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# Cause-Related Marketing and Its Effect on the Purchase Behaviour of Indian Millennials'

Dr. Sweta Singh\*

## ABSTRACT

The consumer's of today's era are more aware and concerned about environmental deterioration. They are eager to embrace brands that stand for something crucial be it diversity, eco-friendly business practices or various charity related contributions. The demand for eco-friendly products has also taken a rise in the market. The organizations understand this and to meet this demand they are integrating cause marketing in their brand awareness efforts. The biggest marketing trends for 2019 are also showing an inclination towards cause marketing. Recent reports also support the importance of cause-driven campaigns in modern marketing. A recent survey done in 2018 on young people revealed that nearly half of consumers believe it's important for brands to have social change initiatives that they can support. The present study tries to identify how cause related marketing programs influence the purchase behaviour of millennials. To achieve this objective, 220 millennials' were surveyed on their purchasing behaviour. The findings show that cause-related marketing influences significantly the attitudes of the millennials. Also, this affects their purchase behaviour for a brand. The study also highlights the major factors that affect the purchase behaviour of the millennials in the Indian context.

**Keywords:** Cause Related Marketing, Consumers, Millennials', Purchase Behaviour

## 1. INTRODUCTION

With the increase in competition in the market, organizations have started to adopt innovative ways to attract consumers. To differentiate the products from competitors and to create a long lasting impact on the consumers' mind, the companies are associating themselves with social causes (Lauer, 2010; Berger et.al, 2004). The millennials' have emerged as one of the Indian generations that are racially and culturally diverse. They are one of the major market segments that spend a significant amount of money. They are very much engaged with the society at large and refuse to be bound by the traditional ideological boxes. The millennials' are the children born between the early 1980s and 2000s and constitute a major population. The age group between 18 and 35 years constitute a major consumer market segment which greatly affects the consumption pattern. They are much different from their parents in their ideology and lifestyles. They are desperate and eager to make a difference and want to see real change in their lives and communities. The millennials' prefer to purchase from brands that support a cause and also their population is greater in comparison to the Generation X. This makes them a huge target market for companies and brands (Belleau & Summers et al., 2007). As a response to the changing environment, organizations have designed special strategies also known as cause-related marketing (CRM) strategies, to increase their image and reputation and thus have a competitive advantage. This strategy helps an organization to link its brands with a social cause (Polonsky & Speed, 2001; Barone et al., 2000; Varadarajan & Menon, 1988). The millennials' have become more sensitive and

\* Assistant Professor, Faculty of Management Studies, ICFAI University, Ranchi, Jharkhand  
Email: sweta.fmsbhu@gmail.com

perturbed with the social responsibility programs of the organization. The perception of the millennials' about a product/ brand influences their attitudes and response towards the company. Also, the support of the consumers to the corporate social responsibility programs has persuaded the companies to boost CRM as a marketing strategy. The millennials' as individuals are a combination of their demographics, values, life experiences, and buying behaviours' (Leung, 2003).

A large number of business houses have shown support to social/cause-related marketing programs. The main role of CRM is to make a firm's social or environmental commitment visible to its customers. It simultaneously enhances the brand image and also affects the sales of the brand by differentiating it with competitors on the basis of a social element. Very recent research on the opinion of the public towards CRM programs also shows that the consumers are sympathetic towards the organizations that support the social causes (Duncan & Moriarty, 1997). The previous researches also highlight that if products are available at the same price and are of similar quality then they don't hesitate to switch the brands. CRM is a promotional strategy which involves a contribution by a company through the transactions done by the customers. The more specific benefits of engaging in CRM to companies is generating publicity, breaking advertising clutter and affecting the preference of the consumer for the particular brand (Gupta & Pirsch, 2004; Barone et. al., 2000; Brown & Dacin, 1997).

The association with a cause also helps in differentiating from the competitor brands and increases the purchase intentions of the millennials'. The millennials' willingly reward and support the companies affiliated with social causes and reject and punish the companies that don't. The importance of ascertaining the distinct factors that affect the millennials' purchase attitudes and pattern has increased immensely and has become a major focus of consumer research. The key research is on their spending capacity, ability to trust new brands, be trendsetters and their potential for becoming

a loyal customer (Martin & Bush, 2000). Although CRM is said to have a huge acceptance and seen as a strategy to deliver the crucial benefits, various recent researches have focused primarily on the extent to which it affects the millennials' as consumers and also does it has any impact on their perceptions about the brand and their buying behaviour.

## 2. REVIEW OF LITERATURE

The ever growing concern about the environment and the recent updates in the corporate world and the government norms about the responsibilities of the business towards the society have made the organizations more responsible and accountable. The expectance of society from companies has also grown widely. The society wants the business to behave ethically and have sustainable conduct (Nazarro, C.; et.al; 2018). Cause related marketing (CRM) is one such strategy used by the companies to market and communicate directly their involvement in the social policies. It also helps them to improve their image and differentiate their products and helps them to make more profits. The millennials are of significant value to the marketers because of their potential purchasing power (Cui, Y et. al., 2003) and also because they exhibit more responsible behaviour in comparison to previous generations (Pringle, H.; Thompson, M., 1999). Several studies done on the millennials' show that they want good compensation and benefits, career advancement, challenging and interesting work, work/life balance, stress-free life and at the same time contribute to the society in which they live (Ng, Schweitzer, & Lyons, 2010).

The alliance with a social cause is not new and has progressed gradually from small sales promotion techniques to large scale marketing and advertising strategies. It has increased the expectations of business organizations to contribute to social causes (Davidson, 1994). The growing popularity of corporate social responsibility has also contributed in shaping millennials' viewpoint towards business organizations. Millennials feel CRM activity to be a valuable method for the organizations to

contribute their part in the development of society. The millennials act as an important factor by turning into loyal customers and giving a positive word of mouth for the company (Basu & Dick, 1994). The organizations see the CRM activities to be profitable for them as these prove to be cost effective on their pocket to achieve the business objectives (Till & Nowak, 2000). Connecting with a social cause creates emotional bondage and affects the consumers' assessment of the products and services (Brown & Dacin, 1997). It helps the company in gaining customer loyalty by matching with the consumers' self-image and thereby increasing their reputation (Adkins, 2005; Schiffman et. al., 2007).

The millennials' are more committed to supporting the humanitarian causes through their choices which indicate that this generation is the prime target of the CRM campaigns. As consumers' they know their power to purchase goods and they spend mostly on personal services and consumer goods. The millennials' are different from Generation X, in terms of their purchase behaviour. They usually select and purchase products that define their ideologies and personality. Also, the product should add some benefit to the society and stand by the ethical norms and values (Noble et al., 2009). They use their knowledge and experience to make decisions in regards to purchase. They tend to associate themselves with various social causes and therefore cause related marketing has got great acceptance among the millennials. The collaboration between the company and the non-profit organization is created with an intention to benefit the society by raising fund; thereby supporting a cause. Several types of research have pointed towards the dual approach of the CRM. The first or the direct approach links the size of donation to the sales of the products whereas, the second or indirect approach provides no clear link between the size of a donation and the revenue achieved.

The business organizations that engage themselves in Cause-related marketing mostly adapt it as a differentiating factor and try to gain publicity and enhance their brand image

(Graham, 1994). Although many academic and non-academic research studies have highlighted strong consumer support of the millennial generation towards CRM, the effectiveness of this strategy still needs to be tested. There has been a question mark whether this CRM actually changes the attitude towards a brand and influences purchase intention. A recent report released by a consulting firm Deloitte India and lobby group Retailers Association of India in 2018 titled "Trend-setting millennials: Redefining the consumer story", also focused on the millennials' as an important consumer segment. They are the working class in India and have a share of 47% in the population. In India, the millennials' are the largest demographic group having huge spending capacity. They are social media friendly and therefore affect the different consumer segments through their social posts. In comparison to the previous generation, they are much slower to get married and begin their families. Since 75% of this generation is still single, it can be said that perhaps other goals and priorities have out-shined the focus of older generations on the family and home.

If we observe, globally also India is leading in terms of millennials' population. In India, millennials' are 34% (at 440 million) of the country's total population and account for nearly half of the working age population. Globally, recently they are 27% of the whole world's population i.e. 7.4 billion. Their values, ethics, beliefs, and expectations have a distinct role in the marketing world (Jackson et al., 2011).

Due to the huge population size of the millennials' their power to purchase also plays an important role in the marketing world. Hence, their reaction to the firms' that are practicing CRM has gained great importance. Various studies have indicated that applying the CRM in an effective manner can affect the perceptions of millennials positively and also induce buying intention in them (Nan & Heo, 2007; Barone et.al., 2000; Webb & Mohr, 1998). On the other hand, some of the studies have also highlighted that CRM requires more advertisement and promotional campaigns in

order to create an everlasting impact on the minds of the millennials and to create the recall and brand recognition (Kotler & Lee, 2000). CRM is marketed as an act of philanthropy by a company and is also known to be an extension of the corporate social responsibility (Bonn & Vrioni, 2001). It also reaches the consumer's who normally do not donate in charities but prefer to associate themselves with a cause (Mason, 2002). An experimental study done by Lafferty and Goldsmith (2005) found that post exposure attitude of the consumers towards a brand involved in social causes was more positive than the pre exposure attitude.

Till date, very few and scant researches have focused on the alignment and effectiveness of the CRM activities with the millennial generation. Today for any retailer who wants to stay relevant, the millennials are an important customer segment. Therefore, it is extremely vital to understand their psychology, behavioral patterns, and purchasing habits.

The above research studies motivated the researchers, to conduct a study on CRM and its effect on the purchase behaviour of Indian millennials'.

### 3. RESEARCH METHODOLOGY

#### Research Objectives

To understand millennials' attitude towards cause-related marketing programs.

To explore whether the shopping/purchase habits of the millennials' are influenced by cause-related marketing.

To determine whether the involvement of millennials' with cause-related marketing affects their brand perception, preference, and attitude.

To indicate the issues and social causes that influence purchase behaviour.

To find the reasons that discourage the millennials' to respond positively against cause-related marketing.

### Research Hypotheses

Previous researches and secondary literatures have helped in the formulation of the following alternative hypotheses:

**Ha<sub>1</sub>:** There is a significant influence of Cause-related marketing on the attitudes of millennials' for a brand.

**Ha<sub>2</sub>:** Awareness about cause-related marketing programs will influence millennials' purchase intentions.

**Ha<sub>3</sub>:** Millennials' show their support towards the brand & causes which are related to them personally or socially.

**Ha<sub>4</sub>:** The positive attitude of the millennials towards cause-related marketing reflects their inclination towards the charitable activity.

**Ha<sub>5</sub>:** Overall the millennials' derive satisfaction from the cause-related marketing strategies of the companies.

**Ha<sub>6</sub>:** Millennials' usually supports the local and national causes rather than the international.

**Ha<sub>7</sub>:** There is a significant relationship between age of millennials' and their support for cause-related marketing activities.

**Ha<sub>8</sub>:** There is a significant relationship between gender of millennials' and their support for cause-related marketing activities.

**Ha<sub>9</sub>:** There is a significant relationship between education of millennials' and their support for cause-related marketing activities.

Primary data has been collected for the study by means of questionnaires (Malhotra, 2005). The questionnaire contains items for gathering information regarding millennials' preference for the brand, their purchasing attitude, and their perception. The Likert type scale has been used to gather the data in which numeral 1 is for 'strongly disagree' and numeral



5 is for 'strongly agree' (Elbeck, 1987; Steiber, 1989).

Since the value of Cronbach's alpha was 0.723 hence the scale was considered to be reliable. The sample size is of 220 millennials of Delhi region. The sample has been determined through Non-Probabilistic Sampling technique (Zikmund, 2004). Their opinion was collected by means of a

questionnaire in the month of January 2019. For the analysis of data, both the descriptive and inferential statistics have been used. The different dimensions of cause-related marketing in India have been measured by using statistical techniques such as correlation and one sample t-test. Also to add more depth to the paper various secondary sources such as text books, journals, reports, magazines and previous research studies have been referred and consulted extensively.

**Table 1 : Variables of the Research**

S.No.	Variables/Statements for measuring the effect of cause-related marketing on Indian Millennials'
1.	If a brand is affiliated with cause-related marketing, I will adopt it.
2.	A brand that supports a social cause gives me more satisfaction.
3.	A brand that supports a social cause gives me more satisfaction.
4.	I will purchase a new brand also if it supports a cause.
5.	The involvement of a brand or company with cause effects or changes my perception.
6.	Brands involved in cause carry the best benefit.
7.	I can bear an additional cost in order to support a cause.
8.	I sometimes give preference to the product quality to support a cause.
9.	To show support for a cause, I sometimes buy products not necessary for me.
10.	I support the brands or causes with which I can affiliate myself.
11.	I expect that there is coordination between the cause supported and brand.
12.	To get the millennials' support the image and the cause must be highlighted.
13.	The cause-related marketing program which is not related to the company is most effective.
14.	The inclination of a person towards cause-related marketing campaigns affects his tendency to donate to charitable organizations and causes.
15.	I prefer or like to support the causes which are similar to the individuals who prefer to donate directly.
16.	I think that each company should support social causes.
17.	I recommend others to affiliate themselves with social causes.
18.	I prefer the Local/National causes in comparison to the international causes.

**4. DATAANALYSIS AND FINDINGS**

One sample t-test has been used for testing hypotheses 1to 6, while correlation is used to test hypotheses 7 to 9.

**Table 2: Effect of Cause-related Marketing on Millennials' Attitude towards the Promoted Brand.**

	Test Value = 3					
	t	df	Sig. (2-tailed)	Mean Difference	95% Confidence Interval of the Difference	
					Lower	Upper
If a brand is affiliated with cause-related marketing, I will change it	41.962	219	.000	3.933	3.747	4.118
If a brand is affiliated with cause-related marketing, I will adopt it	34.133	219	.000	3.825	3.603	4.046
A brand that supports a social cause gives me more satisfaction	49.170	219	.000	4.283	4.110	4.455
I will purchase a new brand also if it supports a cause	55.649	219	.000	4.308	4.155	4.461
The involvement of a brand or company with a cause affects or changes my perception	51.609	219	.000	4.283	4.219	4.447
Brands involved in cause carry the best benefit	64.356	219	.000	4.341	4.208	4.475

From the above table, it can be analyzed that the cause-related marketing strategies of the business organizations affect and can also change the attitude of the millennials' towards a particular brand. Since the calculated value

(.000) is less than the critical value (0.05) therefore we accept the hypothesis and come to a conclusion that cause-related marketing can bring a positive change in the attitude of the millennials'.

**Table 3: Awareness about Cause-related Marketing Programs and its Influence on Millennials Purchase Intentions.**

	Test Value = 3					
	t	df	Sig. (2-tailed)	Mean Difference	95% Confidence Interval of the Difference	
					Lower	Upper
I can bear additional cost in order to support a cause	64.720	219	.000	4.291	4.160	4.423
I sometimes consider the quality of the product to support cause	53.942	219	.000	4.258	4.102	4.414

Sometimes I buy products not necessary for me but do so to show my support for a cause	38.612	219	.000	3.858	3.660	4.056
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Since the calculated value (.000) is less than the critical value (0.05) therefore we accept the second hypothesis. It can be concluded from the

above table that if a company designs and communicate its cause-related marketing strategies effectively then it can also affect the purchase intentions of millennials.

**Table 4: Millennials' Show Their Support Towards the Brand & Causes which are Related to them Personally or Socially.**

	Test Value = 3					
	t	df	Sig. (2-tailed)	Mean Difference	95% Confidence Interval of the Difference	
					Lower	Upper
I support the brands or causes with which I can affiliate myself	58.906	219	.000	4.141	4.002	4.280
I expect that there is coordination between the cause supported and brand	58.126	219	.000	4.183	4.040	4.325
In order to get support from the millennials,' the image and the cause must be well supported	41.397	219	.000	3.875	3.689	4.060
The cause-related marketing campaign which is not associated with the organization's interest is most effective	53.230	219	.000	3.983	3.835	4.131

Since the calculated value (.000) is less than the critical value (0.05) at 5% level of significance, therefore, we accept the hypothesis. The finding

from the table 4 shows that the millennials' support those causes which have an impact on their personal and social lives.

**Table 5: The Positive Attitude of the Millennials towards Cause-Related Marketing Reflects their Inclination Towards the Charitable Activity.**

	Test Value = 3					
	t	df	Sig. (2-tailed)	Mean Difference	95% Confidence Interval of the Difference	
					Lower	Upper
The inclination of a person towards cause-related marketing campaigns affects his tendency to donate to charitable organizations and causes	27.562	219	.000	3.541	3.287	3.796



The respondents prefer or like to support the causes which are similar to the individuals who prefer to donate directly	39.667	219	.000	3.725	3.539	3.910
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From the above table, we can see that the calculated value (.000) is less than the critical value (0.05) at 5% level of significance, therefore, we accept the fourth hypothesis.

