 1/4/2017 TO 20/4/2017

| Date      | Spot Price(Rs) |
|-----------|----------------|
| 1/4/2017  | 205.2206       |
| 2/4/2017  | 205.0386       |
| 3/4/2017  | 204.9316       |
| 4/4/2017  | 204.8696       |
| 5/4/2017  | 204.8081       |
| 6/4/2017  | 204.7470       |
| 7/4/2017  | 204.6864       |
| 8/4/2017  | 204.6262       |
| 9/4/2017  | 204.5664       |
| 10/4/2017 | 204.5070       |
| 11/4/2017 | 204.4481       |
| 12/4/2017 | 204.3895       |
| 13/4/2017 | 204.3314       |
| 14/4/2017 | 204.2737       |
| 15/4/2017 | 204.2164       |
| 16/4/2017 | 204.1595       |
| 17/4/2017 | 204.1031       |
| 18/4/2017 | 204.0470       |
| 19/4/2017 | 203.9913       |
| 20/4/2017 | 203.9360       |

## CONCLUSIONS

From ACF and PACF of the data we conclude that ARIMA model is to be fitted for data.

Several potential models were fitted and compared based on AIC, sigma square, standard error of the estimates and Ljung – Box statistic. Comparing the AIC values we observe that it is least for ARIMA model (1,0,3). In view of all these potential models we can conclude that the ARIMA (1, 0, 3) model is best fitted model for the given data and useful for forecasting the future values using given data.

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**A STUDY ON CUSTOMER SATISFACTION TOWARDS SHAKTHI SUPER MARKET IN ERODE**

**S. SELVAMOORTHY**  
**Ph.D. RESEARCH SCHOLAR**  
**SRI VASAVI COLLEGE**  
**ERODE**

**Dr. K. RAJINI**  
**ASSOCIATE PROFESSOR**  
**DEPARTMENT OF BUSINESS MANAGEMENT**  
**SRI VASAVI COLLEGE**  
**ERODE**

**ABSTRACT**

*The study finds out that the consumer taste and preference are fast changing and therefore calls for new marketing strategies to be adopted by the marketer's to win their rivals. In today's market consumer satisfaction is major element to survive in the marketing field. Products and services provided by the trader must also satisfy the consumers. This would help to attract the prospective and potential consumers. So Shakthi Super Market has to strive for customer's satisfaction much more intensively to win the rivals.*

**KEYWORDS**

Erode, Shakti super market, customer satisfaction.

**JEL CODE**

M31

**INTRODUCTION**

A departmental store sells many different kinds of consumer goods, each arranged in a separate section but under one protection. Modern departmental stores provide the needs of the entire families. People enjoy shopping in such stores because they can make all their purchase under one roof. On the other hand, departmental stores depend on many customers in order to exist. Some companies open chain stores in different cities. Many departmental stores work branch stores in large sub-urban communities.

A department store sells expose of almost every kind, including dry goods, clothing, hardware, furniture, sporting goods and food items.

**ARRANGEMENT OF DEPARTMENTAL STORE**

A typical departmental store occupies a large building with separate departments located on a number of floors. Small articles which people often require are usually placed on the first floor. The store often sells less expensive grade of merchandise in the basement. Sometimes the stores have several levels of sub-basement sales floors, in which case, they provide special services, such that of a shopping advisor, while others have sewing centers where women learn to cut, fit and sew clothing. Some stores hold special exhibition to attract new customers.

The departmental stores generally employ hundreds of people for different jobs. The sales promotion manager and his staff promote the sales of merchandise through advertising and other techniques. The comptroller heads the section that keeps records and manages the store financial. The personnel staff hires employees and handles employment problems.

**ORIGIN OF THE DEPARTMENTAL STORE**

Since the early 1800's, stores that handles a variety of merchandise have existed in the United States. These general stores still operate in many small towns. After 1870, several large American stores began to offer different types of merchandise arranged in separate departments.

**STATEMENT OF THE PROBLEM**

In today's world of rapidly changing technology, consumer's taste and preference are also characterized by fast changes. To meet this changing environment, the departmental stores have to be constantly modernized in tune with the current consumer needs and wants. Hence the study on consumer satisfaction towards Shakthi Super Market throws light on their preference.

**SCOPE OF THE STUDY**

The study is individual oriented. The study is based on primary data and it covers Erode town only.

**OBJECTIVES OF THE STUDY**

The following are the main objectives of the study.

1. To bring out the profile of the Shakthi Super Market.
2. To study the profile of the respondents
3. To analyse the consumer preference towards Shakthi Super Market
4. To determine the factors influencing the consumers satisfaction.
5. To bring out the key finding of the study and offer suggestions to improve the performance of Shakthi Super Market

**HYPOTHESES**

The following null hypotheses have been formulated and tested:

- ❖ There exist no significant relationship between gender and level of satisfaction.
- ❖ Monthly income does not influence the level of satisfaction.
- ❖ Occupation has no influence over the level of satisfaction.
- ❖ Area of residence does not influence the level of satisfaction.
- ❖ Marital status does not influence the level of satisfaction.
- ❖ Education does not influence the level of satisfaction.



**METHODOLOGY****1. DATA SOURCE****a) Primary Data**

The study is based on primary data. Primary data has been collected from a sample of 100 respondents through structured questionnaire

**b) Secondary Data**

Necessary secondary data has also been collected to bring out the profile of the Shakthi Super Market.

**2. SAMPLING PROCEDURE**

The study is based on convenience sampling method. For the purpose of study 100 respondents have been selected in Erode town as per convenience who are the customers of Shakthi Super Market.

**3. DATA COLLECTION**

Primary data was collected by administering an interview schedule which has been framed in such a way to cover the demographic factors and departmental related profile of the stores.

**4. TOOLS OF ANALYSIS**

Data collected through questionnaire were presented in a master table. From the master table, sub-tables were produced.

