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Book Review

The Ten Commandments for Family Business

Dr. Poornima M. Charantimath



Research Centre
Karnatak Law Society's
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From the Editor's Desk.....

Dear Readers,

Greetings from the IMER family!

We are pleased to present the Fifteenth volume of "Tatva" to you. "Tatva" is a peer reviewed journal published annually by the Research Centre of the institute. "Tatva" is a platform for scholars, researchers and practitioners to share their knowledge and experience in the field of management. This issue contains scholarly research articles, case studies and book review and we are sure that it will be of great value to you.

The first research article is about "Digital Banking Scenario in India". This paper presents the figures of global banking and Indian banking transactions, trends of banking from research reports of various organizations. It presents the overview of Indian services sector and banking progresses in the digital era. The second research article on "A Study on Stress among the Teaching Faculty of Management Institutions", is focused on stress of teaching faculty of management institutions. The study identifies the factors causing stress and provides suggestions to mitigate stress level.

The third research article is about "Analysis of Impact of Micro Economic Factors on Liquidity Position of Selected Private Sector Banks in India. This paper highlights the liquidity position of Private Banks in India and gives a better understanding of liquidity analysis. The fourth research article is on "Perception of Sales Executives towards Sales Force Effectiveness in Pharmaceutical Industry". The purpose of this paper is to know the perception of Sales Executives towards Sales Force Effectiveness (SFE) including factors influencing the same with respect to Pharmaceutical Industry. The fifth research article on "Patient Satisfaction at Public Health Care Centres". The main aim of the paper is to access the satisfaction of the patients at public health care centres.

D. B. Agro Industries in Belgaum have adopted sustainable agriculture methods and producing organic jaggery "Madhuramrut" in closed stainless-steel vacuum evaporator's technology. This jaggery is pure and hygiene. The following study is taken up to have an idea about how people view jaggery, to constitute as an input for the branding plan for Madhuramrut. The sixth research article is a case study about "Jaggery! Do People still Cherish it? A Case Study of Belgaum City, Karnataka".

The seventh research article is on "Product Innovations for Micro Insurance". Micro insurance products are hyper targeted offerings that meet precise needs of the customer taking into account the realities staring at poor people and the latter's limited purchasing power. The paper recommends innovation has to be considered across the total product cycle – product development, sales and collection of premiums, servicing and processing of claims. The eighth research article is on "An Analysis of Awareness and Expectations of Industrial Entities with Respect to Rust Prevention Technique Using VCI Technology". The purpose of this paper is to study about the level of awareness and usage of Volatile Corrosion Inhibitors (VCI) bags with respect to rust prevention for ferrous components of machinery equipment's in the industry.

This issue contains a book review of "The 10 Commandments for Family Business" authored by Kavil Ramachandran. This book is published by sage publications. The purpose of this book is to discuss all the critical challenges family businesses face and understand the phenomenon of family business better. The 10 commandments are like 10 rare jewels of family treasure that will help families perpetuate their business across generations.

We are thankful to all the members of our editorial board, reviewers for all their constant support and guidance in our journey towards continuous improvement. We thank all the authors for contributing research articles, case studies and book reviews. We thank all the our readers for their patronage, encouragement and invaluable feedback, we take this opportunity to invite contributions from you and your colleagues through research articles, case studies and book reviews

We wish you and your family a very happy and prosperous New Year.

Dr. Poornima M. Charantimath

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Digital Banking Scenario in India

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Abstract

Indian banking system has witnessed transformation from traditional banking to convenience banking with the use of technology. After liberalization of Indian markets, it was the need to perform radical changes in banking system to provide faster and quality service to customers and to face the competition from foreign banks. The digitization of banks has taken a long journey from ATM to mobile banking & Unified Payment Interface. This paper presents the figures of global banking and Indian banking transactions, trends of banking from research reports of various organizations. It presents the overview of Indian services sector and banking progresses in the digital era. It explains the consumer behaviour in banking transactions, the use of various modes of transactions and tries to focus on trends by discussing the facts and figure of banking in India. This paper focuses on the overview of the digital banking scenario of the world and current status of e-banking in India.

Keywords: E- banking, Banking e-services, Global banking, Indian banking system, Emerging Market Economies (EME)

Introduction

Indian Service Economy: India is the fastest growing economies in the world since the last two decades. The growth attained is attributed to the dynamic services sector, as per the Twelfth five-year plan 2012-2017³. Services sector is gaining importance in developing economies due to its ability to generate employment. Within the services sector financial institutions such as banks are the important service institutions of an economy. India's services sector contributed about 61% to India's GDP, growing strongly at approximate 10% per annum in 2015-16 as per the CII-KPMG1 report. The service sector exports also accounted to 3.2% as compared to 1.7% of merchandise exports. It is also the largest private sector employer in India, employs more than 3.7 million people as per RBI report⁹

After liberalization the Indian banking system has undergone many changes including the customer delivery processes. The competition from foreign banks with the high tech services has forced the private and public banks to reform the service process. Due to increase in the customer expectations from the banks it is challenging to retain and attract new customers for the banks. Banks have become customer centric with the use of advanced technology in their process. The computerization process of Indian banking began in late 1980's. In 1988, RBI set up a committee on computerization in banks headed by Dr. C. Rangarajan.

E services provide strategic benefits to service provider by enhancing operational efficiency, profitability by reducing time and cost involved in service delivery⁷. They also provide convenience of availing service 24/7 to customers. E-service quality is gaining importance as it is directly linked to customer satisfaction and retention. Service quality is the determinant of success not only in a traditional environment but also in an online market space.

Global Digital Banking Scenario

Globally, banks are undergoing digitization forced by the competition. As per McKinsey Global Banking Review², (2016) "banks are facing challenges from weak global economy, strict regulations in countries, and digitization." There is a need to restructure banks, moving from traditional structure to embrace new technological capabilities.

As per World Payment report¹²2017 "Global non cash transactions volume increased 11.2% during 2014-15 to reach 433.1 billion, the highest growth of the past decade." The report mentioned that, such growth is driven by EME to a large extent, which recorded a 21.6% increase in 2015, whereas mature markets grew by 6.8% with a nominal rise of 6% in 2014.

It is observed that in non-cash transactions, debit card usage has increased to 46.7%, followed by credit card usage with 19.5% share in 2015. The report¹¹⁹ finds that "Non cash payments growth rate declined or grew marginally except in EME especially emerging Asia." Globally the usage of e- payment has seen a fall in 2015. Developing countries have a bright future for non-cash transactions, even though the cash dominates the payment methods for low volume transactions. The factors which lead to usage of cash in EME are: "shortage of payment infrastructure, lack of access to banking system and anonymity of transaction associated with cash."¹¹⁹. The linkage of consumer demography with the cash usage is found in EME's.

Banking industry will be affected in its profits for next three years due to digital disruption, as per the Mc Kinsey Report². It states that depending on the extent of digital disruption, Japanese and US banks to have their profits at risk between \$ 1 Billion and \$ 45 billion by 2020. "Banks in Europe and UK have 31 % risk and severe digital disruption could further cut their profits from \$ 110 billion to \$ 50 billion in 2020". The global banking is going to witness reduction in fee based businesses margin due to revolutionary digitization.

Banks in EME's are providing innovative mobile services to customers. EME's specially India and China banks are affected by digital commerce firms that have entered into banking.

Digital Banking in India

Banking sector in India is one of the best regulated in the world. Sound banking is most important for financial sustainability and growth for any economy. It is seen that Indian banks have withstood the global downturn well.

Indian banking sector has the potential to become 5th largest banking industry by 2020 and 3rd largest by 2025 in the world as per CII- report¹. This is possible by globalization & adopting technology which is the need of both banks and the customers. Therefore, it is crucial for banking to overcome the issues and challenges while attempting to implement technology in operations and more important marketing of e- services to the mass.

According to the report of RBI on "Trend and progress of Banking in India- 2015-16"¹⁰ the following points are worth noting related to Indian banking and e- banking scenario.

RBI has a long term vision of developing competitive and sound customer friendly banking sector. There is also a possibility of starting new kinds of different banks such as custodian, wholesale financing.

Embracing technology in retail finance service delivery will provide competitive edge for financial landscape in India. It is a cost effective way of reaching last mile finance resulting in financial inclusion. The UPI (Unified Payment interface) is boosting the mobile banking in the country, as the mobile penetrations are high.

In EME's India stood out with higher economic growth. India witnessed a growth in Debit Card, during 2014-15 due to PMJDY, wherein each account holder issued a RuPay Debit Card. RBI has allowed banks to offer their services to ATM channel. In case of PSB's the share of Offsite ATM is less than 45%. "Bank group wise PSB's maintained a strong lead in providing of Debit cards with a share of 82.8%. The PVB's had dominant position in credit card issuance with 60% share."

Indian banking system has seen greater use of PPI's for purchase of goods and services and fund transfer. The value transactions of these instruments has increased. PPI and mobile wallets usage has increased significantly to Rs. 254 billion and Rs. 206 billion respectively.

Usage of Payment System in India

According to Annual Report of RBI9, 2016-17, "the payment and settlement system recorded a growth in volume and value at 55.7% and 24.8% during 2016-17, respectively. The share of e- transactions moved up to 89% in total volume of Non cash payments from 84.4% in previous year. The share of electronic transactions moved up to 89% per cent in total volume of non-cash payments from 84.4 per cent in the previous year NEFT facility available through 130013 branches of 172 banks in addition to Business Correspondence outlets, during 2016-17 as shown in Table 1.

Table 1. Usage of Payment Systems in India

Item	Volume in Millions		
	2014-15	2015-16	2016-17
RTGS	92.8	98.3	107.8
Total Retail	1687.4	3141.5	4205.0
Electronic Clearing (ECS+NEFT+IMPS)			
ECS DR	226	224	8.8
ECS CR	115.3	39	10.1
NEFT	927.5	1252.9	1622.1
IMPS	78.4	220.8	506.7
Total Card payments	1737.7	2707.3	5450.1
Credit Cards	615.1	785.7	1087.1
Debit Cards	808.1	1173.6	2399.3
PPI's	314.5	748	1963.7

Source: RBI Annual Report 2016-17

It was reported that "the number of non-bank entities authorized for operating PPIs increased to 55 with 18 authorized during 2016-17. While 54 banks were granted approval to issue PPIs, 289 banks were permitted to provide mobile banking services up to June 2017."9

Even though many customers are aware about the e-services they do not avail the e-services. This attitude of customers is a concern for banking co.'s because they want to turn customers towards low cost, efficient channel.

Mc Kinsey report on "Digital Banking in Asia, 2015", 11 surveyed 13 Asian markets involving 16,000 customers. As per the survey outcome digital banking has become universal and mobile banking has increased its customer base more than three fold since 2011. The most prominent factors which have led to the demand of e banking are internet and smart phone adoption and growth in e commerce. The usage in Asian markets has increased from 58% in 2011 to 92 percent in 2014. Mobile banking usage has increased three times since 2011. Traditional channels dominate in usage, particularly ATM's in emerging Asia. ATM is the most preferred channel in India. (Pritam & Sowmya8). The usage of Mobile

and IB has recorded five times more usage than in 2011. Throughout Asia, consumers made fewer branch visits and calls in 2014 than in 2011.

The report concludes that merely world class online presence is not enough, consumers expect more than that. It is reported that customer service quality, financial products, brand equity and experience are valued by customers. Customer satisfaction is low for financial products and experience of usage. Digital banking is in primitive stages in EME's and hence conclusions cannot be derived from these markets. Thus there is a need to understand developing Indian market expectations & perceptions related to e- services quality of banks.

By the end of year 2014, the internet user base had grown to 302 million, after clocking its fastest rise of 32% in a year (IAMAI report 2015, Internet & Mobile Association of India). This shows escalation in the number of internet users in India. The user base increased from 10 million to 100 million in a decade, while it took just a year to reach 300 million user base from 200 million. Internet is mainstream in India today. Due to the growth of the internet, advertising in digital media, e- commerce, payments, social media have also seen steady growth. The further growth in internet usage is expected from non-metro and rural areas where mobile internet will play a pivotal role (IAMAI report). Therefore, use of the low cost smart phones with the internet usage by people accelerate the usage of e banking.

Conclusion

As seen in many industries digital disruption has made its way in financial services sector too. India has over a billion mobile phone connections and the smartphone user base is expected to grow to 520 million users by 2020, according to a report on Digital Payments by BCG and Google4. In India with half of its population below the age of 30, which is tech savvy, expects more products and services that are fast and reliable. On the other hand many reports conclude that e- banking penetration was slow and compared to other nations it is low. This calls for research on consumer behaviour in using e services of banks and the role of various factors in adopting e- banking services and other payment options available.

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A Study on Stress among the Teaching Faculty of Management Institutions

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Abstract

Today we all have to survive in global market where technology, customer perception, competition, international rivals, culture and political environment are changing at faster rate more than our expectation. On the side, everyone has their own family responsibilities. Accordingly we have to prepare ourselves mentally and physically to face the challenges arises before the changing environment. If we fail to fulfil these requirements, we come across with stress. Stress is understood as emotional or physical pressure arises from conflict between external environmental demand and individual internal capability leads stress. The present study is focused on stress of teaching faculty of management institutions from Belgaum, Bagalkot, Bijapur, Dharwad, Gadag, Haveri districts. 337 faculty has been selected by using simple random sampling technique. Data has been collected by using questionnaire. The findings of the study highlights that, maximum of 239 (70.92% of total faculty of 337 selected) faculty members are facing moderate stress.

Keywords: Stress, Teaching faculty, Management institutions, Low stress, Moderate stress and High stress.

Introduction

Globalization invites the MNCs to India and well coming Indian Entrepreneurs at global market. It encourages many transformation in culture, technology, customer expectations, social and environmental awareness. It demands innovative, dynamic, technically strong, challenging, and qualitative and multi-tasking human resources with multiple skills like conceptual, analytical, problem solving, quick decision making, accountable and smoothly undertaking routine operations. Such a multitasking human resource are the product of modern management schools and are created by professionally sound management faculty who have the knowledge in various management disciplines, aware about changes in and challenges of modern business practices. Accordingly management faculty inculcates such knowledge and experiences in the students who are going to become future business leaders and managers. Along with this, the faculty is also accountable to their institutions, society, parental group and other stakeholders. It reveals the professional role of management faculty. Along with their professional role, they need to contribute and fulfil equally the needs of their family. In fulfilling their multi responsibilities, they may come across with stress.

Concept of Stress

The stress can be explained as the pressure people feel while at work and in private life. Stress at work is inevitable due to the thought process required in the job performance. Private life is full of anxieties and personal pressures. But stress becomes very stressful when it is seriously realized by mind and heart. In such case it becomes painful and creates many physical and psychological problems which are reflected in day to day life of organizational performances. Then, it leads adverse strain on emotions; thought process and action. Such stressful body become burdensome to the employee and becomes useless for the organization. The various stress levels is furnished in Table 1.

Table 1. Stress Levels

Stress Levels	Low Stress	Optimum Stress	High Stress
Reactions	Boredom/Apathy	High energy	Exhaustion
Behavior	Low motivation, Carelessness, Psychological withdrawal, Inactivity	High motivation, Heightened perception, High involvement	Anxiety, Nervousness, Indecisiveness, Bad Judgments.
Performance	Low performance	High performance	Poor performance
Health effects	Dull health	Good Health	Insomnia psychosomatic illness

Need for the study

The phenomenal growth has been found in management education during last two decades due to introduction of liberalization and globalization. These economic reforms impose many challenges and demand advanced managerial skill which is acquired through management education. It enhances the responsibility of management faculty to supply a talented and challenging workforce.

The fast changing educational process of twenty first century has affected educational syllabus at all levels as well as teaching methods so it becomes necessary for teaching faculty to adopt the challenges to survive in fast changing educational field.

There are many branches emerging in management discipline, which impose challenges for teaching faculty to learn the technical skills successfully to ensure effective communication at all levels. To bridge the gap between theoretical knowledge and practice, the faculty should have industrial experience by handling consultancy as well as research projects of corporate houses at one side and have to integrate skills from various disciplines at other side. This necessitates the tremendous and consistent efforts on part of teaching faculty to address people expectations. Also they have to serve their family. Ultimately, this may result in tension, fear, anxiety, pressure, strain and stress in their professional and personal life. The other factors like job insecurity, work overload and accountability without adequate authority, inadequate facilities and lack of recognition may also lead stress in teaching faculty of management institutions.

They are very few research on stress in teaching faculty of management institutions in districts of north Karnataka like Belgaum, Bijapur, Bagalkot, Dharwad, Gadag and Haveri districts. In the light of above background, in present study, an effort is made to assess the stress among teaching faculty of management institutions in selected districts of north Karnataka.

Objectives of the study

The objectives of the study is to assess the stress level of teaching faculty of management institutions in selected districts of north Karnataka.

Research Methodology

Data Source: The present study is based on primary and secondary data.

a) Primary Data: The required primary data has been collected with the help of questionnaire and field survey.

Sample population: There are 337 faculty of have been selected from the management institutions in selected districts of north Karnataka like Belgaum, Bijapur, Bagalkot, Dharwad, Gadag and Haveri.

Sampling Technique: The random sampling technique has been adopted for selection of sample.

b) Secondary Data: The relevant secondary has been collected from articles and textbooks.

Data Processing and Method of Analysis: The data thus collected through the questionnaire has been classified, analysed and tabulated systematically with the help of tables and by using statistical tools like simple percentage analysis. Appropriate interpretations have been added to tabulated and graphic data.

Review of Literature

Fernades and Murthy (1989), were undertaken a study on job related stress and burnout in middle and secondary school teachers in Bangalore City. In the study, they hypothesized that the job stress cause burnout and the higher age group and married teachers would be more vulnerable to burnout.

The study consist of a sample of 50 female middle and secondary school teachers had been selected from seven schools of Bangalore East region. Among these teachers 41 were married and 9 were single. They were belonging to the age group of 22-59 years and Class II of the Socio-Economic status.

The study exhibits that, 76% of the respondents faced stress on job but the degree of stress experienced were differ. Such a stress is caused by factors like student's misbehaviour, time pressures, poor working conditions and poor school ethos. The coefficient of correlation between stress and burnout indicates that, the stress was significantly co-related with emotional exhaustion

Dr. Giri Uday and Rao Nageshwara (2007), conducted a study titled "An Analytical probe into the levels and extent of the stress creators in teaching profession". A sample of 200 secondary school teachers had been selected for the study.

The study reveals that, the sex, age, qualification, type of institutes cause stress among teachers. The study also shows that, compared to male teachers, female teachers were more stressful and also compared to teachers in urban area, the rural teachers were more stressful.

The teachers below 40 years of age group were more stressful. The teachers having less than 15 years of teaching experience were found more stressful. The post graduate and M.Ed. trained teachers were found to be more stressful than graduate and B.Ed. Trained teachers. The teachers working in residential school were more stressful than the teachers working in non-residential school

Irfana Rashid, Parvaiz Talib, (2015) were conducted a study on "Occupational stress and coping styles among Doctors: Role of demographic and Environment variables". The objectives of the study was to examine the nature and levels of role stress experienced by doctors in government hospitals in respect of gender, experience, specialization and geographical areas in India. The study also attempted to explore the various coping styles followed by doctors to deal with occupational stress.

The sample of the study consisted 334 doctors working in government hospitals. The sample consists of 334 doctors working at the government hospitals. The psychometric instrument, Organizational Role Stress Scale (Pareek 1983) and a semi projective instrument, Role Pics (Pareek, Devi & Rosenzweig 1968) had been used to collect the data pertaining to role stress and coping styles

The result of the study indicates that, compared to male doctors, the female doctors were experienced more stress. On the ground of geographical areas, the stress score of doctors in disturbed ambience is significantly higher than the doctors in peaceful ambience. The nature and quantum of role stress among doctors was also differ in respect of their different specialization and experience they obtained.

The study also shows that, on the basis of 'Role Pics' the majority of the doctors adopted a defensive mode of coping (Avoidance coping) followed by imperceptive coping style (Approach coping).

An overview of the study

Factors causing stress for teaching faculty in management institutions

Student Domain: The student related factors like low student aptitude, student misbehaviour, incorrect feedback about faculty by student group, less respect from students etc. cause student domain stress in teaching faculty.

Academic Domain: The academic factors like need to complete heavy syllabus in time, preparation require sufficient time is not available due to workload, difficulty in dealing multiple assignment at a time and lack of work schedule flexibility lead academic domain stress in teaching faculty.

College Domain: The college related factors like inadequate remuneration, job insecurity, poor promotion opportunity, lack of academic recognition, no clear state of responsibilities, lack of support to academic activities and feel of inadequate knowledge, doing administrative work along with teaching, difficulty to handle contradictory instructions, performance evaluation by management cause college domain stress in teaching faculty.

Work Environment Domain: The factors like lack of freedom to express demands and management support to faculty demands, all are equally treated, additional work burden influences teaching efficiency, pressure to produce better exam results, lack of provision for faculty development programmes, obstacle for ethical practices, lack of co-ordination, efforts are not recognized, overcrowded class, long working hours and prolonged standing, unpleasant state of classrooms, job demands too much physical and mental involvement, inadequate directions from superiors etc. lead working environment domain stress.

Family Domain: Difficulty to meet economic necessities due to inadequate remuneration, influences of unpredictable life events like death of family members, miscarriage, divorce etc. Due to workload at the institution, they spare less time with family members at home. This may create misunderstanding and conflict at home leading to family domain stress.

External Domain: Other than job and family, the external factors also lead stress in teaching faculty. Due to job insecurity, the teaching faculty face challenge of job shifting, due to workload, time constraints, non-availability of facilities, the teaching faculty are not updating technological developments, workload due to external college review like NACC, LIC visit, need to fulfil expectations of parents and society etc lead external domain stress.

Stress Levels of Faculty

Stress levels of faculty is categorized in to low stress, moderate stress and high stress on the basis of total mean score of stress is 135.20 and SD is 21.66 which is calculated on the basis of total scores of factors causing stress. Low stress: $\leq \text{mean} - \text{SD}$, Moderate Stress: $(> \text{mean} - \text{SD} \text{ to } < \text{mean} + \text{SD})$ and High stress $(\geq \text{mean} + \text{SD})$

Table 2. Statement of Levels of stress (low, average and high) experienced by faculty (Mean \pm SD=135.20 \pm 21.66)

Factors	Low stress ($\leq \text{mean} - \text{SD}$)		Average stress ($> \text{mean} - \text{SD}$ to $< \text{mean} + \text{SD}$)		High stress ($\geq \text{mean} + \text{SD}$)		Total	
	No	%	No	%	No	%	No	%
Gender								
Male	30	14.85	140	69.31	32	15.84	202	59.94
Female	17	12.59	99	73.33	19	14.07	135	40.06
Total	47	13.95	239	70.92	51	15.13	337	100.0

Factors	Low stress (\leq mean-SD)		Average stress ($>$ mean-SD to $<$ mean+SD)		High stress (\geq mean+SD)		Total	
	No.	%	No.	%	No.	%	No.	%
Age groups								
21-30	11	8.40	102	77.86	18	13.74	131	38.87
31-40	24	18.18	88	66.67	20	15.15	132	39.17
41-50	6	14.63	30	73.17	5	12.20	41	12.17
51+	6	18.18	19	57.58	8	24.24	33	9.79
Types of employment								
Permanent	34	19.88	113	66.08	24	14.04	171	50.74
Temporary	13	7.83	126	75.90	27	16.27	166	49.26
Type of management Institution								
Government	10	13.89	54	75.00	8	11.11	72	21.36
Private	35	13.73	178	69.80	42	16.47	255	75.67
Both	2	20.00	7	70.00	1	10.00	10	2.97

Source: Field survey

The Table 2. represents the stress levels of faculty working at management colleges/institutions.

Total: Out of the total of 337 faculty selected, 47 (13.95%) have come across with low stress, 239 (70.92%) have moderate level of stress and 51 (15.13%) are highly stressed. It indicates that, the maximum of 239 faculty are moderately stressed.

Gender:

- A) Total: Out of 337 faculty, 202 (59.94%) were male faculty and 135(40.06%) were female faculty.
- Male: Among the 202 male faculty, 30(14.85% of total male faculty) have low stress, 140 (69.31% of total male faculty) have moderate level of stress and 32 (15.84% of total male faculty) were highly stressed. It represents that, maximum of male faculty (69.31%) have come across with moderate level of stress.
 - Female: Out of 135 female faculty, 17 (12.59% of total female faculty) have low stress, 99 (73.33% of total female faculty) have moderate level of stress and 19 (14.07% of total female faculty) were highly stressed. It exhibits that, maximum of female faculty (73.33%) have moderate level of stress.
- It is found in the study that, maximum of male faculty (69.31%) and female faculty (73.33%) have come across with moderate stress.
- B) Total: Out of 337 faculty, 47 (13.95%) have low stress, 239 (70.92%) have moderate level of stress and 51 (15.13%) are highly stressed.
- Low Stress: Among the 47 faculty have low stress, 30 (14.85% of total male faculty) were male faculty and 17 (12.59% of total female faculty) were female faculty. It shows that, the low stress is found more in male faculty.