Hence, it can be concluded that the millennials' view that their support for cause-related marketing strategies is a way to take part in charitable activities and social development work.

**Table 6: Overall the Millennials' Derive Satisfaction from the Cause-Related Marketing Strategies of the Companies.**

	Test Value = 3					
	t	df	Sig. (2-tailed)	Mean Difference	95% Confidence Interval of the Difference	
					Lower	Upper
I think that each company should be involved in supporting social causes	53.217	219	.000	4.191	4.035	4.347
I will also recommend others to affiliate themselves with the social causes	31.148	219	.000	3.658	3.425	3.890

From the above table, we can see that the calculated value (.000) is less than the critical value (0.05) at 5% level of significance, therefore, we accept the fifth hypothesis. It can

be inferred that the millennials' appreciate the efforts of the business organizations to focus on the social and environmental issues through their campaigns.

**Table 7: Millennials' Usually Supports the Local and National Causes Rather than the International.**

	Test Value = 3					
	t	df	Sig. (2-tailed)	Mean Difference	95% Confidence Interval of the Difference	
					Lower	Upper
The Local/National causes get more preference by the millennials' in comparison to the international causes	33.029	219	.000	3.700	3.478	3.921

From the table 7, it is noticed that the calculated value (.000) is less than the critical value (0.05) at 5% level of significance, therefore, we accept

the sixth hypothesis and conclude that the millennials' show their preference towards local and national causes.

**Table 8: Correlation Between Age of Millennials' and their Support for Cause-Related Marketing Activities (N=220)**

		Support for cause-related marketing activities	Age of millennials
Pearson Correlation	Support for cause-related marketing activities	1.000	.363
	Age of millennials	.363	1.000
Sig. (1-tailed)	Support for cause-related marketing activities		.000
	Age of millennials	.000	

The table 8 shows a positive correlation between the millennials' age and their support for the cause-related marketing activities. With

$r = 0.363$  the hypothesis is also accepted. It shows that as the age of the respondent increases, the support for the causes also increases.

**Table 9: Correlation Between Gender of Millennials' and their Support for Cause-Related Marketing Activities (N=220)**

		Support for cause-related marketing activities	Gender of millennials
Pearson Correlation	Support for cause-related marketing activities	1.000	.098*
	Gender of millennials	.098*	1.000
Sig. (1-tailed)	Support for cause-related marketing activities		.289
	Gender of millennials	.289	

\*Correlation is not significant at the 0.05 level (2-tailed)

The table 9 shows that 0.298 (calculated value) is higher than 0.05 (critical value) though it shows a positive correlation ( $r = 0.098$ ).

Therefore we reject the hypothesis and conclude that the support towards a cause does not differ whether the millennial is a male or female.

**Table 10: Correlation Between the Education of Millennials' and their Support for Cause-Related Marketing (N=220)**

		Support for cause-related marketing activities	Education of millennials
Pearson Correlation	Support for cause-related marketing activities	1.000	.144*
	Education of millennials	.144*	1.000

Sig. (1-tailed)	Support for cause-related marketing activities		.117
	Education of millennials	.117	

\*Correlation is not significant at the 0.05 level (2-tailed)

The table 10 shows that the correlation is not significant at 0.05 level (0.117) though the correlation is positive ( $r=0.144$ ). Therefore we reject the hypothesis and conclude that the educational background of the millennials' does not affect their support for the cause-related marketing activities.

The hypothesis related to the demographics doesn't infer on the relation between the millennials' demographics and their support for cause-related marketing programs.

### 5. CONCLUSION OF THE STUDY

The study shows the millennials' awareness and support towards the companies' cause related marketing activities. It acts as a stimulator in increasing the awareness of the CRM activities. It was found that most of the millennials' were aware of the term corporate social responsibility but a few were not familiar with the term CRM. Some of the consumers feel that the organizations are not serious about the social causes and these CRM activities are merely a few attempts to increase their popularity. However, it is expected that as the awareness of millennials' increases, their support for the social and environmental issues will also grow. The cause related marketing campaigns will also simultaneously affect the preference of the millennials' towards a brand or towards the company that supports social causes.

The present study shows that if the millennials' are having knowledge of the cause related marketing campaigns by a company, it affects their mindset and they eagerly support and purchase from such companies and brands. A majority of millennials' agree that the companies should associate themselves with social issues but they should not use these social causes/issues to make more profit. These campaigns affect the awareness, perception, and views of the millennials and also inspires them.

So the companies should initiate more such activities which can increase the awareness level of the customers. The companies should try to give priority to important and current issues while choosing social causes.

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# Customer Relationship Management (CRM), Relationship Quality and Customer Loyalty in the Indian Banking Sector: A Conceptual Approach

Dr. Brijesh Kumar Yadav\*

Dr. Vibha Singh\*\*

## ABSTRACT

The purpose of the research paper is to develop a conceptual model that explores the dimensions of CRM, relationship quality & customer loyalty and their relationship in the context of the banking sector in India. The study analyzes CRM dimensions, relationship quality, and customer loyalty through extensive literature review. The present research paper has explored five major factors/dimensions, namely, communication, conflict handling process, responsiveness, personalization, and customer orientation. Relationship quality was explored through dimensions, namely, trust, commitment, and satisfaction. Customer loyalty has been analyzed by three major factors such as behavioural, cognitive, and attitudinal loyalty. The study has proposed a conceptual research model for further research

The present study explores new insights on CRM practices, relationship quality, and customer loyalty in the Indian banking sector for academicians and practitioners with some limitations. The identified dimensions will help practitioners in effective implementation of CRM practices to improve relationship quality and customer loyalty in banks. Present work analyzes the relationship between CRM, relationship quality, and customer loyalty in the Indian banking sector.

**Keywords-** Customer Relationship Management, Relationship Quality, Customer Loyalty, Indian Banking Sector, Trust

## 1. INTRODUCTION

The banking sector has been witnessing a tough and challenging phase with decreasing profitability, increasing provisioning requirement and poor asset quality. The global crisis in banking sector indicated the high risk and that requires higher standards of practices in almost every aspect of the sector. Marketing scenario in the banking sector is very dynamic and innovative with a background of rapid change in technology, regulatory requirements, social and economic changes, and globalization. The banking sector has changed in many aspects such as technology, structure, regulatory provision, entry of private and foreign banks, etc. which has brought a considerable transformation in the industry (Klein, 2005; Padmavathy et al., 2012). These changes have forced the industry to offer innovative services under a regulatory framework; banks have not only increased their product portfolio but also expanded their presence across the country. Expansion of global financial institutions and rising customer needs related to various financial services have increased competition in the banking industry. Thus, a concrete customer oriented strategy is required to attract and develop a mutually beneficial relationship with the customer in the banking sector (Ladeira et al., 2016).

The challenging and tough competition in the banking industry has compelled banks to adopt a customer oriented approach. Customer relationship management (CRM) has been adopted by companies and financial institutions including banks (Andaleeb et al., 2016). Although, the pattern and objective of adoption of CRM are different from company to

\* Assistant Professor, Rajarshi School of Management and Technology, Varanasi-221002,  
E-mail: brijesh.bhu@gmail.com

\*\*Assistant Professor, Vasanta College for Women, Varanasi



company and from industry to industry but the basic objective is to maintain long term relationship with customers. Losing a customer is very costly for a company in a highly competitive market and in changing consumer behaviour. Companies are striving to have a long term relationship with a customer rather than attracting new customers as it involves costs. A strong relationship results in a competitive advantage over competitors and that can hardly be broken (Wong et al., 2007). Indian banks have been investing in CRM initiatives to develop a long term profitable relationship with customers. Generally, a CRM initiative is termed as technology related investment project instead of a facilitator with business strategy, process, and people. Companies desire to serve best possible service that leads to good relationships with their customers but many firms find it hard to design effective CRM strategies (Boulding et al., 2005; Bolton et al., 2007).

The objectives of the present study are: (a) to explore the dimensions of CRM, relationship quality and customer loyalty in the context of the Indian banking industry; (b) to propose a conceptual structural model showing relationships among these factors. It is believed that this study will give an insight into conceptual and practical implications to banking and other sectors in service operations. The objective of the study is to fill the gap by proposing a unique set of dimensions of CRM, relationship quality, and customer loyalty in the banking sector.

## 2. LITERATURE REVIEW

### 2.1 Customer Relationship Management

Customer relationship management (CRM) has attracted considerable attention amongst academicians and practitioners. CRM refers to the concrete strategy which aims for long term relationship with customers (Anton, 1996; Jolson, 1997; Morris et al., 1998; Parvatiyar and Sheth, 2001; Kotorov, 2003; Lambert, 2004; Sin et al., 2005; Ryals and Payne, 2010; Frow et al., 2011; Mukerjee, 2013; Khojastehpour and Johns, 2014, So et al, 2016). Studies have been conducted in various industries such as banking (Padmavathy et al., 2012), (Meadows and Dibb,

2012), paint manufacturing (Daghfous et al., 2013), Insurance (Gruen et al., 2000), financial services (Ryals and Knox, 2005), hotel (Osman and Hemmington, 2009), retailing (Srinivasan and Moorman, 2005). The concept and understanding of CRM are fragmented and spread from commitment to customer retention and from customer orientation to customer loyalty. CRM has been defined by many scholars (Sheth and Parvatiyar, 1995; Sin et al., 2005; Szmigin and Bourne, 1998; Reinartz et al., 2004; Morgan and Hunt, 1994; Rust et al. 2000; Meng and Elliott, 2008; Lambert, 2010) and these definitions can be broadly categorised into the following categories: (a) it is a comprehensive business strategy for customer need, expectations, behaviour and managing them for effective business performance, (b) it is a process of attracting, acquiring, retaining and developing mutual beneficial long term relationship with customers, (c) it is an information technology based tool for analyzing business data and information to understand customer needs and creating superior value for the company and the customer. One of the prominent definitions that are proposed by Sin et al. (2005) said that "It is a comprehensive strategy and process that enables an organization to identify, acquire, retain, and nurture profitable customers by building and maintaining long-term relationships with them". Studies conducted for relationship marketing shows that scholars have not been able to arrive at a common consensus for defining relationship marketing (Yadav and Singh, 2014). Relationships with customers are built on continuous efforts based on customer knowledge and integration of various activities.

Zablah et al. (2004) proposed five major components of customer relationship management, namely relationship marketing strategy leading towards the profitability of the organization, customer centricity approach in relationship program, quality of customer and firm interaction, sales, and marketing integration through technology, and creation of a relationship with customers.

Boulding et al. (2005) stressed that it not only builds relationships and uses systems to

collect and analyze data, but it also includes the integration of all of these activities across the firm, linking these activities to both firm and customer value, extending this integration along the value chain, and developing the capability of integrating these activities across the network of firms that collaborate to generate customer value while creating shareholder value for the firm. Frow and Payne (2009) proposed CRM as a cross-functional strategic approach to create shareholder value through the development of relationships with selective customers and segments. It involves customer knowledge, customer and segment selection, co-creation of customer value, developing integrated channel strategies, intelligence, and technology solutions to create superior customer service experience. CRM aims to retain the same customers which prove to be profitable for the company. It helps in the creation of value of products and services with partnering its existing customers (Grönroos, 2000; O'Malley, 2003). The core of the relationship of the CRM program is the relationship between the firm and customers. A relationship can be formed only when mutual benefits and interest are satisfied. Mutual relationship is affected and depends on many factors like interaction frequency with customer and firm. During the process of interaction, a strong relationship can be developed over time and value can be created and delivered (Czepiel, 1990; Grönroos, 1997)

CRM assures competitive advantage by retaining and developing long term relationship with customers (Krasnikov et al., 2009). It is relevant to point out that not all consumers want relationships (Danaher et al., 2008); consumers can select transactional or relational behaviour in service. The choice depends upon continuous CRM effectiveness that may impact on consumer's selection. Companies are attracted by the immense potential of CRM to enhance relationship quality, loyalty and overall firm performance (Knox et al., 2003; Jayachandran et al., 2005). CRM involves integrated marketing communication which consists of an active two way exchange of any information, ideas, etc. between customers and firms.

Relationship communication involves information exchange, customized dialogue, and conversation to develop mutual relationships (Andersen, 2001). Most of the modern marketing communication techniques are based on prior intention and objective of establishing a conversation. Normally, communication is seen as a mean of developing trust with the customers. Marketing communication emphasis on establishing two way communications to deliver a better message to build and maintain brand and relationship quality (Peppers and Rogers 1993). Presently, firms are investing heavily in software and technology in the age of the internet. It ensures an effective design of CRM program and proper delivery of a communication (Ahn et al., 2003; Flavian and Guinaliu, 2006; Maguire et al., 2007). The use of integrated communication in relationship marketing led to the development of an empowered CRM and it enables an organization to able to analyze even small fact about customers. It is important to note that only use of communication technology may not give desired results but the essential things are sophisticated analytical skills that require in analyzing customer related information (Peppard, 2000). Communication is the way by which relationships are developed and maintained. It conveys meaningful interaction between firms and customers in case weakening or strengthening relationships. CRM is a combination of processes, system which aims to understand customers. It enables to manage the relationships needed to focus on customer attraction, acquisition, retention, and development (Celep et al., 2013). Further, CRM strategies and processes lead to differentiate its products and services and ensure the development of the business. Desirable state of mind in people of the organization forms the basis for the development of the behaviour and interactions with its customers. Employee oriented firms treat their employees as an asset for the organization and promote their ideas and strategies in the process of relationship marketing strategies. Firms should have more empowered, customer oriented people in the CRM system (O'Reilly, 1989; Maignan et al.,

1999; Dobni et al., 2000).

## 2.2 Relationship Quality

Customer oriented strategies are suggested by several researchers (Fornell, 1992; Rust and Zahorik, 1993; Reichheld, 1993). These strategies are based on the basic idea that acquiring new customers are relatively costlier than retaining existing customers and they can be retained by the value of lasting customer relationship. Hence, marketers are always worried about the association with their customers. There are many dimensions to increase the retention of customers and relationship strength is one of those dimensions.

A relationship is a psychological connection between a firm and its customers and relationship quality reflects the psychological connection of firm and customers. Trust and satisfaction are one of the main constructs of relationship quality (Crosby et al., 1990; DeWulf et al., 2001; Gregoire and Fisher, 2006). Relationship quality has been studied to understand the psychological relationship between firms and customers. Relationship quality has a direct relationship with customer loyalty, stability, and retention (Morgan and Hunt, 1994; Beatty et al., 1996; Gwinner et al., 1998; Garbarino and Johnson, 1999; Holloway et al., 2009). Relationship quality assesses the overall strength of a relationship and it is based on relationship marketing. Researchers have developed various models to explore relationship quality to examine its antecedents and consequences. Relationship quality is a higher order construct consisting of two indicators, trust and satisfaction. Relationship quality describes the overall depth and situation of a relationship (Crosby et al., 1990; Kim and Cha; 2002). Some researchers introduce commitment as the third indicator of relationship quality while others find it close to loyalty (Kim et al., 2001). Trust is considered as a customer's willingness to rely on selected products and services. Trust in banking services is reflected in customer confidence in reliability and quality of services offered. Relationship quality can be achieved through consistent service performance as

perceived by customers. Moorman et al. (1993) defined trust as “a willingness to rely on an exchange partner in whom one has confidence. A betrayal of this trust (by the supplier or service provider) can lead to customer dissatisfaction and defection”.

Schurr and Ozanne (1985) defined the trust as the belief that a word or promise is reliable and a party will fulfill his/her obligations in the relationship. Shared values, mutual understanding, and goals, opportunistic behaviour, making and fulfilling promises, positive outcomes are terms used to define trust by prominent scholars (Dwyer et al., 1987; Morgan and Hunt, 1994; Wilson, 1995; Anderson and Narus, 1984; Crosby et al., 1990)

Perceived service can only be consistently delivered when firms have already studied the needs and expectation of the customer (Crosby et al., 1990; Garbarino & Johnson, 1999; Chen & Chang, 2005). Smith (1998) opined that relationship quality is the comprehensive analysis of the strength of a relationship and the ways of fulfilling the needs and expectations of the customers. Firms can differentiate their services by unique sets of relationship quality dimensions. Creating customer trust and satisfaction results in repeat purchase and retention (Roberts et al., 2003).