The following statistical tools were employed for the purpose of analyzing data:

1. Percentage Analysis
2. Chi-Square Test
3. Simple Rank

**LIMITATIONS OF THE STUDY**

This study is subject to the following limitations:

1. The study is restricted to 100 respondents only, due to limited span of time.
2. The coverage of the study is limited to Erode town only.
3. The study being a primary one, the accuracy and reliability of data depends on the information provided by the respondents.
4. Respondents were not willing to give details about their personal usage.
5. Respondent's views and opinion may hold good for the time being and may vary in the future.

**FINDINGS**

For the purpose of assessing consumers satisfaction towards Shakthi Super Market in Erode town, data has been collected from hundred respondents. The following are the conclusions drawn from the analysis:

**PROFILE OF THE RESPONDENTS**

This chapter presents the demographic profile and product related profile of the respondents. It is summarized as follows:

**DEMOGRAPHIC PROFILE**

- A majority (61%) of respondents are female.
- A majority 60% of the respondents belong to the age group of up to 30 years.
- Majority of 37% of the respondents prefer Sakthi Super Market for purchasing goods.
- Monthly income of the majority (45%) of the respondents preferring Sakthi Super Market is ranging from Rs. 5000 to Rs. 10000.
- A majority of 67% of the respondents are married and 60% of the respondents have completed college education.

**PSYCHO-SOCIAL PROFILE**

- A majority of 43% of the respondents had preferred for the quality of goods available in Shakthi Super Market
- 37% of the respondents are visiting once a week to the Shakthi Super Market for their purchase.
- A majority of 53% of the respondents preferred to purchase grocery items from the store.
- A majority of 78% of the respondents were recommending Shakthi Super Market to others.
- A majority of 51% were satisfied with the offers & discounts in Shakthi Super Market.
- A majority of 73% of the respondents accepted consumer's feedback.
- A majority of 49% of the respondents have felt that the prices are quite moderate in Shakthi Super Market.

**FACTORS INFLUENCING PREFERENCE FOR SHAKTHI SUPER MARKET**

Based on the ranks assigned by the respondents factors influencing preference for Shakthi Super Market are ascertained and they are as follows:

- A majority of the respondent's feels that Reasonable price, is the most important factor and it gets highest score followed by Quick delivery and the least important factor is all things under one roof.

**I) SATISFACTION AND FACTOR INFLUENCING SATISFACTION**

The percentage analysis shows that

- 20% respondents were highly satisfied, 64% respondents were just satisfied and only 16% respondents were dissatisfied with Shakthi Super Market.
- 66% of satisfied respondents belonged to female category.
- A majority of 77% of the old aged respondents were just satisfied.
- A higher percentage (70%) of highly satisfied respondents were housewives.
- A higher percentage of highly satisfied respondents belonged to middle income group, while the highest percentage dissatisfied respondents belonged to low income group.
- A higher percentage (66%) of the urban area respondents were just satisfied.

**II) DEMOGRAPHIC FACTORS DETERMINING THE LEVEL OF SATISFACTION**

The Chi-Square test result reveals the following

- The demographic factors Gender, Monthly Income, Area of Residence, Education, Marital Status of the respondents have not significantly influenced their level of satisfaction. But other demographic factors age group and occupation of the respondents have significantly influenced their level of satisfaction.

**SUGGESTIONS**

The following are the suggestions based on the findings of the study:

- Customers feel that more branches should be opened in many places especially nearest to their residence.
- Attractive and effective advertisement through various media should be repeatedly given in order to capture the attention of potential customers.
- Continuity in distribution is essential so that consumer will not switch over to other shop.
- Attractive and reuse packing is also essential for their own preparation products.
- Only 43% of the respondents had preferred for the quality of goods available in Shakthi Super Market. So the quality of goods should be improved.
- To attract more potential customers they have to make offers & discounts.
- To encourage the regular customer they can introduce the discount token system.

**CONCLUSION**

The consumer taste and preference are fast changing and therefore calls for new marketing strategies to be adopted by the marketer’s to win their rivals. In today’s market consumer satisfaction is major element to survive in the marketing field. Products and services provided by the trader must also satisfy the consumers. This would help to attract the prospective and potential consumers. So Shakthi Super Market has to strive for customer’s satisfaction much more intensively to win the rivals.

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**ANNEXURE**

**TABLE NO. 1: PERCENTAGE TABLE**

| Factors                             |                          | No. of Respondents | % of Respondents |
|-------------------------------------|--------------------------|--------------------|------------------|
| Gender                              | Male                     | 39                 | 39               |
|                                     | Female                   | 61                 | 61               |
| Age Group                           | Upto 30 years            | 60                 | 60               |
|                                     | More than 30 to 40 years | 27                 | 27               |
|                                     | Above 40 years           | 13                 | 13               |
| Occupation                          | House Wife               | 37                 | 37               |
|                                     | Agriculture              | 11                 | 11               |
|                                     | Business                 | 31                 | 31               |
|                                     | Employed                 | 21                 | 21               |
| Monthly Income                      | Below Rs. 5000           | 19                 | 19               |
|                                     | Rs. 5000 to 10,000       | 45                 | 45               |
|                                     | Above Rs. 10,000         | 36                 | 36               |
| Area of Residence                   | Urban                    | 67                 | 67               |
|                                     | Rural                    | 33                 | 33               |
| Marital Status                      | Married                  | 74                 | 74               |
|                                     | Unmarried                | 26                 | 26               |
| Education Qualification             | Illiterate               | 11                 | 11               |
|                                     | School completed         | 29                 | 29               |
|                                     | College Completed        | 60                 | 60               |
| Preference to Buy                   | Price                    | 19                 | 19               |
|                                     | Quality                  | 43                 | 43               |
|                                     | Self service             | 21                 | 21               |
|                                     | Quick Delivery           | 17                 | 17               |
| Source of Influence                 | Relatives                | 35                 | 35               |
|                                     | Neighbors                | 37                 | 37               |
|                                     | Advertisements           | 28                 | 28               |
| Frequency of Visit the Super Market | Once in a week           | 54                 | 54               |
|                                     | Daily                    | 11                 | 11               |
|                                     | Once in a month          | 35                 | 35               |