- Moderate Stress: Out of 239 faculty have moderate level of stress, 140 (69.31% of total male faculty) were male faculty and 99 (73.33% of total female faculty) were female faculty. It indicates that, moderate stress is found more in female faculty.
- High Stress: Among 51 faculty have high stress, 32 (15.84% of total male faculty) were male faculty and 19 (14.07% of female faculty) were female faculty. It represents that, high stress is found more in male faculty compared to female faculty.

This comparative study indicate that, both low stress and high stress is found to more in male faculty (14.85% and 15.84%) as compared to female faculty (12.59% and 14.07%). But moderate stress is found to more in female faculty (73.33%) than that of male faculty (69.31%).

Age Groups:

- A) Total: Out of the 337 faculty, 131 (38.87) are under the age group of 21-30, 132 (39.17%) are under the age group 31-40, 41 (12.17%) are under the age group of 41-50 and 33 (9.79%) are under the age group of 51 and more.
- 21-30: Among the total of 131 faculty under the age group of 21-30, 11 (8.40% of total faculty under the age group of 21-30) have low stress, 102 (77.86% of total faculty under the age group of 21-30) have moderate level of stress and 18 (13.74% of total faculty under the age group of 21-30) are highly stressed. It reveals that, maximum number of faculty (77.86%) under the age group of 21-30) experienced the moderate level of stress.
 - 31-40: Out of the 132 faculty under the age group of 31-40, 24 (18.18% of total faculty under the age group of 31-40) have low stress, 88 (66.67% of total faculty under the age group of 31-40) have moderate level of stress and 20 (15.15% of total faculty under the age group of 31-40) have high stress. It exhibits that, higher number of faculty (66.67% of total faculty under the age group of 31-40) are moderately stressed.
 - 41-50: Among the total of 41 faculty under the age group of 41-50, 6 (14.63% of total faculty under the age group of 41-50) have low stress, 30 (73.17% of total faculty under the age group of 41-50) have moderate level of stress and 5 (12.20% of total faculty under the age group of 41-50) are highly stressed. It indicates that, maximum number of faculty (73.17% under the age group of 41-50) experienced the moderate level of stress.
 - 51-and more: Out of the 33 faculty under the age group of 51 and more, 6 (18.18% of total faculty under the age group of 51 and more) have low stress, 19 (57.58% of total faculty under the age group of 51 and more) have moderate level of stress, and 8 (24.24% of total faculty under the age group of 51 and more) are moderately stressed. It represents that, higher number of faculty (57.58% under the age group of 51 and more) are moderately stressed.
- It has been explored in the study that, higher number of faculty under the age group of 21-30 (77.86%), 31-40 (66.67%), and 41-50 (73.17%) and 51 and more (57.58%) have moderate stress.
- B) Total: Out of 337 faculty, 47(13.95%) have low stress, 239 (70.92%) have moderate level of stress and 51 (15.13%) have high stress.
- Low stress: Among the 47 faculty have low stress, 11(8.40% of total faculty under the age group of 21-30) belongs to the age group of 21-30, 24 (18.18% of total faculty under the age group of 31-40) belongs to the age group of 31-40, 6 (14.63% of total faculty under the age group of 41-50) belongs to

the age group of 41-50 and 6 (18.18% of total faculty under the age group of 51 and more) belongs to the age group of 51 and more. It reveals that, low stress is found less in faculty under the age group of 21-30.

- Moderate stress: Out of 239 have moderate stress, 102 (77.86% of total faculty under the age group of 21-30) belongs to the age group of 21-30, 88 (66.67% of total faculty under the age group of 31-40) belongs to the age group of 31-40, 30 (73.17% of total faculty under the age group of 41-50) belongs to the age group of 41-50 and 19 (57.58% of total faculty under the age group of 51 and more) belongs to the age group of 51 and more. It exhibits that, moderate stress is found more in faculty under the age group of 21-30.
- 3) High stress: Among the total of total of 51 faculty have high stress, 18 (13.74% of faculty under the age group of 21-30) belongs to the age group of 21-30, 20 (15.15% of faculty under the age group of 31-40) belongs to the age group of 31-40, 5 (12.20% of faculty under the age group of 41-50) belongs to the age group of 41-50 and 8 (24.24% of total faculty under the age group of 51 and more) belongs to the age group of 51 years and more. It reflects that, high stress is found in faculty under the age group of 51 years and more.

This comparative study represents that, the low stress is found more in faculty under the age group of 31-40 (18.18%) and 51 and more (18.18%). Moderate stress has been found more in faculty under the age group of 21-30 and high stress has been found more in 51 and more as they have less tolerance capacity due to age factor.

Type of Employment:

- A) Total: Out of the 337 faculty, 171 (50.74%) are employed as permanent, 166 (49.26%) are employed as temporary.
- Permanent: Among the total of 171 faculties employed as permanent, 34 (19.88% of total permanent faculty) have low stress, 113 (66.08% of total permanent faculty) have moderate level of stress and 24 (14.04% of total permanent faculty) are highly stressed. It reveals that, maximum numbers of faculty (66.08%) are moderately stressed.
 - Temporary: Out of 166 faculty employed as temporary, 13 (7.83% of total temporary faculty) have low stress, 126 (75.90% of total temporary faculty) are moderately stressed and 27 (16.27% of total temporary faculty) have high stress. It shows that, higher number of faculty have moderate level of stress.
- This comparative study indicates that, maximum of faculty employed as permanent (66.08%) and faculty employed as temporary (75.90%) have moderate level of stress. But temporary faculty (75.90%) are comparatively higher than the permanent faculty (66.08%) who are moderately stressed.
- B) Total: Out of 337 faculty, 47 (13.95%) have low stress, 239 (70.92%) have moderate level of stress and 51 (15.13%) are highly stressed.
- Low stress: Among the total of 47 faculty have low stress, 34 (19.88% of total faculty employed as permanent) faculty employed as permanent and 13 (7.83% of total faculty employed as temporary) faculty employed as temporary. It shows that, low stress is found more in faculty employed as permanent as they have job security.

- Moderate stress: Out of the total of 239 faculty have moderate stress, 113 (66.08% of total faculty employed as permanent) faculty employed as permanent, 126 (75.90% of total faculty employed as temporary) faculty employed as temporary. It represents that, moderate stress is found more in temporary faculty.
- High stress: Among the total of 51 faculty have high stress, 24 (14.04 % of total faculty employed as permanent) faculty employed as permanent and 27 (16.27% of total faculty employed as temporary) faculty employed as temporary. It indicates that, high stress is found more in temporary due to job insecurity, heavy work load, inadequate salary etc.

The comparative study indicates that, Low stress is found more in faculty employed as permanent(19.88%) and moderate and high stress is found more in faculty employed as temporary (75.90% and 16.27%) due to more workload, job insecurity, inadequate remuneration, lack of recognition, no freedom to express etc.

Type of Management Authority of College:

- A) Total: Out of the 337 faculty, 72 (21.36%) are working at government colleges, 255 (75.67%) are working at private institutions and 10 (2.97%) are working at both government as well as private colleges.
- Government: Among the total of 72 faculty working at government colleges, 10 (13.89% of total faculty working at government colleges) have low stress, 54 (75% of total faculty working at government colleges) have moderate level of stress and 8 (11.11% of total faculty working at government colleges) are highly stressed. It shows that maximum of faculty (75%) are moderately stressed.
 - Private: out of the 255 faculty working at private institutions, 35 (13.73% of total faculty working at private institutions) have low stress, 178 (69.80% of total faculty working at private institutions) are moderately stressed and 42 (16.47% of total faculty working at private institutions) have high stress. It indicates that, the higher number of faculty (69.80%) have moderate level of stress.
 - Both Government and Private: Among the total of 10 faculty working at both government as well as private institutions, 2 (20% of total faculty working at both government as well as private institutions) have low stress, 7 (70% of total faculty working at both government as well as private institutions) have moderate level of stress and 1 (10% of total faculty working at both government as well as private institutions) are highly stressed. It reflects that, maximum of faculty (70%) are moderately stressed.
- It has been found in the study that, maximum of faculty working at government colleges (75%), private institutions (69.80%) and working at both government as well as private institutions (70%) have moderate level of stress.
- B) Total: Out of 337 faculty, 47 (13.95%) have low stress, 239 (70.92%) have moderate level of stress and 51 (15.13%) are highly stressed.
- Low stress: Among the total of 47 faculty have low stress, 10 (13.89% of total faculty working at Government colleges) faculty working at government colleges, 35 (13.73% of total faculty working at private colleges) and 2 (20% of total faculty working at both government as well as private colleges) faculty working at both government as well as private colleges. It exhibits that, low stress is found more in faculty working both at government as well as private colleges.
 - Moderate stress: Out of the total of 239 faculty have moderate stress, 54 (75% of total faculty working at government colleges) faculty working at government colleges, 178 (69.80% of total faculty working

at private colleges and 7 (70% of total faculty working at both government as well as private colleges) faculty working at both government as well as private colleges. It shows that, moderate stress has been found more in faculty working at government colleges.

- High stress: Among the total of 51 faculty have high stress, 8 (11.11% of total faculty working at government college) faculty working at government colleges, 42 (16.47% of faculty working at private colleges) faculty working at private colleges and 1 (10% of faculty working at both government as well as private colleges) faculty working at both government as well as private colleges. It reflects that, high stress is found more in faculty working at private colleges as they been assigned more responsibilities. The comparative study highlights that, low stress is found more faculty working at both government as well as private colleges (20%), moderate and high stress is found more in faculty working at private colleges (69.80% and 16.47%).

Findings

Gender:

- It is found that, maximum of faculty consists of male and female have come across with moderate level of stress. But it has been found more in female faculty (73.33%) as compared to male faculty (69.31%) because females are more efficient in balancing and fulfilling domestic responsibilities as well as professional role.
- The low stress and high stress is found high in male faculty (14.85% and 5.84%) as compared to female faculty (12.29% and 14.07%)

Age:

- Higher numbers of faculty of different age group are moderately stressed i.e. 77.86% (21-30), 66.67% (31-40), 73.17% (41-50) and 57.58% (51 and more).
- Low level of stress is found less in faculty under the age group of 41-50 (14.63%) as compared to faculty of other age group and high stress is found more in faculty under the group of 51 & more (24.24%) than that of faculty of other age group.

Type of Employment:

- Higher number of faculty employed as permanent (66.08%) as well as temporary (75.90%) is found to have moderate level of stress.
- Low stress is found more in faculty employed as permanent(19.88%) and moderate and high stress is found more in faculty employed as temporary (75.90% and 16.27%) due to more workload, job insecurity, inadequate remuneration, lack of recognition, no freedom to express etc.

Type of Management Authority of College:

- Higher number of faculty working at government colleges (75%), faculty working at private institutions (69.80%) and faculty working at government colleges as well as private institutions (70%) is found to have moderate level of stress.
- low stress is found more faculty working at both government as well as private colleges (20%), moderate and high stress is found more in faculty working at private colleges (69.80% and 16.47%).

Suggestions

- **Student Domain:** To reduce stress from students, the faculty has to change the behavior of students by maintaining friendly relationship with them instead of scolding them. The faculty has to become model for students with their conducts and use innovative teaching styles based on the learning styles of students.
- **Academic Domain:** To reduce academic domain stress, the faculty has to practice time management skills and develop teaching plan, which helps to complete the syllabus in given time effectively with well prepared and to deal multiple assignments at a time. The management has to facilitate flexibility in work schedule.
- **College Domain:** To reduce college domain stress of faculty, the management has to make provision for satisfactory remuneration equivalent to faculty performance and facilitate the provision for job security, provide opportunity for age and performance based promotion, rewarding and recognizing for academic achievement of faculty, the role and responsibilities to be assigned to faculty should be made clear by ensuring communication channels and maintain good interpersonal relationship among different levels..
- **Work Environment Domain:** To reduce working environment domain stress, the management of the college has to provide an opportunity to faculty to express their ideas, present their requirements or demands or problems before management. Ensure equal treatment of faculty. The management has to appoint additional workforce to reduce the additional work burden of faculty. Make a provisions and programmes for faculty development like facilitating orientation programmes, conducting seminars, workshops, conferences. Maintain a working environment of the institution in such a way that, everyone practice ethical values. There should not be any obstacles for ethical practices. Otherwise it will heart the moral values of faculty. Lead and instruct the faculty in the way in which, there should be co-ordination in all faculty and their activities. There should be normal working hours like seven hours and it should be in practice.
- **Family Domain:** To reduce family domain stress, the management has to facilitate for counselling the faculty by appointing a trained counselor, if they are too much disturbed with some unpredictable life events like losing the family members, miscarriage etc. The faculty has to make plan for vacation with their family members.
- **External Domain:** To reduce external domain stress, the faculty to develop continuous learning in their respective field by smart working which helps them to survive in the changing environment and they face the challenges of job shifting. The management of the college has to conduct awareness programmes for faculty which helps them to get better understand of changed technology or technological developments and digital tools.

Conclusion

Creativity and innovativeness, recognizing organizational realities and implementing effectively are important essentials in changing environment. The teaching faculty of management institutions inculcate such qualities in students and thereby develop leadership skill, analytical skill, group working etc. Along with their professional responsibility, they also need to look after their family and fulfill the family requirements. In performing their dual role they may come across with stress. They may experience low stress or moderate stress or high stress.

On the basis of total score of factors causing stress, the mean score of total stress of faculty is 135.20 and S.D. is 2.66 on the basis of which the stress level of faculty is categorized in to low stress, moderate stress and high stress. The maximum number of selected teaching faculty (70.92% of 337 total faculty) of management institutions in selected districts of North Karnataka are come across with moderate level of stress. This indicates the efficiency on part of the teaching faculty in performing their professional as well as personal/family responsibilities.

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Analysis of Impact of Micro Economic Factors on Liquidity Position of Selected Private Sector Banks in India

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Abstract

This paper examines microeconomic factors that are specific to banks these factors help in finding the liquid assets of the banks. To discover the relationship, Multiple Linear regression on a sample of 10 private sector banks from 2008 to 2017 is performed. The paper concentrates on factors that are connected with micro-level functions of banks such as the profit earned, the size of the selected banks funding the cost of banks, deposits and capital adequacy. The analysis shows that all bank-specific micro-level factors expect profitability affect banks liquidity. Further cost of funds have a negative impact on liquidity; all other factors showed a favourable impact on banks liquidity, only profitability factor have an insignificant effect on the liquid asset position of selected banks. This paper highlights the liquidity position of Private Banks in India and gives a better understanding of liquidity analysis.

Keywords: Banks, Liquidity, Profitability, Deposits, Cost, Size, Capital, JEL Classification

Introduction

Banking services act as an important factor in growth of a economy, strong and stable banks leads to a stable economy. Performance analysis of banks is carried out on regular basis by many researchers it is important to know the performance of banking sector in any country as banking sector plays a very important role in funding for the development of a country as a whole (Muhammad Umar, 2017), Liquidity is created by the banking sector by holding fixed assets, bankers help in funding the long-term fixed assets with short-term current liabilities. As per "Reserve Bank of India (2012), liquidity is a bank's capacity to fund increase in assets and meet both expected and unexpected cash and collateral obligations as they become due". Bank liquidity is affected by many microeconomic factors that are internal and specific to the organizations (Anamika Singh, 2016) "Micro factors include bank-specific determinants of liquidity whereas macro factors are external factors that influence bank liquidity but are not under the control of bank management." (Abdul Razak Abdul Hadi, 2018) For every bank, its strength and resilience may come from within or outside the bank itself. (Munteanu, 2012) "Banks, as major players in the financial universe, need to adjust their aims for profitability in order to get protection against liquidity risk." It is important to study the deposits, interest earned, interest expended total funds received and the total loan given to understand the liquidity position of a bank. (Sun, 2016), The process of moving resources from excess economic units to units having investment opportunities, i.e., "the procedure of converting illiquid assets to liquid liabilities is known as liquidity formation by banks. This process is very important for the smooth functioning of the economy." (Fang Hu, 2013) Commercial banks work on three basic principles of Liquidity, profitability and safety, these principles create trust on the mind of the customers and improve banking operations. "Liquidity is the ability to meet short-term commitments; it is the ability to convert liquid assets into cash as quickly as possible." (P.V. Nketcha Nana, 2014) "The accumulation of large bank reserves displaces funding which could be used to increase the supply of credits to

the private sector. It is thus important to find ways of getting a greater share of bank resources flowing to support private sector development.” For banks, liquidity is an important aspect, as it is important to manage liquidity to meet the demand for loans in the market. As per the RBI liquidity management includes the following:

- Ability to manage the deposits and reduce liabilities by efficiently managing the loan portfolios and the liabilities
- Funding through deposits
- Liability side management
- Asset side management
- Managing off-balance sheet transactions

The present study is an effort to analyse micro internal factors of selected banks (Return on assets, bank size, Capital adequacy ratio, deposits and funding cost) affecting liquidity of Indian private commercial banks, as the paper uses only bank-specific factors it concentrates on internal sources influencing liquidity which are also known as controllable factors. The present paper focuses on the association of liquidity of banks with various bank-related micro level internal factors. The study will help the banks develop plans to maintain adequate liquidity in the future with minimum possible losses and maximum possible gains. The paper is divided into various parts which includes introduction as the first part, the second part discusses about the trends in liquidity position of Indian banks, followed by literature review which forms the third part of the paper, part four focuses on research methodology, followed by data analysis and discussion of results in part five and six. Part seven covers the conclusions and suggestions derived from the analysis.

The Banking Sector in India

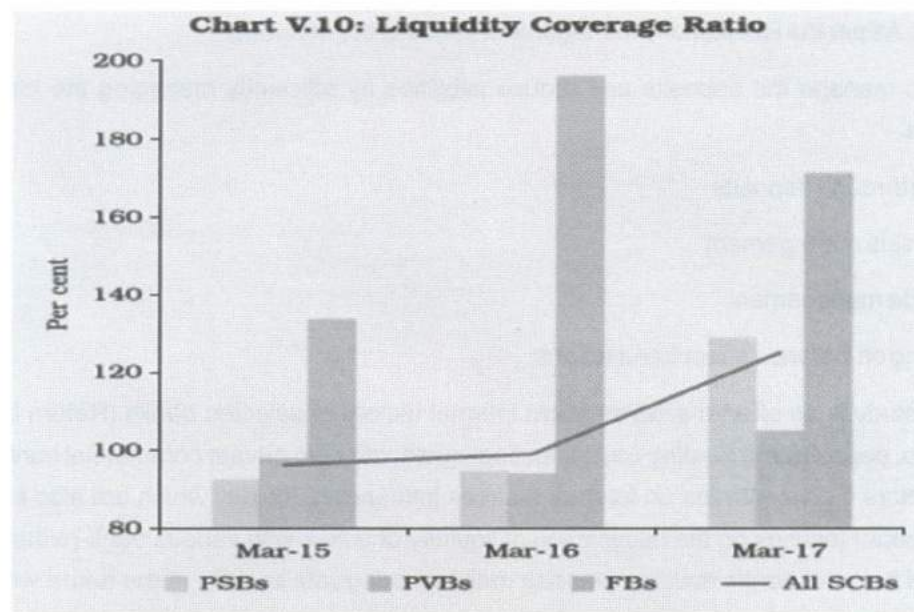
Banking in India is a result of slow and gradual development. The modern commercial banking originated in India during the latter part of 19th century mainly due to the growth of foreign trade and the convergence of organized commercial and industrial sector till the initiation of three presidency banks the European agency houses acted as bankers. For the past three decades, Indian banking has faced several challenges in the form of technology, product innovation in other countries, customer expectations and other external or internal factors. Indian banking system has been strong enough to handle the challenges and has specific outstanding achievements, one of its significant achievements is its extensive reach and ability to serve the ever-growing Indian population. Conservative banking has protected Indian banks from many crises in the past, but in the modern era Indian Banking has been flourishing and expanding all over which has led to the higher valuation of Indian banks as compared to some of the Asian countries.

Liquidity Coverage Ratio of Indian Banks

“The liquidity coverage ratio (LCR) is intended to build banks' short-term resilience to potential liquidity disruptions. LCR requires the banks to have adequate high-quality liquid assets (HQLAs) to withstand a 30-day liquidity shock – net cash outflows in a severe stress scenario. Implementation of the LCR was phased in by the Reserve Bank at 60 percent from January 1, 2015, to reach 100 percent on January 1, 2019” (RBI guidelines).

Liquidity coverage ratio has the upper hand in liquidity measurement and management as compared to statutory liquidity ratio as it covers both assets and liabilities while measuring liquidity. LCR does not allow banks to lend more than necessary this helps banks to maintain sufficient liquid assets for meeting the future requirements.

Figure 1. Liquidity Coverage Ratio (LCR)



Source : RBI (Trend and Progress of Banking in India)

The Figure 1, furnishes the liquidity of public sector banks are improving and increasing drastically form the year 2015 to 2017, the liquidity position of private sector banks is also improving but as compared to public sector banks they maintain less liquid assets.

Literature Review

Measuring and managing banks liquidity position is an essential aspect to be dealt with as liquidity affects the performance of the banks. According to (Muhammad Umar, 2017), the authors study the relationship between capital requirement and liquidity, they deal with three different hypothesis "Financial Fragility structure," "crowding out of deposits" and "risk absorption hypothesis" "the authors opine that there is a negative relationship between bank liquidity creation and capital". (Anamika Singh, 2016), "observed that bank size as bank specific factor has an adverse relationship with bank liquidity while profitability, deposits and capital adequacy ratios have a favourable impact on the bank's liquidity. They also opine that the ownership sector of banks has a greater impact on bank liquidity at the time of financial crises".

Abdul Razak, Abdul Hadi, 2018 in their study is narrowed down towards some relatable concerns within the Basel risk management framework. "Liquidity ratio (LR), capital adequacy ratio (CAR), non-performing loans (NPL) and default risk premium (FQL) are used as a substitute for bank's soundness, while loan growth (FEXP) is a measure for bank's strength". They have tried to work on the impact of liquidity and Capital adequacy ratio on banks performance; they have analysed the relationship between loan growth and NPA. The research questions are answered by using pooled OLS model they conclude that banks profitability is significantly related to the bank's liquidity.

Munteanu, 2012, observed the relationship between bank liquidity and various internal and external factors linked to the bank's performance, the analysis was done by using linear multivariate regression model the analysis is done for the period of 9 years from 2002 to 2010 to cover the financial crises occurred during the year 2008. (Sun, 2016), "focus

on three aspects of liquidity for banks, funding liquidity, liquidity creation, and stock liquidity. A multiple linear regression model is used to find the relationship between variables. The study concludes that bank size does not impact liquidity however macroeconomic factors affect liquidity, there can be many suggestions that can be given to policymakers and regulators on the basis of liquidity analysis of the bank natural log of certain variables is considered to normalize the data.

Fang Hu 2013, observed that it is important to study the relationship between banks liquidity and profitability, also analyse the bank's liquidity risk. "The paper considers six indicators to measure liquidity namely risk-free asset ratio, coverage ratio, changes in deposit ratio, borrowing to deposit ratio, liquidity ratio and deposit credit ratios."

Ahmed Arif, 2012, observed the relationship between bank earnings and various independent variables such as non-performing loans, deposits, cash reserves, and liquidity gap. Correlation and multiple regressions are applied to examine the model. "They conclude that the profitability of a bank is negatively affected due to the increase in liquidity gap and NPLs". The study was performed on commercial banks in Pakistan.

Diamond and Rajan 2001 and Falcomer, 2001, "Emphasise that a mismatch in depositors demand and production of resources forces a bank to generate the resources at a higher cost. Liquidity risk may cause a fire sale of the assets of the bank which may fall into an impairment of the bank's capital base". "They clarify that if too many economic projects are funded with loans, the bank cannot meet the demand of the depositors. Thus, these depositors will claim back their money if these assets deteriorate in value".

Ameni Ghenimi 2017, found that credit risk and liquidity risk do not have an economically meaningful reciprocal contemporaneous or time-lagged relationship. Besides, each risk category has a significant impact on banking stability. The financial crisis have shown that bank failures driven by credit risk in their portfolios, can cause a freeze of the market for liquidity. Central banks responsibility on banking system liquidity consists in accommodating short-term liquidity flow that influences the development of money market interest rates.