Trust, conflict, business understanding, satisfaction, affective conflict, commitment are some of the identified constructs of relationship quality (Crosby et al., 1990; Garbarino & Johnson, 1999; Kim and Cha; 2002; Lee and Kim; 1999; Roberts et al., 2003; Morgan and Hunt, 1994; Lang and Colgate, 2003; Henning Thureau, 2000; Jalilvand et al., 2017). We can say that relationship quality is the strength of a relationship built on past experiences and expectations. Researchers have found that strong relationship ensures a kind of protection in relational exchanges at a difficult time. Further, high quality relation may impact badly at times of service failure due to increased expectations (Singh and Sirdeshmukh, 2000; Oliver, 1980). Relationship quality is seen as the perception of a customer towards the fulfillment of expectations, desires during the entire

relational process (Jarvelin and Lehtinen, 1996).

Crosby et al. (1990) defined relationship quality as “the customer is able to rely on the salesperson's integrity and has confidence in the salesperson's future performance because the level of past performance has been consistently satisfactory”.

Moorman et al. (1992) defined commitment as a long term desire to maintain a valued relationship. It implies that a higher level of relationship quality is based on a desire to carry mutually satisfying and beneficial behaviour. An individual who gives value to the relationship would be highly committed. A highly committed customer would like to receive the same efforts from firm's side. The commitment may be calculative or affective. Calculative commitment in a relationship exists because two parties enjoy mutual benefits. In an affective commitment, a relationship is based on a willingness to say and good faith in the relationship (Kumar et al., 1995; DeRuyter et al., 2001).

High relationship quality indicates that customer is willing to have faith in the integrity and trust in the firm and he has the same expectation for future performance. It is based on the past consistence performance of the firm. Needless to say, a high relationship quality between the customer and firm results in a successful long term relationship.

Several CRM scale development research has been conducted in financial services and banking services by researchers (Sin et al., 2005; Agariya and Singh, 2012; Padmavathy et al., 2012).

Trust, commitment, satisfaction, inter-activity, and recommendations are the major factors of relationship quality.

### **2.3 Customer Loyalty**

Customer intentions and pre determined thoughts to purchase from the same organization can be termed as loyalty (Edvardsson et al., 2000). Firm performance and its sustainability can be achieved by

considering loyalty as a major factor in marketing strategies. Customer impressions cannot be created by offering products and services only as many firms are also offering the same quality and features. Hence, the study of customer loyalty is crucial for the growth and sustainability of firms (Hallowell, 1996; Keating et al., 2003; Lynch and Ariely, 2000). Loyalty is a specific consumer behaviour in which value received from a company is more than the value received by any other company. It is a kind of psychological feeling of a customer that links him with products, service, and organization (Hallowell, 1996). Customer loyalty is a series of psychological analysis and evaluations of product, service, and company. Satisfaction, trust, and commitment are antecedents of customer loyalty (Raimondo et al. 2008). Customer loyalty can be achieved by a better understanding of customer needs. It is a key factor in the sustainability and success of an enterprise (Slater and Narver, 1999). Repurchase intentions and high customer loyalty have a considerable positive impact on profitability. Researchers have studied many aspects of customer loyalty formation and its consequences (Hallowell, 1996; Slater and Narver, 1999). Service quality, high switching costs, social and emotional bond, corporate image, price fairness, communication, relationship enhancing activities, service recovery, etc are some of the determinants of customer loyalty. Volume buying and customer referrals increase with the formation of customer loyalty. The customer stays for a long period of time, increases the number of frequent visits and purchases, purchases intentions, and positive word of mouth (Trubik and Smith, 2000). Loyal customers may be motivated to buy multiple products. Customer loyalty may be formed with increased relationship quality (Pont and McQuilken, 2005). Loyalty may be positively linked with a cross and up-selling (Gupta and Zeithaml, 2006). Customer loyalty may have several outcomes namely profitability, repurchase intentions, positive word of mouth, positive attitude towards brand and company, increased share of wallet, positive firm performance, etc. (Dick and Basu, 1994; Storbacka, 1997; Jorna et al., 2002;

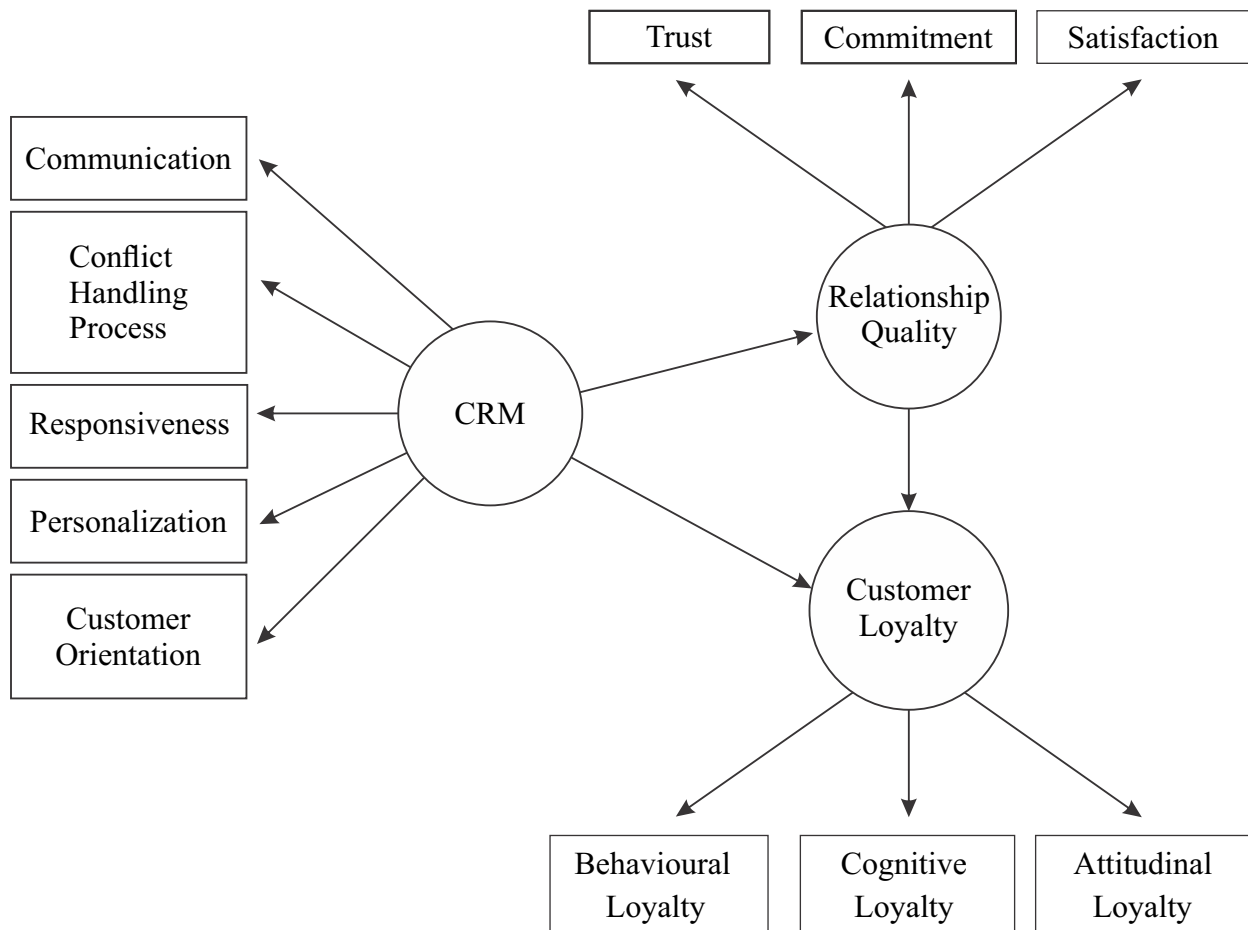


Doorn et al. 2010; Lima and Fernandes, 2015; Tercia and Teichert, 2016; Bhat et al., 2018).

### 3. METHODOLOGY

In the context of the banking industry in India, a conceptual model of CRM, relationship quality, and customer loyalty is being developed based on concepts and understanding extracted from literature. Figure 1 represents the entire conceptual model of the present study. The model showed that customer relationship management is related to relationship quality and customer loyalty and relationship quality is related to customer loyalty. Five constructs

namely communication, customer orientation, conflict handling process, responsive, personalization have been identified for the conceptualization of customer relationship management practices. Trust, commitment, and satisfaction dimensions were considered for relationship quality. In addition, behavioural, attitudinal, and cognitive dimensions were taken for customer loyalty. Each construct was evaluated using several variables.



**Figure 1: Research Model**



#### 4. DISCUSSION

Developing and retaining long term relationship with customers improves the chances of a firm to be competitive in the present business environment. Continuous effective CRM program enables a firm to develop and retain long term relationship with its existing customers. CRM is treated as strategic use of customization, customer orientation, customer handling processes, responsiveness, communication, and information to manage the customer relationship. CRM enables the firm in improving the length of the relationship, effectiveness of internal processes, and improvement in revenue. Many scholars have contributed to the field of CRM by proposing a unique set of constructs particularly in the banking sector. Based on the literature, several factors responsible for the formation of CRM have been identified. The present study proposes a unique set of constructs of CRM for the banking sector. Communication, customer handling process, responsiveness, personalization, and customer orientation have been identified as factors responsible for customer relationship management in the banking sector. CRM success in banking sector depends on practicing all factors collectively. Successful CRM implementation depends upon practicing CRM factors along with CRM vision, management support, CRM culture, and involvement in the banking sector. Communication plays an important role in maintaining a sustainable relationship. It enables an organization to maintain closeness and intimacy to have a strong bond with customers. Effective communication would be possible through continuous interaction with customers. Frequency and tone determine the effectiveness of communication (Sharma and Patterson, 1999; Varey and Ballantyne, 2005). The desired effect of the relationship is to create an environment of an intimate relationship with customers.

Customer handling is another factor in effective CRM practices in the banking sector. Customer handling process is essential in managing perceived service. Effective customer handling processes improve the positive customer

experience. Effective customer handling processes include serving the customer as per commitment, solution of a complex situation, hassle-free solutions, solution on time, etc. firms can become efficient service providers by implementing proper customer handling mechanism (Bove and Johnson, 2001). It is seen that if customer handling processes have been coordinated well, it will strengthen the customer relationship.

Responsiveness is another factor in the formation of CRM practices in the banking sector. Responsiveness is considered as providing helpful and prompt services to customers as and when it is required. It is considered as a magnitude of promptness in providing services to customers. Quick response to customers would fill a sense of reliable services of a banking firm.

Another important factor in the formation of CRM practices is personalization. It is defined as the practice of one to one marketing through mass customization. It facilitates in providing a unique set of solutions to the specific need of customers. Understanding diversity in needs and wants of customers enable an organization to understand consumer behaviour accurately. Ongoing dialogue with customers enables a firm to customize services efficiently. Further, up-gradation of the status of a customer from normal to privilege, removing unnecessary products, and freedom of selecting combination services create an effective personalized service to customers (Dyche, 2002; Sin et al., 2005).

Customer orientation is an essential driver for customer satisfaction in a service firm. It involves the deputation of customer oriented services employees to meet customer needs. Previous studies confirm that customer orientation facilitates better service performance and greater organizational effectiveness. Customer orientation promotes employees to engage customers in relational behaviour that increase long term behaviour (Gremler and Gwinner, 2000). It tries to enhance customer satisfaction and decreases dissatisfaction.

Relationship quality has been studied by many scholars in many aspects. Relationship quality

may be regarded as efforts to fulfill the needs of customers in an existing relationship. It is considered as an overall analysis of the strength of the relationship between customers and firm. Many researches confirmed major factors of relationship quality such as trust, commitment, customer satisfaction, interactivity, recommendation, etc. Development of trust has been regarded as an essential part of the relationship between buyer and seller (Zboja and Voorhees, 2006). It is considered as a willingness to rely on the integrity and honesty of other parties in making business transactions. Commitment, on the other hand, is a willingness to maintain long term and valuable relationship with service providers (Kassim and Abdulla, 2006; Keiningham et al., 2017).

Customer satisfaction is defined as "an overall evaluation based on the total purchase and consumption experience with a good or service over time" (Anderson et al., 1994; Zaim et al., 2010). It is an affective state that results from an entire assessment of the relationship of a customer with a service provider (Roy and Shekhar, 2010).

## 5. CONCLUSION

Many aspects of customer loyalty have been studied by researchers. Some researches pointed out relationship quality as antecedents of customer loyalty. It can be achieved by better practices in factors like a social and emotional bond, corporate image, service quality, high switching costs, communication, relationship enhancing activities, service recovery, trust, commitment, customer satisfaction, etc. (Srinivasan et al., 2002; Wong and Sohal, 2003)

Behavioural, attitudinal, and cognitive loyalty are dimensions of customer loyalty. Behavioural loyalty refers to a particular behaviour shown by the customer in selecting the product and service of an existing firm. Consumer more often expresses themselves by spreading positive word of mouth and recommending service to others. Cognitive loyalty termed as an enduring position of a brand and company in customers' mind. Customers used to continue his patronage with an existing firm even if he faces difficulties in

managing a relationship. A customer can wait for the services of any specific brand and company when it is not available. Attitudinal loyalty refers to the favourable attitude towards a brand or firm as compared to other brands/firm. It is also considered as a level of commitment of a customer towards a brand and company (Baldinger and Rubinson, 1996; Leverin and Liljander, 2006; Cassia et al., 2017).

## Limitations And Future Direction

The present study explores new insights on CRM practices, relationship quality, and customer loyalty for academicians and practitioners with some limitations. Research focuses on the banking industry in India; hence it cannot be generalized on the entire financial sector.

The future direction of the study comes from the limitation of the present study. The present study can be extended in other sectors of the financial industry such as insurance, mutual fund, etc. The present study has identified a unique set of factors of customer relationship management, relationship quality, and customer loyalty. Apart from considering existing factors or dimensions, other dimensions such as service quality, service recovery, switching costs, etc may be considered for the study in future work.

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## Factors Affecting the Adoption of Renewable Energy - Inferences from Literature

CS Arpita Agrawal\*

### **ABSTRACT**

The Sustainable Development Goals (SDGs) explicitly require nations to ensure access to affordable, reliable, sustainable and modern energy for all under Goal 7. Acknowledging the significance of universal access to modern energy for achievement of other SDGs, several nations (including India) are considering this as a priority. Though significant progress has been made in this regard, the vision of achieving this goal continues to be blurred primarily due to certain barriers impeding the adoption of renewable energy (RE). In this backdrop, this study attempts to identify key barriers for adoption of RE on the basis of a systematic review of Literature. The findings suggest that financial and regulatory factors have a major bearing on its adoption. Further, the sparsity of empirical study exploring barriers in the Indian context is also highlighted. Policy measures that enhance the attractiveness of RE for Private sector could assist in realising the potential of RE.

**Keyword(s):** Renewable Energy, Barriers, Sustainable Development Goal (SDG).

### **1. INTRODUCTION**

India has adopted Agenda 2030 consisting of 17 SDGs and 169 targets and is also one of the signatories of the Paris Climate Agreement. In light of this, significant efforts are being made to imbibe multi-dimensional development agenda into national frameworks. However, in achieving the SDGs there are two major challenges. First being the Comprehensiveness of SDGs covering almost everything with varied forms and types of inter-linkages among the goals and targets. Second, is the requirement of huge financial resources. These challenges necessitate having the prioritization of goals and targets based upon synergistic interlinkages and national priorities.

On the basis of the inter linkages of energy with other goals, meeting energy needs has been highlighted as the priority goal by several researchers. Further, India's urbanisation coupled with its aspirations to be superpower underscore the need of creating new capacities to meet the insatiable energy demand. Given the factors such as heavy reliance on coal and crude oil imports, usage of subcritical generation technology by over 85% of coal plants, average efficiency of coal-fired fleet under 35%, depleting coal deposits, ageing power facilities and last but not the least the volume of CO<sub>2</sub> emissions the significance of RE

1 The Sustainable Development Goals (SDGs) are a collection of 17 global goals set by the United Nations General Assembly as a part of Resolution 70/1 of the United Nations General Assembly: Transforming our World: the 2030 Agenda for Sustainable Development.

Energy is dealt under Goal 7 of SDGs with overarching aim of ensuring access to affordable, reliable, sustainable and modern energy for all with three targets (1) ensure universal access to affordable, reliable and modern energy services (2) increase substantially the share of renewable energy in the global energy mix (3) double the global rate of improvement in energy efficiency

\* FPM Scholar, National Institute of Financial Management, EH-05, NIFM Campus, sector 48, Faridabad, Haryana 121001, E-mail: acsarpita@gmail.com



in Indian energy mix becomes crucial.