**TABLE NO. 2: FACTOR SCORES AND RANK**

| Factors                   | Factors Score | Rank |
|---------------------------|---------------|------|
| Reasonable Price          | 568           | 2    |
| Quick Delivery            | 575           | 1    |
| Brand Image               | 478           | 4    |
| Self Service              | 534           | 3    |
| Offers and Discounts      | 337           | 7    |
| Door Delivery             | 364           | 5    |
| All things under one roof | 339           | 6    |
| Nearness to home          | 330           | 8    |

**TABLE NO. 3: CHI-SQUARE TABLE**

| Factor            | Calculated Chi-Square Value | Table Value | Degree of Freedom | Remarks         |
|-------------------|-----------------------------|-------------|-------------------|-----------------|
| Gender            | 1.015                       | 5.991       | 2                 | Not Significant |
| Age Group         | 7.607                       | 5.991       | 2                 | Significant     |
| Occupation        | 11.058                      | 9.488       | 4                 | Significant     |
| Monthly Income    | 5.444                       | 5.991       | 2                 | Not Significant |
| Area of Residence | 0.271                       | 5.991       | 2                 | Not Significant |
| Education         | 4.197                       | 5.991       | 2                 | Not Significant |
| Marital Status    | 1.266                       | 5.991       | 2                 | Not Significant |

**BLOCKCHAIN TECHNOLOGY - ROLE IN OIL AND GAS INDUSTRY****Dr. S. RAJARAJESWARI****HEAD****DEPARTMENT OF BUSINESS ADMINISTRATION****SRI MEENAKSHI GOVERNMENT ARTS COLLEGE FOR WOMEN (A)  
MADURAI****K. SRINIVASAN****RESEARCH SCHOLAR****MADURAI KAMARAJ UNIVERSITY  
MADURAI****ABSTRACT**

Blockchain is a public digital and distributed database solution providing decentralized management of transaction data. Since the introduction of Bitcoin cryptocurrency, which was the first implementation of the Blockchain technology in 2008, the interest in Blockchain technology has been constantly increasing. Blockchain is not applicable only in financial transaction systems but it is transforming our society from the way we use our cars, smartphones, healthcare, vote, and even personal identification. As such, when the Blockchain implementation, it is really observed in three different things: Blockchain ledger, Blockchain network and clients. Modern Blockchain implementations have to adapt and modify to technical challenges and limitation in Blockchain technology. In this paper, author aims to analyze the evaluation of blockchain application of blockchain in oil and gas and finally the current quality issues in the Blockchain implementation. A literature review is conducted to investigate the current quality requirements for Blockchain implementation. This paper identified the quality requirements for Blockchain implementation is still in its early stage and the future study may enhance better implementation of blockchain in various sectors successfully.

**KEYWORDS**

Blockchain, Bitcoin and Oil &amp; Gas.

**JEL CODE**

O30.

**INTRODUCTION**

**B**lockchain technology is commonly associated with Bitcoin and other cryptocurrencies, but that is only the tip of the iceberg. Some people think blockchain could end up transforming a number of important industries, from health care to politics.

**PICTURE 1**Source-[http://www.bankingexchange.com/media/k2/items/cache/f12f05b17122114651e5fe6f3bc9c81c\\_M.jpg?t=1516840359](http://www.bankingexchange.com/media/k2/items/cache/f12f05b17122114651e5fe6f3bc9c81c_M.jpg?t=1516840359)**BLOCKCHAIN BEYOND BITCOIN**

Bitcoin is the beginning, but it is far from the end. To help you wrap your head around why, we are taking a deep dive into the world of blockchain. In this article, we will go beyond Bitcoin and hone on blockchain applications that could reshape oil and gas industry.

**OBJECTIVES OF THE STUDY**

1. To explore the concept of the Blockchain technology.
2. To identify its applications in Oil and gas industries.

**RESEARCH METHODOLOGY**

1. Researcher used secondary data for research using magazines, web analysis, and articles.
2. Researcher developed the article based on qualitative method to deliver the concepts of Blockchain technology and its implications in Oil & gas industry.

**WHY ARE PEOPLE SO EXCITED ABOUT BLOCKCHAIN?**

In their pursuit of offering attractive environments for investment, many of the governments experimenting with blockchain seem to recognize the inherent advantage of being first movers in an emerging area. However, the gains will likely not just go to those who attract industry. What many public sector actors are realizing is at once profound and simple: Technology need not be revolutionary to be highly impactful. By reducing dependence on existing intermediary institutions and their accompanying layers and costs, blockchain can potentially eliminate significant resource burdens. Moreover, by accelerating transactions and simultaneously lowering their costs, blockchain can help to eliminate layers of redundancy, ease regulatory compliance burdens, and introduce recordkeeping efficiency and generally smooth government operations across a number of areas. Harnessing those advantages and applying them toward public institutions' mission goals provides an opportunity for realizing both agency-specific and whole-of-government benefits that can foster more efficient and effective mission

delivery in these challenging times. Three key characteristics of blockchain may help to explain the depth of public sector interest in the topic and many of the pilots taking place around the world (Distributed Ledger Technology, 2017).

### WHERE DID BLOCKCHAIN COME FROM?

Although blockchain technology has only been effectively employed in the past decade, its roots can be traced back far further. A 1976 paper on New Directions in Cryptography discussed the idea of a mutual distributed ledger, which is what the blockchain effectively acts as. That was later built upon in the 1990s with a paper entitled, 'How to Time-Stamp a Digital Document'. It would take another few decades and the combination of powerful modern computers, with the clever implementation with a cryptocurrency to make these ideas viable.

Data security is failing and there has to be a better system. Blockchain creates a secure, unalterable public record and is poised to dramatically improve in the world around you. The blockchain is proposed and practiced to use in various industries like energy sector, oil and gas, government sector, finance industry and so on.