Conceptual Framework

Liquidity is an important aspect to study and analyse as it leads to banks stability, if the banks do not maintain sufficient liquidity they may not be able to meet the needs of their customers, and sudden withdrawals by depositors may put banks into trouble. Therefore we study bank-specific factors that impact bank liquidity by setting these hypotheses.

H1: Increase in deposits increases banks liquidity

As the deposits increase the liquidity of bank increases and it allows the banks to handle liabilities in a better way, and therefore we hypothesize that the increase in bank size increases bank liquidity

H1: Decrease in cost of funds leads to high liquidity

As the cost of borrowing from external sources decreases, banks can get funds at lower cost and maintain high liquidity to meet the obligations.

H1: Increase in capital leads to an increase in liquidity

As the banks increase their capitals, there are enough resources available to maintain liquidity.

H1: Profitability has a major effect on liquidity

To increase the profitability, the investments in short and long term assets should increase which in turn leads to less liquidity and more risky assets.

H1: Increase in bank size has a positive effect on liquid assets.

As the bank size increases or expansion process is worked on, the bank's capital raising capacity increases, in turn, the liquidity position increases

Data Methodology

The study tries to find the relationship between bank-specific factors and liquidity it also measures the impact of each factor the bank's liquidity by using multiple regression analysis

Data and Sample:

Liquidity analysis is done for ten private commercial banks of India banks from the criteria for selecting these banks are

1. Banks shares should be listed on the exchange during the study duration.
2. From total asset value the top 10 banks having the highest total asset value were selected from the private sector. Selected private banks are Federal Bank, The Jammu and Kashmir Bank, South Indian Bank, KarurVysya Bank, Karnataka Bank ICICI Bank, HDFC Bank, Axis Bank, Kotak Mahindra Bank, and Yes Bank.

Duration: the study is conducted based on the data collected for ten years from 2007-08 to 2016-17

Sources of data : secondary data like the financial statements of banks was collected through the annual reports of banks and Capital line software.

Variable Description

Dependent Variables:

1. Liquidity has been calculated as the ratio of liquid assets over total assets. Liquidity depends on many factors Therefore in this study it is considered as dependent variable. For banks maintaining proper liquid assets is a must so that they can meet the uncertain demand of the depositors instantly. Liquidity is also essential to meet the daily cash requirements in the course of routine operations.

Independent Variables:

1. **Bank size:** to measure the size of the banks the data of total assets is considered and a natural log of the value of total assets is taken to show less variations in the data.
2. **Profitability:** profit or return can be calculated by finding the ratio between the returns earned and the total investments made therefore to find the profitability return on assets ratio is considered in the study
3. **Funding cost:** is the cost that a firm pays for using funds from different sources in the business therefore cost of funds is considered as funding cost
4. **Deposit:** a ratio of deposits and total assets is calculated to be used as deposits
5. **Capital Adequacy Ratios (CAR):** the banks have to maintain certain liquidity to meet the statutory requirements, CAR Tier-I is taken as the proxy of the capital adequacy ratio in this study.

Table 1 furnishes the summary of variables and expected relationship with liquidity dependent variable.

Table 1. Summary of Variables and Expected Relationship with Liquidity Dependent Variable

Variable	Method of calculating	Effect on liquidity	Data sourcing
Dependent: Liquidity	Ratio between liquid assets and total assets		Capital line software
Independent Profitability	Return on Assets	Negative	Capital line software
Cost of funds	Total interest/ (deposits + borrowings)	Negative	Capital line software
Bank size	Natural log of total assets	Positive	Capital line software
Deposits	Total deposits/total assets	Positive	Capital line software
Capital adequacy ratio	CAR Tire-I	Positive	Capital line software

Source: Compiled from various sources

Methodology

Multiple regression analysis is used to study the impact of each bank-specific variable on the liquidity position of the selected banks, and correlation is used to study the relationship between each variable with liquidity, the correlation also helped in studying the multi-collinearity among the independent variables.

Model Specification

The following equation is formulated to measure the relationship between liquidity and factors specific to selected banks affecting liquidity.

$$\text{Liquidity} = \alpha_i + \beta_1 \text{ROA}_i + \beta_2 \text{COF}_i + \beta_3 \text{bank size}_i + \beta_4 \text{Deposits}_i + \beta_5 \text{CAR}_i + \epsilon_i$$

Where, β_1 , β_2 , β_3 , β_4 and β_5 , are the coefficients of determinant variables and ϵ is the error term.

The data contains ten banks and stretch over ten years (2008–2017). Log of the variables is taken to make the data concise as large data or sample could not give a pertinent out come. Then aturallog of total assets was considered to measure the bank size.

Data Analyses

Data analysis is separated into three parts descriptive statistics, correlation matrix, and multiple regression analysis and is furnished in Table 2.

Table 2. Descriptive Analysis

Descriptive Statistics

	Mean	Std. Deviation	N
Liquidity	7.0770	2.17048	100
Profitability ROA	1.2902	.50973	100
bank size	11.4437	1.09186	100
CAR tire 1	5.3199	6.22824	100
deposits Deposits total assets	78.4614	9.69245	100
cost of funds	6.6604	1.67052	100

The Table 2, throws light on the mean value of the dependent and independent variables and the deviation from the mean is measured through the standard deviation value.

Table 3. Correlation Analysis

Correlations

	liquidity	profitability ROA	bank size	CAR tire 1	deposits Deposits/to	cost of funds
Pearson Liquidity	1000	.082	.083	.444	.022	-.328
Correlation profitability ROA	.082	1.000	.265	.061	-.434	-.250
bank size	.083	.265	1.000	-.318	-.550	-.503
CAR tire 1	.444	.061	-.318	1.000	-.054	-.111
deposits Deposits/total assets	.022	-.434	-.550	-.054	1.000	.391
cost of funds	-.328	-.250	-.503	-.111	.391	1.000

The above Table 3, pertains to correlation analysis of liquidity as the dependent variable and other determinants as independent variables. The table shows the correlation between the selected variable. It also measures collinearity in the independent variables, if the collinearity is high such independent variables should be exempted from the analysis. The table shows that collinearity between all the variables is less than 0.7. The coefficient value is less than 0.7 for all variables, so we can say that these variables are free from the multicollinearity problem.

Table 4. Regression Analysis

Model	R	R square	Adjusted R square	Std. Error of the Estimate	Change Statistics				
					R Square Change	F Change	df1	df2	Sig. F Change
1	.590 ^a	.349	.314	1.79777	.349	10.061	5	94	.000

- a. Predictors: (Constant), cost of funds, CAR tire 1, profitability ROA, deposits Deposits/total assets, bank size
 b. Dependent Variable: liquidity

R-squared measures variance in independent and dependent variable when taken as a group. It does not measure how much a given individual predictor accounts for but only when we take them all as a group. The model summary table says overall the regression of the five predictors predicting liquidity of selected private commercial banks accounts for 34.9% of the variance in practice. This variance is only with the internal factors or firm-specific factors that change liquidity of the banks the remaining 65.1% variance may have been caused by external factors or economic indicators of the country which is not focussed on in this research. From the Table 4 the model is a good fit as the P value is less than 0.05 which means the internal factors have a significant impact on the bank's liquidity.

Table 5. ANOVA

ANOVA

Model		Sum of squares	df	Mean Square	F	Sign
1.	Regression	162.581	5	32.516	10.061	.000 ^b
	Residual	303.805	94	3.232		
	Total	466.386	99			

- a. Dependent Variable : liquidity
 b. Predictors : (Constant), cost of funds, CAR tire 1, profitability ROA, deposits Deposits/total assets, bank are

The Table 5 provides a test of whether the r-squared is significantly higher than zero. In the table, the column labelled sig and at this P value which is less than point 0.05 that means the test is significant in other words R squared is significantly higher than zero that means that our predictors can account for a significant amount of variance in liquidity. The overall regression model analysis was statistically significant, the five predictors together as a group predicts bank liquidity significantly.

Table 6. Coefficients

Model		Unstandardized Coefficients		Standardized Coefficients	t	Sig.
		B	Std. Error	Beta		
1	(constant)	-4.907	4.629		-1.060	.292
	profitability ROA	.239	.396	.056	.603	.548
	bank size	.600	.246	.302	2.444	.016
	CAR tire 1	.184	.034	.529	5.494	.000
	deposits Deposits/tota assets	.075	.025	.333	3.013	.003
	cost of funds	-.304	.133	-.234	-2.280	.025

ANOVA looked at the regression analysis overall or the predictors taken as a set; the coefficients table looks at each of the predictors individually so whether a given predictor was significant on its own. In the above table, we look at the P value for each predictor and see its significance on the liquidity that is the dependent variable. Profitability has a P value of 0.548 which is higher than 0.05. Therefore, it is not significant, bank size, Capital adequacy ratio (CAR), deposits ratio and cost of funds are significant to liquidity as their P value is less than 0.05.

If a test is significant, that means that the amount of unique variance a predictor accounts for is statistically significant. So in other words, Bank size, since it was significant, it accounts for a significant amount of unique variance in liquidity. Unique is that the amount of variance that Bank size accounts for, predicts, or explains in liquidity unique to itself, is significant. Unique to itself means that Bank size explains something in liquidity that CAR or other predictors did not explain. Since CAR, deposits and cost of funds are significant as furnished in Table 6, there is a significant amount of unique variance in liquidity alike to bank size.

The above analysis suggests that Profitability, bank size, capital adequacy ratio, and deposits effect positively towards the bank liquidity, cost of funds hurts the liquidity.

Suggestions and Conclusion

Liquidity allows the banks to run its operations smoothly a strong liquidity position makes the operations of the bank work. It is essential to analyse the liquidity risk and return to find the liquidity position. From the above analysis, we can observe that bank size, CAR, cost of funds and deposits have a significant impact on liquidity and the relationship between profitability and liquidity are not significant. The paper uses multiple linear regression models for the analysis as there are more than one independent variables. Top ten private sector commercial banks are taken into account for the study and the selected banks act as representative to all private commercial banks in India. The study has focused on micro factors of the bank which are controllable so banks can modify their strategies and make proper liquidity decisions by having control over the bank-specific variables.

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Perception of Sales Executives towards Sales Force Effectiveness in Pharmaceutical Industry

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Abstract

Sales Executives play a vital role in hierarchy for generating revenue to the organization. The purpose of this paper is to know the perception of Sales Executives towards Sales Force Effectiveness (SFE) including factors influencing the same with respect to Pharmaceutical Industry. The method used for primary research is survey and data have been collected from Sales Executives across various pharma companies and their divisions. Various statistical analyses have been used to validate the constructs namely, perceptions, feedback, attitude, usage and performance. The present study had made an attempt to find out the perception & acceptance of Sales Force Effectiveness by Sales Executives which has the direct impact on sales performance through segmentation & targeting, better customer management and improved team performance.

Keywords: Sales force effectiveness, Perception, Sales performance, Productivity, Leadership.

Introduction

Sales force is the department which generates revenue directly to the organization so is having lot of importance. Sales force cannot be effective in present context, if they lack knowledge about their products, market, information of their customers and their competitors. Sales force effectiveness (SFE), support entire sales hierarchy to enhance sales productivity and to achieve given goals. In this regard, organizations are continuously adopt different strategies to improve sales force efficiency by improving sales persons' field performance. For successful implementation of sales strategies, acceptance of SFE by field force is very vital. This study is to know perceptions of sales executives about SFE and its support in segmentation, targeting, customer management and team performance.

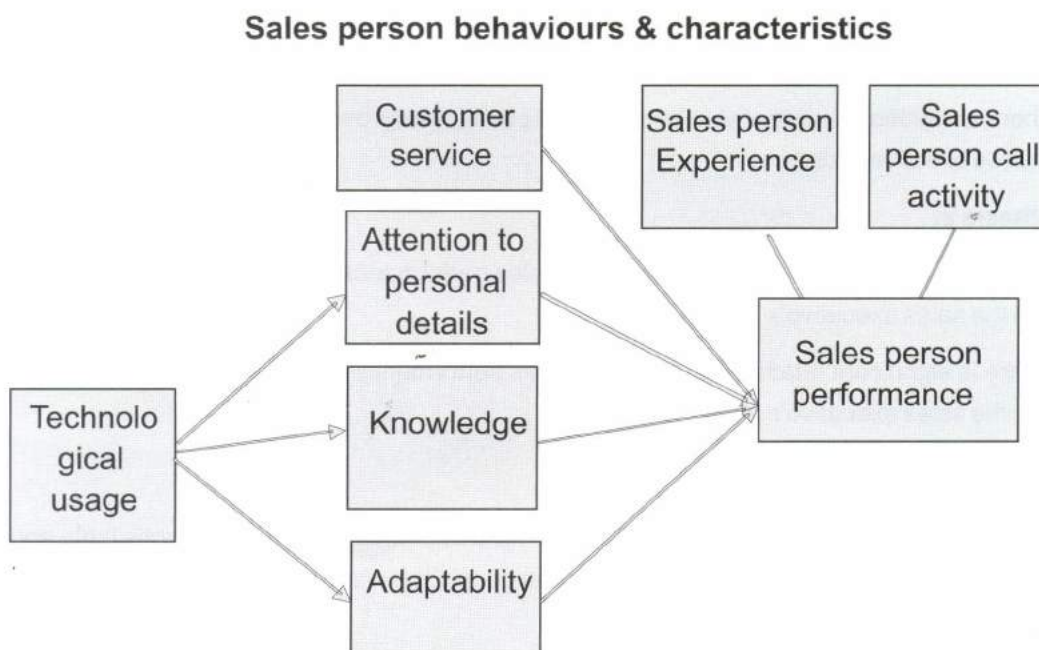
Sales Executive

The role of Sales Executive or in common we call Medical Representative is very important in selling of pharmaceuticals products in market by generating prescription through physicians, making product availability at retail shops and supply from stockiest. This is possible regular visits to customers, keep track of prescriptions & competitors and awareness of market share. They always in front line and have the responsibility to meet customers primarily Doctors, followed by retail chemists and distributors. They enhance their skill sets with the help of training received by training department. Area sales manager helps him/her in, on the job training about segmentation, targeting, retail chemist prescription audit and taking order at distributor's level. Sales executive's very important activity is in-clinic performance. On daily basis Sales Executive must collect competitor's feedback and inform to his superiors. Pharmaceutical industry invest good amount of money on their field force on quarterly and annual basis as a part of their training. To keep sales executives motivated company should adopt good sales strategies through sales force effectiveness.

Sales Force Effectiveness

Sales force effectiveness (SFE) or excellence is about maximizing the performance of the sales team. It provides 360 degree approach to sales management effectiveness. Sales force effectiveness collects information from various sources like HR Department, Marketing department, CRM activities, through EPR solutions, from reporting apps/websites and e-detailing software. With these details, SFE quickly identify good and poor performing territories product wise and executive wise. SFE helps in sales excellence by providing data regularly to sales force which includes efforts and result comparison, planned vs. implemented call analysis, call average and coverage data, product knowledge update and improvising reporting method. SFE helps sales executives in each stage of selling process including identify market, customer, plan to promote which brand, customer prescription behaviour, in-clinic performance, negotiation, and closing the call. The conceptual frame work of sales persons behaviours and characteristics is given in Exhibit 1.

Exhibit 1. Conceptual Framework



According to Michael Ahearne et al [1] Sales technology has impacted CRM activities in sales department for the ultimate benefit of generating revenue to the organization. Technology such as mobile, PDAs, computers, and apps have made reporting much easier for sales executives. According to the above conceptual framework, technology by SFE has an impact on sales executive behaviour like customer service and attention to customer details. It is having impact on sales executive characteristics like knowledge and adaptability. Overall these behaviours, characteristics, sales person reporting & call activity and his experience have the direct impact on sales performance. Considering above parameters my research analyses what is the overall perception of sales executives towards Sales Force Effectiveness in Pharmaceutical Industry.

Statement of the Problem

It is always a challenging task for any organization to measure the effectiveness of sales force. We have to consider many variables to measure sales force effectiveness. Knowing the perception of sales executives towards SFE is the basic and important aspects to measure the variables.

Objectives of the Study

By finalizing the need of the study, following objectives are designed as:

- 1) To understand the overall perception of Sales Executive towards Sales Force Effectiveness in Pharmaceutical Market.
- 2) To know the effective usage of Sales Force Effectiveness Strategies for customer management and team performance by Sales Executives.
- 3) To know the relationship between call planning & customer coverage and sales performance & market share.

Hypotheses

Hypothesis 1:

H0: There is no significant relationship between call planning improved and improving customer coverage due to Sales force effectiveness.

HA: There is significant relationship between call planning improved and improving customer coverage due to Sales force effectiveness.

Hypothesis 2:

H0: There is no significant relationship between sales performance enhancement due to SFE and rise in market share in the sales executive's territory.

HA: There is significant relationship between sales performance enhancement due to SFE and rise in market share in the sales executive's territory.

Limitations

The study is restricted to only sales executives of various pharma companies across India and not entire sales hierarchy. The results so obtained may vary with time and the people interviewed.

Review of Literature

In 2008, according to Michael Ahearne et al [1] sales technology is a foremost important tool for improving customer relationship management. Sales technology helps sales executives to manage prospects, making better & result oriented sales presentations, analysing sales calls reports and sales forecasting. E-detailing has improved interaction time with doctors which have led to improve in-clinic performance. This study also compares sales person's behaviour, characteristics with salesperson's performance.

According to Hewitt Aon [2] sales people success depends on proper customer targeting, right segmentation and positioning of products in customers' mind. Sales talent management includes hiring, selecting, promoting, training, recognizing and motivating sales force employees. In this situation SFE always play a vital role and monitor all above activities. SFE explains sales team productivity depends on historical data analysis, market potential and customer coverage. Sales forecasting also plays a major role in making all products' availability in right time and right quantity which will lead to achieve respective territory sales target.

In 2015, according to KalyanNamita et al [3] across pharma industry, SFE department concentrate on sales executives proper customer coverage planning and impactful customer coverage interaction. SFE creates performance based sales force through coaching, data and dashboards.

In 2014, Lokesh Kumar et al [4] studied about communication with doctors, in-clinic performance is related to sales performance. It also talks about segmentation, product positioning, effective feedback of daily call reporting leads to quantum leap in sales. Retail chemist prescription audit helps to trace prescription behaviour of doctors which sales executive has to do on daily basis.

In 2015, Yahya Saleh et al [5] studied about perception of sales by front line sales people & their managers through sales force automation. Sales force automation and effectiveness helps sales force to enhance their performance.

Andris A Zoltners et al [6] identified factors enhancing sales force effectiveness through analytics which helps in making decision framework for the organization. Combination of sales data, technology and analytical innovation is radically changing the dynamics of sales force management. SFE helps in supporting sales force, diagnose problems & opportunities and design solutions for sales force decisions. SFE drivers enabled by analytics and decision frameworks, ensure that the right sales people is at right place and engaged in a right activities.

Research Methodology

a) Sampling design

Non Probabilistic, exponential non discriminative snowball sampling method is used. Sample population is set of sales Executives in pharmaceutical industry and difficult to reach out them as they are travelling on daily basis. So initially I approached five Sales Executives as respondents, then I got referrals from these initial respondents.

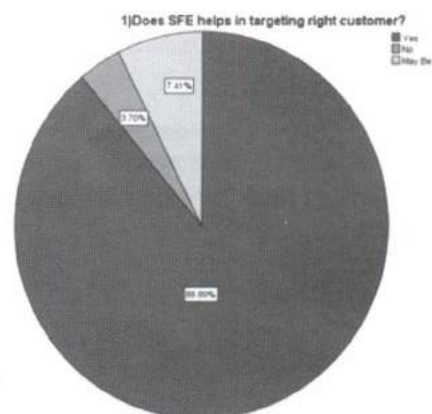
b) Sample size

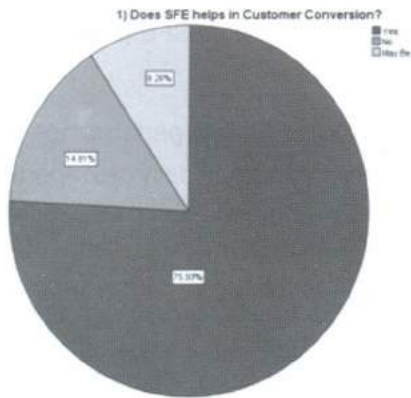
There are approximately 350 Pharmaceutical companies across India in the organized sector who have SFE in their place. Every company have divisions depends on their products and every District is the Sales Executive's (Medical Representative) Head Quarter. As the number of Sales Executive is in very large number, and due to time as the limitation I have chosen snowball sampling method and in a limited time frame, we have collected 54 respondents' feedback.

c) Analysis of the survey

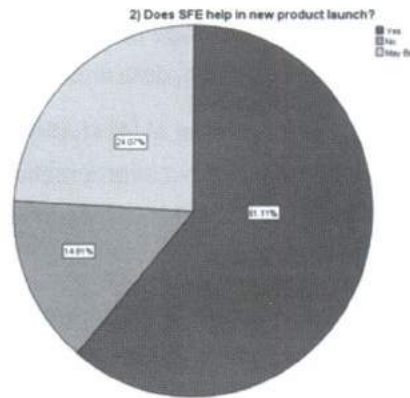
Percentage analysis:

88.9% of respondents said that SFE helps in targeting right customers. If segmentation and targeting of customer is correct, then SFE strategies will get implemented properly and productivity enhances.

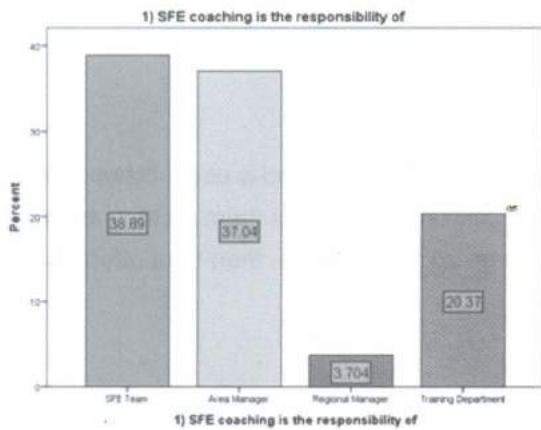




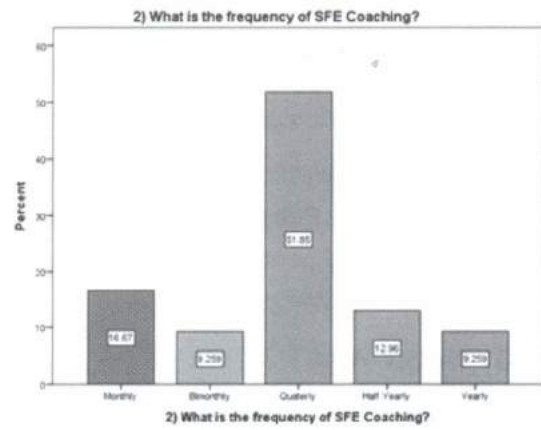
76% of the respondents said that SFE helps them to convert customers on regular basis which is very important for increasing prescription base and to achieve sales budget.



61% of respondents said that SFE strategies are useful while launching new products. SFE helps in identifying right customer, customer potential, and availability of products.

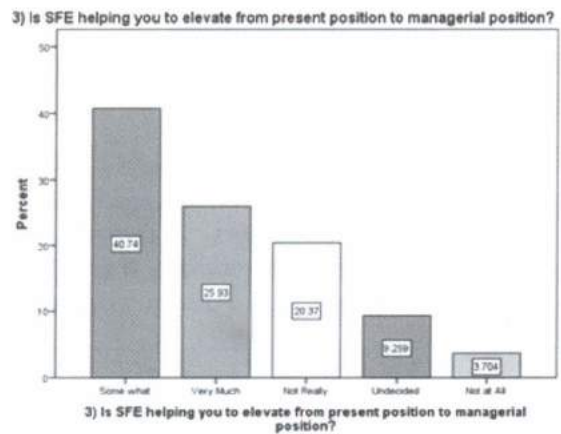


37.04% of respondents said it is area manager who is responsible for coach which is true. 38.89 % of respondents said it is SFE Team responsible for coaching and is a wrong perception.



51.85% of respondents said frequency of coaching happens quarterly which is a negative perception. It is a common practice that SFE discusses strategies quarterly whereas Area manager should do coaching on monthly basis.

Sales Executives have a positive perception About SFE as it helps them for elevation to area manager post.



Hypothesis 1:**Correlations**

		Is call planning improved due to SFE?	Does SFE help in improving customer coverage/call frequency?
Is call planning improved due to SFE?	Pearson Correlation	1	.544
	Sig. (2-tailed)		.000
	N	54	54
Does SFE help in improving customer coverage/call frequency?	Pearson Correlation	.544**	1
	Sig. (2-tailed)	.000	
	N	54	54

** Correlation is significant at the 0.01 level (2 tailed).

There is significant relationship between call planning improved and improving customer coverage due to SFE at 1% level of significance. SFE helps sales executive in customer call planning on daily basis and for entire month. Dashboard guides sales executive to take care of customer coverage and maintaining visit frequency. Hence the alternative hypothesis is true.