Thus, considering a present scenario and India's varying endowment of resources and biodiversity, renewable energy will not only resolve the twofold challenge of meeting energy needs and lowering carbon emission but will also be a convincing answer to some of the most pressing socio-economic challenges. Realising the potential of RE, the Government has already set up an ambitious target of installing 227 GW

of clean energy by March 2022 and made considerable progress in the last couple of years. However, as of December 31, 2018 total installed renewable power capacity stood approximately 74,786 MW(grid-interactive) and 1144.37 (off-grid)respectively which is merely 20% of the total installed capacity of power in India. The table below highlights the potential and installed capacity of various sources of RE in India as on 31.12.2017.

**Table 1 Potential and Installed Capacity of Various Sources of RE in India**

Renewable Energy	Potential (MW)	Installed Capacity (MW)
Solar	750000	17234.37
Wind**	137661	32848.46
Biomass	25000	8414
Small Hydro projects** (projects up to 25 MW station capacity)	21133.62	5172.315
Biogas ( 3-250 KW)	-	7.04
Small wind energy and hybrid system	-	3.287
Total	183794.62	63679.472

\* validated potential has been considered  
(Source MNRE Annual Report 2017-18.  
Data as of December 2017)

\*\* capacity created includes project under implementation

Here it may be noted that generation capacity and actual generation are two different things, since the Capacity Utilization Factor (CUF) of RE is less than other forms of energy, the capacity created should not be considered as the true indicator of adoption of RE. Table 1. depicts the data of potential versus capacity created of RE in India, as per the aggregates, only about 35% of the potential that has been tapped. This highlights that other than potential, certain factors are affecting the adoption of RE. This study tries to explore such factors and thus add to the existing literature in this context.

The paper is organized into five sections, wherein Section 2 discusses the methodology used for the review. Third Section reviews the existing literature about the factors affecting RE. Section 4 discusses the gaps in the existing literature and the fifth section concludes the paper.

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The Paris Agreement builds upon the United Nations Climate Change Convention and brings all nations into a common cause to undertake ambitious efforts to combat climate change and adapt to its effects.

India's power system needs to almost quadruple in size by 2040 to keep pace with rising demand i.e. increase at almost 5% per year (IEA 2015).

India accounts for roughly 12% of world coal imports and has become the third-largest crude oil-importing country, behind the United States and China.

India is world's third-largest country (behind China and the United States) in terms of volume of Co<sup>2</sup> emission



## 2. METHODOLOGY

The review has been initiated based upon the theory suggesting that the difference between the potential and capacity created can be attributed to certain factors. These factors may act as enabler i.e. have a positive impact on the capacity created or act as barrier i.e. have a negative impact on the capacity created. Since the country is trying to utilise its potential it aims at minimising the gap between the potential and capacity created by creating more capacity. By taking appropriate actions with respect to these factors, more capacity can be created.

Based upon this, the paper seeks to answer what are the factors that impact the adoption RE? Further, through literature review, it has been analysed whether these factors vary across countries and the type of technology. Also, the methodologies used for such studies have been analysed so as to identify the gaps, if any in the methodologies used in the existing literature.

A structured review covering academic resources and reports (released by National and International Organisations) has been conducted. Specific search protocol using search terms (1) renewable energy and related terms such as clean energy, solar energy, wind energy, etc. (2) barriers, hurdles, and factors affecting adoptions have been used to query relevant studies from three major databases namely J-Gate, Elsevier Science Direct, and EBSCO. In order to ensure that most relevant literature could be reviewed (within the given time and resource) and the probability of including irrelevant literature could be minimised, initial screening was undertaken as part of the database search, wherein titles, and keywords are analysed based upon the following selection criteria:

1. Subject matter: This review is related to the renewable energy thus the studies elaborating on the energy in general

without focussing on renewable energy are not emphasised. Studies analysing the factors affecting various sources of renewable energy have considered so as to ensure that the overall picture of the renewable energy sector could be understood.

2. Geographical scope: The study has not used geographical constraint. Though nations have different economic, demographic and political set up however all nations are at different stages of development and we can very well learn from the experiences of other nations.
3. Time horizon: Since the adoption of renewable energy has gained momentum from the year 2000 onwards, studies focussing on post 2000 period are considered.
4. Methodological approach: As per (DFID 2013), there are three types of studies, primary and empirical studies [P&E], secondary [S], theoretical or conceptual [TC], this study focuses more on P&E rather than other two types.
5. Language: Only studies available in the English language has been considered

The studies passing the initial screening were downloaded for further review. Thereafter, the second level of screening was conducted wherein the abstracts were reviewed in light of the research objective and inclusion criteria. The papers which were considered out of the scope of the review were excluded. In addition, Reports from National and International organisations such as International Energy Association, Ministry of Non-Renewable Energy, Ministry of Petroleum and Natural Gas, Council on Energy Environment and Water, NITI Ayog, United Nations and World Bank and papers/studies identified through back referen-

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Ratio of actual energy generated by the project over the year to the equivalent energy output at its rated capacity over the yearly period.

As per the U.S. Energy Information Administration (EIA) capacity is the maximum output of electricity that a generator can produce under ideal conditions.

cing of searched papers were also included.

After selecting the final list of papers, reports, etc. were reviewed, annotated bibliography was prepared and literature was synthesised to identify the methodology used, factors identified and gaps.

### 3. REVIEW OF LITERATURE

The review has been classified into two parts, first elaborating on the methodologies used by the earlier studies for identifying the factors affecting the adoption of RE and second mentioning the factors identified by the previous studies. The literature reviewed has used varied methodologies ranging from primary data-based, secondary data-based and conceptual.

The studies based on primary data on the subject tend to give a micro level view of the barriers from the perspective of the investors and other stakeholders. These studies generally focus on analysing the barriers faced by a specific group of stakeholders rather than the sector as a whole and thus help in understanding the root cause of the problem. The primary data based micro level perspective was initially used by Wisner and Pickle (1998) and was later used by several other researchers in this domain. Notably, Painuly (2001) emphasised the significance of stakeholders' perspective in the framework for identifying the barriers to RE. The framework proposed by Painuly highlights that barriers have several elements (causes for presence of barriers) and dimension (direction and depth of barriers). Since then this method has been used by various researchers with different categories of respondents including investors (Jonghet al. 2014), project developers (Friebe et al. 2014), consumers (Murakami et al. 2015), and energy experts (Eleftheriadis and Anagnostopoulou 2015). The studies based on this approach have used structured survey, semi-structured interview as well as hybrid techniques of data collection.

For instance, Ahlborg and Hammar (2011) and O'Keeffe and Haggett (2012) used semi-structured stakeholder interviews to identify barriers in two African nations and Scotland

respectively. Moreover, Paul Lehman et al. (2012) used Survey and interview method while Jonghet al. (2014) used structured interview, Friebe et al. (2014) used a mix of qualitative data analysis and quantitative survey approach to identify key factors and evaluate their importance in the context of wind energy.

For analysis, researchers have used sophisticated methodologies such as Analytical Hierarchy Process (Nguyen et al. 2010), interpretive structural modelling (Eswarlal et al. 2011), MIMAC analysis (Eswaralal et al. 2011), choice experiment (Murakami et al. 2015), techno-economic power system model (Hirth and Steckel 2016) for identifying the factors affecting RE.

The studies based upon secondary data tend to give a macro view of the state of factors in the nation as a whole. Most of the studies based upon secondary data have analysed the impact of finance, regulatory framework and macroeconomic factors on the adoption of RE.

In an early study of 2011, Zhao et al. used correlation to show an association between the regulatory framework for the RE and RE industry in China. In the same year, Shrimali and Kniefel (2011) estimated the effects of state policies on the penetration of various emerging renewable electricity sources using a state fixed-effects model with state-specific time-trends on the panel data of over 50 US states for the period 1991–2007.

Lean and Smyth (2013) applied stationarity tests and panel unit root test on the dataset of 115 countries over the period 1980–2008 to examine the effectiveness of policies in promoting renewable electricity. While Zhao et al. (2013) used the Poisson pseudo-maximum likelihood estimation technique with a panel dataset covering 122 countries over the period of 1980–2010 to study impact of policies on adoption of RE, Pfeiffer and Mulder (2013) used a two-stage estimation approach on a panel of 108 developing countries to study the adoption of non-hydro based renewable energy. Later on, Basher et al. (2015) noted not stationarity in the share of electricity generated through RE in many OECD countries which

posed a challenge in conducting time series analysis on such datasets.

Best and Burke (2018) used cross-sectional and panel regressions to assess the impact of aggregate policy support and Carbon pricing on the adoption of solar and wind energy.

Conceptual study based upon a review of Literature has also been reviewed in this regard (Bhattacharya et al. 2010; Mezher et al. 2011; Wang et al. 2014; Umamaheswaranand Seth 2015).

The literature points out that there is a gamut of factors that affect the adoption of RE. Some studies have classified these factors into different categories and dimensions. For instance, Painuly (2001) classified barriers to RE as a market, economic and financial, institutional, and technical barriers and highlighted that dimensions of each barrier may vary across Renewable Energy Technology (RET) and countries. Painuly and Wohlgemuth (2006) acknowledged that barriers exist on demand as well as supply side. While Mezher et al. (2011) grouped the barriers into three main categories: market technology, policy legislation, and cost Ahlborg and Hammar (2011) classified barriers into four categories namely technological, economic, financial and institutional barriers. Jongh et al. (2014) identified five aspects that mainly influence RE investment decisions these being investor background, political factors, economic factors, social factors, and technological factors. D and Komendantov (2015) highlighted that there are certain structural, cultural, systems and strategic barriers for the development of renewable energy. Nasirov et al. (2015) gave a much comprehensive category of barriers which include institutional, regulatory, economic, financial, technical, infrastructure, informational barriers. While Rehman and Hussain (2017) classified these as institutional, political and financial. Ioannou et al. (2017) viewed that RE is exposed to technological, financial, economic and regulatory barriers which vary across technology, country and policy regimes.

Several studies have highlighted finance as a

major barrier (Painuly and Wohlgemuth 2006), (Bellanca et al. 2012) in the path of adoption of RE and there are multiple sub factors leading to this barrier which include:

1. High cost associated with RET: Though operating and maintaining RET is relatively cheaper, the initial set up cost which constitutes of costs such as cost of technology (Twas 2008), start-up cost (Painuly and Wohlgemuth 2006) and cost of resource assessment (World Bank 2011) are quite high. Considering the case of India wherein a significant portion of technology used for RE, particularly solar panels and modules are imported from China and Malaysia, the imposition of safeguard duty, and continuous fall of the Indian rupee against the US dollar has only contributed negatively to the adoption of RE. Though Government has tried to augment manufacturing of solar panels in India by floating a 10 GW tender in May 2018, however the same was postponed multiple times without garnering much of favourable response.
2. Risk perception: RET is inherently risky (Pegels 2010), the risk is due to resource risk, regulatory risk, (World Bank 2011), technology risk (ODI 2012), economic and financial viability (O'Keeffe and Haggett 2012; Jongh et al. 2014), investment risk (Butler and Neuhoff 2008; Sovacool, 2010; Mezher et al. 2011; Bhattacharya and Cropper 2010) market risk (Ioanna 2015). The high investment required vis à vis very limited returns in the short and medium run (Bonan et al. 2016). (Chaurey et al.) 2004 highlighted that Private sector financing is directly linked with growth and development of the market for renewable energy however, the preference of private investors for short-term gains over long term investments (Andrada 2015) adversely impacts investments from private participants.
3. Availability of finances: Given the requirement of high initial cost and varied types of risk, RE faces critical financing gap due to

lack of long term loans (World Bank 2011), pre-commercialization financing gap (Usman et al. 2012), capital restrictions (ODI 2012) scarce funding opportunities (Bhattacharya and Cropper 2010) constrained public finances (World Economic Forum 2013, Andrada 2015 Paris EUROPLACE 2016, Della Croce et al., 2011) and financial regulations that discourage long-term energy finance (Kaminker et al. 2012; Ng and Tao 2016).

4. Pricing of Renewable Power: In India, Government has been providing investment as well as price subsidies to conventional energy since long because of which they are relatively cheaper than the RE and thus people prefer them. To address this issue and to get the DISCOMs to procure RE, Government has tried to put a cap on the RE prices. For instance, solar tariffs have been proposed at 2.68/kWh and Rs 2.5/kWh with and without safeguard duties on modules, respectively. However, researchers are of the view that such price controls (ODI 2012) act as a barrier as they raise concern over the sustainability of the RE projects.

In this regard, the impact of regulatory factors has also been highlighted. Several researchers have found that adoption of RE is complemented and supported by regulatory frameworks encompassing laws, rules, policies, schemes and other measures to enhance the share of RE in the energy mix. Over the last decade several kinds of literature have also analyzed the impact of the regulatory framework as an aggregate and impact of varied regulatory components such as fiscal measures including subsidies, tax rebates or specific schemes such as carbon pricing, purchase obligation, feed in tariff, etc. on adoption of RE, however the results have been mixed.

Researchers like Carley (2009), Pegels (2010) and Marques and Fuinhas (2012) have highlighted the negative impact of legislation

on the adoption of RE, yet a number of studies have found a significant positive association of legislation and adoption of RE. (Menz and Vachon 2006; Atmanand et al. 2009; Yin and Powers 2010; Shrimali and Kniefel 2011; Zhao et al. 2011).

Zhao et al. (2013) concluded that though policies play a crucial role in promoting RE generation, their effectiveness is subject to diminishing returns as the number of policies increases. He further found that the effectiveness of aggregate policy varies by the type of policy and energy source. For instance, policies involving voluntary participation appear to have a negative relationship with renewable energy investment (Aguirre and Ibikunle 2014).

Lean and Smyth (2013) found that policies which result in one-time shocks, such as investment incentives or tax credits are less effective in comparison to stable policies which are designed to have a permanent impact. Pfeiffer and Mulder (2013) have shown negative impacts of institutional and strategic policy support measures, but positive impacts from economic and regulatory instruments.

Researchers have highlighted fossil energy pricing policies bear a crucial impact on RE adoption. In this regard, the idea of charging agents for the external costs dates back to Arthur Pigou however it has gained popularity with the idea of internalisation of the social and environmental cost in terms of carbon pricing. Thus, carbon pricing is another specific policy that could influence renewable energy adoption. Researchers have found it to be effective in enhancing RE adoption (Aldy and Stavins, 2012) as this leads to an increase in the price of fossil based energy which otherwise is cheap in comparison to RE. Best and Burke (2018) found that there is a positive association between aggregate and solar energy use only and the positive impact of carbon pricing on both solar and wind energy.



Though several researchers have found feed-in tariffs to be effective in promoting the development of all types of RE. (Zhao et al. 2013; Smith and Urpelainen 2014; Wang et al. 2014). Pegels(2010) found an alteration in Spanish feed-in tariff in 2008 led to a significant fall in market growth rates of solar technology. Adding to this, Polzin et al. (2015) noted that feed-in tariffs are more effective for less mature technologies.

Johnstone et al. (2010) found that policies provide an impetus to innovation: which consequently leads to enhancement in RE. The rationale for this could be that technology and policies act as a platform as well as a framework for the adoption of RE.

Also, the policies tend to improve financial landscape which results in correction of externalities (Masini and Menichetti 2012) and thus attract investments for RE. Further Andrada (2015) emphasised the role of Government in stimulating private financing towards sustainable development including renewables. Umamaheswaran and Seth (2015) highlighted that well defined regulatory framework coupled with effective implementation of RE policies and public finance mechanism can significantly improve the financing landscape and thus assist in better adoption of RE. Energy Policies are also effective in addressing Demand side barriers such as public awareness (Eswarlal V K et al. 2011) and acceptability (O'Keeffe and Haggett 2012) by spreading environmental awareness Zhang et al. (2011) and highlighting the significance of Sustainable Development discourse. (Atmanand et al. 2009).

Sarzynski et al. (2012) found that mere presence of policies is not effective in increasing the deployment of solar technologies; however, their implementation becomes effective at increasing the deployment of solar technologies as during the course of implementation significant experience is gained. Baldwin et al. (2016) found that the impact of policies varies across countries in different income groups.

Further, difference in the adoption of RE across countries could be attributed to various country specific factors (Paris EUROPLACE 2016); such as trade openness (Omri and Nguyen 2014; Lin and Omoju 2017), schooling levels, democratic regimes, fossil fuel production, energy mix Pfeiffer and Mulder (2013) , grid connectivity (O'Keeffe and Haggett 2012; Ahlborg and Hammar 2011, governance gaps (D Nel 2015, Bellanca and Wilson 2012), Poverty and technological readiness (Jongh et al. 2014), trade intensity (Pfeiffer and Mulder 2013) historical national carbon dioxide emission levels. Theories such as, The National Endowment (use of energy as per the availability of resources) and the Energy Ladder (use of different types of energy as per capita income) are also crucial approaches in explaining the adoption of RE.