In order to validate the blocks in the same manner as a traditional private ledger, the blockchain employs complicated calculations. That, in turn, requires powerful computers, which are expensive to own, operate, and keep cool. That is part of the reason that bitcoin acted as such a great starting point for the introduction of blockchain technology, because it could reward those taking part in the process with something of financial value.

Bitcoin ultimately made its first appearance in 2009, bringing together the classic idea of the mutual distributed ledger, the blockchain, with an entirely digital currency that was not controlled by any one individual or organization. Developed by the still anonymous "Satoshi Nakamoto," the cryptocurrency allowed for a method of conducting transactions while protecting them from interference by the use of the blockchain.

### THE THREE CHARACTERISTICS OF BLOCKCHAIN

#### DECENTRALIZED AND DISTRIBUTED

##### *Ledger storage and integrity*

- Ledger replicated across parties, each keeping a full record of transactions
- Distributed system operation, no single point of failure
- Transactions verified cryptographically and updated immediately across all parties
- Provides unbroken and timely recordation of authoritative truth

#### IRREVERSIBLE AND IMMUTABLE

##### *Each transaction record is indelible*

- The ledger is append-only, invalid transaction errors are surfaced and rejected immediate reconciliation
- All transactions encrypted and include time, date, participants, and hash to previous block
- Trust enabled via consensus protocols, cryptography, and collective bookkeeping
- Allows trusted value exchange

#### NEAR REAL TIME

##### *Transactions verified and settled in minutes vs. days*

- Parties interact directly no third-party intermediary
- Moves parties from information exchange to value exchange
- A transaction may include code to run against the ledger
- Enables smart contract automation and enforcement

### WHAT IS BLOCKCHAIN

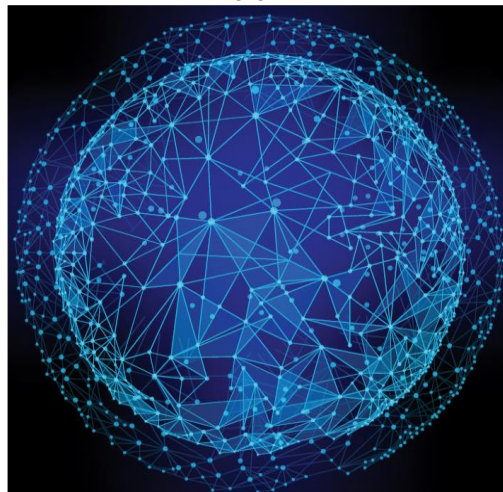
While blockchain technology is not simple when you dig into the practical details, the basic idea is not too hard to follow. It is effectively a database that is validated by a wider community, rather than a central authority. It is a collection of records that a crowd oversees and maintains, rather than relying on a single entity, like a bank or government, which most likely hosts data on a particular server. Of course, tens of thousands of peers could never manage a physical database kept on paper. That is where computers, and the internet, come in.

Each "block" represents a number of transactional records, and the "chain" component links them all together with a hash function. As records are created, they are confirmed by a distributed network of computers and paired up with the previous entry in the chain, thereby creating a chain of blocks, or a blockchain. The entire blockchain is retained on this large network of computers, meaning that no one person has control over its history. That is an important component, because it certifies everything that has happened in the chain prior, and it means that no one person can go back and change things. It makes the blockchain a public ledger that cannot be easily tampered with, giving it a built-in layer of protection that is not possible with a standard, centralized database of information.

While traditionally we have needed these central authorities to trust one another, and fulfill the needs of contracts, the blockchain makes it possible to have our peers guarantee that for us in an automated, secure fashion. Though generally not used for it yet, blockchain could be used to maintain a variety of information.

### POTENTIAL APPLICATIONS FOR OIL AND GAS MARKET

PICTURE 2



Source: <https://www2.deloitte.com/us/en/pages/about-deloitte/articles/press-releases/deloitte-survey-blockchain-reaches-beyond-financial-services-with-some-industries-moving-faster.html>

Big Oil is due for a disruption. The world's most important industry has been carrying on without any significant changes in its day to day routine for far too long. Now, the new tech on the block has its sights set on the multi-trillion-dollar oil and gas sector. It is official: Blockchain technology has infiltrated Big Oil. The hype behind blockchain has reached a full-blown frenzy.

The technology, which creates secure ledgers for digital transactions and rapidly accelerates the pace at which transactions can be made, has the potential to disrupt every major industry: real estate, shipping, banking and healthcare.

Blockchain is truly revolutionary, and Big Oil is finally catching on. In an industry that has used technology to reduce breakeven costs to all-time lows, create gigantic drilling rigs run by robots, and even tap reserves located 10 miles below the sea, the oil and gas sector has been slow to jump on the blockchain bandwagon until now.

According to a report from the World Economic Forum from 2017, a digital transformation has already swept across the energy industry. Major Corporates like BP and Shell are making headlines with plans to utilize blockchain technology to completely transform the process of buying and selling.

Smaller players with big ambitions like Canada's Petroteq are preparing to revolutionize the day to day operations of potentially every oil operation on the planet. Petroteq could utilize new technologies to tap massive new reserves of energy, such as the Utah oil sands, while radically reducing environmental risk. Integrating blockchain into supply-line management and logistics could dramatically cut costs.

## LEADING USE CASES OF BLOCKCHAIN AND POTENTIAL APPLICATIONS FOR OIL AND GAS COMPANIES

The oil and gas industry presents a particularly compelling opportunity to leverage blockchain technologies due to the high transactional values (and therefore risks) and economic pressures to reduce costs. A secure system that mitigates risk, increases transparency, provides an audit trail and speeds-up transactions and significantly, reduced cost may be appealing to oil and gas companies. Taking some of the main applications of blockchain, we will now explore how these could be applied to the oil and gas sector. Cross-border payments. One of the advantages of cryptocurrencies, such as bitcoin, is the significantly lower costs associated with cross-border payments, in addition to the instant transfer, cutting out the need for intermediaries and the time required for them to validate and clear the funds.