Hypothesis 2:**Correlations**

		4) Due to SFE, there a rise in market share in my territory.	5) Sales performance enhanced due to SFE.
Due to SFE, there a rise in market share in my territory.	Pearson Correlation	1	.659
	Sig. (2-tailed)		.000
	N	54	54
Sales performance enhanced due to SFE.	Pearson Correlation	.659**	1
	Sig. (2-tailed)	.000	
	N	54	54

** Correlation is significant at the 0.01 level (2-tailed).

There is significant relationship between sales performance enhancement due to SFE and rise in market share in the sales executive's territory at 1% level of significance. SFE helps in brand building, customer conversion and more prescription generation. Overall these efforts leads to rise in market share. Hence the alternative hypothesis is true.

Findings

Majority of respondents perceived SFE helps in spending quality time in clinic. Also they perceive that SFE helps in enhancing customer relation. We can relate that SFE is helping in improving skill i.e. in-clinic performance of sales

executives for better results. Respondent's perception towards getting support from SFE for RCPA and generating regular orders from distributors is not positive. Also SFE has to do better strategy to gather competitor information which is not up to the mark. There are five skill sets each sales executive has to adopt namely problem solving skills, communication skills, negotiation skills, analytical skills and in-clinic performance. Respondents perceive that SFE is helping to improve in-clinic performance among all skill sets, followed by analytical skills and these will help in improving better team performance.

Suggestions

1. Pharma SFE has to consider feedback from sales executives on monthly basis and respond to the suggestions made by them.
2. Meeting or brainstorming must happen between SFE managers and representatives of sales force on regular basis.
3. SFE should work and improve upon feedback system of Retailers and Distributors. Like Physicians, retailers and distributors are also important stake holders in pharma eco system.
4. SFE team should clearly communicate field force that they are like catalyst to enhance productivity of each team members and coaching responsibility is not their primary concern which is with area manager only.
5. A Pharma CRM can help companies to develop growth strategies. It is necessary for the companies to identify Key Result Areas (KRA) to track the performance of the company. SFE need to use appropriate technology for sales excellence.
6. Based on the analysis of SFE, the company need to align strategic goals with sales effort.

Conclusion

At present scenario, sales executives' perception towards SFE is very positive with very good acceptance. SFE primarily helps sales executives in segmentation and targeting in his/her respective head quarter (territory), also SFE helps in better customer management including retaining present customer, enhancing customers prescription generation and attracting/converting new customers. SFE helps in improving team performance, elevation and recognition of individual. SFE strategies should include improving relations with retailers and distributors and gathering competitors' information.

Scope for Future Research

Further studies can be done on areas of perception of sales executives of a specific pharmaceutical company as they will be operating multiple divisions across India. Perception study by area sales managers towards SFE in pharma industry can be of interesting area. Through perception study researchers can find out gaps between SFE and Salesforce and solution can be provided. Comparison of SFE functions in Pharmaceutical Companies can be made with FMCG companies.

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Patient Satisfaction at Public Health Care Centres

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Abstract

Objective

The main aim of the paper is to access the satisfaction of the patients at public health facilities (infrastructure facilities/basic amenities/non clinical facilities) of Belgaum District Hospital, Karnataka.

Methods

Primary Data: Data was collected from the patients through a structured questionnaire at public health care centres from the sampled Belgaum district and eight taluka hospitals of the district. These District and Taluka hospitals form the part of public health care services.

Secondary Data: Data for the study purpose was assembled from sources viz., mainly articles and journals and newspaper relating to the topic. District Health Office (DHO) and Belgaum Institute of Medical Sciences (BIMS) data has been a part in the process of the study.

Results

A total of 347 patients were included in the study to know their perceptions about the non-clinical services at the public health centres. Maximum of the patients are satisfied with the Ambulance, seating arrangement, cleanliness, lighting, fan, ventilation, rooms, bed, laboratory, pharmacy, timing and 24x7 services there still a need in improvement to be in laundry, hygiene care, privacy, safety, bed covers, canteen, toilets and drinking water.

Keywords: Hospital basic amenities, Patient Satisfaction, Clinical, Non-clinical.

Introduction

Satisfaction of patients has always been a yardstick to measure the services available or services being provided at the health care centres. But it becomes difficult to access patient satisfaction as one cannot consider only clinical facilities even non clinical facilities provided/available at the centre need to be considered. Satisfaction has been defined as a consumer's emotional feeling about a specific consumption experience (1, 2). It is perceived that a service or product themselves or their features provide a pleasurable level of consumption related fulfilment. The patient clearly is the core beneficiary of any good health care system, and becomes the man focus of the health care delivery system.

The perceptions of the patients or clients of the health care system seem to have been highly ignored by the health care managers mostly in the developing countries. Satisfaction of the patients depends not only clinical factors but also on non-clinical factors which comes into contact in the clinical process. These non-clinical factors mainly consist of the basic amenities that exist if the health care centres such as, hospital services, food made available beds etc.

Review of Literature

The recent studies are gaining more importance on the satisfaction of patient or accessing patient satisfaction as it heeds to the needs or helps in removing the hindrances by providing scope for improving the public health care services. Patient's feedback is necessary to identify problems that need to be resolved in improving the health services. This type of feedback triggers a real interest that can lead to a change in their culture and in the perception of patients.

However some of the studies recently on patient satisfaction conducted in India consist of Prahlad R.S, Rajeev K.K, Jayati S. and Laxman S. (2010), Rasheed N, Arya S, Acharya A. and Khandeka J. (2012), Krishna D.R, David H.P. and Karen B.R. (2006), Sujata R. (2011); V. Krishnamoorthy, P. Karthikeyan and N. Prakash (2016), Amitabha C, Tusharkanti S, Prasanto Ray K, Prajjal S, Kakoli B, and Shamima Y. (2013), Mekoth N, George B.P, Dalvi V, Rajanala N. and Nizomadinov K. (2012), and P.R. Sodani and Kalpa S. (2011). (4,5,6,7,8,9,10,11). Hence this study too is an attempts to highlight patient satisfaction among the patients who have availed the basic services at the health care centres other than the core service of treatment from the doctor. The aim of the study is to identify the factors that also affect the satisfaction of the patients among the patients in the non-clinical services. The purpose of the present study is to carry out the evaluation of the public health facility by getting feedback from the patient. It is based on the study conducted at the public health centres in Karnataka state, Belgaum District to measure patient satisfaction who have availed the services. The main objective of the paper is to share the findings on satisfaction of patients about the basic infrastructure of the health care centre. And these infrastructure facilities include water, sanitation, laundry etc.

Manpower Requirements for District and Taluka (Sub-District/Sub-Divisional) Hospitals

India's Public Health System has been developing over the years as a 3-tier system, viz., at primary level, secondary level and tertiary level of the health care. District Health System has been the fundamental basis for implementing different health schemes and policies, delivery of healthcare from the top to the roots till the village level which is managed for a defined geographical area. The term District hospital means a hospital which is termed as the secondary referral level responsible for a district of a defined geographical area containing a defined population.

The next level to that of District hospital is the Sub-District hospital (taluka) level. This forms the first referral units for the talukas population in which area they are located. They form first referrals to the Community Health Centres which are below the taluka hospitals.

The various components which form these health care centres are the infrastructure, Functions, Services, Equipment's and Service Providers. In any service oriented sector the provider forms a very important link with the customers, who is also called as the manpower of the sectors. The study is focusing on the two most important components i.e., the receiver (customer) and provider (human resource) of the service. The study is concentrating on this manpower consisting of, Medical Doctors, Nurses, Paramedical Staff and Administrative Staff. The paper compares the sanctioned manpower by the Government of Karnataka for the functioning of the District and taluka hospitals as per the manpower in position.

Research Objectives

The main objectives of this study is:

- To find out the availability of health care infrastructure.
- To find out the availability of healthcare manpower

Limitations of the Study

In this study the data is collected only from District and Taluka hospitals run by Government of Karnataka, which essential elements of the Public Health Care System.

Research Methodology

The patients (or inmates with patients) were asked to rate the facilities (non-clinical) as unavailable, good, bad and do not know, the facilities were rated so as the patients considered consisted of both in patients and out patients. The percentages of the patients opinion was computed as the results/finding of the study. It showed which facilities need to be improved so the patient can have a good experience during the stay at the health care centre. Data was collected from an overall perception of the patients regarding the basic services available at the health care centre.

Table 1. Distribution of Male and Females Patients by Age Groups

Age groups	Male	%	Female	%	Total	%
0 – 15	41	30.83	41	19.16	82	23.63
16– 30	18	13.53	109	50.93	127	36.60
31 - 50	37	27.82	26	12.15	63	18.16
50 & above	37	27.82	38	17.76	75	21.61
Total	133	100.00	214	100.00	347	100.00

Source: Field Survey

Table 1 illustrates age wise distribution of male and female patient respondents. The maximum number of respondents are in the age group of 16-30 of age i.e., 127 (36.60%) patients, among which 109 (50.93%) are female and 18 (13.53%) are male respondents. Between the age group of 0-15 the number of patients shows the total respondents as 82 (23.63%) of which each consists of 41 of male and female respondents. The age group of 50 and above had the total number of patients to 75 (21.61%) where 37 (27.82) were male and 38 (17.76%) were female. The least number of beneficiaries were in the age group of 31-50 i.e., 63 (18.16%), of which 37 (27.82%) were male beneficiaries and 26 (12.15%) were female beneficiaries

Table 2. Distribution of Male and Female Patient's Educational Qualifications

Educations	Male	%	Female	%	Total	%
No formal education	29	21.80	62	28.97	91	26.22
Primary	44	33.08	57	26.64	101	29.11
Secondary	45	33.83	87	40.65	132	38.04
Graduate & above	15	11.28	8	3.74	23	6.63
Total	133	100.00	214	100.00	347	100.00

Source: Field Survey

Table 2 shows education wise distribution of male and female patients' respondents. Education being one of the important variables which determines the utilization of the existing health care services. The patients who have attained

secondary education is 132 (38.04%) which is the highest amongst the total respondents, of which 87(40.65%) were female and 45 (33.83%) were male. The total of 101 (29.11%) respondents consisting of 44 (33.08%) male and 57 (26.64%) were female respondents having primary education. The patients having no formal education was depressing with total of 91 (26.22%) of which 29 (21.80%) were male and 62 (28.97%) were female patients. The sample beneficiaries visiting government hospital consisted of 23 (6.63%) patients whose education was graduation and above out of which 8 (3.74%) and 15 (11.28%) were female and male respectively

Table 3. Distribution of Male and Females Patients by Admission

Admission	Male	%	Female	%	Total	%
OPD	50	37.59	97	45.33	147	42.36
IPD	83	62.41	117	54.67	200	57.64
Total	133	100.00	214	100.00	347	100.00

Source: Field Survey

Table 3 shows admission wise distribution of male and female patient respondents. Out of the total patients of 200(57.64%) beneficiaries were from IPD, of which 117(54.67%) were female and remaining 83(62.41%) were male beneficiaries. The OPD had a total of 147(42.36%) of the patients which included of 50(37.5%) and 97(45.33%) of males and female beneficiaries respectively. Table 4 above shows the number of visits distribution of male and female patient respondents.

Table 4. Distribution of Male and Females Patients by Number of Visits

Number of visits	Male	%	Female	%	Total	%
First time	39	29.32	60	28.04	99	28.53
1 to 5 times	27	20.30	61	28.50	88	25.36
6 to 10 times	67	50.38	93	43.46	160	46.11
Total	133	100.00	214	100.00	347	100.00

Source: Field Survey

There exits very little difference among the groups distributed. The highest number of patients of the study were in the group of six times and more, with 160(46.11%) of beneficiaries, of which 93(43.46%) were female respondents and 67(50.38%) were male respondents. The study showed number of reasons the major being among them were, good doctors, various department doctors available under one roof, free treatment, reasonable charges etc.

The patients who were visiting for the first time to the health care centers included of total 99(28.53%) beneficiaries of which 60(28.04%) were female and 39(29.32%) were male respondents. The remaining were in between visits with not being first time visitors not coming too frequently, the total respondents were 88(25.36%) of which 27(20.30%) and 61(28.50%) were male and female respondents.

Table 5a. Manpower Requirements

Healthcare Centre	Doctors Sanctioned	Doctors In Position	Nurses Sanctioned	Nurses in Position	Paramedical Sanctioned	Paramedical in Position	Administrative staff sanctioned	Administrative staff in Position
District Hospital (500 Bed)	110	74	316	98	339	168	51	46
Bailhongal (100 Bed)	11	08	19	19	06	05	09	04
Chikkodi (100 Bed)	12	06	17	11	07	05	08	00
Gokak (100 Bed)	15	10	19	16	06	05	05	02
Hukkeri (100 Bed)	10	08	23	17	05	04	06	04
Khanapur (100 Bed)	10	06	21	20	05	05	06	02
Raibagh (100 Bed)	10	08	21	06	05	04	06	00
Ramdurg (100 Bed)	11	08	13	08	05	03	04	01
Savadatti (100 Bed)	16	13	15	12	05	04	12	08

Source: District Health Office

Table 5b. Manpower Requirements

Healthcare Centre	Doctors Sanctioned	Doctors in Position	Nurses Sanctioned	Nurses in Position	Paramedical Sanctioned	Paramedical in Position	Administrative staff sanctioned	Administrative staff in Position
DISTRICT (500 BEDS)	110	74	316	98	339	168	51	46
TALUKAS (100 BEDS)	107	74	165	122	48	39	60	22

Findings

The data in Table 5a and 5b specify the status of manpower required and available, segregated as Doctors, Nurses, Paramedical Staff and Administrative Staff of district hospital and taluka hospitals.

Doctors: At district hospital the number of doctors sanctioned are 110 whereas in position there are only 74 doctors. District hospital is a hospital which acts as the second referral responsible for a district of a defined geographical area containing a defined population. So the population of the patients visiting the district hospital is large in number, therefore it is expected the doctors providing treatment to be more. And the other reason for more doctors is that this hospital centres doctors of all specialities under the same roof. Another drawback for patients visiting the centre is lack of all the medical departments at taluka levels.

At taluka level hospitals, the doctors in position are less compared to the number of doctors sanctioned. This is due to the non-existence of all the departments at the centre or no appointments made as sanctioned, mainly because most of the doctors do not prefer to work in the rural parts of the district.

Nurses: At the district hospital, the sanctioned number of nurses is 316 which forms less to that of the nurses in position with just 98 of them serving.

At the taluka level hospital the number of the nurses in position is less to that of sanction but the variations are not much.

Paramedical Staff: The paramedical staff required at the District hospital is 339, having on 168 in position showing the lack of staff at the health care centre. This inputs the extra burden on the existing staff which creates laziness among the staff as the number of patients too is large.

Taluka hospital shows no significant difference in the staff position where most of the talukas are having staff positions equal to the requirement of the government.

Administrative Staff: 51 is the staff number required for administrative section in the centre whereas 46 is the position of the staff at the District hospital.

The administration sections at taluka levels shows significant difference. The difference exists due as there is no separate staff for administration at Chikkodi and Raibagtalukas, whereas the requirement is eight and six respectively. In other talukas the difference in sanctioned staff and in position staff there exists much difference.

Table 6. Basic Amenities: (Facilities utilized by the patients)

Basic amenities	Total	%
Ambulance		
Unavailable	0	0
Good	244	70.32
Bad	2	0.58
Do not know	101	29.11
Seating Arrangements		
Unavailable	4	1.15
Good	320	92.22
Bad	19	5.48
Do not know	4	1.15

Cleanliness		
Unavailable	0	0
Good	287	82.71
Bad	58	16.71
Do not know	2	0.58
Lighting		
Unavailable	0	0
Good	346	99.71
Bad	0	0
Do not know	1	0.29
Fan		
Unavailable	1	0.29
Good	344	99.14
Bad	1	0.29
Do not know	1	0.29
Ventilation		
Unavailable	0	0
Good	343	98.85
Bad	0	0
Do not know	4	1.15
Toilets		
Unavailable	1	0.29
Good	178	51.3
Bad	144	41.5
Do not know	24	6.92
Drinking water		
Unavailable	150	43.23
Good	128	36.89
Bad	28	8.07
Do not know	41	11.82
Food/Canteen		
Unavailable	273	78.67
Good	31	8.93
Bad	9	2.59
Do not know	34	9.8
Rooms		
Unavailable	5	1.44
Good	324	93.37
Bad	7	2.02
Do not know	11	3.17
Bed		
Unavailable	0	0
Good	294	84.73
Bad	24	6.92
Do not know	29	8.36

Bed Covers		
Unavailable	23	6.63
Good	145	41.79
Bad	129	37.18
Do not know	50	14.41
Safety		
Unavailable	101	29.11
Good	131	37.75
Bad	27	7.78
Do not know	88	25.36
Privacy		
Unavailable	211	60.81
Good	31	8.93
Bad	39	11.24
Do not know	66	19.02
Laboratory		
Unavailable	0	0
Good	325	93.66
Bad	5	1.44
Do not know	17	4.9
Hygiene Care		
Unavailable	22	6.34
Good	70	20.17
Bad	220	63.4
Do not know	35	10.09
Pharmacy		
Unavailable	2	0.58
Good	339	97.69
Bad	0	0
Do not know	6	1.73
Laundry		
Unavailable	129	37.18
Good	39	11.24
Bad	33	9.51
Do not know	146	42.07
Timing		
Unavailable	1	0.29
Good	341	98.27
Bad	1	0.29
Do not know	4	1.15
24x7 services		
Unavailable	1	0.29
Good	334	96.25
Bad	2	0.58
Do not know	10	2.88
Total	347	100

Source: Field Survey

Findings

Table 6 provides the basic amenities utilized by the patients during their stay in the hospital.

Ambulance: 244 (70.32%) of the patients were of the opinion that the ambulance services in the health care centres were good. While 2 (0.58%) and 101 (29.11%) had a bad experience and did not know about the service respectively.

Seating Arrangement: The patients who said that the seating arrangement was not available consisted of 4 (1.15%). 320 (92.22%) patients agreed that the arrangement was good while 19 (5.48%) said it too be bad. And 4 (1.15%) of the patients were not aware of its existence.

Cleanliness: The patients who seem satisfied with this facility are 287 (82.71%) patients while none of the patients agree its unavailability.

Lighting: 346 (99.71%) of the patients are of the opinion that lighting services at the centre are good. 1 (0.29%) patients do not know about the lighting at the centre. While none of the patients have any bad opinion about it and its unavailability.

Fan: Maximum of the patients 344 (99.14%) have a good opinion about the fan facility in the centre. And the rest three patients were distributed one each equally relating to bad opinion, unavailability and its awareness respectively.

Ventilation: The beneficiaries who do not know about the facility consist of 4 (1.15%) which is the lowest and the remaining 343 (98.85%) are of the opinion that it is good.

Toilets: 178 (51.30%) of the patients agree that the toilets at the public health care centre are good similarly 144 (41.50%) are of the opinion that they are bad. Only 1 (0.29%) say of its unavailability.

Drinking Water: Maximum of the client 150 (43.23%) of them are of the opinion that it not available. 128 (36.89%) of the clients said they were good while 28 (8.07%) say they are bad. The remaining 41 (11.82%) do not know about it.

Food/Canteen: About 273 (78.67%) of the patients are of the opinion that the canteen facility is unavailable. And minimum of 9 (2.59%) of them that the facility is bad. 31 (8.93%) and 34 (9.80%) agree that it's good and do not know respectively.

Rooms: The clients who share a good opinion about the room facility at the centres consist of 324 (97.37%), While 7 (2.02%) say they are bad and 5 (1.44%) speak of its unavailability.

Bed: 294 (84.73%) of the patients are of the opinion that the rooms are good while 24 (6.92%) of them had a bad experience.

Bedcovers: The beneficiaries with the good opinion about the bedcovers at the centre are 145 (41.79%) while minimum of 23 (6.63%) patients shared an opinion that they were unavailable.

Safety: The patients who feel that the safety is good at hospital consist of 131 (37.75%) while 27 (7.78%) of them feel it to be bad. The patients who do not know consist of 88 (25.36%) and 101 (29.11%) of the patients feel it is unavailable.

Privacy: Maximum of 211 (60.81%) of the beneficiaries are of the opinion that privacy is not available at the government hospitals.

Laboratory: 325 (93.66%) of the patients agree that the lab services at the centres are good while none of the patients spoke of its unavailability.

Hygiene Care: The maximum of the patients who have had bad experience concerning hygiene care consist of 220 (63.40%). And 22 (6.34%) of the patients feel that's it's not available.

Pharmacy: None of the patients had bad comments about the pharmacy. 339 (97.69%) of the patients had good opinions about the pharmacy.

Laundry: Maximum of the patients 146 (42.07%) are not aware of its existence while the minimum 33 (9.51%) of them feel it's bad.

Timing: 341 (98.27%) of the patients feel that the timing of the centre is good and 1 (0.29%) felt it to be bad.

24x7 Services: The patients visiting the health care centres are satisfied with the 24x7 services available consisting of 334 (96.25%). While 2 (0.58%) do not agree on the same.

Recommendations

Infrastructure Facilities: The target to be achieved by a service organization is satisfaction among its customers. Improvements are essential in non-clinical factors too. The services of which the maximum number of patients are satisfied are that of Ambulance, seating arrangement, cleanliness, lighting, fan, ventilation, rooms, bed, laboratory, pharmacy, timing and 24x7 services.

The areas which need improvement are laundry, hygiene care, privacy, safety, bed covers, canteen, toilets and drinking water. The patients are concerned about drinking water, sanitation and food which form the most essential in one's existence and especially when it is relating to one's health improvement. And moreover at a health care centre it forms even more essential as the patient is undergoing treatment for improvement of his/her health. The government has to take appropriate steps to make proper budgetary allocation to provide these services more adequately. The government also has to identify the gaps in the present and future services, programs and schemes. After all health of the centres is vital for providing appropriate services to patients. So the basic necessities need to be well equipped.

Manpower Requirement: There is also a need to increase the manpower and reorganise the organisation structure in the public health centres in India.

A strong recommendation would be to increase the number of doctors at both first and second referrals i.e., taluka government and civil hospitals. At the least to the number of that the government of Karnataka has sanctioned. Increase in the number of the manpower becomes very essential to reduce the burden of the staff which in turn will help them to perform better. And from the customers perspective they will get required attention for their health and its wellbeing. As the study too has shown that although the sanction from the government is done rightly on basis of geographical area and population the working manpower is not to its mark. The best way would be to carry out any evaluation process regularly which will help the government to know if the standards set by them are maintained.

Conclusion

The study findings about the non-clinical factors shows that they are equally important in the process of patient's treatment. As they form the supporting services to the patients along their treatment and also in their betterment

and improvement of their health during their visit and stay at the health care centre. Efforts should be made to strengthen these non-clinical factors considering their importance as per patient's perception basically. The findings of the present study can be utilised to improve the services at the hospital facilities resulting improvement towards patients health and their satisfaction.

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Jaggery! Do People still Cherish it? A Case Study of Belgaum City, Karnataka

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Abstract

Jaggery in the minds of people is a commodity and does not have technology advancement. From ancient times jaggery is used in Ayurvedic medicine and has spiritual significance. Jaggery has more nutritious as compared to refined white sugar. With the introduction of sugar mills and their multiple growth, improved level of wealth acquisition, easily availability of comfort amenities, easy availability and wide range of products and many necessities at their disposal, demand of jaggery has reduced and demand for white sugar has increased. Also, greed for more yield and profits has made the process unhygienic at the least and poisonous. Therefore, people are also sceptical about the quality and purity. D. B. Agro Industries in Belgaum have adopted sustainable agriculture methods and producing organic jaggery "Madhuramrut" in closed stainless-steel vacuum evaporator's technology. This jaggery is pure and hygiene. The following study is taken up to have an idea about how people view jaggery, to constitute as an input for the branding plan for Madhuramrut.

Keywords: Vacuum evaporated jaggery, Madhuramrut, Knowledge of jaggery.