Apart from the factors affecting the nations differently, there are certain factors that differ according to the type of RE. For instance, Nguyen et al. (2010) found barriers differ according to the type of RET in Vietnam. He highlighted that while small hydro generation has barriers such as insufficient capital, lack of domestic suppliers and unsatisfactory government policies geothermal power have barriers such as information and awareness gaps, industrial capability, lack of research and development facilities, weak policy framework and the remoteness of geothermal sites.

#### **4. INFERENCES FROM LITERATURE**

There have been mixed responses with regard to the impact of vivid factors, this may be attributed to certain gaps in the literature, some of them are highlighted below:

The studies have either focussed on the macro view or on the micro view, to the best of knowledge, there is virtually no study that combines the both. There is a need to conduct a study that combines the macro and micro perspective so as to assist in better understanding of the root cause of the issue and thus using targeted multi-dimensional policy approach to address the issue. Further, as the prices of fossil fuel have a significant impact on RE, the variables impacting the prices of fossil based



energy such as subsidies to fossil fuel, oil prices, etc. also need to be considered. The macro studies have focussed more on the regulatory barriers while several other variables such as pricing of RE, subsidies to fossil based energy, etc. have not been considered. Further, Basher et al. (2015) highlighted that most of the secondary data based studies have relied upon the panel analysis and have typically used the share of RE generation (%) as the dependent variable, highlighting that there may be an issue of spurious regression (Granger and Newbold 1974). In most of the cases, capacity created is considered as an indicator for the adoption of RE, however, the actual share of RE in energy generated may be different, depending upon the efficiency of the technology being used. However, no study has considered this aspect as well.

**Geographical scope:** Although several papers have examined vivid nations and regions, however, to the best of our knowledge, a systematic analysis of this problem in the context of India is still lacking. There is no econometric study which explains the factors impacting the adoption of RE in India. Barriers are country-specific and thus it is essential to analyse the barriers in the Indian context.

**Scope of RE:** It has been found that most of the studies focus on either renewable energy as a whole or have focussed on classification such as hydro – non hydro energy, wind and solar energy. Studies acknowledging the comprehensive meaning of the term RE, encompassing all types of RE and individually examining barriers of each type of RE are quite sparse. It is important to consider energy types separately due to the differences in technology attributes and stage of technology maturity. Further, in most of the discussion and researches, RE connotes to the energy as a source of electricity and ignoring the type of fuel being used for cooking. Thus there is a need for considering comprehensive definition of the term energy.

## 5. CONCLUSION

Significant potential for generating RE remain under-utilised due to a number of factors. The literature reviewed suggest that

financing is seen as a major challenge in the adoption of RE along with certain policy barriers and information gaps.

Donastrog et al. (2017) highlighted that financing renewable energy projects require significant resources, access, and availability of which is a major challenge for many developing countries. It estimated that to double the share of renewables by 2030, global annual investments in the renewable power sector need to be in the range of USD 500 billion to USD 750 billion between 2017 and 2030. Monk et al. (2013) pointed out that limiting global warming to 2 degree Celsius can save fuel worth the US \$ 100 trillion but requires the US \$ 36 trillion more investments until 2050. As far as India is concerned, it requires a cumulative \$2.8 trillion in investment in energy supply (International Energy Agency 2015). Bhamra et al. (2015) estimate that the overall finance required for meeting energy goal for India as INR 54 lakh crores (USD 854 billion) with an expected gap of INR 26 lakh crores (USD 406 billion). Studies highlight that Public finances, although fundamental in energy projects, would be insufficient to meet the demands for financing. Thus, there is a need to explore other sources of development financing. In this context, studies stress upon the crucial role of Private finance. Even the Addis Ababa Action Agenda (AAAA), the outcome document of the Third International Conference on Financing for Development has emphasized the crucial role of private finance for development and calls for better alignment of private investment with public goals (United Nations Department of Economic and Social Affairs 2015).

The literature reviewed suggest that promoting investment friendly environment through policy measures is essential for overcoming financing barriers. (Brunnschweiler, 2010; Donastrog et al. 2017; Lin and Omoju, 2017). Hu, et al. (2018) stressed on addressing fundamental policy barriers rather than symptomatic barriers to attract more investments towards RE. Thus, it is essential to understand the multi-dimensional barriers that have an impact on the adoption of RE so as to address them.

A country having a target of increasing RE share of electricity generation need to have mechanisms to promote power generation through renewable resources. It can't target to enhance the share of RE on one hand and award fossil based subsidies or allocate budgetary layouts towards fossil based projects on the other hand. To ensure that the policies reflect the commitment of the nation towards RE, it is essential to identify and address the barriers to RE.

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# Assessment of Self-Help Groups on Women Empowerment: A Case Study of Uttar Pradesh Districts

Dr. Shantanu Saurabh\*  
 Dr. Veenita Singh\*\*  
 Prof. H. K. Singh\*\*\*

## ABSTRACT

In the current scenario, the weaker section of the society is out of the reach of formal financial institutions for their need of finance. Therefore, the need was felt for some alternative policies, systems, procedures, methods, strategy for easy access of financial services to poor people, which resulted in the formation of informal financial institution. Women Empowerment is a strategy in which women challenge the existing norms and tradition, to effectively promote their wellbeing. The participation of women in Self-Help Group (SHGs) made a significant impact on their empowerment in both social and economic aspects. This study addresses women empowerment through SHGs in Uttar Pradesh. The growing social awareness across the world has brought the number of issues, to which gender biases and lack of women empowerment were significant. Women don't have equal status to that of men because of social tribulations i.e. violence against women, illiteracy, poverty, stumpy health position, lack of active involvement and participation in family as well as in society, financial reliance on men, social backwardness (in regards with rules, regulations, customs, traditions of the society) etc. continue to be great concern for which women empowerment is needed. Discernment against women should be reduced by empowering them in every aspect of lifespan. Mahatma Gandhi states that the position of women in society is an index of its civilization. "Train a man and you train an individual, Train a woman and you build a nation".

**Keywords:** Women Empowerment, Self-Help Groups (SHGs), Uttar Pradesh

## 1. INTRODUCTION

India is the second most populated country in the world after China, where 70% of the total population lives in rural areas and most of them are poor. The weaker section of the society is out of the reach of formal financial institutions for their need of finance. Therefore, a need was felt for some alternative policies, systems, procedures, methods, strategy for easy access of financial services to poor people, which resulted into the formation of informal financial institution i.e. "Microfinance". The growing social awareness across the world has brought the number of issues, to which gender biases and lack of women empowerment are significant. Women don't have equal status to that of men because of social tribulations i.e. violence against women, illiteracy, poverty, stumpy health position, lack of active involvement in family as well as in society, financial reliance on men, social backwardness (in regards with rules, regulation, custom, tradition of the society) etc. continue to be great concern for them. Discernment against women should be reduced by empowering them in every aspect of lifespan. Mahatma Gandhi states that the position of women in society is an index of its civilization. "Train a man and you train an individual, Train a woman and you build a nation". Empowerment of women includes economic opportunity, property rights, political representation, social equality, personal rights, right to education, active participation in family, decision making and personality development and so on. This could be achieved through "Self Help Groups" which is one of the best strategies of microfinance for the empowerment of women thereby reducing

\* Assistant Professor, Institute of Management Studies, RGSC, Banaras Hindu University, Barkachha, Mirzapur.  
 Email:shantanu014@yahoo.com

\*\* Assistant Professor, School of Management Sciences, Varanasi. Email: veenita1990@gmail.com

\*\*\*Professor Faculty of Commerce, Banaras Hindu University, Varanasi. Email: hksinghmeera@yahoo.co.in

the gender biases in the society. Poor and marginalized people lack facilities at the individual level; thereby they organize themselves into a group for mutual and self-help called Self Help Group or in-short SHGs, which is now a well-known concept. SHGs model dominates microfinance in India. The principle of SHGs based on three words i.e. “by the people, of the people and for the people”. It reveals the real participation of people's in the process of development at the micro level. It's a small deliberate association of deprived people, preferably from the same socio-economic backgrounds for some common interest and benefits. Generally, Self-Help Group consists of 15–20 members either women or men but not the mixed group. In India, more than 90% of SHGs are formed by women.

## 2. REVIEW OF LITERATURE

Jitendra Ahirrao (2009) has analyzed the role of National Agricultural Bank for Rural Development (NABARD) in working as a catalyst in promoting and linking SHGs to the banking system. He has observed that the majority of the rural women who are associated with the SHG activity positively succeeded to gain them empowered. He has concluded that micro-finance programs being promoted as a key strategy for addressing both poverty alleviation and women's empowerment.

Pandey, Jatin and Rini Roberts (2011) and he concluded that the SHG could be effective only when ensuring the proactive involvement of the women with the changes in the social norms.

Ramakrishna, et al (2013) studies are based on the secondary data source and considered as the powerful instrument for women empowerment and eradication of poverty. The SHG Bank Linkage has made an adventure in the economy by transforming the formal banking services to rural poor and needy people, particularly women's group.

Kondal (2014) SHGs Comprises very poor people who do not have access to formal financial institutions. It enables its members to learn to cooperate and work in a group

environment. The study highlighted that there was a positive impact of Self Help Groups on Women empowerment in Andhra Pradesh. SHGs created greater confidence in social and economic self-reliance as a whole. The study justifies the greater role played by the SHGs in increasing empowerment of women, by making them financially strong, as well as how it helped them to save money and invest it for further development. It is a tool to remove poverty and improve the women entrepreneurship and financial support for their activities in India.

## 3. RESEARCH METHODOLOGY

A research methodology is treated as a way of handling and solving the problems of the specific topic undertaken by the researcher for systematic and sequential analysis in a scientific manner for proper and effective results. It comprises the multiple considerations of the determinants to be undertaken for better understanding and completing the entire process of research work.

### 3.1 Research Objectives

1. To study the magnitude of the relationship between SHGs and women empowerment in the state of Uttar Pradesh, in general, and selected districts in particular.
2. To understand the degree of relationship between microfinance availability and economic growth of women through SHGs.
3. To study the empowerment of women in decision-making power.
4. To study the enhancement of women in social independency.
5. To offer pragmatic suggestions for the effective functioning of SHGs in the State of Uttar Pradesh for improving the scenario of women empowerment.

### 3.2 HYPOTHESES OF THE STUDY

**H<sub>0</sub>:** There is no significant impact of SHGs on women empowerment in Uttar Pradesh.

**H<sub>02</sub>:** There is no significant improvement in the financial access and credit of women due to SHGs in the state of Uttar Pradesh.

**H<sub>03</sub>:** There is no significant improvement in the decision-making power of the women in Uttar Pradesh.

**H<sub>04</sub>:** There is no significant improvement in social independency of the women in Uttar Pradesh.

### 3.3 Coverage of the Study

This research has put a bird's eye view on the implication of SHGs, for women empowerment in the state of Uttar Pradesh. In Uttar Pradesh, there are 18 [divisions](#), 75 [districts](#), 822 blocks, 52,021 panchayats and 1, 07,452 villages. For the purpose of my study, I have chosen 7 districts i.e. Ballia, Allahabad, Mirzapur, Varanasi, Lucknow, Ghaziabad, and Jhansi. Among the 7 districts, 4 have been taken from Purvanchal, which is the eastern part of U.P. comprising of Ballia, Allahabad, Mirzapur, and Varanasi. Lucknow is the capital of Uttar Pradesh and the major city of Awadh sub-division. Ghaziabad has been selected from the western part of the Uttar Pradesh and Jhansi is in the southern part of the Uttar Pradesh, which lies in Bundelkhand part of the state. Due to limited time framework and resources, 1,450 respondents were contacted, but only 1,000 was appropriate in all respects for evaluating the empowerment of women. In this way, 450 filled questionnaires were found inaccurate, so these were rejected.

### 3.4 Sources of Data

For the purpose of collecting the adequate information both primary as well as secondary data will be collected for generating the evidence (data & information) in order to supplement the research for proper analysis of women empowerment in Uttar Pradesh through SHGs.

### 3.5 Research Instrument

The summated rating scale technique or R C Likert's type scale technique is used for collecting the opinion of the respondents, which

normally applies to 5 point grading technique i.e. a) strongly agree b) agree c) indifferent d) disagree e) strongly disagree. The technique of Factor Analysis is used for testing the hypotheses for measuring the empowerment of women in Uttar Pradesh through SHGs.

## 4. STATISTICAL ANALYSIS AND INTERPRETATION OF DATA

To effectively evaluate the empowerment of women through SHGs, a structured questionnaire consisting of 25 statements have been framed by. The statements have been judged by the Likert type five point rating scale. The Likert type Scale assists in availing the different opinions of the respondents through numbers ranging between 1 to 5 thereafter all the opinions of the respondents were summed up for calculating the aggregate Women Empowerment Score (WES) for each respondent. The factor analysis is a approach, which explains the correlation between a large set of variables in terms of a small number of underlying factors. The key concept of factor analysis is that multiple observed variables have similar patterns of responses because they all are associated with a latent variable (i.e. not directly measured).

For testing and evaluating the reliability and internal consistency of the researcher's instrument to measure the empowerment of women, the technique of Cronbach's Alpha was used. "Reliability" means how well the test measures what it intends to measure. The alpha coefficient of reliability ranges from 0 to 1, where 0 indicates no correlation between the items in the scale and 1 indicates that there are correlation and covariance between the items in the scale. Generally, the acceptable alpha coefficient ranges between 0.7 to 0.8; good alpha coefficient ranges between 0.8 to 0.9 (or higher in many cases leads to excellent) but not less than 0.5, which is unacceptable. The Cronbach's Alpha value is calculated with the help of SPSS, and the value is summarized and given below in the table 1:

**TABLE: 1 Reliability Statistics For Women Empowerment**

Cronbach's Alpha	Number of Items
.701	25

As per the above table, the Cronbach's Alpha value is 0.701 which means the instruments/scale developed (i.e. questions/statements in the questionnaire) by the researcher is reliable and internally consistent for measuring the empowerment of women. The derived alpha value is 0.701 which is more than 0.7 (the instrument is acceptable at this point for its reliability to measure what it intends to measure). So the scale constructed for

measuring women empowerment is reliable.

The technique of factor analysis was applied which helps in reducing a large number of inter-related variables into manageable numbers by combining related variables into common factors. Before applying factor analysis technique, the adequacy of the sample for the factor model needs to be tested by using Kaiser Meyer Olkin (KMO). KMO is the measure of sampling adequacy, which ranges between 0 to 1. The values near to 1 are better and the value 0.5 is considered as minimum suggested level. The Bartlett's Test of Sphericity is the test for the null hypothesis. These two tests will provide the minimum standard for the application of factor analysis.

**TABLE: 2 KMO and Bartlett' S test**

Kaiser-Meyer- Olkin Measure of Sampling Adequacy.		.604
Bartlett's Test of Sphericity	Approx. Chi-Square	3.12153
	Df	325
	Sig.	.001

Normally KMO lies between 0 and 1. If KMO > 0.5, the sample is adequate. In the study, the value of KMO is 0.604, which indicates that the sample is adequate and the factor analysis technique can be applied. As can be seen from the above table, the null hypothesis is rejected because the calculated value is less than the alpha value ( $0.001 < 0.05$ ) at 5% level of significance. The approximate of Chi-square is 3.12153 with 325 degrees of freedom, which is significant at 0.05 level of significance. As per the above test results, factor analysis is considered as an appropriate technique for further analysis of the data.

For further analysis, Principle Component Analysis Method of Extraction and Varimax Method of Kaiser Normalization have been used. The Principle Component Analysis Method of Extraction helps in extracting out the major components/factors out of the 25 original variables through Eigen values  $\geq 1$ . The Eigen values are the variance of the factors. The Eigen value table has been divided into three sub-

sections i.e. Initial Eigen Values, Extracted Sums of Squared Loading and Rotation of Sums of Squared Loading. For the purpose of analysis and interpretation, Extracted Sums of Squared Loading is considered a prominent one. The first factors will always account for high Eigen values due to the presence of maximum variance in it; the next factor will have less variance in comparison to the first factor. Only those factors will be considered, which have Eigen value  $\geq 1$ . In the present research, 8 factors have been allocated through factor analysis that explains the total variance of 57.708%. The Rotation of Sums of Squared Loading represents the distribution of variance by using the Varimax Method of Kaiser Normalization. This method maximizes the variance of each factor extracted through the extraction method.