Oil and gas sold in large volumes and as such entail significant value, not unlike the size and scale of transactions between banks. The frequency of transactions is also high; for example, a 300,000 barrel per day oil refinery will need to source a large crude carrier every week to maintain adequate volumes, and cargos can cost as much as USD 100 million (two million barrels at USD 70 per barrel). Oil companies also need to be aware of where crude is ultimately sourced. Some exporting nations are from time-to-time under sanctions to prevent trade in this commodity. Blockchain could provide a fully transparent and secure record of the entire supply chain. Using a distributed ledger, digital tokens can be used to represent the asset being transacted. These tokens can be issued by a trusted authority for the needs of the companies or participating parties; for example, if oil and gas companies used a blockchain ledger to buy and sell barrels of oil, transactions could include digital tokens named Brent or WTI. These tokens would represent the underlying asset of a barrel of oil and would remain digitally attached throughout its supply chain journey. Currently, around nine percent of crude oil transactions are disputed, which equates to around USD 150 billion each year. By using tokens in a blockchain, payment could be processed more quickly, paper work such as title transfers would be eliminated, and disputed transactions could be significantly reduced. It is important to note that the token being exchanged will be subject to gains or losses based on the strength of the underlying fiat (local) currency. If 50 WTI tokens (Western Technology Investment) are purchased using US dollars, the value of these tokens are exposed to fluctuations in the US dollar. As the use of cryptocurrencies increases, governments are forming positions on the taxation implications of cryptocurrencies and their exchange for fiat currency.

## RECORD MANAGEMENT

Oil and gas companies need to acquire rights to access land to prospect for, explore, appraise, and then produce oil and gas. Property transactions provide an excellent example of how the use of blockchain can help business to keep accurate and readily accessible records. Understanding land provenance and reported value can be difficult and multiple records of conflicting ownership and value can exist within independent silos of data. There is often no accurate history of the transactions. In this mostly paper-based environment, land transactions are highly susceptible to fraud, especially in countries with higher levels of corruption (Anna Irrera 2017).

Blockchain technology can be employed to resolve this problem and is being trialed in certain countries, such as Georgia and Ghana, which experience high levels of undocumented land ownership and land seizures. Applying the same model to the oil and gas industry by recording sales and transfers of land in a blockchain will create an immutable audit trail of land movement, value, and ownership. This will reduce the occurrence of lost or mismatching titles, ownership disputes, and provide tax authorities with transparency in respect of land transactions, recording accurate transfers of value as they occur in real time.

Supply chain management, Global supply chains in the oil and gas industry comprise a complex web of suppliers, shippers, and contractors. The complexity and scale of this network requires substantial administration and creates opportunities for errors. From the tax authorities' and customers' perspectives, there also is a concern that suppliers might manipulate invoice values, potentially avoiding taxes or inflating costs, as goods are sold and shipped around the world. Utilizing blockchain technology to record and manage them movement of goods and related invoices will significantly mitigate the risk of errors and the opportunity to alter invoice values or recipients. Goods will be tracked from source to customer, reducing time, costs, and providing insight into the supply chain process that could be used to create efficiencies. Invoices will be recorded in the blockchain, creating an immutable record of its contents. The movement of invoices also can be addressed in the blockchain using public and private keys, preventing unapproved parties from accessing the invoices. This again could help to reduce the administrative burden on companies to report transactions to authorities and reduce the time taken by tax authority audits because of the reliability and transparency of data in the blockchain. The issue of security in data transfer is important to both individuals and companies. Public and private keys allow data to be encrypted and sent to another party, so that only that party can access the encrypted data. If the party can sign the invoice with its private key before sending, and any subsequent alteration of the invoice would invalidate the signature and the fraud would be apparent.

## SMART CONTRACTS

Oil and gas contracting can be complex, with lengthy contracts and agreements. A contract is often adjusted by a change order that needs to be tracked, and in some cases, contracts may be agreed some years before they are due to be completed. Smart contracts are self-executing contracts based on agreed criteria and written in code, removing the ambiguity of terms and reducing the requirement for lawyers to draft and interpret. When the criteria of the contract are fulfilled, ownership or payment, for example, will be automatically transferred. A smart contract could be amended if the parties agree, and would maintain a record of all versions and amendments to the contract. It then would automatically complete once the criteria of the most up to date version are satisfied. Criteria could include payment or even government approval for the transaction. This may save time and costs for interpreting legal terms and tracking records, and government authorities could potentially access relevant parts of contracts to audit or pre-approve the taxation treatment. Joint ventures are common in the oil and gas industry and generally require a suite of complex agreements (for example, relating to the sharing of costs or revenues), which could be implemented as smart contracts. Most contracts contain audit clauses giving the parties the right to audit each other to make sure that all parties are complying with the contract. Introducing a blockchain ledger to record joint venture transactions and using smart contracts to define, negotiate, and execute the contractual conditions will provide all involved parties, including the tax authorities, with transparency and consensus on what has occurred. This single audit trail, agreed upon by all participants, will significantly reduce the effort needed to ensure timely tax compliance and reporting, as well as the effort needed by the tax authorities to understand tax positions. As part of a global industry, oil and gas companies have to consider double taxation and transfer pricing implications. The use of smart contracts for transfer pricing profit allocation is another area of potential for simplification, increased transparency, and overall cost reduction.

## IMPLICATIONS

There are many ways the blockchain will impact commodity market participants that we did not begin to touch on. Intermediaries such as brokers, exchanges, price reporting agencies and clearing houses entire business models could be disrupted by widespread adoption of blockchain-based applications. The cost and

nature of fee based transacting will be impacted. The role of regulators and ability for market participants to meet compliance obligations will need to be examined in careful detail, and in some cases regulation may ultimately evolve in alignment with new ways of working. The issue of anonymity and payments will need to be addressed, as will the ultimate link between the digital conveyance of value over the blockchain and the actual conveyance of value through an acceptable means of payment (i.e. Currency). If certain regulatory hurdles can be overcome (and this will be no small task), access to markets will open up significantly. Marketplaces will consolidate, and accessibility will explode, significantly compressing margins at the transactional level. Trading activity may increasingly involve direct transactions with members of the public or public 'consortiums'. Further still, the role of the trader itself may be disintermediated as end users transact (organisations and/or individuals, and again likely in groups) directly with suppliers. The role of an energy trader in a world where a smart home hub can connect to a global energy market and continuously balance your home's energy use in real time by sourcing electricity or natural gas at market rates from a source supplier. The examples above are by no means exhaustive, but they provide some hint of the potential disruptive power of widespread adoption of blockchain technologies.