Introduction

The natural traditional sweetener - Jaggery, is made by the concentration of sugarcane juice. Jaggery has all the minerals, vitamins, polyphenols, etc., that are present in sugarcane juice. So, it is usually called the "healthiest sugar". Also called 'गुडः' in Sanskrit, 'Gur' in Hindi, 'Bellam' in Telugu, 'Vellam' in Tamil, 'Sharkara' in Malayalam, 'Bella' in Kannada, and 'Gul' in Marathi. Jaggery in the minds of people is a commodity and is a saturated commodity market in India. From ancient times jaggery is used in Ayurvedic medicine and has spiritual significance. It has various health benefits (Jaswant Singh, Solomon S and Dilip Kumar 2013; Dr. Michael Saska and Dr. Chung Chi Chou 2012; Arcanjo Francisco P., Pinto Vicente P., Arcanjo Maria R., Amici Márcia R. Amâncio Olga M. 2009). With the introduction of sugar mills and their multiple growth, improved level of wealth acquisition, easily availability of comfort amenities, easy availability and wide range of products and many necessities at their disposal, demand of jaggery has reduced and demand for white sugar has increased (Vishal Awasthi, Rakesh B Gautam, Raj Mani Maurya, Ramjeet Singh, Vikas Yadav, Vishal, Vijay Shankar Yadav, Vijay Shankar Kushwaha and Vijay Pratap 2017). Also, greed for more yield and profits has made traditional jaggery unhygienic and poisonous.

Like other industrial sectors agribusiness faces challenges in the present days. The increase in competition and fast changing consumer demands and expectations, this is due to the ongoing process development in technological field. The awareness of health amongst the people is increasing, and as a result, there is a huge demand for high quality and

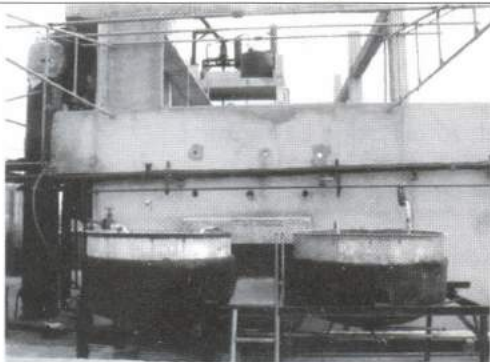

nutritional value food (Straus, T. 2009; Ali, J., Kapor, S. and Moorthy, J. 2010; Sojkin, B., Małecka, M., Olejniczak, T. and Bakalarska, M. 2009; KrystynaGutkowska, IwonaKowalczyk, Marta Sajdakowska, SylwiaŻakowska-Biemans, Anna Kozłowska, Anna Olewnik-Mikołajewska 2014).



But, having said this, Jaggery market is constantly growing and the need for pure and natural product is gaining importance, therefore arises a need of adopting modern technology to produce pure and hygienic jaggery. D. B. Agro Industries in Belgaum has adopted sustainable agriculture methods and producing organic jaggery in closed stainless-steel vacuum evaporator's technology. This jaggery is pure and involves high cost since importance is given to hygiene and capital investment in machineries. Hence, economical, and effective means of marketing, selling, and branding needs to be examined.

Organic Vacuum Evaporated Jaggery is produced by boiling the sugarcane juice in closed stainless-steel multi effect vacuum evaporators using steam heat where the temperature does not exceed 80° C with a low carbon foot print. Due to the low temperature process; all the minerals, polyphenols, flavonoids, vitamins and other nutritional contents present in the sugarcane juice are preserved in the original natural state making them available to the human body.

Advantages and comparison of the Modern Vacuum Evaporation Technology vs Traditional process is shown in Exhibit 1.

Exhibit 1. Modern Vacuum Evaporation Technology vs Traditional process

	Modern Vacuum Evaporation Technology	Traditional process
Working area		
Equipment	All juice contact metal is stainless steel	Juice meets mild steel pan which tends to rust
Juice heating method	Indirect heat using steam heat. Steam generated using 90% bagasse away from the place where jaggery is manufactured	Pan is directly heated on naked fire which uses wood, rubber waste, plastics, tyres, etc., Juice is subjected temperatures more than 300° C
Process temperature	The sugarcane juice and syrup temperature are always less than 85° C	The sugarcane juice and syrup temperature exceed more than 112° C
Adding Chemicals	No chemicals are added	Hydrosis used as bleaching agent (harmful chemical)
Colour	Light brown	Yellow

Form	Powder, granules, nuggets and liquid	Bucket shape moulds and liquid
Working conditions	Clean, safe and worker friendly	Unclean, risky - due to direct contact with fire and boiling juice and unhygienic conditions
Moisture	Less than 1% in Jaggery	Between 15 to 20% in jaggery
Medicinal benefits	Due to low temperature process minerals, polyphenols, flavonoids, vitamins and other nutritional contents are preserved	Since processing temperature is high the natural ingredients of sugarcane juice tend to burn, and formation of the heat generated toxic chemicals like acrylamide are formed
Final product		

Source: Interview with Proprietor, D. B. Agro Industries, Belgaum.

This research article aims at studying the mind set of people in Belgaum city in reference to Jaggery to provide an initial know-how about the people.

Literature Review

In view of the research conducted on jaggery, the literatures are focused on, the cost-revenue ratios of jaggery production, the markets of jaggery, scope of jaggery exports, efficient way of producing jaggery, health benefits of jaggery, etc. Jaggery is still considered as a commodity in India and a rural industry in India which is presumed to have no advanced techniques of manufacturing. The scientific researches acknowledge the fact that jaggery is necessary for human body whereby improves the health as shown in Exhibit 2.

Exhibit 2. Health Benefits of Jaggery

Sl. No.	Author	Source	Paper	Year
01	Thomas Susan	Derivatives Markets in India	The jaggery market at Muzaffarnagar: status and policy recommendations	2003
02	K. C. Sandesh	Thesis, University of Dharwad	Production and export competitiveness of jaggery in Karnataka	2009

03	Arcanjo Francisco P., Pinto Vicente P., Arcanjo Maria	Public Health, Vol. 26(4), pp. 350-354	Effect of a beverage fortified with evaporated sugarcane juice on hemoglobin levels in preschool children	2009
04	JadhavPravin S	Indian Streams Research Journal, Vol. 2, Issue 11	Prospects of Jaggey Industry in Kolhapur District	2010
05	Pawar, Dr. Puja	Jazan University KSA, India	A Study of Jagger Market in Kolhapur District	2012
06	Dr. Saska Michael & Dr. Chou Chung Chi	Development in sugar technologies	Antioxidant Properties of Sugarcane Extracts	2012

Source: Compiled

Objectives of the Study

1. To assess the awareness of jaggery.
2. To know if people know the modern methods of jaggery manufacturing.
3. To get an insight on what do people think about jaggery

Data Collection

For efficient data collection for this paper, survey with questionnaire is preferred, since methods have been used since a long to get the most relevant information and help coming to proper conclusions through analysis. Survey technique is particularly used in behavioural sciences studies and when a study is based on exploration of quantitative data interview method most preferred. In order to get the most out of this survey, a questionnaire was developed.

Along with demographic variables like age, gender, marital status, educational qualification, occupation, monthly income, the researcher has tried to study the knowledge level of the respondents with respect to the demerits of sugar and the merits of jaggery consumption. Next the respondent has been asked about his knowledge of jaggery manufacturing process.

Sample design

According to Census India 2011, Belgaum city is a municipal corporation. It has 1,11,874 households with a population of 4,90,045 (about 10.25% of the district population) and divided into 60 wards. From this 346 people who were above the age group of 20 years were randomly selected from the consumers who visited 12 retail stores located in various parts of the Belgaum city. Simple random sampling technique is being used for this research paper, so that each person has an equal chance to be selected. Also, this method of sampling was adopted because the questions are of very basic nature which does not require any sort of special knowledge or experience and likely hood of getting responses from a mixed demography is possible. Sample size of 384 the formula $[s=Z^2 \times p \times (1-p)/c^2]$ for sample size calculation. Z = Z value (for 95% confidence level = 1.96), p = percentage picking a choice, expressed as decimal (50% = 0.5), c =

confidence interval or margin of error ($\pm 5\% = 0.05$). Accordingly, 384 questionnaires were administered out of which 346 questionnaires were complete. These 346 questionnaires constituted about 90% of the calculated sample, hence were taken further for analysis.

Data Analysis and Interpretation

Table 1. Age

	Frequency	Percent	Valid Percent	Cumulative Percent
Valid 20-30 years	88	25.4	25.4	25.4
30-40 years	196	56.6	56.6	82.1
40-50 years	52	15.0	15.097.1	
50-60 years	10	2.9	2.9	100.0
Total	346	100.0	100.0	

Source: Field Survey

Of the total, 88 (25.4%) respondents fell in the age group of 20 to 30 years, 196 (56.6%) fell in the age group of 30 to 40 years. There were 52 (15%) respondents who fell in the age group of 40 to 50 years. Respondents that constituted the age group 50 to 60 years accounted for 10 (2.9%), as shown in Table 1

Table 2. Gender

	Frequency	Percent	Valid Percent	Cumulative Percent
Valid Male	243	70.2	70.2	70.2
Female	103	29.8	29.8	100.0
Total	346	100.0	100.0	

Source: Field Survey

Out of the 346 respondents' males accounted for 243 (70.2%) whereas females accounted for 103 (29.8%), as shown in Table 2.

Table 3. Marital Status

	Frequency	Percent	Valid Percent	Cumulative Percent
Valid Single	77	22.3	22.3	22.3
Married	257	74.3	74.3	96.5
Divorced	8	2.3	2.3	98.8
Widow	4	1.2	1.2	100.00
Total	346	100.0	100.0	

Source: Field Survey

The married respondents were 257 (74.3%), the unmarried were 77 (22.3%) and were 8 (2.3%) divorcees. There were 4 (1.2%) respondents who were widows of the total respondents, as shown in Table 3.

Table 4. Educational Qualification

	Frequency	Percent	Valid Percent	Cumulative Percent
Valid SSLC or below	1	0.3	0.3	0.3
Below undergraduate	26	7.5	7.5	7.8
Graduate	169	48.8	48.8	56.6
Master's Degree	93	26.9	26.9	83.5
Doctoral Degree	16	4.6	4.6	88.2
Professional course	41	11.8	11.8	100.0
Total	346	100.0	100.0	

Source: Field Survey

Of the 346 respondents there were 1 (0.3%) respondents who had primary education, those who had below undergraduate education accounted for 26 (7.5%) whereas the respondents who had graduate degree constituted 169 (48.8%) of the total respondents. The respondents who had a master's degree were 93 (26.9%), doctoral degree was 16 (4.6%). The professional courses holders accounted for 41 (11.8%) of the total respondents, as shown in Table 4.

Table 5. Occupation

	Frequency	Percent	Valid Percent	Cumulative Percent
Valid Student	12	3.5	3.5	3.5
Govt. Employees	24	6.9	6.9	10.4
Self employed	130	37.6	37.6	48.0
Pvt. Company employee	180	52.0	52.0	100.00
Total	346	100.0	100.0	

Source: Field Survey

The student's respondents were 12 (3.5%), government employees accounted for 24 (6.9%), self-employed were 130 (37.6%) and private company employees constituted 180 (52%) of the total respondents, as shown in table 5.

Table 6. Monthly Income of Family (In Rs.)

	Frequency	Percent	Valid Percent	Cumulative Percent
Valid Less than 10K	24	6.9	6.9	6.9
10-15 K	46	13.3	13.3	20.2
15-20 K	66	19.1	19.1	39.3
20-25 K	62	17.9	17.9	57.2
25-30 K	39	11.3	11.3	68.5
30-35 K	42	12.1	12.1	80.6
35-40 K	30	6.7	6.7	89.3
40-45 K	37	10.7	10.7	100,0
Total	346	100.0	100.0	

Source: Field Survey

Of the total, 24 (6.9%) respondents fell in the income group of less than Rs.10,000 per month, 112 (32.4%) fell in the income group of Rs.10 to 20,000. There were 101 (29.2%) respondents who fell in the group of Rs.20 to 30,000. The respondents that constituted the income group of Rs.30 to 40,000 accounted for 72 (20.8%). Respondents having monthly income above Rs.40,000 were 37 (10.7%) of the total respondents, as shown in Table 6.

Views Regarding White Crystalline Sugar

Table 7.

Eating Sugar leads to Generation of fat and formation of Cholesterol in the body

	Frequency	Percent	Valid Percent	Cumulative Percent
Valid Strongly agree	95	27.5	27.5	27.5
Agree	168	48.6	48.6	76.0
Do not know	48	13.9	13.9	89.9
Disagree	27	7.8	7.8	97.7
Strongly disagree	8	2.3	2.3	100.0
Total	346	100.0	100.0	

Source: Field Survey

Out of the total respondents 263 (76.1%) strongly agreed or agreed that sugar leads to generation of fat and formation of cholesterol in the body. The respondents who did not know the effect of sugar on fats and cholesterol in body amounted to 48 (13.9%) and there were 35 (10.1%) respondents disagreed or strongly disagreed that sugar leads to generation of fats and formation of cholesterol in the body. The statistics revealed that people are aware that sugar leads to generation of fats and formation of cholesterol in the body, as shown in Table 7.

Table 8.

Eating Sugar leads to Type II Diabetes, Obesity and Heart Diseases

	Frequency	Percent	Valid Percent	Cumulative Percent
Valid Strongly agree	105	30.3	30.3	30.3
Agree	178	51.4	51.4	81.8
Do not know	27	7.8	7.8	89.6
Disagree	31	9.0	9.0	98.6
Strongly disagree	5	1.4	1.4	100.0
Total	346	100.0	100.0	

Source: Field Survey

Out of the total respondents 283 (81.7%) strongly agreed or agreed that sugar leads to Type II diabetes, obesity and heart diseases. The respondents who did not know that sugar leads to diabetes, obesity and heart diseases amounted to 27 (7.8%) and there were 36 (10.4%) respondents disagreed or strongly disagreed that sugar causes Type II diabetes, obesity and heart diseases. The statistics revealed that people understand sugar causes Type II diabetes, obesity and heart diseases, as shown in Table 8.

Table 9.
Eating Sugar Leads to Tooth Decay

	Frequency	Percent	Valid Percent	Cumulative Percent
Valid Strongly agree	116	33.5	33.5	33.5
Agree	137	39.6	39.6	73.1
Do not know	57	16.5	16.5	89.6
Disagree	35	10.1	10.1	99.7
Strongly disagree	1	3	3	100.0
Total	346	100.0	100.0	

Source: Field Survey

Out of the total respondents 253 (73.1%) strongly agreed or agreed that sugar leads to tooth decay. The respondents who did not know that sugar leads to tooth decay amounted to 57 (16.5%) and there were 36 (10.4%) respondents disagreed or strongly disagreed that sugar leads to tooth decay. The statistics revealed that people are also aware that eating sugar will have ill effect on the teeth, as shown in Table 9.

Table 10.
Sugar is highly Addictive

	Frequency	Percent	Valid Percent	Cumulative Percent
Valid Strongly agree	102	29.5	29.5	29.5
Agree	93	26.9	26.9	56.4
Do not know	77	22.3	22.3	78.6
Disagree	65	18.8	18.8	97.4
Strongly disagree	9	2.6	2.6	100.0
Total	346	100.0	100.0	

Source: Field Survey

Out of the total respondents 195 (56.4%) strongly agreed or agreed that sugar is highly addictive. The respondents who did not know that sugar is highly addictive amounted to 77 (22.3%) and there were 74 (21.4%) respondents disagreed or strongly disagreed that sugar is highly addictive. The statistics revealed that people are not so aware that sugar is highly addictive, as shown in Table 10.

Table 11.
Manufacturing of Sugar Involves Chemicals which are Harmful to Human Body

	Frequency	Percent	Valid Percent	Cumulative Percent
Valid Strongly agree	116	33.5	33.5	33.5
Agree	110	31.8	31.8	65.3
Do not know	88	25.4	25.4	90.8
Disagree	31	9.0	9.0	99.7
Strongly disagree	1	3	3	100.0
Total	346	100.0	100.0	

Source: Field Survey

Out of the total respondents 226 (65.3%) strongly agreed or agreed that sugar is manufactured by using chemicals which are harmful to human body. The respondents who did not know that manufacturing of sugar involves chemicals amounted to 88 (25.4%) and there were 32 (9.3%) respondents disagreed or strongly disagreed that sugar is manufactured by using chemicals which are harmful to human body. The statistics revealed that people are well that manufacturing of sugar involves harmful chemicals, as shown in Table 11.

Table 12.
Sugar can Cause Learning Disorders in School Children

	Frequency	Percent	Valid Percent	Cumulative Percent
Valid Strongly agree	73	21.1	21.1	21.1
Agree	78	22.5	22.5	43.6
Do not know	140	40.5	40.5	84.1
Disagree	45	13.0	13.0	97.1
Strongly disagree	10	2.9	2.9	100.0
Total	346	100.0	100.0	

Source: Field Survey

Out of the total respondents 151 (43.6%) strongly agreed or agreed that sugar can lead to learning disorders in school children. The respondents who did not know that sugar can lead to learning disorders amounted to 140 (40.5%) and there were 55 (15.9%) respondents disagreed or strongly disagreed that sugar can cause learning disorders in school children. The statistics revealed that people are not that aware that sugar can cause learning disorders in school children, as shown in Table 12.

Views regarding Jaggery

Table 13.
Jaggery is Antioxidant

	Frequency	Percent	Valid Percent	Cumulative Percent
Valid Strongly agree	118	34.1	34.1	34.1
Agree	132	38.2	38.2	72.3
Do not know	85	24.6	24.6	96.8
Disagree	7	2.0	2.0	98.8
Strongly disagree	4	1.2	1.2	100.0
Total	346	100.0	100.0	

Source: Field Survey

Out of the total respondents 250 (72.3%) strongly agreed or agreed that Jaggery is antioxidant. The respondents who did not know that Jaggery is antioxidant amounted to 85 (24.6%) and there were 11 (3.2%) respondents disagreed or strongly disagreed that Jaggery is antioxidant. The statistics revealed that people are well aware that Jaggery has many antioxidant properties and is beneficial to the human body, as shown in Table 13.

Table 14.
Jaggery can Detoxify the Body

	Frequency	Percent	Valid Percent	Cumulative Percent
Valid Strongly agree	96	27.7	27.7	27.7
Agree	121	35.0	35.0	62.7
Do not know	129	37.3	37.3	100.0
Total	346	100.0	100.0	

Source: Field Survey

Out of the total respondents 217 (62.7%) strongly agreed or agreed that Jaggery can detoxify the body. The respondents who did not know that Jaggery can detoxify the body amounted to 129 (37.3%). The statistics revealed that most people are aware that eating Jaggery detoxifies the body, but 37.3% people are not aware about this property, as shown in Table 14.

Table 15.
Jaggery has Sizable Amount of Vitamins and Minerals

	Frequency	Percent	Valid Percent	Cumulative Percent
Valid Strongly agree	96	27.7	27.7	27.7
Agree	194	56.1	56.1	83.8
Do not know	51	14.7	14.7	98.6
Disagree	5	1.4	1.4	100.0
Total	346	100.0	100.0	

Source: Field Survey

Out of the total respondents 290 (83.8%) strongly agreed or agreed that Jaggery has sizable amount of vitamins and minerals. The respondents who did not know that Jaggery has sizable amount of vitamins and minerals amounted to 51 (14.7%) and there were 5 (1.4%) respondents disagreed that Jaggery has sizable amount of vitamins and minerals. The statistics revealed that people are in knowledge that Jaggery has sizable amount of vitamins and minerals which benefits the human body, as shown in Table 15.

Table 16.
Jaggery has Low Glycaemic Index

	Frequency	Percent	Valid Percent	Cumulative Percent
Valid Strongly agree	93	26.9	26.9	26.9
Agree	100	28.9	28.9	55.8
Do not know	140	40.5	40.5	96.2
Disagree	12	3.5	3.5	99.7
Strongly disagree	1	3	3	100.0
Total	346	100.0	100.0	

Source: Field Survey

Out of the total respondents 193 (55.8%) strongly agreed or agreed that Jaggery has Low Glycaemic Index. The respondents who did not know that Jaggery has Low Glycaemic Index amounted to 140 (40.5%) and there were 13 (3.8%) respondents disagreed or strongly disagreed that Jaggery has Low Glycaemic Index. The statistics revealed that people are well aware that Jaggery is Low Glycaemic Index product, as shown in Table 16.

Table 17.

Jaggery Increases Iron and Haemoglobin in the Body

	Frequency	Percent	Valid Percent	Cumulative Percent
Valid Strongly agree	164	47.4	47.4	47.4
Agree	105	30.3	30.3	77.7
Do not know	65	18.8	18.8	96.5
Disagree	8	2.3	2.3	98.8
Strongly disagree	4	1.2	1.2	100.0
Total	346	100.0	100.0	

Source: Field Survey

Out of the total respondents 269 (77.7%) strongly agreed or agreed that Jaggery increases iron and haemoglobin in the body. The respondents who did not know that Jaggery increases iron and haemoglobin in the body amounted to 65 (18.8%) and there were 12 (3.5%) respondents disagreed or strongly disagreed that Jaggery increases iron and haemoglobin in the body. The statistics revealed that people are well aware that Jaggery increases iron and haemoglobin in the body, as shown in Table 17.

Table 18.

When Jaggery is used as a Substitute for Sugar, it Reduces Weight

	Frequency	Percent	Valid Percent	Cumulative Percent
Valid Strongly agree	121	35.0	35.0	35.0
Agree	100	28.9	28.9	63.9
Do not know	119	34.4	34.4	98.3
Disagree	6	1.7	1.7	100.0
Total	346	100.0	100.0	

Source: Field Survey

Out of the total respondents 221 (63.9%) strongly agreed or agreed that when jaggery is used as substitute for sugar, it reduced weight. The respondents who did not know that When jaggery is used as substitute for sugar, it reduced weight amounted to 119 (34.4%) and there were 6 (1.7%) respondents disagreed that When jaggery is used as substitute for sugar, it reduced weight. The statistics revealed that people are know that when jaggery is used as substitute for sugar, it reduced weight. But still 36.1% do not know or disagree, as shown in Table 18.

Q. Views Regarding Jaggery Manufacturing Process

Table 19.

**Traditional Process of Manufacturing of Jaggery
Involves Unhygienic Methods**

	Frequency	Percent	Valid Percent	Cumulative Percent
Valid Agree	129	37.3	37.3	37.3
Do not know	175	50.6	50.6	87.9
Disagree	42	12.1	12.1	100.0
Total	346	100.0	100.0	

Source: Field Survey

When asked about their knowledge about the manufacturing for jaggery in Traditional process of involves unhygienic methods 129 (37.3%) respondents said that they agree to the fact. The respondents who did not know that Traditional process of manufacturing of jaggery involves unhygienic methods amounted to 175 (50.6%) and 42 (12.1%) disagreed. This shows that people are do not have enough knowledge about how traditional jaggery manufacturing process is unhygienic, as shown in Table 19.

Table 20.

In Traditional Process of Manufacturing of Jaggery there are no Controls over the Process

	Frequency	Percent	Valid Percent	Cumulative Percent
Valid Agree	91	26.3	26.3	26.3
Do not know	213	61.6	61.6	87.9
Disagree	42	12.1	12.1	100.0
Total	346	100.0	100.0	

Source: Field Survey

When asked about their knowledge about the manufacturing for jaggery in Traditional process, has no controls over the process methods 91 (26.3%) respondents said that they agree to the fact. The respondents who did not know that in traditional process of manufacturing of jaggery there are no controls over the process amounted to 213 (61.6%) and 42 (12.1%) disagreed as shown in Table 20. This shows that people are do not know about traditional jaggery manufacturing process.

Table 21.

In Traditional Process of Manufacturing of Jaggery, Product cannot be Trusted

	Frequency	Percent	Valid Percent	Cumulative Percent
Valid Agree	186	53.8	53.8	53.8
Do not know	118	34.1	34.1	87.9
Disagree	42	12.1	12.1	100.0
Total	346	100.0	100.0	

Source: Field Survey

When asked about their trust in the manufacturing for jaggery in Traditional process 186 (53.8%) respondents said that they agree to the fact. The respondents who could not say that they have trust or not in traditional process of manufacturing of jaggery amounted to 118 (34.1%) and 42 (12.1%) disagreed and said they trust the traditional process as shown in Table 21. This shows that people are have no trust in the traditional jaggery manufacturing process.

Table 22.
There are Modern Technologies that Produce Jaggery in Hygienic Way

	Frequency	Percent	Valid Percent	Cumulative Percent
Valid Agree	42	12.1	12.1	12.1
Do not know	175	50.6	50.6	62.7
Disagree	129	37.3	37.3	100.0
Total	346	100.0	100.0	

Source: Field Survey

When asked about their knowledge about modern manufacturing process for jaggery, 42 (12.1%) respondents said that they agree there are a few modern methods that are been adopted. The respondents who did not know that there are modern technologies that produce jaggery in hygienic way amounted to 175 (50.6%) and 129 (37.3%) disagreed as shown in Table 22. This shows that people are do not know that there are modern technologies that produce jaggery in hygienic way.