**TABLE: 3 Total Variance Explained**

Com pone nts	Initial Eigen Values			Extracted Sums of Squared Loadings			Rotation of Sums of Squared Loadings		
	Total %	% Variance	% Cumulative	Total %	% Variance	% Cumulative	Total %	% Variance	% Cumulative
1	3.947	11.498	11.498	3.947	11.498	11.498	3.111	10.489	10.489
2	2.728	9.567	21.065	2.728	9.567	21.065	2.236	9.899	20.388
3	2.101	7.535	28.600	2.101	7.535	28.600	2.159	8.168	28.556
4	1.872	6.457	35.057	1.872	6.457	35.057	1.816	7.251	35.807
5	1.775	6.315	41.372	1.775	6.315	41.372	1.705	6.813	42.620
6	1.690	5.989	47.361	1.690	5.989	47.361	1.616	5.777	48.397
7	1.465	5.559	52.920	1.465	5.559	52.920	1.519	5.389	53.786
8	1.273	4.788	57.708	1.273	4.788	57.708	1.485	3.922	57.708
9	.987	4.535	62.243						
10	.973	4.113	66.356						
11	.930	3.989	70.345						
12	.905	3.685	74.030						
13	.898	3.338	77.368						
14	.874	3.111	80.479						
15	.733	2.859	83.338						
16	.712	2.546	85.884						
17	.695	2.453	88.337						
18	.686	2.212	90.549						
19	.612	2.009	92.558						
20	.570	1.755	94.313						
21	.534	1.749	96.062						
22	.506	1.715	97.777						
23	.495	1.112	98.889						
24	.486	1.313	99.920						
25	.413	0.080	100.000						

Extraction Method: Principal Component Analysis.

On the basis of Varimax Rotation with Kaiser Normalisation, 8 factors have been extracted out of 25 original variables. Factors consist of only those variables, which have factor loading above 0.5. Varimax Rotation simplifies the process of interpretation because each factor has

a small number of large loadings and a large number of small loadings on factors which are ignored at the time of analysis and interpretation. The rotated factor loadings represent the correlations between the variables and the factor.



**TABLE: 4 Rotated Component Matrix<sup>a</sup>**

	Component							
	1	2	3	4	5	6	7	8
Physical properties like livestock, jewellery, etc.	-.107	-.059	.191	-.148	.239	-.078	.789	.076
Easy approach and access to financial institutions	.989	.266	.405	.132	-.032	.161	.273	-.089
Increase in employment opportunity	.029	.478	.367	.896	.000	-.101	-.063	.145
Enhancement in annual income	.368	.213	.000	<b>.756</b>	.123	.412	-.078	-.111
Savings habit and capital formation	<b>.914</b>	-.089	.154	.341	-.168	.188	-.172	.123
Involvement in managing the budget	.421	.367	<b>.834</b>	-.054	-.145	-.054	-.145	-.054
Active participation in decision-making in society and family	.217	.313	<b>.712</b>	.487	-.054	-.145	.291	-.066
Easy access to market	-.089	<b>.806</b>	.000	-.101	-.063	.368	.213	.000
Improvement in confidence level	-.172	.123	.487	-.054	-.145	.154	.341	<b>.589</b>
Participation in community programmes and events	.000	<b>.749</b>	.456	-.289	.154	.341	-.168	-.450
Increase in tourism activity	.129	<b>.699</b>	.348	.415	.222	-.098	-.432	-.167
Swachh Bharat Abhiyan	-.098	-.191	-.148	.491	.219	<b>.788</b>	.000	.209
Enhancement in girl education	.378	-.178	.244	.000	<b>.865</b>	.213	-.056	.312
Frequency of nutritional diets	.154	.341	-.168	<b>.816</b>	.412	-.078	-.111	.209
Helping and motivating others at the time of need	-.045	-.098	-.178	.244	.000	.409	.217	<b>.734</b>
Self-respect and independency in personal life	-.178	<b>.978</b>	.377	.188	.188	-.172	.123	-.033
Family literacy	.487	-.054	-.145	.291	<b>.719</b>	.487	-.054	-.145
Easy access to credit	<b>.839</b>	.341	-.168	.188	.244	.000	.409	-.178
Freedom from social bounding like pardha system, child marriage, male child, widow marriage etc	.188	-.172	.123	<b>.842</b>	-.289	.154	.341	-.168
Curtailement of money lenders and exploitation	<b>.918</b>	.340	-.089	.154	.341	-.168	.188	-.172
Political activism	.409	.188	<b>.891</b>	-.172	.188	-.289	.154	.341
ATM and Bank Account	-.054	-.145	.333	.400	-.066	.209	<b>.878</b>	-.013
Health Consciousness	-.054	-.145	-.054	.145	-.054	<b>.729</b>	.267	.416
Access to schools, colleges without any hindrance	.134	-.333	.000	-.234	<b>.844</b>	.434	.069	.188
Moveable and immoveable properties	.154	.341	-.168	-.172	.123	.245	<b>.690</b>	.387

Extraction Method: Principal Component Analysis.

Rotation Method: Varimax with Kaiser Normalization. a Rotation converged in 9 iterations.

As per the above matrix, 8 core factors have been extracted out of the 25 variables. Generally, every single variable is highly loaded in one factor and less loaded in others factor in each respective row. To recognize the variables, incorporated in every factor, the variable having the highest value in each row will be included in

factors to which the variable is having a maximum value. The List of the factors that were identified is given below in the table along with the variance in each factors starting from the maximum variance and moving toward the low variance and concluding it with the total variance accrued by all the factors:

**TABLE: 5 Women Empowerment Factors**

S.No.	Women Empowerment Factors	Variables included in each Factor	Factor Loading	Variance	Cumulative Variance
1	Improvement in Financial Access and Credit	<ul style="list-style-type: none"> <li>• Easy approach and access to financial institutions</li> <li>• Savings habit and capital formation</li> <li>• Easy access to credit</li> <li>• Curtailment of money lenders and exploitation</li> </ul>	.989 .914 .839 .918	10.489	10.489
2	Social Independence	<ul style="list-style-type: none"> <li>• Easy access to market</li> <li>• Participation in community programs and events</li> <li>• Increase in tourism activity</li> <li>• Self-respect and independency in personal life</li> </ul>	.806 .749 .699 .978	9.899	20.388
3	Political/ Participation in Decision-Making	<ul style="list-style-type: none"> <li>• Involvement in managing the budget</li> <li>• Active participation in decision making in society and family</li> <li>• Political activism</li> </ul>	.834 .712 .891	8.168	28.556
4	Improvement in the LifeStyle	<ul style="list-style-type: none"> <li>• Increase in employment opportunity</li> <li>• Enhancement in annual income</li> <li>• Frequency of nutritional diets</li> <li>• Freedom from social bounding like pardha system, child marriage, male child, widow marriage, etc</li> </ul>	.896 .756 .819 .842	7.251	35.807
5	Improvement in Education	<ul style="list-style-type: none"> <li>• Enhancement in girl education</li> <li>• Family literacy</li> <li>• Access to schools, colleges without any hindrance</li> </ul>	.865 .719 .844	6.813	42.620
6	Improvement in Health/Sanitation Awareness	<ul style="list-style-type: none"> <li>• Swachh Bharat Abhiyan</li> <li>• Health Consciousness</li> </ul>	.788 .729	5.777	48.397

7	Improvement in Assets and Properties	<ul style="list-style-type: none"> <li>Physical properties like livestock, jewellery, etc.</li> <li>ATM and Bank Account</li> <li>Moveable and Immoveable properties</li> </ul>	.789 .878 .690	5.389	53.786
8	Building the Confidence Level	<ul style="list-style-type: none"> <li>Improvement in confidence level</li> </ul>	.589	3.922	57.708

As per the above table, 8 core factors have been extracted after rotation method of Varimax with Kaiser Normalization, which shows the empowerment of women in Uttar Pradesh through SHGs.

**5. FINDINGS**

As the value of KMO is 0.604, which indicates that the sample is adequate and the factor analysis technique can be appropriately applied. The null hypothesis (H<sub>01</sub>: There is no significant impact of SHGs on women empowerment in Uttar Pradesh) is rejected because the calculated value is less than the alpha value (0.001 < 0.05) at 5% level of significance. The approximate of Chi-square is 3.12153 with 325 degrees of freedom, which is significant at 0.05 level of significance.

Eight core factors have been extracted after Rotation Method of Varimax with Kaiser Normalization, which maximizes the variance of each factor extracted through the extraction method. In the present research, 8 factors have been allocated through factor analysis that explains the total variance of 57.708. The individual variance of each factor are as follows: Improvement in Financial Access and Credit to Women this factor amounts to maximum variance of 10.489% (H<sub>02</sub>: There is no significant improvement in the financial access and credit of women due to SHGs in the state of Uttar Pradesh), Social Independence this factor amounts to total variance of 9.899% (H<sub>04</sub>: There is no significant improvement in social independency of the women in Uttar Pradesh), Participation in Decision-Making vis-a-vis Political Activities this factor amounts to total variance of 8.168% (H<sub>03</sub>: There is no significant improvement in the decision-making power of the women in Uttar Pradesh), Improvement in the LifeStyle this factor

amounts to total variance of 7.251%, Improvement in Education this factor amounts to total variance of 6.813%, Improvement in Health/Sanitation Awareness this factor amounts to variance of 5.777%, Improvement in Assets and Properties this factor amounts to total variance of 5.389% and Building Self-Confidence Level this factor amounts to total variance of 3.922%.

So, there is the empowerment of women to the respective areas as reveal by the 8 factors calculated through factor analysis. However, differences exist among the factors which signify that women are empowering themselves but not with equity to all the factors. This particular fact indicates that there is women empowerment in the state of Uttar Pradesh but the discrimination lies which resulted in the inequitable distribution to the different parameters decided for the study.

**5.1 Suggestions for Improvement in SHGs of Uttar Pradesh**

In a nutshell, it can be said that the overall performance of SHGs was remarkable, as it is one of the largest micro-financing programmes in the world under the guidance and support of NABARD for including the financially excluded marginalized people thereby eradicating the poverty & creating employment opportunities for them. Although, the different parameters under study reveal that women empowerment has been possible in a considerable way in Uttar Pradesh but in some other states, there has been better understanding and implementation of SHGs for the empowerment of women. So as a researcher, the following steps are suggested for the accelerated growth of SHGs for bringing the inclusive empowerment of women working in the state of Uttar Pradesh:

- Self-Employed Women's Association (SEWA) should be promoted to all the districts of U.P. for bringing the overall improvement in the empowerment of women in Uttar Pradesh.
- Grameen Bank Model should be adopted and implemented especially in the Purvanchal (East U.P.) and Bundelkhand, which are the most backward zones of U.P.
- It is suggested to establish various resource centers on the pattern of Andhra Pradesh Mahila Abhivruddhi Society (APMAS) in various parts of our country in general and Uttar Pradesh in particular.
- SHGs women should be actively made aware about the existence of various ICT tools; in the development and empowerment of their livelihood, through short films and documentaries on television.
- The procedures involved in the formation of SHGs and linking it to the bank should be simplified with an increase in the initial amount of loan for the upgradation and development of a marginalized section of the society through expert advice and opinions from technical persons.
- The government along with NGOs and other Organization can do a lot by providing effective marketing facilities and techniques with proper infrastructure to the members of SHGs for advertising their products, so as to fetch the good returns for their business.
- Government not only frame policies but make it sure that people are aware of its existence and approachable applicability for deriving the optimum benefit of it.
- Effective training programs need to be conducted and organized from time to time for imparting quality knowledge so as to develop the SHGs members in diverse areas for managing the activities of business effectively.
- Women SHGs need to be given special training for managing professional as well as personal life effectively, so as to reduce the conflicts among women SHGs.

- It is the need of the hour to educate the illiterate members of the SHGs in a minimum time frame, as the uneducated members create several hurdles in the operation & working of SHGs effectively.

## 6. CONCLUSION

The position of women is not appropriate in many countries to which India is not an exception. So, SHGs are acting as a bridge between have and have not sections of the society. The pace of SHG movement is not similar in all the countries simultaneously due to lack of adequate programmes and support from Government of different countries. India lacks behind in regards to the success and progress of SHGs in comparison to developed countries. Even in India, there is a disparity in growth of SHGs as Andhra Pradesh, Tamil Naidu, Maharashtra, West Bengal, Karnataka, etc. are the states where SHGs are performing immensely good whereas Bihar, Madhya Pradesh, Rajasthan, Uttar Pradesh are the states where SHGs are performing but not up to satisfactory level. SHGs help in creating a favourable environment for inspiring and empowering the women in order to make them self-independent. Women in Uttar Pradesh have not been benefitted at a remarkable level through SHGs, but no doubt, there is an improvement in the condition of women after joining the SHGs. There is no confusion at all in regards to acceptance gained by SHGs as an alternative of formal credit delivery system for meeting the credit requirements of marginal people, the poorest of the poor part of the society. There are numerous hurdles, coming in the smooth flow of SHG movement in U.P. that is why it comes under the category of BIMARU states of India. If the Government of India and the Government of various states work together in a co-ordinated way for removing the shortcomings, coming in the path of SHGs, it can immensely creep the positive impact & progress of SHGs in the nation by regulating and monitoring the work of SHGs in those states where it is lacking behind. Empowerment of women has improved tremendously; still, the hope of getting the best results of empowerment is yet to come by unleashing the uncovered area



for women empowerment. It is women who manage the family and if every woman in the family is empowered, it will automatically develop the entire nation and the society by generating employment and eradicating poverty.

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## E-national Agricultural Market (e-NAM) in India: A Review

Swapnil Gupta\*  
Prof. P. S. Badal\*\*

### ABSTRACT

Abstract Efficient markets offer efficient price discovery and level playing field for all the actors. The paper systematically reviews developments in Indian agricultural marketing and emphasizes on addressing the challenges in the implementation of e-NAM to achieve the goal of doubling farmer's income; hence the challenge of poverty reduction as envisaged in SDGs. The research captures various challenges in the implementation of e-NAM in terms of 3 I's (Infrastructure, Institution, and Information) and advocates for strengthening the back-end of the supply chain with public-private interventions; amendment in state APMC Acts to accommodate for e tendering operations and wide publicity of benefits of e-NAM among farmers

**Keywords:** APMC, Doubling framers income, e-NAM.

### I. INTRODUCTION

Agricultural Marketing in India has evolved from being restricted to catering to local demand by having market yards within the range of farms to one which now aims to have interconnectivity between markets of other States to have value dispersion between farms and consumers. Emerging changes in agriculture marketing environment of the country i.e. electronic market, model act, warehousing, pledge loan, contract farming, etc. are ushering in opportunities for new formats of markets which are effective in responding to demand and supply. These changes will require investment in infrastructure, infusion of technology and building awareness and capacity building. According to a survey conducted by NABARD in 2016-17, about 48% of households in India are agricultural households, whose monthly income is Rs. 3140 from crop cultivation alone (NABARD 2018). On supply-side, India is a global leader in the production of pulses and milk, second in fruits and vegetables, tea, sugarcane, and cotton and third in cereals (GoI 2016b). This is quite a rosy picture. However, one in every five individuals in the country is poor and about 80% of the poor are rural poor (World Bank 2016), who primarily depend on agriculture for their livelihood. Agricultural growth is more pro-poor (Xavier et al. 2001; Christensen et al. 2006; Douglas 2009; Cerventes & Dewbre 2010; Dewbre et al. 2011; Sharma & Kumar 2011; Grewal et al. 2012), hence it holds promises to eradicate rural poverty as envisaged in the sustainable development goals (SDGs).

Electronic National Agriculture Market (e-

\* Research Scholar, Department of Agricultural Economics, Institute of Agricultural Sciences, BHU, Varanasi, Uttar Pradesh- 221005, E-mail: swapnilgupta.bhu@gmail.com

\*\* Professor, Department of Agricultural Economics, Institute of Agricultural Sciences BHU, Varanasi, Uttar Pradesh -221005

NAM) is envisioned as a unified national electronic market bringing interconnectivity to markets across the country. The diffusion of E-NAM is through Organizations and intended through a change in policy. The diffusion will be faster if the desired policy changes are made in the organization followed by change management in organizations. Three organizational characteristics will affect the rate of diffusion of technology in markets desire for change (motivation and ability), innovation-system fit (compatibility) and assessment of implications (observability). e-NAM for agriculture marketing can be regarded as a technology which will bring a social change in markets. The social change in relationships and networks that work between buyer and seller as they exist in traditional markets will change as the technology enabled e-NAM is adopted in agricultural markets. Successful adoption /diffusion will depend on easing the adoption barriers that can be categorized as technological and organizational.