### CHALLENGES

One of the most significant challenges of emerging markets is their ability to hire, train, and develop regulatory officials. In particular, finding and developing the officials to oversee and administer taxation affairs is a key concern. The application of tax laws to different pieces of the value chain is extremely complex and an overbearing burden for many developing countries. The application of blockchain can alleviate this acute pain point for developing countries and provide confidence in the application and regulation of their resource regime.

### FUTURE CONSIDERATIONS

The potential uses of blockchain are wide and varied, and the technology is becoming more prevalent. In the oil and gas industry, like many others, companies may face the choice of deciding whether to pioneer new technologies and in the process disrupt their own business model and industry, or to continue to focus on their core business and wait for the market to be disrupted by others. The pace at which blockchain will be adopted and will disrupt markets is unclear, and may be decided, to some extent, by the largest companies that will need to work together to drive innovation and solutions due to the global and collaborative nature of blockchain. Potential considerations for oil and gas companies are to set up or join working groups to explore blockchain and its potential applications or to launch a trial with an existing trusted business partner to better understand blockchain and the value it could create.

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**BANK EMPLOYEES' PERCEPTION TOWARDS CRM PRACTICES IN BANKS: A STUDY IN ERODE DISTRICT**

**Dr. T. KOKILAPRIYA**  
**ASST. PROFESSOR IN COMMERCE**  
**P.K.R. ARTS COLLEGE FOR WOMEN**  
**GOBICHETTIPALAYAM**

**ABSTRACT**

*Customer Relationship Management is not only a business strategy to acquire new customers and also to retain the existing customers. It is regarded as a strategy to provide better services and contribute greater value to its customers. Implementation of CRM involves involvement of bank employees in all the levels. Against this backdrop, this paper is an attempt to bring out the bank employees' perception towards CRM practices in banks. For the purpose, required primary data have been selected from employees of selected banks and analysed with statistical tools like mean, standard deviation, chi-square and simple ranking method. It is found that the majority of the sample employees are having negative perception towards CRM practices and Exorbitant Work Load has been ranked as the most serious problem faced by the bank employees.*

**KEYWORDS**

customer relationship management (CRM), bank employees' perceptions.

**JEL CODE**

M31

**1. INTRODUCTION**

Customer Relationship Management (CRM) is an integration of business processes and technologies employed to satisfy the needs of a customer during any interaction. The concept of CRM involves acquisition, analysis and use of knowledge about customers with a view to effectively sell more and more goods and services. Basically, CRM is considered as a business strategy and not as a technology. Implementation of CRM will increase delight of the customers and make them to stay longer and loyal to the organization for a longer period.

CRM is a strategy adopted by the banks in recent years and includes the formulation of methodologies and tools that helps the bankers to manage better relationships with their customers in an organized manner. An effective CRM makes it possible for the bankers to acquire new customers and to retain the existing customers by providing the best services and by contributing a higher value for the customers.

Implementation of CRM involves several commercial software packages and technologies. But, technology alone is not enough for maintaining a long-lasting relationship with the customers and can be achieved only through a holistic change in the philosophy of the banks and involvement of the human element, wherein more emphasis is laid on the customers. Changes must occur at all levels including policies, processes and effective and efficient customer service.

In response to increasing global competition and entry of new players, the bankers need to work hard to ensure their customers that they receive high-quality and value-added services. A customer is core component in the banking business. The business of banking cannot function without its customers, nor can the business be done by acquiring a certain number of customers. Most of the bankers thrive more on keeping old customers happy rather than on getting new customers. In order to retain customers, the bank employees must work harder on managing individual customer relationship. Customers' expectation for quality is increasing rapidly. Due to development of IT and internet, there are possibilities to contact customers and meeting their expectations.

The bankers should focus on holistic approach in implementing CRM. Holistic approach places CRM at the heart of the organization with customer oriented business processes. In the ever changing environment, customers' mind cannot be kept permanent. Perhaps, it becomes mandatory for the bankers to take necessary initiatives for implementing CRM with whole-heartedly. Practically, it is felt that the customers are having negative opinion towards bank employees' approach towards them. Though the bankers are forced to adopt CRM, there is a doubt about their interest towards CRM adoption. Against this backdrop, this paper is a modest attempt to find out the perception of the employees towards CRM practices and to identify the problems faced by them to implement CRM. Required information has been collected from the employees of selected bank branches by survey method with the help of specially designed questionnaire.

**2. REVIEW OF PREVIOUS LITERATURE**

In any study, the review of previous studies are considered as an important for getting a better understanding of the problem, objectives, the methodology followed and to identify the unexplored part of the field of study under consideration. In this regard, a review of some of the studies in the field of present study has been undertaken and presented on the basis of objectives of the present study.

Popli and Rao (2009) made an attempt to analyze the extent of the implementation of CRM in Indian banks and compare CRM implementation between the Public and Private Sector Indian Banks. For their study, they have collected primary data from 150 respondents of private and public sector banks in Delhi city. Such collected primary data have been analysed with tools like Cronbach's Alpha Reliability Test. They found that the Private Sector Banks have been perceived to be having higher mean values of CRM than the Public Sector Banks. It shows that Private Sector Banks are using Customer Relationship Management technique aggressively to enhance their base. They suggested that the banks must deliver superior quality service to meet the customer needs and to beat the competition. Khalid Rababah et al (2011) made a study to explore the four major perspectives of CRM processes which are customer facing level processes, customer oriented processes, cross functional CRM processes and CRM macro-level processes. They found that for the organizations to be successful adopters and implementers of CRM programs/systems, they need to understand the need for business process reengineering and effective anticipation and management of the change that may accompany any CRM initiative. They suggested that for ensuring the successful adoption and implementation of any CRM initiative, organization should understand the different levels of CRM process and the integrated activities among the CRM processes at each level.