Findings

1. Most of the respondents were married male graduates for the age group 30 – 40 years who were employed in private or government having mixed income group.
2. When questions were asked to know their knowledge level of ill effects of sugar, the following information was revealed:
 - a. That people are aware that sugar leads to generation of fats and formation of cholesterol in the body.
 - b. That people understand sugar leads to Type II diabetes, obesity and heart diseases.
 - c. That people are also aware that eating sugar will have ill effect on the teeth.
 - d. That people are not so aware that sugar is highly addictive.
 - e. That people are well that manufacturing of sugar involves harmful chemicals.
 - f. That people are not that aware that sugar can cause learning disorders in school children.
3. When questions were asked to know their knowledge level of healthy effects of jaggery, the following information was revealed:
 - a. That people understand Jaggery has many antioxidant properties and is beneficial to the human body.
 - b. That most people are aware that eating Jaggery detoxifies the body and, but about half of the people are not aware about this property.

- c. That people are in knowledge that Jaggery has sizable amount of vitamins and minerals which benefits the human body.
 - d. That people understand Jaggery is Low Glycaemic Index product.
 - e. That people understand Jaggery increases iron and haemoglobin in the body.
 - f. That people are known that when jaggery is used as substitute for sugar, it reduced weight. But still 36.1% do not know or disagree.
4. When questions were asked to know their knowledge level of jaggery manufacturing process, the following information was revealed:
- a. That people are do not have enough knowledge about how traditional jaggery manufacturing process is unhygienic.
 - b. That people do not have enough knowledge about traditional jaggery manufacturing process.
 - c. That people do not have enough trust in the traditional jaggery manufacturing process.
 - d. That people are do not know that there are modern technologies that produce jaggery in hygienic way.

Suggestions & Conclusion

From the above data and the analysis, it is concluded that most of the respondents are aware that consumption of sugar could lead to ill effects on the body. People also do consider jaggery as healthy and have a fair amount of knowledge. But when it comes to the manufacturing process people do not have trust and knowledge. Many people do not know that there are modern methods and process by which pure hygienic product with less moisture can be got.

It is suggested that, D. B. Agro Industries needs to market their product Organic Vacuum Evaporated Jaggery – Madhuramrut by informing the public about their process and how their product is better than the traditional jaggery. It is also noted that more stress is given to the benefits of jaggery to human body. The target audience should be all people who are 25 years and above. Madhuramrut should be positioned separately than jaggery and as a much superior product than jaggery.

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Product Innovations for Micro Insurance

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Abstract

Micro insurance is often treated as a scaled-down version of traditional insurance. But this form of insurance is different. Micro insurance is a developmental tool to protect low income populations from risks. This insurance is rapidly gaining traction in emerging markets across the globe. However, the progress on this front has been tardy despite the use of technology to penetrate the market and grow the business. This is due to absence of product innovations and less awareness about benefits of micro insurance. Low income communities need to be treated as customers. These customers also need a value proposition.

Claims payment process is the moment of truth in micro insurance as this is what will build trust among the low income population. Innovations in this area need exploration. Micro insurance covers bundled with saving options are one among the many new product ideas that are suggested in this work. Product innovations must be complemented by creative methods of distributing micro insurance. Lastly, insurers must not limit themselves to offering covers for protection of risks – they must go beyond offering their unstinted support for community development activities.

Keywords: Micro insurance, socially underprivileged, low-income population, self help groups.

Introduction

Micro insurance addresses the dilemma of low income populations. These populations need insurance because they do not have a suitable mechanism to cope with risks and insurance is the only option available to them.

Micro insurance products are characterized by modest premiums and small coverages. The covers are provided for life, accident, disability, property, health and agriculture. The risk in micro insurance products is limited. There have been cases of fraudulent claims that have been reported; yet the processing of claims in micro insurance has to be expedited. Generally, the tendency is to carry out group underwriting for micro insurance.

Well known management scholar Michael Porter has exhorted businesses to relook at the value chain so that shared social and economic value can be created. Porter's theories can be applied in insurance sector so that customers get better value. In developing nations like India and China, micro insurance presents a good business opportunity.

This study has attempted to broadly capture the product innovations in micro insurance. However, product innovations alone are not enough to sustain the micro insurance portfolio. Product innovations need support through innovations in distribution and efforts to build awareness among low income populations.

The trajectory followed in this effort is delineated now. First, we gain some conceptual clarity and insights about micro insurance including operational definitions gleaned from a critical review of secondary sources of information available. Then we look at the challenges and opportunities for micro insurance in India. In addition, the paper also presents successful examples of micro insurance models across the globe. The influence of technology on sustainability and scale of micro insurance is also documented.

Results of the brainstorming session conducted with management students are documented and this gives us an inkling of what the present generation thinks about the role of insurers in improving the lot of the poor. Finally, observations from literature are recorded along with suggestions and recommendations. Conclusion is then drawn based on information collected, collated and reviewed.

Micro Insurance – Concepts & Definitions

The International Association of Insurance Supervisors (IAIS) defines micro insurance as “the protection of low-income people against specific perils in exchange for regular premium payments appropriate to the likelihood and cost of the risk involved.” Low income populations have inadequate informal tools to manage their risks. So they need some kind of insurance cover.

Insurers are often concerned that micro insurance should not lead to business losses for them. At the same time, they also feel obliged to provide protection to underprivileged sections of society. These competing objectives need to be balanced well (Cohen and Sebstad, 2006).

Key Characteristics of Micro Insurance

Micro insurance must be physically accessible. The policy document must be simple and easy to understand. The premiums must be small to accommodate irregular cash flows. Exclusions must be few. Sums insured must be small – often for short terms. Chart 1 provides the characteristic features of micro finance and Chart 2 provides the innovations in micro insurance.

Micro insurance protects people’s livelihoods by offering protection for low income people against specific peril. The premium payments are proportionate to the likelihood and cost of the risk involved.

Background of Micro Insurance in India

India’s life insurance penetration is 2.72%. The penetration of general insurance is 0.77%. The total market size of the insurance sector in India is projected to touch US \$ 350-400 billion by 2020. From Table 1, it is clear that the ratio of premium to GDP was 3.49% during the period 2016-17. Insurance continues to be underpenetrated in India. This is further supported by data in Table 2.

The micro insurance sector in India has also not grown as much it was expected to grow. IRDA drafted micro insurance guidelines in 2010; lower threshold limit for agents’ commissions was fixed. Regional rural banks and NGOs in rural areas were designated to distribute micro insurance products.

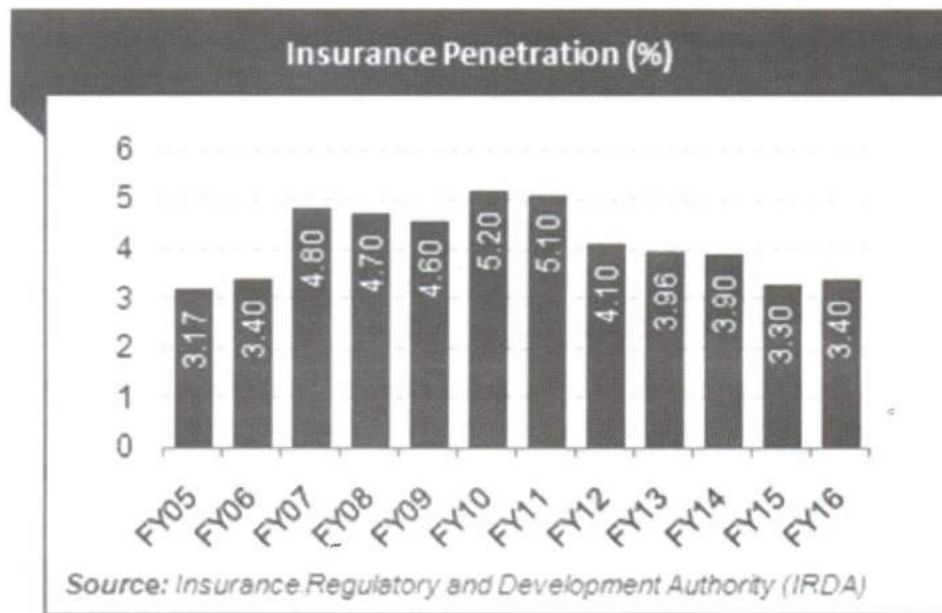
Table 1. Ratio of Premium to GDP

Name of country	Ratio of premium underwritten to Gross Domestic Product (2016-17)
India	3.49%
Thailand	5.42%
China	4.77%
Malaysia	4.77%

Source: Compiled from various sources

NGOs and self help groups act as agents to insurers in marketing the micro insurance products and also allow both life and general insurers to promote combi-micro insurance products (combining different lines of business). IRDA has amended the micro insurance regulations in 2015. Now district co-operative banks and regional rural banks can also act as micro insurance agents for better penetration of micro insurance business as shown in Table 3.

Table 2. Insurance Penetration in Percentage



Sixty micro insurance products are offered by general insurance companies like cattle policy, kisan agriculture pumpset policy, Janata personal accident policy, silkworm sukshmbima policy, sheep and goat micro insurance policy, sampoonagrihasuraksha policy. In the year 2016-17, Pradhan Mantri Fasal Bima Yojana covered 50.9 million farmers. The gross premium was Rs. 1725524 lakhs and the number of claims was 8712396. The claim payout was Rs. 657366 lakhs.

Table 3. Micro Insurance Coverage in India

For the year 2016-17	
Individual new business premium under micro insurance segment	Rs.38.22 crores under 9.56 lakh new policies.
Group business premium	Rs. 460.43 crores covering 3.22 crore lives.
Number of micro insurance agents	35200
Share of agents	NGOs – 21.7%, Self -help groups – 1.1%, Micro
Finance institutions – 1%,	
Insurance agents – 75.9%	Business correspondents – 0.2% , other micro

Source: IRDA Annual Report 2016-17

Table 4. New Business under Micro Insurance Portfolio, 2016-17 (Premium in Rs lakh)

Insurer	Individual Policies	Individual Premium	Group Schemes	Group Premiums	Lives covered
Private Total	475269	2234.37	387	12035.36	9281170
LIC	480892	1587.13	4812	34007.62	22965393
Industry Total	956161	3821.50	5199	46042.98	32246563

Source: IRDA Annual Report 2016-17

Table 4 clearly indicates that LIC has played a dominant role in covering more lives under micro insurance portfolio and that private sector has not focused on group schemes. Table 5 shows that the private sector has enrolled more number of micro insurance agents during 2016-17.

Table 5. Micro Insurance agents of Life insurers, 2016-17

Insurer	As on 1st April 2016	As on 31st March 2017	% change
Private Total	8990	15899	76.85%
LIC	18574	19301	4%
Industry total	27564	35200	28%

Source: IRDA Annual Report 2016-17

Table 6. Micro Insurance agents of Life insurers, 2016-17

Micro insurance agents	Private Total	LIC	Industry Total
NGOs	142	7504	7646
Self Help Groups	20	369	389
Micro finance institutions	22	337	359
Business Correspondents	6	74	80
Other Micro Insurance agents	15709	11017	26726
Micro insurance agents total	15899	19301	35200

Source: IRDA Annual Report 2016-17

Figures in Table 6 clearly indicate that LIC has joined hands with more number of NGOs, self-help groups, micro finance institutions and business correspondents as compared to the private insurers.

Challenges in Micro Insurance

High operating costs, absence of a compelling value proposition and accessing clients in remote areas are the main ills plaguing micro insurance. Lack of quality data for underwriting is also a challenge. Not offering products and services that are of value to customers is also the main reason.

Customers who need insurance the most – the mass market- are the last to get it. Listening to customers and their needs, re-shaping product terms and processes and partnering with large brands are essential to provide customers with innovative micro insurance covers.

Insurers must understand three points

- a. Identify and understand a problem
- b. Propose ideas to tackle the problem
- c. Execute a solution as skillfully as possible

Absence of an effective grievance redressal mechanism, mobility of targeted population and uncertainty of incomes are other challenges faced by micro insurance sector. Pricing is the not the most important variable for micro insurance. The tendency of insurers to sell covers without knowing what risks the insured is experiencing can be a setback.

Limitations of Micro Insurance

Low benefit caps and low share of premiums paid as claims are key limitations. In India, micro insurance is still not popular due to following reasons:

1. Small ticket size
2. Poor agent and distributor commissions
3. Unviable proposition
4. Customer unfriendly

Need for Product Innovations in Micro Insurance

Innovations to address constraints of developing economies have led to extension of micro insurance schemes to mature economies as well. Innovations in the form of new products, distribution channels and segments characterize micro insurance.

Micro insurance helps insurers to increase insurance adoption and drive growth. Innovations across the value chain can lead to social and economic impact. Innovations are needed to tackle tough development challenges and arrive at inclusive solutions that enhance service delivery to the poor.

Sustainability is important for an insurer. The market at the bottom of the pyramid (a marketing philosophy that was made popular by C K Prahalad and Gary Hamel) is immense; the economies of scale can drive profits from huge volumes despite low margins.

Success in micro insurance will lead to a win-win proposition – the poor will benefit due to the protection and insurers will make profits that can drive further growth.

Low-income households may not understand what risk protection is all about. They may feel that unless the insured event happens, the money that they spend for premium may be a waste. Therefore, a term life product is attractive as it gives cash benefit on survival.

In rural areas, there is a myth that insurance is something that will benefit you only after your death. This highlights the need for consumer engagement and education to drive awareness among the low income households.

Methods for Delivering Product Innovations in Micro Insurance

There are three main dilemmas in micro insurance model

1. What product type is relevant? – health, life, agriculture or property
2. What product features will meet needs of client?
3. How to market the product?

Innovative, simple, flexible products taking into account the lifestyle and needs of the low income group are a must. Proposal approval must be quick and premium payment must be flexible; Product design must be simple. Policy wording must be in simple language with few exclusions. Premium collection must match frequent and irregular payments. Maturity/ death claim settlement must be a simple affair.

Product innovation must address issues concerning flexibility and adaptability of the insurance cover to meet individual needs and preferences. Customers can be given cash back bonus as part of “No claims” so that they are incentivized to take proper care of their assets.

Cultural factors must be considered while designing micro insurance products. The products have to be simple and communication must be in local language.

Index-based insurance is an innovation by which an external indicator triggers payments to claims rather than a claims process initiated by the insured. Insurers have to work hand-in-hand with clients, meteorologists, financial experts and brokers to build indexes that most accurately reflect the clients' risk.

Issues in Index Based Crop Insurance

Index based products cover losses when there are observable variations from standard local rainfall levels or crop yields. In index insurance, basis risk results when index measurements do not match an individual insured's actual losses. This can be due to poor product design.

Geographical risk is a factor of the distance between the location where the index is measured and the production field. The greater is this distance, the greater is the basis risk. This often leads to a strange situation wherein those who do not suffer losses receive compensation and those who suffer losses do not receive the compensation. So, to address this risk, the index has to cover an area that is homogeneous both in terms of weather and in terms of farming techniques.

Different Types of Innovative Products in Micro Insurance

1. Pure term assurance product

2. Term assurance with return of premium
3. Group insurance covers
4. Endowment insurance
5. Family health insurance
6. Individual health insurance contracts

How can Micro Insurance Product Design be Made More Innovative?

This needs a rethink of traditional insurance principles – not to dilute them but with a strategic intent to look at how these can be made more relevant for the underprivileged. Bundling of covers with savings plans is significant. The insurance cover must go beyond 'protection against risks' to 'offering solutions for problems'.

Awareness of innovative products must be driven through community efforts like street plays, posters, videos, songs and animations. Design must consider requirements of marginalized sections of society.

Steps to Engineer Innovations in Micro Insurance Products

1. Redesign the micro insurance product to make it more relevant
2. Adapt product to market
3. Look at options for combining savings and risk cover at the same time
4. Innovative products need innovative and trustworthy distribution channels
5. Communicate about what is covered in insurance and what is not
6. Use buzz marketing to attract communities to subscribe to micro insurance.

Use of Technology to Drive Growth of Micro Insurance

Technology plays an important role in innovative distribution – for example – customers access micro insurance through mobile network operators. Advances like satellite data, global positioning systems and point of sale terminals can improve micro insurance in a variety of ways.

Point-of-sale devices allow customers to enroll and make premium payments remotely. Tele-medicine is another innovation that has been providing support for rural health insurance efforts.

In Africa, mobile Network Operators (MNOs) have been playing an increasingly important role as a distribution channel for micro insurance products.

Customers using a certain amount of airtime minutes per month receive free life insurance.

Mobile apps, fin tech systems and digital innovations are transforming the way micro insurance is administered. On demand coverage is slowly gaining popularity.

On-demand insurance is here to stay. It is best to remember who micro insurance aims to serve.

Case Let

A farmer goes to an approved dealer to buy a bag of fertilizer. He pays 5% extra to get climate coverage. The dealer scans a special bar code. The policy is now registered with the insurer. A text message is sent to the farmer's mobile

phone. When data transmitted from a particular weather station indicates drought, the farmer registered with that station automatically receives payouts via a mobile money transfer service.

Achieving Scale & Sustainability in Micro Insurance

Minimization of operational costs is vital to ensure sustainability of micro insurance. In case of micro insurance, maintaining a good ratio of operating costs to premium payments becomes a challenge. The ability of insurers to achieve scale and proper communication of value to underprivileged population can drive success of micro insurance efforts.

Creation of self-help groups, raising community awareness about the benefits of micro insurance, use of posters and music/dance to propagate the message are time-tested ways of engaging the low income population about micro insurance. Unless insurers are able to scale up their efforts, they won't be able to make profits.

Distribution Channels to Support Product Innovations

Micro insurance can be distributed through unconventional methods like micro franchising through women's groups, mobile technology and sales and payment processing at rural kiosks. Partnerships with local NGOs and micro finance institutions can help expand the reach of micro insurance. Channels like local retail stores present an attractive proposition.

Agro dealers selling seeds, fertilizers and chemicals can offer insurance on the spot for an incremental amount. The bar code on the bill can be scanned and the policy gets registered with the insurer; customer gets a text message that indicates policy details. Innovation is a key to success that knows no geographical boundaries.

Successful Examples of Micro Insurance Innovations across the Globe

In Peru, farmers buy micro insurance from water boards. In South Africa, micro insurance products are sold by retailers off-the-shelf. Philippines sells micro insurance through churches and schools in remote areas. Chinese insurers have delayed premium collection till the end of the insured period while underwriting pig insurance. In Thailand, micro insurance is sold at convenience stores.

In Colombia, low cost health insurance is tagged along with delivery of gas for cooking. In Kenya, farmers can buy crop insurance cover by using a mobile phone. The bar code on a bag of fertilizer or seed is scanned as an image and sent to the insurer. This provides insurance cover wherein premiums can be paid using the M-pesa mobile banking system.

Where There Is a Wheel – The “Pudukottai” Experience

Pudukottai is a district in Tamil Nadu that has many of its residents living below poverty line – some of them working as laborers in stone quarries. Mobility was an issue for the women. They had to rely on their men folk or depend on public transport to travel. The then collector Smt. Sheela Rani Chunkath decided to involve the community in the literacy program; she combined this with a training drive to make rural women learn cycling; thus women who took part in the literacy program also learnt how to ride a cycle and then a two-wheeler. These women later on became volunteers for the literacy cum mobility drive inspiring other women to join the movement. Lessons from this success story can be used to popularize growth of micro insurance.

Is it a Crime to be Poor? Poor also have a Right to Live a Life with Dignity!

The Western media is full of stories about technological interventions and use of big data in insurance; there are also reams and reams of literature on the need to serve the poor; India may be a poor country but India is rich in its cultural heritage; our values make us stand out from the crowd; India continues to be an excellent example of unity in diversity.

It is not a crime to be poor. Poor people are also entitled to a life of dignity. For a man who earns Rs.100 per day, Rs. 20 may be a big amount. So why should he contribute that amount to buying a micro insurance cover unless the value proposition is immense? The focus of micro insurance must be to address what the marginalized communities' value more; design of new products must follow this tenet. Innovations must enlist the needs of consumers.

As C K Prahalad mentioned in his research effort, the poor people also deserve respect as "customers". Inclusiveness is all about appreciating dignity of the marginalized and underprivileged section of society.

Results of Brainstorming Session

To understand what Gen Y thinks about insurance for the low-income segments, a brainstorming session was conducted. 100 students pursuing MBA took part in the session that was carried out in two tranches. Students were asked to come up with suggestions to answer the question -

What can insurers do to help grow micro insurance business in India?

The responses received were collated and are presented below:

1. Appraise farmers about scientific farming techniques and drip irrigation
2. Use of solar panels for electricity generation
3. Provide loan for purchasing seeds and fertilizers bundled with insurance cover; the premium can be drawn from the revenue earned.
4. Educate farmers about biodiversity – cultivating a variety of crops
5. Provide counselling to farmer based on soil testing and type of crops that can be cultivated based on water availability.
6. Promote collaborative working among farmers
7. Encourage the cash-rich IT industry to support farmers as a corporate social responsibility effort
8. Train farmers to grow crops all-round the year – example – sandalwood cultivation can be encouraged.
9. Enhance efforts to improve rural transportation infrastructure
10. Affordable health care and setting up of primary health care centres across the rural landscape
11. Use of telemedicine in remote areas
12. Conduct weekly/ monthly camps in rural areas to create awareness about micro insurance
13. Provide farmers with cheap mobile phone handsets at subsidized prices
14. Support farmers in efforts to promote rain water harvesting
15. Farmers can sell crops to approved business establishments and in the process they also pay a nominal amount as micro insurance premium
16. Provide milch cattle to farmers at subsidized prices so that in addition to farming they can also supply milk; bundle this with an insurance cover.
17. Insurers can set up intermediaries who can help sell produce of farmers; a part of the revenue earned can be used for buying micro insurance cover.

18. Use of fintech to popularize organic farm products; the website can sell such products online and a portion of the revenue can be used for buying micro insurance covers.
19. Strategic alliances between fintech start-ups and insurance companies in designing innovative micro insurance products
20. The micro insurance policies can be in the form of a digital card just like Aadhar
21. Creation of a toll free number where villagers can contact to get clarifications about micro insurance cover
22. Associate buying of insurance cover with festive celebrations
23. Creation of an app in local language to educate low-income households about micro insurance
24. Regular feedback sessions with insured
25. Promote radio advertising
26. Regular health camps in villages where awareness about health insurance cover is provided.
27. Organize community of farmers who can produce different varieties of crops and ensure the right price for their produce; micro insurance to be provided based on revenues generated and premiums drawn from it.
28. Provision of subsidized cold storage facilities in rural areas
29. Provide livelihood bundling – farmers' wives can be taught to set up cottage industries with a credit facility along with a micro insurance cover; premium for two months can be waived off; this can encourage savings mindset among the rural poor.
30. Corporate sponsors for low income households to part-finance insurance premiums.

Observations

Micro insurance is a social safety net for low income households. It offers value proposition in two forms – a product that is not only responsible but also profitable. There is a need for paradigm shift – thinking has to change from “how to distribute micro insurance to the poor” to “how to help low income communities manage their own risks”.

Consumer education cannot always guarantee increased demand for micro insurance products like health cover. Demand is driven by personal characteristics of community, understanding of insurance, trust, ability to pay, availability of alternative risk coping mechanisms.

Avoiding lengthy paper work processes and preliminary health checks are important for health insurance. If claims are paid quickly (say, within three business days) this can help low income families. In rural areas, micro insurance cover can include payment of school fees as an incentive to buying the policy.

Locally recruited and trained young graduates can work well as agents to enable customers to understand micro insurance products well.

Suggestions

1. Micro insurance must be viewed from a different lens compared to conventional insurance methods. Providing annual life insurance covers at nominal premium can be considered.

2. The conventional agency model needs replacement with an innovative mechanism where the agent (mostly from the community itself) is trained and manages customer relationships, premium collection and claims payment.
3. Product innovation in micro insurance cannot be seen in isolation from innovations in distribution; an innovative product that is not accessible to customers makes little sense. All the 7Ps of services marketing are relevant for micro insurance – Product, Price, Promotions, Place, Physical Evidence, People and Processes.
4. Promotions must be evangelistic – with the intention of turning customers into advocates for products sold. Trust and credibility play a vital role in micro insurance and only community involvement can drive this.
5. Micro insurance products must be well-integrated with other savings products. Claim rejections must be minimized; benefits of volumes and scaling up of the model must be adequately leveraged.
6. The cover should be designed in such a way that part of premium can be given as cash back offer if there is no claim for 6 months.
7. Developing appropriate institutional arrangements that are viable and encourage a savings mindset is essential.
8. Innovative distribution channels like retailers, mom and pop shops, schools, temples and churches must be used to distribute micro insurance.
9. Premium amounts for micro insurance need to be arrived at after understanding the income patterns of the insured.
10. Innovation must aim to deliver micro insurance products that are affordable as well as relevant. Information transmission must be made easy and simple.
11. Micro insurance can be provided on wheels.
12. Use of digital marketing methods via app and localization of content can aid penetration of the market.
13. Strategic tie up between insurers, mobile phone manufacturers and telecom services can be explored.
14. Exclude laborious form filling exercises
15. E-certificate confirming cover
16. Increase micro insurance density
17. New product variants
18. Partnership with local communities
19. New channels/ platforms
20. More payment gateways
21. Micro insurance can also be projected as a disaster risk management tool.