The paper attempts to categorize State on the basis of the level of adoption of e-NAM in APMC. The States who have taken lead in the integration of markets will now require having interconnectivity, assaying and capacity building. The challenges for the other States like Odisha, Assam, Jharkhand are the system of parallel acts and dysfunctional of APMC markets. The markets are devoid of any trading activity and the first step for integration with e-NAM for These states is to make APMC functional for trading. The paper offers suggestions for better integration

## **2. e-NATIONAL AGRICULTURE MARKET – TECHNOLOGY INNOVATION**

Well-functioning agriculture marketing leads to price discovery, efficiency in supply chain and opportunity to scale up in the value chain. By linking markets, these marketing systems transmit right signals to farmers on new market opportunities and guide their production to meet preferences for quantity, quality, and varieties.

Electronic National Agriculture Market (e-

NAM) is envisioned as a unified national electronic market bringing interconnectivity to markets across the country. e-NAM is a technology innovation in agricultural marketing. The diffusion and adoption of technology is an acyclic process. e-NAM needs to be diffused and adopted by States across the country. Diffusion takes place over time with innovations go through a slow. Gradual growth period followed by dramatic and rapid growth followed by a gradual stabilization. The diffusion of e-NAM is through Organizations and intended through the change in policy. The diffusion will be faster if the desired policy changes are made in the organization followed by change management in organizations. Three organizational characteristics will affect the rate of diffusion of technology in markets desire for change (motivation and ability), innovation-system fit (compatibility), and assessment of implications (observability). e-NAM for agriculture marketing can be regarded as a technology which will bring a social change in markets. The social change in relationships and networks that work between buyer and seller as they exist in traditional markets will change as the technology enabled e-NAM is adopted in agricultural markets.

### **2.1 e-NAM: Innovators and Early Adopters**

The E-NAM portal launched by the Centre in April 2016 has 45.4 lakh farmers and 451 mandies registered on it. e-NAM aims for the integration of the marketing process and flow of goods is to be achieved by bringing interconnectivity of markets through information technology. Karnataka State has been the forerunner in market reforms and devising innovative practices to improve agriculture market and competitiveness (Chand 2016). The unified online agricultural market initiatives were launched in Karnataka in 2014. The success of UMP in Karnataka has acted as an innovator for the next stage of technology innovation in the public domain i.e. e-NAM. The early adopter of e-NAM is Himachal Pradesh, Telangana, Haryana, Uttar Pradesh, Andhra Pradesh, Madhya Pradesh, and Gujarat. Efficient markets require a good infrastructure, good governance, and innovation-oriented

institutions which aims to provide market information, establish grades and standards, manage risk and create better opportunity to enhance income and upgrade then existing markets National Markets. Agriculture marketing is administered by the States as per their agri-marketing regulations, under which,

The State is divided into several market areas, each of which is administered by a separate Agricultural Produce Marketing Committee (APMC) which imposes its own marketing regulation (including fees). This fragmentation of markets, even within the State, hinders the free flow of Agri commodities from one market area to another and multiple handling of agri-produce and multiple levels of mandi charge sends up escalating the prices for the consumers without commensurate benefit to the farmer. e-NAM addresses these challenges by creating a unified market through an online trading platform, both, at State and National

level.

The vision and determination of Government of India and State level authorities (mostly State Agricultural Marketing Boards) in strengthening the agricultural marketing environment through the integration of markets through an electronic platform (e-NAM) can be one of the most appropriate moves and need of the hour.

Agriculture being state subject disparities in agriculture production, regulations and agriculture Marketing environment, growth rate, etc. is discernible amongst the States of the country which needs to be streamlined to have a pan India Connectivity of markets. This paper examines the issues and challenges faced by States in implementing the e-NAM. The paper also explores the possible solutions and way forward.

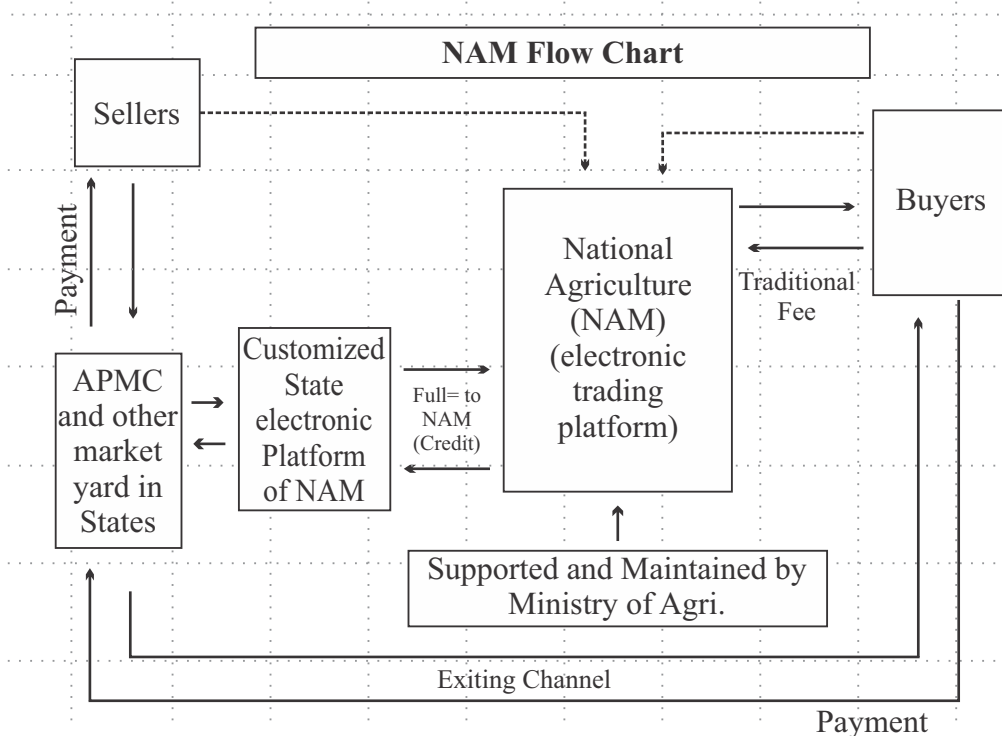


Figure 1: A Flow Chart of e- NAM

**Issues in states with functional APMCs and Rural Markets**

Some of the major states where APMC and Panchayat/Municipal markets co-exist without hampering the business of each other are

Andhra Pradesh, Gujarat, Haryana, Karnataka, Madhya Pradesh, Maharashtra, Punjab, Rajasthan, Telangana, Uttar Pradesh, Uttarakhand, etc. In these states, there is a clear demarcation in the activities of APMCs and rural markets. Rural markets are engaged in



consumer-oriented retailing Activities while APMCs are a platform for wholesaling activities.

**Progressive and Dormant (Lagging) States**

Among the states under this category, progressive states are Himachal Pradesh, Telangana, Haryana, Uttar Pradesh, Andhra Pradesh, Madhya Pradesh, and Gujarat. In these

states, more than 10 percent of total Wholesale market yards of the states have been notified for integration with e-NAM. In the case of Uttarakhand, only 5 out of 66 wholesale market yards have been proposed for integration. Similarly, in the case of Rajasthan, the percentage of yards proposed to be integrated with e-NAM is limited to 7 percent, followed by Maharashtra (5%).

**Integration of Markets**

**Table 1: Situation of Integrated Markets in Different States of India.**

States	Number of Proposed to be Integrated	Total number of Wholesale Yards	Percentage of Proposed Integration
Himachal Pradesh	19	56	34
Telangana	44	180	24
Haryana	54	281	19
Uttar Pradesh	100	623	16
Andhra Pradesh	22	188	12
Madhya Pradesh	58	545	11
Gujarat	40	400	10
Jharkhand	19	190	10
Uttarakhand	5	66	8
Chhattisgarh	14	187	7
Rajasthan	25	454	6
Maharashtra	45	902	5
Odisha	10	436	2

**3. Major Constraints on Implementation of e-NAM**

**Harmonization of Grades and Standards**

The success of e-NAM in improving competitiveness and integrating Pan India market will require as saying facilities in various markets to ascertain quality traits. (Chand 2016) Trading on the virtual platform will require a strong and well-established standardizing and grading system. Harmonization of quality standards of agricultural produce and provision for assaying (quality testing) infrastructure in every market to enable informed bidding by buyers will be required. Besides this disseminating and communicating the same with market participants need to be in place for harmonization of quality standards across the state, which in turn will result in an

increased number of participants.

**Integrating Value Chains**

Technology can contribute to creating the system by synchronising value chain activities into layer-wise Process (Dey 2015). e-NAM is perceived as a marketing system that will facilitate the post-production supply chain of farm produce. It is required to work for the inclusion of farming communities and farm operations into other segments of the marketing chain like storage, logistics so that it will help capture a larger share of the final value realised. A wide correlation between value chains of the producer, market channels, retailer and consumer is required to be developed. Integration of a value chain system also includes secondary activities such as research, development, front-line demo, extension work, market information. (DAC2017). Cross

learning from dairy and food processing industry where value chain integration has helped in optimal value realization needs to be adopted by the progressive state where e-NAM is already operational.

**Capacity building of market participants:**

With the advent of E-Marketing in various states there emerges a requirement for capacity building of different stakeholders and Institutions of Agri value chain. e-NAM is a paradigm shift which will see new roles of Market Functionaries, traders, farmers, etc.

Participation of different market functionaries and farmers and service orientation of market officers is Imperative for the successful rollout of E-NAM. The initiative in Karnataka observed some unwillingness initial on from traders. These issues will require being handled through regular training of farmers and other stakeholders. The farmers rich in terms of human capital are more likely to participate in new emerging supply chains (WorldBank,

2006). This suggests the importance of the capacity building of farmers, traders, groups, co-operative, policymakers, etc.

NIAM has outlined a capacity building plan for various actors namely farmers, traders, APMC secretaries, Directors. At the apex level, the Director needs to understand the implementation of e-NAM and making required policy changes, providing provision for PPP model for E-marketing and creating synergy for customized services. APMC Secretaries and Chairman needs to build their capacity in operation and management of electronic market, change management, dispute redressal, consumer behavior, advisory, and market information to farmers, etc. E-NAM requires farmer linkages for selling produce. The Farmer Producer Organization (FPO) needs to be strengthened on Organizational skills, working in teams, Interpersonal communication, work allocations,

online payments and transaction, pledge finance, etc. Training will help farmers better

**Table 2. Capacity Building needs of Different Stakeholders of e-NAM**

Stakeholders	Components Covered
Farmer	Understanding E-NAM, aggregations, market trends & other opportunities
Traders/ Other Agents	Dead options, dispute, payment facilitation, produce handling, etc
Mandi Secretaries	Operation and management of market, change management and Dispute redressal
Principal Secretaries/Director (Agri Marketing)	Importance of e-NAM, facilitation through reforms, PPP, etc

manage their finances, achieve more sustainable production, improve their market performance, and stay innovative and competitive. Besides this, they need to understand changes in markets and preparing produce by grading and assaying for e-NAM. Traders and market agents need to be trained on the adoption of grades, assaying, bidding, online payments, sale procedure, produce

handling, dispute settlement, etc.

**The synergy of network organization and market services**

The success of e-NAM will depend on the delivery of services in an optimal way. There is a need for a synergy of network organization and market agencies like warehousing and collateral management agencies, financial

institutions, logistics providers training and extension organizations as markets are transforming towards on digital phase, diverse and discursive groups of clientele, public and private organization need to be integrated to provide customized services. These services include assaying and grading of the produce, price poling and information dissemination, warehousing and disposal and commodity-based structured financing (Dey 2016).

#### **4. Pathways to Integrate Farmers to Market**

Linking sellers and buyers to markets is a key factor that will bring better participation in the evolving markets and ensure better returns to both sellers and buyers. Owing to the fact that the sellers are smallholder producers and have constraints in access to markets the task of integrating smallholder producers to e-NAM is going to be a daunting one.

##### **Linkages with Market**

Understanding the inter-linkages in resources, production, risk, price and market and how they affect the capability smallholders to participate in new opportunities is critical to draw a path for integration of regulated markets with e-NAM. The Government of India's "Make in India Campaign" aimed at making India a manufacturing hub, is a significant step towards achieving employment intensive growth as it seeks "to create 100 million additional jobs by the year 2022 in the manufacturing sector". Generation of productive and gainful employment with decent working conditions on a sufficient scale to absorb the growing labour force was a critical element in the Eleventh Plan strategy for achieving inclusive growth (Gupta, 2018). Incentives and constraints to market integration are realized differently by farmer producers and change as a result of market development. As the increasing opportunities are becoming available to farmers as alternative markets such as e-NAM, the process of integration of buyers and sellers need to have a pathway. The leap in transforming the abandoned regulated markets

of Odisha to Electronic National market is not only going to be a feat of technology but also a socio-cultural exercise. For bringing this transformation it needs to be recognized that not all farmers and buyers will respond to this transformation. The ability and willingness to participate in the emerging markets driven by information technology will depend on:

- Well-functioning markets to give them appropriate incentives
- Farmers have access to finance and information
- Efficient infrastructure to store and transport the produce at a reasonable rate If one component is missing the farmer producers will not be willing to participate to the same extent. Therefore, concentrating on these components to bring a holistic approach to market development is imperative to have better market integration.

##### **Enabling market connectivity through market information**

Market information encompasses reliable price, buyer contact, market channel, grades and standard specification, post-harvest handling advice and storage and transport recommendation. To achieve this pathway using Information technology not only to disseminate price but also to reduce transaction cost need to be in place. Investing in the communication infrastructure such as mobile phones network, internet linked rural kiosk which aid in strengthening market information, extension, and other services to farmers needs to be made.

##### **Producer organization to offer a vital link to market**

Technical and institutional innovations that reduce transaction cost have proven to be enablers especially the wider use of information technologies- mobile phone, the internet, and social networks for vertical coordination arrangements with farmers or producer organization. Producer organization including agricultural co-operatives plays an important role in supporting farmers to trade in the market

place and understand the trends in marketing. FPO and collective action can help to enhance farmers' competitiveness and increase their advantage in the emerging marketing system of e-NAM. Collaboration between FPO and Private sector built on their shared interest in achieving scale and market power will be critical in integrating Farmers to market

### **Market-Led Extension and capacity building**

Market-led extension to transmit signals to farmers on new market opportunities will make physical markets relevant to buyers and sellers. Extension functionaries have a key role to play in engaging farmers with markets. SWOT analysis of the market, organizing commodity based farmer's interest groups and farm management capacity building, backward and forward linkage, Farmer's exposure to market intelligence and guidance for a quality decision about the market. Empowering farmers by linking them to e-NAM information, services, and linkages through Market Led Extension is a long-term solution.

### **Linking rural periodic markets by upgrading them as PRAM**

As per there commendations of Report on Doubling farmers income, the Rural periodic markers need to be upgraded into a function that enables aggregation and transportation from village level to the wholesale market. It has been advised to build on the available infrastructure and experience of the RPMs to establish a large number of primary rural agricultural markets (PRAM) to provide the following two services:

- I. Direct marketing between producers and consumers
- II. Aggregation platforms for the small lots of farmers

In pursuing the establishment of PRAM, the capability to connect produce in suitable quantities with a market of choice will be developed. Further with farmers enabled with a choice of markets, the element of the market to market competition will follow.

This approach is what will make the markets function and provide services that add value and better returns

### **Adopting Model Agriculture Produce Livestock Market Act (2017)**

As per new Model Agricultural Produce and livestock marketing Act 2017, the new definition of the market area is now extended to the whole State/UT as one unified market area for the regulation of marketing of all or any of the kinds of agricultural produce. This will go in a long way in removing the entry barriers to markets and at the same time arrest the problem of fragmentation of markets within the State.

### **Warehouses and silos to be declared as market points**

The new legislation also provides for declaring warehouses/silos/cold storages or another place as market sub yards. This will provide better market access to farmers. In order to declare a warehouse as a sub-market yard, warehouses which are fit to serve the purpose may be notified. Generally, warehouses accredited by WDRA may be selected to be notified as a sub-market yard as the accreditation norms of WDRA requires warehouses to follow scientific storage practices which ultimately results in the quality keeping of the produce. The concept has been shaping up in Karnataka through initiatives of Rashtriya e-Market Services Private Limited. A similar initiative has been seen in Punjab where silos have been notified as Mandis.

### **Good governance and innovations**

Efficient markets require good governance and policy infrastructure, institutions and services that provide market information, establish grades and standards, manage risk and create better opportunity to enhance income and upgrade the existing markets and marketing system to integrate with National Markets. It will require innovative pathways to achieve the following

- High level of private participation in grading, warehousing and scientific movement of commodities.