Mehdi Rouholamini and Venkatesh (2011) conducted a study to evaluate the CRM initiatives in Iranian Banking Industry. For their study, the required primary data have been collected from 400 respondents of top, middle and lower management of public and private banks of Iran by using Random Sampling and Cochran formula. They selected public and private sector banks of Sari, Qhaemshahr, Babol and Amol cities from north of Iran as their sample unit. Collected data have been analysed with Mean, 't' test and Std. Deviation. They found that there is a significant difference between the mean scores and the managers from private sector banks had high scores compared to managers working in Government sector. They suggested that banking sector management needs actively to articulate the need for an improved and consistent customer experience and branch managers should localize this approach and coach their staff to deliver it.

**3. STATEMENT OF THE PROBLEM**

The financial institutions are trying to provide all the services at the customers' doorstep. The customer has become the focal point either to develop or maintain stability in the business. Every engagement with the customer is an opportunity to either develop or destroy a customer's faith in the bank. The expectations of the customers have also increased many folds. Intense competition among the banks has redefined the concept of the entire banking system. The banks are looking for new ways not only to attract but also to retain the customers and gain competitive advantage over their competitors.

Though technology occupies a main place, main pillars of bankers (customers) cannot be underestimated. It is necessary to give due recognition to them by considering intense competition, sophisticated knowledge of the customers and expectation level of the customers. By realizing this, it is an attempt to bring down the perception of the employees towards CRM practices and the problems faced by the bank employees in implementing CRM.

#### 4. OBJECTIVES OF THE STUDY

The present study aims to examine the following specific objectives:

1. To identify the bank employees' perception towards CRM practices
2. To find out the problems faced by the bank employees in implementation of CRM
3. To offer suitable suggestions for successful implementation of CRM.

#### 5. HYPOTHESIS OF THE STUDY

On the basis of the review and the framed objectives, the following null hypothesis has been framed and the same is tested with appropriate statistical tool.

H<sub>0</sub>: There is no significant association between the personal variables (gender, age, marital status, educational qualification, designation, job experience, nature of the job and location of the branch) of the sample employees and their perception towards CRM practices.

This hypothesis has been tested with Chi-square test at 5% level of significance.

#### 6. SAMPLING DESIGN AND METHODOLOGY

The present study is an empirical research based on the survey method. Required primary data have been collected by adopting Multistage Stratified Random Sampling Technique.

##### 6.1 Selection of the Study Area

There are 32 districts in Tamil Nadu. Among them, Erode district occupies an important position in both industrial and agricultural development. Hence, the present study is confined to Erode district of Tamil Nadu.

##### 6.2 Selection of the Banks

On the basis of information provided by the Lead Bank officials of Erode district, it is found that there are 39 banks with 269 branches in the district. Of them, 21 are Public Sector Banks with 161 branches, 15 are Private Sector Banks with 75 branches, 20 branches of EDCC Bank, 1 branch of TIIC and 12 branches of Pallavan Gram Bank operating in the district. Among them, Public Sector Banks plays a vital role in economic upliftment of the district people. By realising its significance, it is decided to select the Public Sector Banks to collect the primary data. Accordingly, it is identified that Indian Overseas Bank, State Bank of India and Canara Bank are in the highest place by comparing the number of branches with 44, 32 and 30 branches respectively. Hence, these 3 Public Sector banks are selected purposively.

##### 6.3 Selection of Taluk

Erode district is basically divided into 2 divisions namely, Erode (constituting Erode and Perundurai taluks) and Gobichettipalayam (constituting Gobichettipalayam, Sathyamangalam, Bhavani and Anthiyur taluks). Among them, Gobichettipalayam taluk has been purposively chosen for the present study as it serves as both agriculture and business center.

##### 6.4 Selection of Revenue Blocks

From the information available in the Erode district's official website, it is found that there are 3 revenue blocks in Gobichettipalayam taluk viz., Gobichettipalayam, Thookannaikenpalayam (T.N. Palayam) and Nambiyur. It is decided to select all the branches of the selected banks from these blocks.

##### 6.5 Selection of Bank Branches

From the information provided by the Lead Bank of Erode district, it is found that in the selected blocks, there are 6 branches of Indian Overseas bank, 4 branches of State Bank of India and 7 branches of Canara bank. All these 17 branches are chosen for the study. Details of the selected bank branches in the taluk with number of employees selected are given in the Table 1.

TABLE NO. 1: SELECTED BANK BRANCHES WITH NUMBER OF EMPLOYEES

| Selected Banks         | Revenue Block     | Selected Branch   | No. of Employees Selected |
|------------------------|-------------------|-------------------|---------------------------|
| Indian Overseas Bank   | Gobichettipalayam | Gobichettipalayam | 2                         |
|                        |                   | Modachur          | 1                         |
|                        |                   | Vellankoil        | 1                         |
|                        |                   | Odathurai         | 1                         |
|                        | T.N.Palayam       | D.G.Pudur         | 1                         |
| State Bank of India    | Gobichettipalayam | Nambiyur          | 1                         |
|                        |                   | Kugalur           | 1                         |
|                        | T. N.Palayam      | T.N.Palayam       | 1                         |
|                        | Nambiyur          | Nambiyur          | 1                         |
| Canara Bank            | Gobichettipalayam | Gobichettipalayam | 2                         |
|                        |                   | Kolappalur        | 1                         |
|                        | T.N.Palayam       | Kasipalayam       | 1                         |
|                        |                   | Kallipatti        | 1                         |
|                        |                   | Bungalowpudur     | 1                         |
|                        | Nambiyur          | Malayapalayam     | 1                         |
|                        |                   | Getticheviyur     | 1                         |
| Total No. of Employees |                   |                   | 20                        |

Source: ACP 2012-13, Canara Bank, Lead bank, Erode District.