Conclusion

Micro insurance products are hyper targeted offerings that meet precise needs of the customer taking into account the realities staring at poor people and the latter's limited purchasing power. Innovation has to be considered across the total product cycle – product development, sales and collection of premiums, servicing and processing of claims.

Micro insurance products must have the right design and right price so that they can meet the needs of the low income population. Innovation in micro insurance is not about meeting customer demand –it is also an operational necessity to ensure inclusion of underprivileged communities that are often geographically distanced from the mainstream. The Indian micro insurance market is driven by regulation than with a sense of purpose to serve the marginalized. Innovative products need innovative methods of delivery too.

Policies need to be issued in 24 hours; claims must be easy to process and administer. Digital pens can be used by agents to convert handwritten notes to formal policy application; pen data can be transferred to company website through blue tooth or send to insurance officers through WhatsApp.

Smart cards can be given to insured to avail of subsidies in primary health care centers. Small retailers can sell scratch cards; customers buy scratch cards by paying premium; the concealed code can then be texted or sent as an image to the insurance company. The marketing of micro insurance must understand social and cultural needs of target population.

Digitalization of insurance offers, block chain systems and peer-to-peer approaches can lead to massive reduction in costs and these innovations can also be extended to micro insurance. Peer-to-peer approaches are based on mutual trust and co-operation. The innovative covers must be so designed that behavior of insured to protect against the risk due to voluntary efforts must be rewarded suitably.

The whole micro insurance space is characterized by diversity. So, a unilateral approach may not always work. The Indian Government can facilitate setting up of mobile clinics in rural areas. On a pilot basis, a model village can be created so that other rural areas can emulate the same.

Financial wellness facilitators can mobilize communities to actively take part in financial literacy program. Product innovations in micro insurance when complemented with innovative delivery mechanisms can make micro insurance schemes sustainable. Scaling up innovations will boost profits. **The future of insurance in emerging markets is closely linked to the future of micro insurance. Product innovations in micro insurance will act as a catalyst to expedite this development.**

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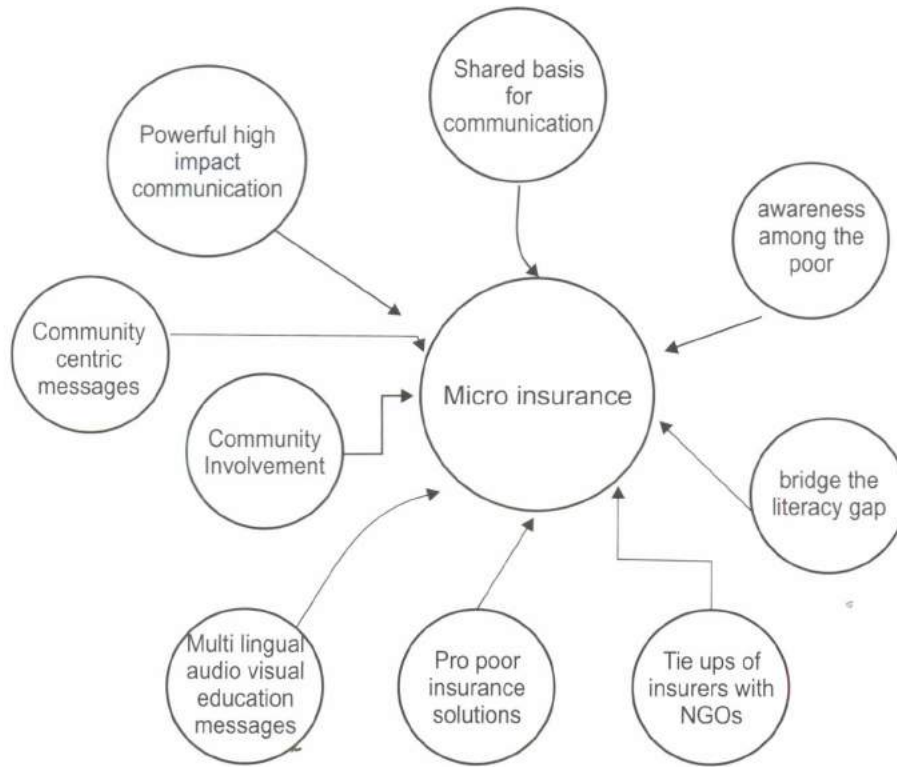
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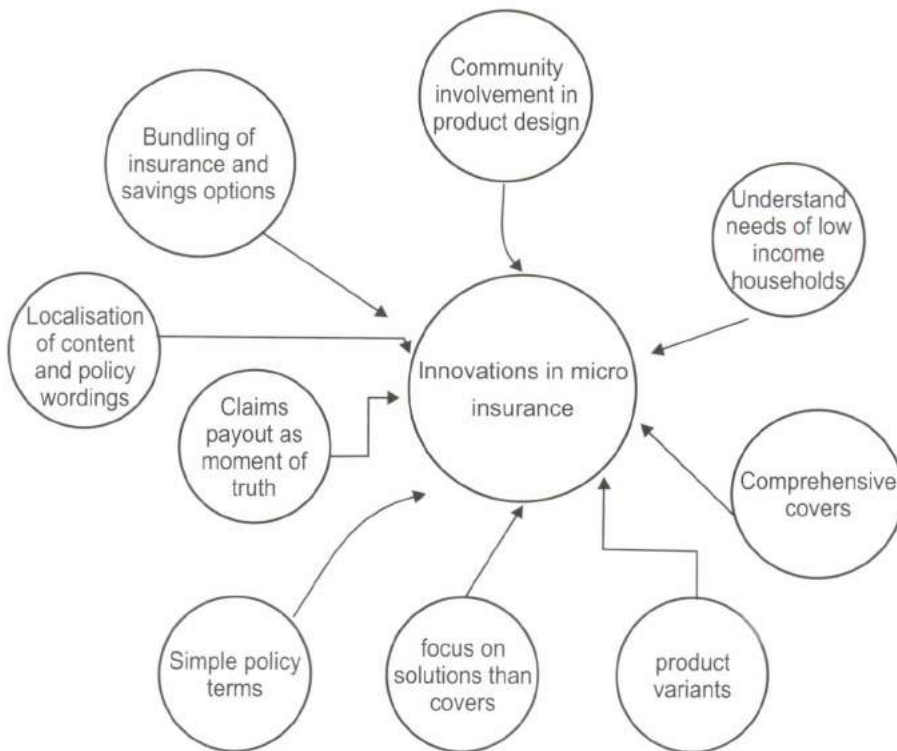
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Chart 1. Characteristic Features of Micro Finance



Source: Author

Chart 2. Innovations in Micro Insurance



Source: Author

An Analysis of Awareness and Expectations of Industrial Entities with Respect to Rust Prevention Technique Using VCI Technology

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Abstract

Corrosion of machinery equipment's or parts is a major problem with the industry at large. Hence protective techniques are deployed by the manufacturing industry to prevent the corrosion. The purpose of this paper is to study about the level of awareness and usage of Volatile corrosion inhibitors (VCI) bags with respect to rust prevention for ferrous components. It also analyses the results after the trials were taken. Exploratory and experimental research is undertaken to study the stated purpose. For the study multi-stage sampling and snowball sampling techniques are used. The data collection is done with the help of structured questionnaire, and scheduling technique is also used. Findings reveal that traditional methods are still widely been used by many industries. VCI in the form of poly or paper provides long term protection to the ferrous components and majority of the customers opined that it is necessary to create awareness of VCI bags.

Keywords: VCI, Rust prevention, Ferrous components.

Introduction

Volatile Corrosion Inhibitors (VCIs) are also known as Vapour Phase Corrosion Inhibitors (VPCIs). The efficiency of VCIs depends on various factors such as adsorption ability on the metals surface, strength of adsorption, and dependence of vapor pressure on the temperature. However, the corrosion inhibition of numerous components of US military equipment by dicyclohexylammonium nitrite (DICHAN) in 1940s is being considered as first work on VCIs.

Ammonia and lower amines were used extensively for protection of metallic materials in power industry during 20th century. Many formulations were suggested which may protect ferrous as well as nonferrous metals. Thereafter, several VCIs have been developed and employed for inhibition of ferrous and non-ferrous metallic corrosion in their vapour phase.

Economic Importance

Corrosion is a worldwide problem to be addressed by educational and industrial divisions because it unfavorably affecting the economy of developed as well as developing countries. GDP of India is also being greatly affected due to corrosion as it has been estimated that economic damage of India due to corrosion are Rs. 5,000,000. Nowadays, several

methods of corrosion anticipation are being employed that can reduce the damage caused by corrosion. The damage of corrosion is most pronounced during industrial cleaning processes such as acid descaling and acid pickling of metallic ores to remove the corrosion products collected on the metallic surfaces. During these cleaning processes a huge amount of metallic contents are lost because of corrosive nature of the cleaning media (acidic solutions) and therefore during these processes use of corrosion inhibitors is extremely anticipated. Organic compounds are most frequently utilized inhibitors among the several accessible methods of corrosion prevention such as like coating and painting, anodic and cathodic protections, alloying and de-alloying etc. The criteria behind their commercial uses are based on their easily availability, highly effectiveness and ease of application in addition to their economic synthesis using commercially available raw starting chemicals.

Factors Affecting Corrosion

Corrosion is an inherent property of pure metals except silver, gold and platinum, and its rate largely depends upon the nature of surrounding environments. Obviously, an increase in the surrounding temperature results into corresponding increase in corrosion rate. Although, presence of organic inhibitors in corrosive acidic environment decreases corrosion rate, however nature of groups exerted most significant role on the inhibition effect of these inhibitors.

The electron releasing groups such as amino ($-NH_2$), hydroxyl ($-OH$) and methoxy ($-OCH_3$) substituents increase the inhibition performance of the organic inhibitors as they increase the electron density at the active sites that favors metal-inhibitor interactions. In contrast, electron withdrawing groups like carboxyl ($-COOH$), cyano ($-CN$), ester ($-COOC_2H_5$), nitro ($-NO_2$) substituents decrease inhibition performance because they withdraw the electron density from the active sites that disprove the metal-inhibitor interactions.

Presence of humidity in the surrounding environment along with organic, inorganic salts as impurities enhances the probability and rate of corrosion because polar (water) and ionic species increase the ionic conductivity of the corrosive medium. Movement of the corrosive medium also plays a potential role of the corrosiveness of the aggressive solution.

Methods of Corrosion Protection

Corrosion is an extremely destructive problem adversely affecting the economics of most of the developing and developed countries therefore its prevention is highly anticipated primarily during industrial acid cleaning and oil well acidification processes. Several methods of corrosion prevention have been developed depending upon the nature of metallic species and surrounding environments. The methods of corrosion protection can be broadly divided into three categories namely anodic protection, cathodic protection and mixed type of protection, depending upon the mode of action of the inhibitors.

Anodic inhibitors also known as passivating inhibitors those inhibit corrosion by retarding the anodic oxidation reaction through a process known as passivation. In the passivation process these inhibitors retard metal corrosion by adsorption and formation of surface oxide layer (passive) that results into large anodic displacement in the corrosion potential. Several anodic inhibitors have been reported as chromate, nitrite and nitrate those can form passive oxide layer on metallic surface in non-oxygenic environments. On the other hands, there are few other passivating inhibitors such as phosphate, molybdate and tungstate are known those can form passive layer in the presence of oxygenic environment only.

Cathodic inhibitors are chemical compounds those decrease the cathodic corrosion reaction or precipitates on the cathodic sites. The precipitation of the cathodic inhibitors results into sudden increase in the surface impedance because precipitated cathodic inhibitors reduce the rate of diffusion of chemical species responsible for corrosion.

Alloying and de-alloying of the metallic species can improve their corrosion resistance behavior. The use of organic compounds as inhibitors has gained the highest priority because these compounds are relatively economic, effective and can be derived from commercially available starting chemicals. Their high inhibition efficiency is based on the fact that they contain several adsorption centers in the form of polar functional groups and multiple bonds.

Advantages and Disadvantages of VCIs

The VCI molecules have ability of vaporize and condense on the metallic surfaces in order to make them less prone to corrosion. The VCIs have several advantages:

- i. They can be inserted into adhesives, coatings, foams, powders, plastics and spray,
- ii. They can be employed into packaging to retard the corrosion of stored items,
- iii. They easily vaporize and their vapour moves quickly to cover the metallic surface and empty volume available for them until the saturation is established i.e. VCIs start their work once they are exposed to the environment,
- iv. Generally they fill all the surfaces including crevices, pores and cracks where ordinary inhibitors cannot penetrate,
- v. VCIs form very thin inhibitive film that can be easily removed without affecting the properties of metallic surfaces.
- vi. They can be used as corrosion protectors during the transport of metals and components. The VCI molecules can be used in several sectors such as in the military, nuclear and petrochemical plants, automotive industries, cultural heritage conservators, surgical equipment's, electronic components manufacturers and producers of high precision electronic materials because of their high tendency to adsorb on the metallic surface.

However, at the same time there are a few limitations of the VCIs such as sometime they increase the corrosion rate of non-ferrous metals and alloys.

Literature Review

VCI Bags – Usage Instructions

It is very important when using VCI products is that the VCI vapours must be enclosed or encapsulated in some manner – the more airtight the package the more effective the VCI protection will be. This is not to say that the VCI bag must be completely sealed rather, the VCI bag can simply be folded over and kept closed with box flaps, or the VCI bag can be folded over and taped or stapled to keep it closed. So, unless the parts are going to be subject to a great deal of water spray, rain, etc., they will not be losing any VCI effectiveness by not completely sealing the VCI bag. (Benton Foundry)

Paper relates to a method of protecting metal surfaces from corrosion and to corrosion inhibitor com-Positions. It is a general object of this invention to provide a Novel method for protecting metal surfaces from corrosion involving the

use of a class of corrosion inhibitors whose unexpectedly superior corrosion inhibiting properties were discovered in the course of the experimental work leading to the present invention. . (Frank W. Pfohl, 1952,)

Here the author focusses on Volatile corrosion inhibitors (VCIs) or vapor phase inhibitors (VPIs) that represent a class of compounds that are employed to protect the corrosion or oxidation of ferrous and non-ferrous metals and alloys where other surface treatments are impractical. The VCIs release slowly inside the sealed airspace and actively adsorb and prevent corrosion. Several VCIs have been employed as effective inhibitors for several metals like iron, zinc, aluminium, etc. and their alloys. (F.A. Ansari, 2018)

In the paper a systematic research on a modified method was developed to evaluate the effectiveness of volatile corrosion inhibitor (VCI) materials was carried out. The experimental results conducted showed absolute alignment with results as calculated by specimen's mass loss for reproducibility of rust appearance and corrosion. The characteristic of the rust appearance based on different VCI formula is reveals that is very important in studying the mechanism of VCI and the synergism of chemical reagent. (Hong-jing, 2005)

A water resistant and vapour phase corrosion inhibitor Composite material for wrapping around metallic items for Protection and to reduce corrosion during Storage and transportation. The composite material comprises a high Strength, tear resistant, flexible Scrim, a low density layer impregnated with a Solid form vapour phase corrosion inhibitor, and a barrier layer to reduce the transmission of water, water Vapour, oxygen and other environmental gases through the Composite material. (Eric Henderson & Lorence, 1999)

Research Methodology

Exploratory and Experimental research is undertaken to study the research questions. The primary data is collected through the survey method and also scheduling technique is used with the help of a structured questionnaire.

Sampling Methodology

The area of study was restricted to Belgaum and Pune. The industrial areas covered under the survey were Udyambag, Bhosari, Chinchwad, Chakan, Kondhwa, Katraj and Warje. Multistage and Snowball sampling is employed to collect the data with sample size of the study of 25. The samples were collected from the various manufacturing industries such as machining centres and foundries.

Objectives of the Study

- To learn the usage techniques of VCI products.
- To create awareness of VCI products usage for ferrous, non-ferrous and alloy components.
- To evaluate the results after usage of VCI products.

Data Collection

Two methods are used to collect the relevant data pertaining to study:

1. **Primary Data:** Data is collected to obtain desired information through Structured Questionnaire and also informal interview from senior officials were taken.
2. **Secondary Data:** Data is collected through foundry cluster, journals, brochures, and internet.

Limitations of the Study

There are a few limitations of the study that may arise. They are as follows:

- Niche segment of VCI bags.
- The study was restricted to Belgaum and its vicinity area only
- Stereotyping – There is chance that some people might have misunderstood or misinterpreted questions and given wrong feedback in spite of explaining them.

Test of Reliability (Cronbach's Alpha)

Reliability Statistics

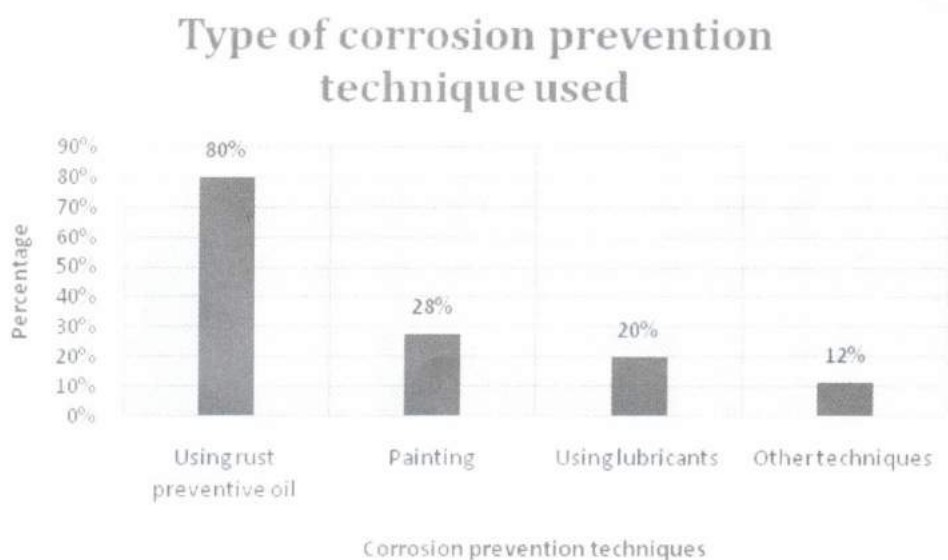
Cronbach's Alpha	Cronbach's Alpha Based on Standardized Items	N of Items
.759	.776	6

Six items were used to measure the effectiveness, economy, awareness, moisture prevention, and convenience of using VCI bags, had a validated reliability measure of 0.759 Cronbach's Alpha which is supported by Devillis (2003) who stated that Cronbach's Alpha co-efficient of a scale should be above 0.7. Hence, items in the study are reliable.

Data Analysis and Interpretation

1. Type of corrosion prevention technique used

Figure 1. Bar Graph illustrating Types of Corrosion Prevention Technique used in Percentage



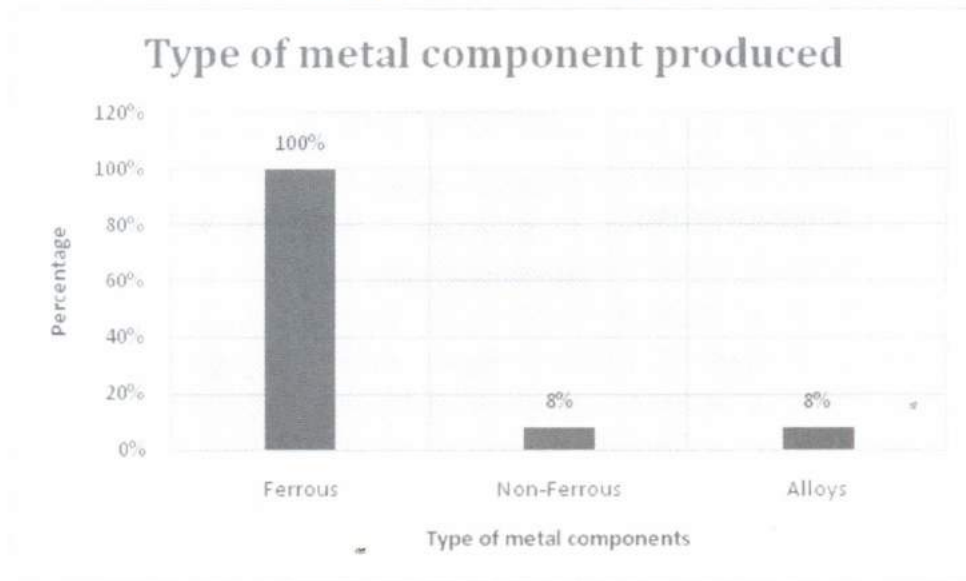
Source: Field Survey

Interpretation

From Figure 1, it can be seen that 80% respondents use rust preventive oil to prevent their metal components from rust. 20% of people use lubricants to protect their components. 28% prefer painting method to their metal components to avoid corrosion. 12% of chosen sample use some other method such as packing in LDPE bags, powder coating, anodizing, electroplating and so on.

2. Type of metal component produced

Figure 2. Bar Graph illustrating Type of Metal Component Produced in Percentage



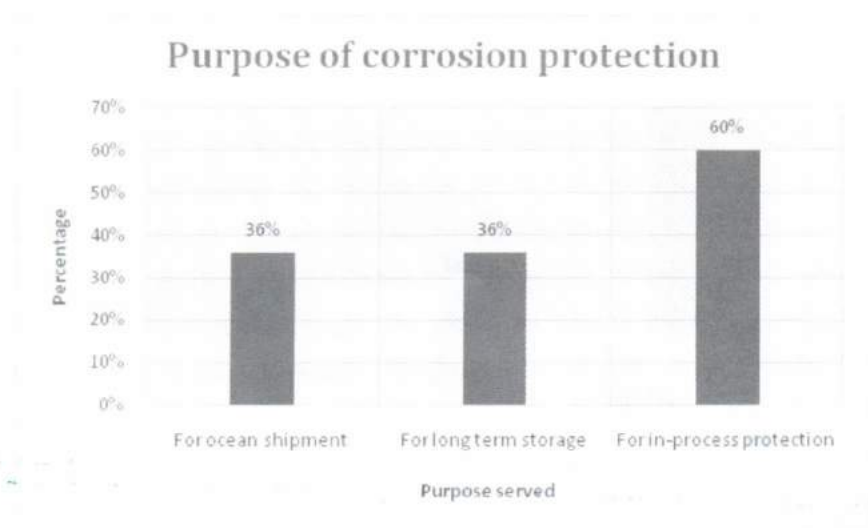
Source: Field Survey

Interpretation

From Figure 2, almost all the sample customers contributes 100% level of producing ferrous components in which majority are Iron, Steel and Cast Iron. 8% of the people are in manufacturing of non-ferrous components which are made up of Aluminium, Copper, Lead and Zinc. Another 8% of the customers produce their components which consists of alloys such as Bronze and Brass.

3. Purpose of Corrosion Protection

Figure 3. Bar graph illustrating Purpose of Corrosion Protection in Percentage



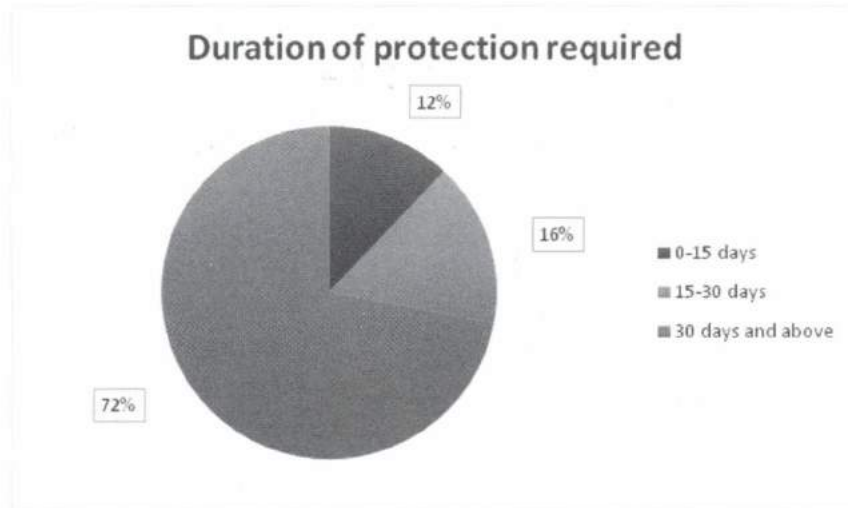
Source: Field Survey

Interpretation

From Figure 3, it is observed that 36% of the customers serves the purpose of corrosion protection for ocean shipment. Another 36% customer requires corrosion protection for long-term storage purpose. Majority i.e. 60% of customers utilizes corrosion protection for in-process protection.