##### 6.6 Selection of Sample Employees

It is decided to divide each block into 2 strata viz., town and rural area. Further, by considering the significance of Gobichettipalayam branch, it is decided to collect the primary data from 2 employees in these branches and 1 employee from the rural branches. Accordingly, 20 sample employees are selected as per Table 1. Well-structured and non-disguised Questionnaires were distributed among the sample employees after obtaining prior permission from the concerned bank manager. All the distributed Questionnaires have been collected and used for the further study.

#### 7. FRAMEWORK OF ANALYSIS

Collected primary data have been analysed with the help of statistical tools like Standard Deviation and Chi-square test at 5% level of significance. Further, Simple Ranking Method has been applied to identify the most significant problems faced by the bank employees in implementing CRM.



## 8. ANALYSIS AND INTERPRETATION

### 8.1 EMPLOYEES' PERCEPTION TOWARDS CRM PRACTICES

To identify the bankers' perception towards CRM practices, Rensis Likert's 5 Point Scaling Technique has been followed. For which, 16 relevant statements have been given in the questionnaire for data collection. Such collected data have been quantified and classified. Details of the findings are given in Table 2.

**TABLE NO. 2: CLASSIFICATION OF THE EMPLOYEES BY PERCEPTION SCORE**

| Perception | No. of Employees | Total Score | Mean Score | S. D  |
|------------|------------------|-------------|------------|-------|
| Negative   | 14(70.0)         | 514         | 36.71      | 4.23  |
| Positive   | 6(30.0)          | 350         | 58.33      | 6.77  |
| Total      | 20(100.0)        | 864         | 43.20      | 11.30 |

Figures in parentheses are percentage

Table 2 shows that the majority (70%) of the sample employees are having negative perception towards CRM practices. The mean score is 43.20 and standard deviation is 11.30.

### 8.2 CHI-SQUARE TEST ANALYSIS

The association between the independent variables of the sample employees and their perception towards CRM practices has been examined by framing a null hypothesis and the same has been tested with the help of Chi-square test at 5% level of significance. The findings are shown in Table 3.

**TABLE NO. 3: PERCEPTION OF THE EMPLOYEES: CHI-SQUARE TEST**

| Independent Variables  | Df | TV    | $\chi^2$ | Result        |
|------------------------|----|-------|----------|---------------|
| Gender                 | 1  | 3.841 | 0.010    | Insignificant |
| Age                    | 2  | 5.991 | 3.333    | Insignificant |
| Marital Status         | 1  | 3.841 | 0.159    | Insignificant |
| Educational Level      | 1  | 3.841 | 0.471    | Insignificant |
| Designation            | 1  | 3.841 | 0.159    | Insignificant |
| Experience             | 1  | 3.841 | 0.357    | Insignificant |
| Location of the Branch | 1  | 3.841 | 0.726    | Insignificant |

From the Table 3, it is clear that there is no significant association between the independent variables (gender, age, marital status, educational qualification, designation, job experience, nature of the job and location of the branch) of the sample employees and their perception towards CRM practices.

### 8.3 PROBLEMS FACED BY THE EMPLOYEES IN IMPLEMENT THE CRM

There is no doubt that the concept of CRM creates a new way of thinking about the customers in the minds of employees. At the same time, in the practical aspect employees are facing a number of problems. To analyze the problems faced by the bank employees in implementing the CRM, the problems like Exorbitant Work Load, Difficulty in Complete View of Customers, Fickle Life Style of the Customers, Heavy Competition, Lack of Training to IT Staff, Disparate Database, Poor Customer Feedback, Stringent Government Regulations, Inconsistent Regulatory Measurements and Concentrating in Profit Margins are considered after a deep and deliberate discussion with the experts. Selected sample employees have been asked to rank these problems according to their priority. For such ranks, scale value has been calculated by using Simple Ranking method. Details of the findings are shown in Table 4.

**TABLE NO. 4: PROBLEMS FACED BY THE EMPLOYEES IN IMPLEMENT THE CRM: SIMPLE RANKING METHOD**

| Problems                                 | Total Score | Mean Score | Rank |
|--|-------------|------------|------|
| Exorbitant Work Load                     | 132         | 6.60       | 1    |
| Difficulty in Complete View of Customers | 119         | 5.95       | 3    |
| Fickle Life Style of the Customers       | 118         | 5.90       | 4    |
| Heavy Competition                        | 120         | 6.0        | 2    |
| Lack of Training to IT Staff             | 100         | 5.0        | 9    |
| Disparate Database                       | 102         | 5.10       | 7    |
| Poor Customer Feedback                   | 101         | 5.05       | 8    |
| Stringent Government Regulations         | 97          | 4.85       | 10   |
| Inconsistent Regulatory Measurements     | 105         | 5.25       | 6    |
| Concentrating in Profit Margins          | 106         | 5.30       | 5    |

From the Table 4, it is found that among different problems associated with the employees in implementing the CRM, Exorbitant Work Load has been ranked as the most serious problem. It is followed by Heavy Competition, Difficulty in Complete View of Customers, Fickle Life Style of the Customers, Concentrating in Profit Margins, Inconsistent Regulatory Measurements, Disparate Database, Poor Customer Feedback, Lack of Training to IT Staff and Stringent Government Regulations.

## 9. SUGGESTION AND CONCLUSION

In the present study, it is found that the majority (70%) of the sample employees are having negative perception towards CRM practices. Hence, it is suggested that the Government of India, RBI and the banks concerned should take all possible steps to change the perception of the employees into positive by imparting proper training to the employees and by conducting various refresher courses to them. Their practical problems should be removed to create a customer-friendly atmosphere in the banking premises.

In the existing competitive trend, all the banks have to maintain a good CRM to survive. By realizing this, this paper is a modest attempt to bring into light the perception of the employees towards CRM practices. It is hope that the suggested measures will be seriously considered by the Authorities concerned to have a good CRM for the betterment of relationship between the bankers and customers. Consequence of this, performance of the banks will glow.

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