4. Duration of Protection Required

Figure 4. Pie chart illustrating Duration of Protection Required



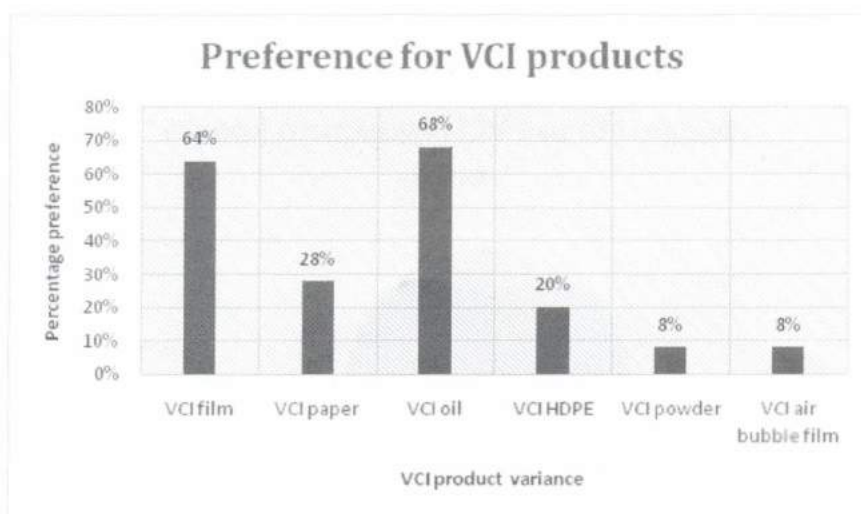
Source: Field Survey

Interpretation

From Figure 4, it can be clearly observed that 72% of the customers require duration of 30 days and above for their metal component protection. Other 16% require 15-30 days of protection for their products. Another 12% require protection duration of 0-15 days. Protection required for products to be exported is 30 days and above that ranges from minimum of 45 days to maximum of 180 days.

5. Preference for VCI Products

Figure 5. Bar Chart Showing Preference for VCI Products in Percentage



Source: Field Survey

Interpretation

From Figure 5, we can say that VCI oil is preferred by maximum sample people contributing 68%, followed by VCI film which has second highest contribution of 64%. VCI paper preference is 28% which is majorly required for gear manufacturing and tool manufacturing companies from the sample. 28% preference is given for VCI HDPE by the sample customers. The equal share of 8% is preferred by some of the customers for VCI powder and VCI air-bubble film each.

6. Extent to which VCI Products are Required

Figure 6. Pie Chart Indicating extent to which VCI Products are Required in Percentage

Extent to which VCI products are required



Source: Field Survey

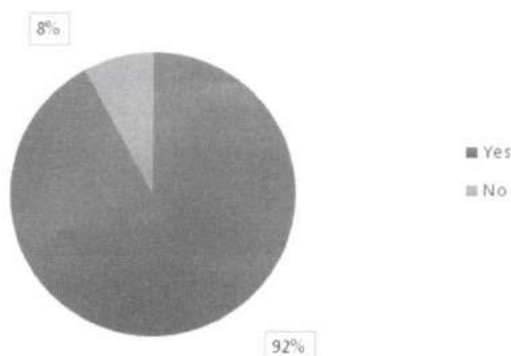
Interpretation

Figure 6 illustrates extend to which VCI products are required where 88% sample customers can use only for their few components. The requirement of VCI products for all the manufactured components is only 8%. The remaining 4% of the sample customer does not require VCI products at all.

7. Suggest to use VCI Products to Known ones

Figure 7. Pie Chart illustrating Suggestion to use VCI Products to Known Ones

Suggest to use VCI products to known ones



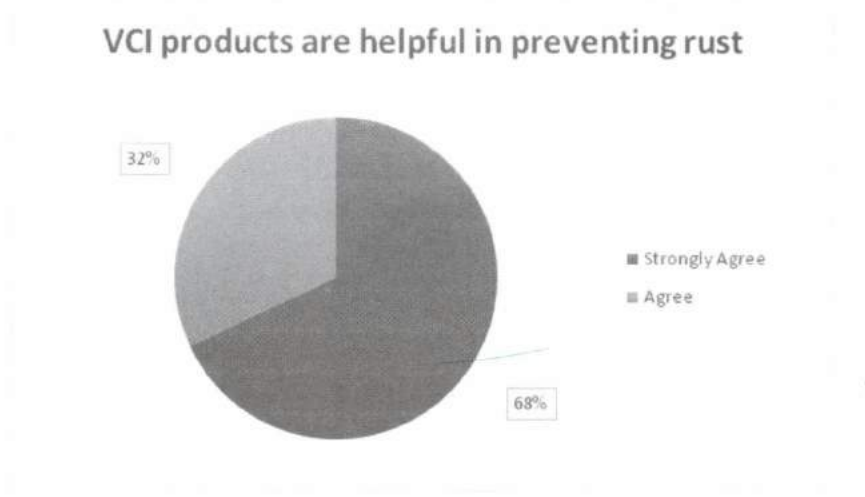
Source: Field Survey

Interpretation

From Figure 7 it can be observed that many favoured in response to suggest use of VCI products to known ones comprising to 92% and remaining on negative side. This indicates that more and more awareness can be created by one way i.e. by suggesting to use VCI products to known ones.

8. VCI Products are Helpful in Preventing Rust

Figure 8. Pie Chart indicating VCI Products are Helpful in Preventing Rust in Percentage



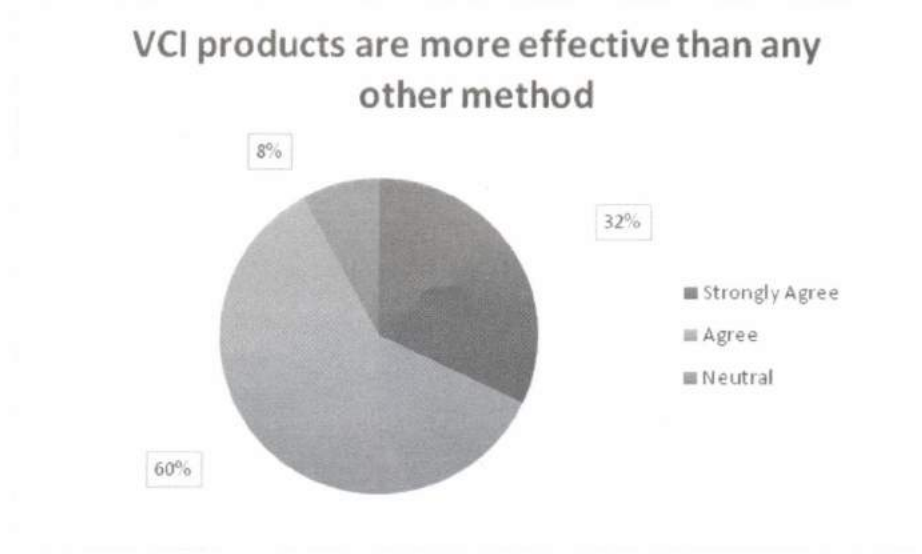
Source: Field Survey

Interpretation

From Figure 8, it is clearly observed that 68% of the sample customers are strongly agree and 32% of them are agree with respect to VCI products which helps in preventing rust. There is no any disagreement seen from the sample customers for the said statement.

9. VCI Products are More Effective than any other Methods.

Figure 9. Pie Chart Showing Effectiveness of Using VCI Products over other Methods in Percentage



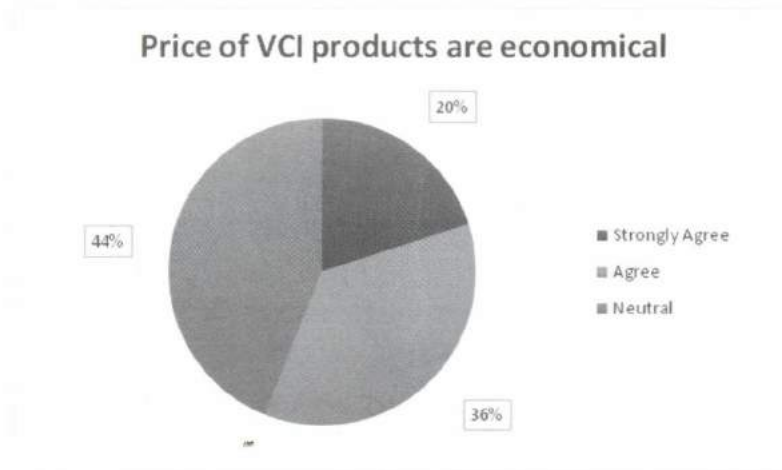
Source: Field Survey

Interpretation

After the trials were taken of VCI products the sample customers were satisfactorily happy on the effectiveness after using these products over other methods. From Figure 9, nearly 32% of the sample customers are strongly agree on the effectiveness of VCI products and 60% are agree. The remaining 8% of the people found out the effectiveness of VCI products to be OK and has given neutral as their feedback.

10. Price of VCI Products are Economical

Figure 10. Pie Chart Representing Price of VCI Products are Economical in Percentage



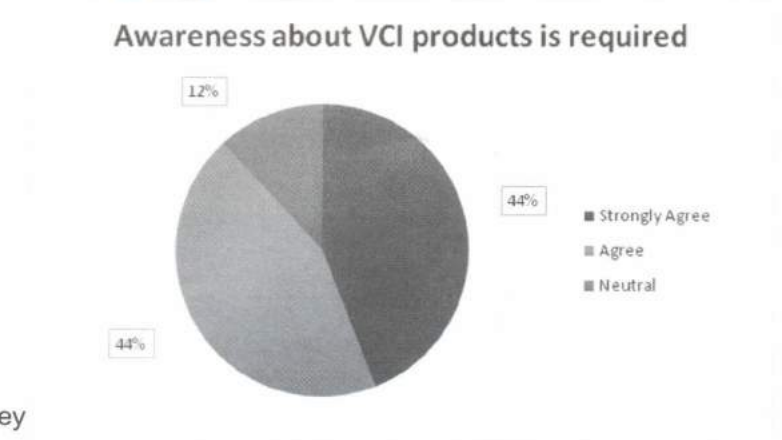
Source: Field Survey

Interpretation

A very crucial part regarding VCI products is about pricing. Price ranges from product to product. From Figure 10 it is observed that 44% of the sample customers have given response such that they are neither fully agree nor disagree. They found the pricing is reasonable and hence recorded their response as neutral. 36% of people has reverted on agree side whereas the rest 20% marked their response as strongly agree towards the price of VCI products which are being economical.

11. Awareness of VCI Products is Required

Figure 11. Pie Chart Showing Requirement of Awareness of VCI Products in Percentage



Source: Field Survey

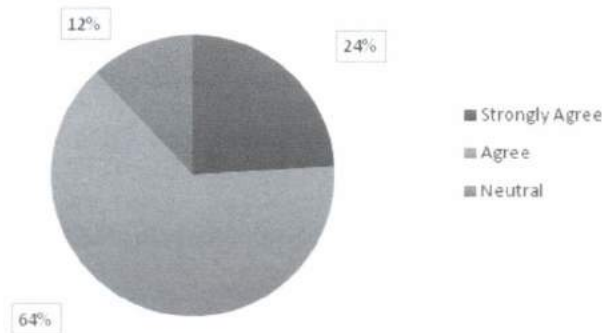
Interpretation

This statement satisfies the primary objective of this research work as it is clearly observed from Figure 11 shown above that total of 88% sample customer recorded their agreement level in which 44% people are strongly agree and rest 44% agree to the statement that awareness about VCI products is required. The remaining 12% people registered their view as OK and has marked their opinion as neutral.

12. VCI Products provides Moisture Barrier in Addition to Corrosion Inhibitor

Figure 12. Pie Chart Indicating VCI Products providing Moisture Barrier in Addition to Corrosion Inhibitor in Percentage

VCI products provides moisture barrier in addition to corrosion inhibitor



Source: Field Survey

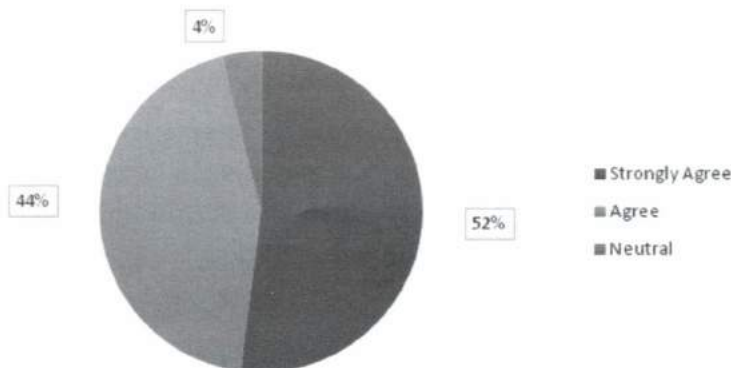
Interpretation

From Figure 12 we find that agreement level shown by the sample customers is 88% in which 64% contribution of the customers is towards agree and 24% is towards strongly agree. 12% of the customers have submitted their response as OK and recorded opinion as neutral to the statement of VCI products provides moisture barrier in addition to corrosion inhibitor.

13. VCI Products are Convenient to use

Figure 13. Pie Chart Reflecting Convenience of VCI Products to use in Percentage

VCI products are convenient to use



Source: Field Survey

Interpretation

Figure 13 shows convenience to use VCI products. 52% of the sample customers are strongly agree towards the statement and those of which 44% are agree while recording their opinion. The rest of the customers are satisfactory towards the convenience of VCI products to use and they contribute only 4% in their neutral response. Thus, this statement helps in proving that VCI products can be used easily without any harm as they are eco-friendly.

Major Findings

- During the study, it was found that majority of the manufacturing industries use rust prevention oil, followed by painting and lubricants.
- Most of them opined that, they want long term rust protection (more than 30 days)
- Everybody agreed that they would like to suggest this technology to acquaintance.
- All of them were agreed that VCI bags are helpful in preventing rust.
- Most of the chosen population agreed that rust prevention using VCI technology is better than any other method.
- More than 90% of the respondents said that, it is necessary to create awareness of VCI bags.
- It was agreed that VCI bags provides moisture protection along with rust prevention.
- Findings of the study reveal that, VCI bags are convenient to use.

Recommendations from the Study

- To participate in industrial exhibitions such as Pack Plus India, Pro-Pack India so as to enhance the promotional activity.
- To conduct seminars by inviting major group of companies from Indian Institute of Foundry-men by targeting various chapters of it such as Belgaum, Kolhapur, etc. which will help them to get more and more enquiries for their products as packaging is a major concern for many manufacturing companies nowadays.
- To increase the dealership network in major industrial hubs in the states like Karnataka, Telangana, Andhra Pradesh, Madhya Pradesh, and Haryana which will help in improving distribution channel.
- To work on 5S activity and also to conduct 5S audit so as to improve productivity.

Conclusion

During the study, it was noticed industrial owners were eager to learn, try and accept new ideas and appreciating the work of apprentice while some were rigid, uncooperative and hesitant to adopt new technology, which helped in understand different leadership styles and qualities. Experts took sole decision to use/not to use VCI products and also experts who had to address their seniors for decision making.

In the research project, most of the selected samples showed positive response for creating awareness about VCI products. Most of them agreed that usage of VCI products helps in preventing rust in the long run and have agreed to prefer and use VCI products over traditional method.

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The Ten Commandments for Family Business

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About the Book

"The 10 Commandments for Family Business" is a 187 paged book with a perspective on family businesses and entrepreneurship in the Indian context. This book is published by SAGE, ISBN: 978-93-515-0138-1 (HB), Copyright @ Kavil Ramachandran, 2015. The book was first published in the year 2015 and now in its third printing.

The forward for this book is written by John L. Ward, Clinical Professor of Family Enterprise at Kellogg School of Management, Illinois, USA

About the Author

Kavil Ramachandran (Ram) is the Thomas Schmidheiny Chair Professor of Family Business and Wealth Management at the Indian School of Business (ISB), Hyderabad. Prior to joining ISB in 2001, he was a faculty of Strategy and Entrepreneurship at the Indian Institute of Management, Ahmedabad for 15 years. He has a PhD from the Cranfield University, UK, in entrepreneurship.

Ram is an active researcher, teacher, and consultant on family business governance, professionalization, succession management, business strategy and entrepreneurship. He is a frequent speaker to communities of family businesses in India and abroad, and writes for popular media regularly. Ram has been a pioneer academic entrepreneur, propagating the message of strengthening family business in India and outside.

Overview of the Book

Family businesses are vital and supportive environments for entrepreneurial behaviour. Some of the world's largest businesses are family businesses. Ram are number of questions specific to family businesses. In this book Ram has addressed and discussed these questions: What is unique about family business? Why do some survive and grow across generations while others do not? Why do families fight over businesses and vice versa? Are the lessons and insights different from those applicable to other forms of businesses? What are the implications of multiple variables of family and business constantly influencing one another while undergoing changes in themselves over a period of time?

The purpose of this book is to discuss all the critical challenges family businesses face and understand the phenomenon of family business better. In this book Ram brings new thinking and distinctive perspective to the domain of family business. Ram brings a lifetime of perspective on family business and entrepreneurship in the Indian context. He emphasizes mainly on two points: business capitalism and family socialism, and compassion and competitiveness. One value that permeates in every chapter of this book is trust.

To Whom

The 10 Commandments for Family Business is for business families, family business advisors, educators and students interested in learning about Indian family business. They can learn unique paradoxes, challenges and dilemmas of enterprising Indian families and how the most progressive Indian families are handling them, while making global gains.

In Ram's own words, the 10 Commandments will help families in churn to start the process of building sound mechanisms, without waiting for a doctor to be available.

Review of the Book

The 10 Commandments for Family Business is a comprehensive and well laid out tome that has been researched well answers written lucidly. Drawing up his vast reservoirs of teaching, research, and consulting experience. The book discusses a select set of principles and guidelines that are relevant to family businesses across the globe. They are called as 10 Commandments and are like 10 rare jewels of family treasure that will help families perpetuate their businesses across generations. He has focused in this book on the most important 10 building blocks of successful family businesses.

This book begins with a chapter on **Introduction**, which discusses on Paradoxes making family business unique. The paradox of the family business is explained with the help of the life cycle theory. It explains the complexities due to coexistence of multiple stakeholders such as: family, owners and management in the family. This chapter explains three circle model in which there are seven potential positions that intersect and overlap and make family business more complex. The chapter also explains amoebic model of family business due to family break up. The chapter explores, probes, and seeks to resolve the 5 Ds (dilemmas, deviations, differences, disputes, and destructions) that most family businesses across the globe face. The chapter also provides a case let of a brief description of the history and core building blocks of sustainability of the five generation old Murugappa group.

Commandment I: To Communicate and Build Trust

Most family business suffer from the effects of poor communication. In this chapter examples are given on the effect of poor communication on family and business. This chapter explains the need of effective and quality communication among family members. Advice is given to take the help of outside expert in this regard. It is emphasized to decide on the communication policy and process of the family and also to identify the sources of communication.

Commandment II: To Professionalize Your Business or Perish

One of the most discussed themes in family business is the challenge of professionalization and the practice of professionalism as a growth imperative. Professionalization is the process of developing and maintaining professionalism in every part of an organization in which decisions are taken keeping the interests of all the stakeholders of the organization even it hurts personally anyone in the organization. The four key dimensions of professionalization such as: knowledge about the management of different areas (technology, market & finance); skills of relevance; attitude of the people involved and strategy, structure, systems & processes of the organization are discussed. A case let of "Sudarshan Chemicals: Essential Principles of Professionalization" is explained.

Commandment III: To Preserve and Practice Values

Values are fundamental, like the DNA of an individual, and reflect the family members' perceptions about relationships, ethics, morality, views on society, purpose of living, and their responsibility to society. The chapter explains the need of values, values in practice, practicing code of conduct and emphasizes that, values should not be violated by any member in their thoughts, words or actions. The chapter provides illustrative list of family values and emphasizes the need to determine key family values and a code of conduct through a process of discussion.

Commandment IV: To Manage Ownership Challenges

Business ownership is particularly an area of concern for creating individual and collective wealth for family businesses. Family business leaders should be clear whether the business is only to create wealth for a comfortable living for the family and or to build it as an institution for perpetuity. This chapter explains to make necessary changes in the ownership structure as the business grows and also provides different ownership models based on the need. This chapter furnishes a case let of Emami's takeover of Zandu. It also provides the many roles of ownership and emphasizes creation of a legally validated Shareholder's Agreement (SHA). The chapter explains need to satisfy varying needs of family shareholders as the family grows.

Commandment V: To Redefine Role but Never Retire!

In family business people not interested in retiring should be only redefining their roles and never retire. The chapter explains the need for developing and also implementing a retirement policy (if necessary, with the help of a facilitator), including age, the roles they will continue to play, the benefits they will continue to receive, and the mechanisms of keeping them updated on business matters, as part of formulating a long-term strategy for the family in business. The family should discuss and agree upon a way to ensure implementation of policy.

Commandment VI: To Successfully Manage Succession in Business

Leadership succession is one of the most discussed topics in family business because of the challenges involved in effecting smooth succession for the long-term success of the business. It should be planned and executed carefully as the challenges involved are different. It is clearly mentioned in this chapter that one of the major reasons for breakup or sometime failure of businesses in societies such as India is lack of a clear succession plan and/or its effective execution. This chapter explains challenges for succession planning in family business and provides a step by step approach to succession planning in family business.

Commandment VII: To Build Business Entrepreneurially

The purpose of this chapter is to discuss the essence of building family businesses as entrepreneurial family ventures, including the challenges involved therein. It is emphasized that, an open and flexible approach towards a decision on starting on new venture will make family business attractive even to reluctant young generation members. This chapter provides classical case studies of the Piramal group and the Religare group of aggressive multigenerational family businesses that sustained across generations by demonstrating their keen entrepreneurial qualities in different ways. The chapter emphasizes to ensure that family has adequate wealth outside the existing business to meet growing funds requirements including for starting new ventures.

Commandment VIII: To Develop Long-Term Business Strategy

Formulating business strategy in a family business is not the same as it is in a nonfamily business. This chapter provides a step-by-step approach for strategy making process in a family business. This chapter recommends to develop a long-term strategy for family business involving family members and senior non family executives. They have to follow an approach based on "detached passion" also means that individuals will be able to forget their narrow personal differences and petty egos, and see the big picture and work towards the shared vision and goals.

Commandment IX: To Give Back: Family Philanthropy

Many well-known business families have created independent trusts and foundations to accomplish their philanthropic goals. This chapter examines at family philanthropy from all angles and advocates to bring professionalism into philanthropy. The benefits of family philanthropy such as: family unity, better communication, building family reputation, brand value and to keep family members retired from the business active are discussed in this chapter. The chapter provides the case lets of Arvind Eye Care System and Krishi Gram Vikas Kendra (KGVK), who have created own private foundation to make philanthropic initiatives institutionalized.

Commandment X: To Understand “Togetherness” - Role of Consultative and Compassionate Leadership

This chapter explains the need for all family members to have a strong sense of being together for the benefit of both the family and business to build synergy. The need for developing clarity among all family members on the governance of the family by writing a constitution is highlighted in this chapter. The role of leader in the family as the custodian of wealth is highlighted. The chapter provides a Case let of GMR Group, which explains the essence of a detailed exercise on writing their family constitution.

The last chapter is on Conclusion, which advocates to build Family as an institution and discusses challenges in building such institutions. The chapter provides examples of family businesses that have evolved as institutions such as: E Merck KG of Germany (since 1668), Franz Haniel and Company of Germany (since 1756) and Indian groups such as Tata (since 1868), Godrej (since 1897), and Murugappa (since 1900). The common features identified of these institutions in this chapter are: Clear sense of purpose, Shared values, Custodian value, Adaptability, Dynamic resource building and Leadership.

Key Takeaways from the Book

- Practicing the ten Commandments, business families will mature to perpetuate and institutionalize to sustain through generations and if ignored will be doomed by the 5Ds
- Each chapter provides case studies and case lets from India and overseas. The actions points, templates, and exhibits at the end of every chapter are illuminating.
- Many family business owners can, in fact, use this book as a ready reckoner and a checklist to professionalize and lengthen the span of their business.
- The book provides advice that finds application at every point in a family businesses' life cycle.
- Actionable ideas within 10 Commandments framework enable to build successful and sustainable family businesses.

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