- Coordination between various stakeholders for setting standards and monitoring their implementation
- It ensures a transparent and hassle-free payment process for the producers.
- It improves the regulatory process and enhances service orientation.
- It mandates stipulation and regulation of standards for agriculture commodities in an effective and efficient manner that increases farmer welfare.
- It upgrades the skill level of personnel operating in the agriculture market and

creates economic opportunity for youth to participate in emerging formats

### 5. Towards a Fully Unified Market

The National Agriculture Market needs to be implemented in a phased manner to achieve a fully integrated market of the nation. The various components of the market that may be achieved over a different period of time are depicted in the table below.

**Table 3. Various Component of the Market to be Achieved over a Different Period of Time**

Phases/ Components	Phase I (0-2 years)	Phase II (3-6 years)	Phase III (7-12 years)
Enabling environments	Legal (single license, unified license, e-trade, and others)	Complete reforms	Facilitating role
Infrastructure	Hardware and software	Up-gradation of Mandies	Creation of physical delivery centers and collection center
Grades	Selected commodities	Comprehensive coverage	All commodities
Functions	e-price discovery	Bank settlement, NWR, and logistics	MIS, promotion, demand creation
Farmers participations	Individual/groups	Farmers groups/FPO	Producers company
Skill development	Mass awareness(extensive)	Specialized	As per global requirements
Institutions	Establishing a national level agencies Identification of Special Purpose Vehicle	Institute for functions like training, research, defining grades and international trade	
Promotion	NAM Portal	Product	Branding
Finance and insurance	Direct payment	Payment and credit	Complete risk coverage
Input and extension	Information dissemination	Advisory	Delivery of physical and technical inputs
Focus	Regional	National	Global
Agri Ecosystem	Post Harvest Management	Sanitary and phytosanitary	Zero carbon footprint

(Source: [www.ccsniam.gov.in](http://www.ccsniam.gov.in))

### Some International examples

China launched a national e-commerce platform in 2015 to serve rural areas through supply and sales of agricultural products. Established All China Federation of Supply and Marketing Cooperatives, [www.gxyj.com](http://www.gxyj.com), aims to match supply and demand of daily consumer products, agricultural production materials and produce via online to offline cooperation. Users can trade online and use services ranging from online payment to logistics and quality certification. Shandong Shouguang Vegetable Trading Market Online (SSVTMO) is the nation's largest vegetable wholesale market in China. It is vertical e-marketplaces provide online access to vegetable. The national modernization market demonstration item supported by the National Development and the Reform Committee. The Market is jointly organized by Chinese Vegetable Circulation Association, Beijing Gold Net & Tech Information System Co., Ltd., and Shouguang Chenlong Investment Consulting Co., Ltd. The market organizes vegetable trading market online leading by senior experts of Chinese bulk commodity Electronic Commerce field, supported by the special administration team and using the network information technology. East African Community Common Market (EACCM) and Common Market for Eastern and Southern Africa (COMESA) are examples from Africa. The EACCM has five members and COSEMA has member countries from eastern and southern Africa. A single market provides a competitive environment and makes the existence of monopolies/cartel difficult. Consumers are benefited by getting the best quality product at a cheaper price and increased the choice of products. Also, the common regulatory regime and frameworks ensure that best practice within the regional framework is not only in place but adhered to. The closeness to a single market ensures that good procedures are instituted and practiced and thus creates a kind of seamless market mainly in those regions that are behind in their instituting good policies. The technology enabled markets can also be found in Ethiopia and Turkey. Similar, benefits are expected from the National Agriculture

market in India.

**Conclusion:** Responsive, inclusive and technology-enabled markets are need of the hour as it will have a positive effect on livelihood, welfare, food security particularly for poor households and every step should be taken to achieve the adoption of e-NAM.

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# Disruptive Innovation in Higher Education- A Study on Online Education

Dr. Neetu Singh\*

## ABSTRACT

For continuous enhancement of teaching and learning, it is necessary to consider the type of innovation we are going to pursue and what cost and implication do these new approaches bear. It is based on addressing some important questions as-whether we are best served by improved current instructional practices and student behavior or is there a need to change the teaching and learning aspect fundamentally? Whether education is fundamentally affordable at a lower cost? How to enable a student to access and afford higher education?

The study makes an effort in finding answers to these fundamental questions which are also a challenge to the education industry and in managing innovation effectively. The study examines the higher education industry through the lenses of emerging disruptive innovation.

The main objective of this article is to shed light on disruptive innovation in Higher education and to fulfill this objective, following points have been discussed related to disruptive innovation such as-New approaches and methods of teaching and learning in High learning, Online learning, Opportunities and threat of disruptive innovation with conclusion and recommendation for policy makers and higher education institute.

**Keywords** – Disruption, Disruptive Innovation, Higher Education, Online Learning

## 1. INTRODUCTION

“Disruption”, the process disruption take place when a smaller company with lesser resources challenges a well established incumbent business. The incumbent focuses on improving their product and services for their most profitable and demanding customers and in doing so they ignore some segment and exceed in other segments. The new entrant begins by successfully targeting this ignored segment and thus gaining a foothold on these overlooked segments which proves disruptive by their suitable functionality at a lower price. The established business does not respond to this challenge vigorously as they are racing for higher profitability in more demanding segments. The entrants then start delivering performance to the mainstream customer of the incumbent and preserve the advantages of their early success. Disruption occurs when the mainstream customer also starts adopting the entrants' product and services in volume.

A Disruptive Innovation or technology can be defined as an innovation that helps in creating a new market and value network which finally disrupt an existing market and a value network. It can be described as an innovation that improves product or services in a way that are not expected by the market many of the times the term Disruptive Technology is used, but the most appropriate term is Disruptive Innovation because intrinsically few technologies are disruptive. In fact, it is the business model enables technology to create disruptive impact.

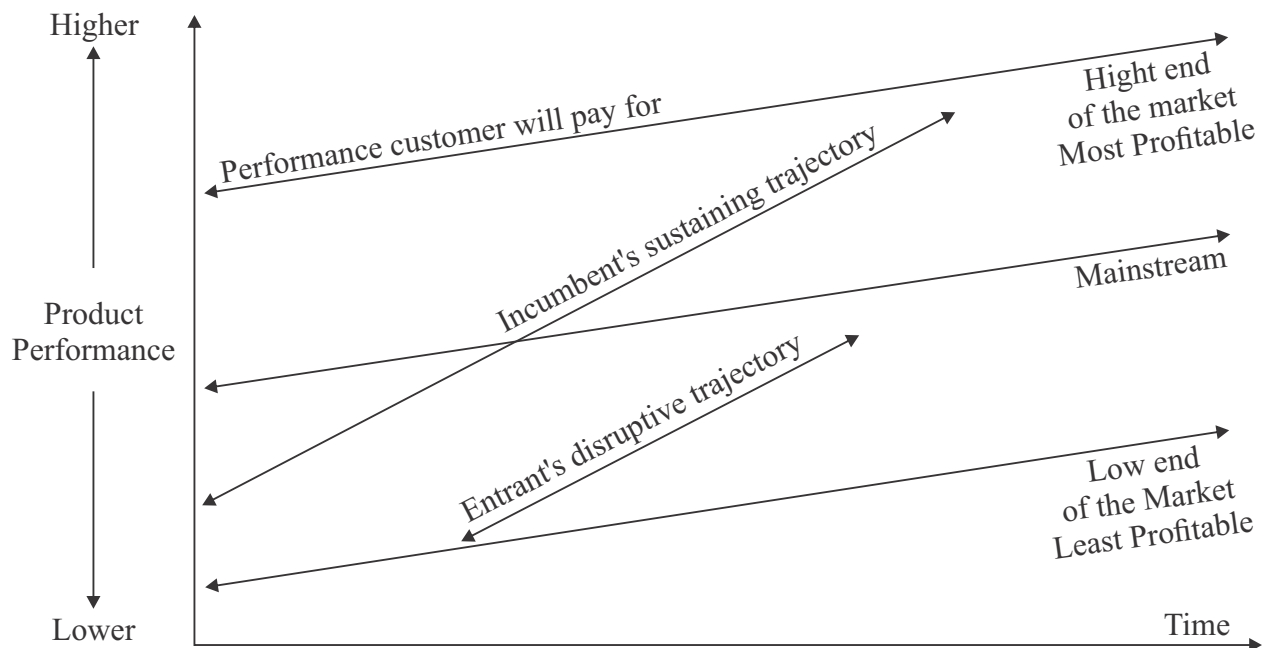
The Disruptive Innovation Model –This figure.1 contrasts product performance trajectories ( the red lines showing how

\* Associate Professor & Head Department of Business Administration Technical Education and Research Institute Post Graduate College- Ghazipur, UP, E-mail: [neetu07singh@gmail.com](mailto:neetu07singh@gmail.com)



products or services improve overtime) with customer demand trajectories ( the blue lines showing customers' willingness to pay for performance).As incumbent organization introduce higher-quality products or services( upper red line) to satisfy the high end of the market (where profitability is highest).they overshoot the needs of low –end customers and

many mainstream customers. This leaves an opening for entrants to find footholds in the less-profitable segments that incumbents are neglecting. Entrants on a disruptive trajectory (lower red line) improve the performance of their offerings and move up-market ( where profitability is highest for them, too)and challenge the dominance of the incumbent.

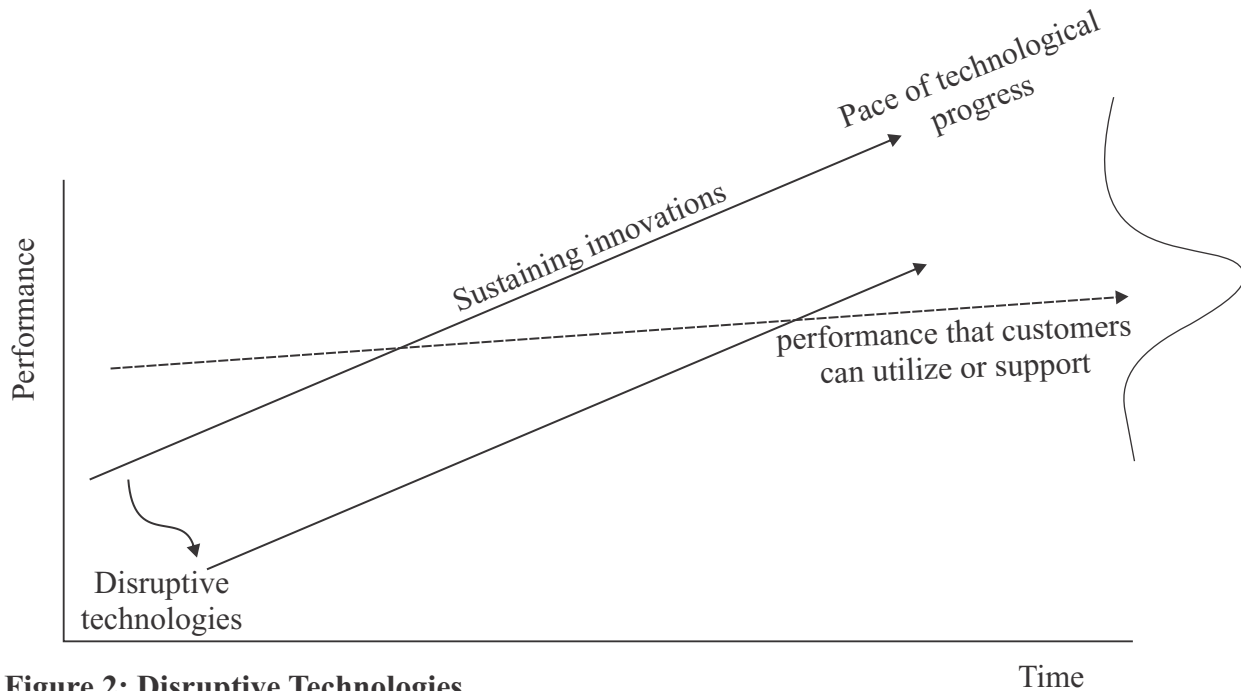


**Figure 1: Disruptive Innovation Model**

(Source: Clayton M.Christensen, Michael Raynor, and Rory Mcdonald, from “What is disruptive Innovation?” December 2015)

Innovation can be categorized into two forms as Sustaining or Disruptive (Christenson & Overdorf 2000). Whenever there is an improvement in the technology that helps the mainstream consumer in such a way to support the current system it is called Sustaining Innovation. While Disruptive Innovation introduces a new procedure or service that has a worse effect on mainstream consumers. In higher education technology plays a major role in impacting upon teaching and learning over the last several years. A few years back faculty were rarely using web pages or email. In a very short time now faculty are utilizing and incorporating web pages, email web management course to support their course curriculum and also testing the effectiveness of

these new modes. There is also a substitution of electronically mediated communication with class time and tradition student work. Email assignments, web page directed assignments and direct assignment done by the student has been generated as a new form. This has lead to incremental change which is positively realized by students and faculty in the arena of teaching and learning. Disruptive Innovation has taken place in Higher education and it is the time for the Universities to respond towards these changes for their sustenance.



**Figure 2: Disruptive Technologies**

## 2. LITERATURE REVIEW

Clayton Christensen, Michael Horn and Curtis Johnson in their writing on “*Disrupting Class-How the Disruptive innovation will change the way the world learns*” mention that- "the key to revolutionizing the classroom is not by adding technology, but rather by the ways that technology will be introduced. For a revolution to take place in education, changes will have to occur that will disrupt the status quo."

Henry Chesbrough (2003) stated that innovation means invention implementation and taken to the market. Disruptive innovations which actually change the social practices, the way we live, work and learn.

Eric Waters in “Disruptive Innovation and Theory and Public School Education: A Futurist Perspective” elaborates that "asynchronous curriculum delivery can be used to enhance the advanced placement of students doing independent study, and credit recovery programs".

Fleckonoe,2002; Garrison & Anderson, 2003; Garrison & Kanuka,2004; Shaikh, 2009 mentioned that social media, mobile devices Internet, Blogs, Wikis, social bookmarking,

open education, social network, Internet telephony, sharing sites, anytime/anywhere education, instant messaging, recorders and digital cameras, free software, cloud computing, groupware, broadband, wireless connection, cheap storage, Google and virtual worlds has emerged as Disruptive innovation in education.

Disseminating knowledge means spreading out knowledge without boundaries. In higher education, the accessibility of open information can have a huge impact on building a learning organization. Focusing on the increased importance of technology applications used with knowledge retrieval and sharing for the social and economic well-being. There'll be identified potential technology programmes in response for nurturing a vital civic culture and progression on society. (Walshok, Lindenstein 1995.)

EduCitizenship believes that the new open and free applications, tools and contents will disrupt education. “Already in higher education, online learning is beginning to disrupt the old ways of doing things”. (Flecknoe, 2002; Garrison & Anderson, 2003)

“Online education is not bound by location or the same time constraints; thus previously

unserved individuals have taken advantage of educational experiences. Institutions have acquired new students and saved money by serving courses virtually rather than in classrooms” (Mbatha, 2014).

According to the report *Class Difference & Online education in the United States* (Allen & Seaman 2010). There is a 21 percent growth rate for online enrollment (to 5.6 million in the fall term of 2009). About 30 percent of all student in higher education take at least one course online. 60 percent of all reporting institution said that online learning was a critical part of their long term strategy.

For Successful Disruptive innovation, the first challenge is a technological breakthrough in terms of product it enables, and how are they shaping the social practices if they are having huge payoffs, both to the innovators and to society. The second challenge is that a successful innovation usually needs an innovative business model and also demands an innovative product offering (Brown and Seely 2006)

### 3. OBJECTIVES OF THE STUDY

The main objective is to study why we need Disruptive Innovation in Higher Education. This could be understood under three heads:

**3.1** It is difficult to define Quality standards in Education sector as education is service business which is complex in nature. In Education, arena Disruption requires Service model that is based on the quality of education program. Disruption in a complex world of knowledge redefines quality than from models designed in current education. It is not about replacing the lower end product.

**3.2** Growth and progress will take place when the current era of massification changes into real and personalized Education. Entrepreneur and investors fail to realize that the massification of educational experience is not the key to success in the new educational model. The Disruption in the context of educational content will be such that enables an educational experience that is relevant, up-to-date, adaptable to teachers, adaptive to learners

interest and defined thoroughly in terms of teaching by the educational foundation.

**3.3** Education has growing proliferation with high value niche providers and programs in the long run. In a global economy education and its ability to produce knowledge is the key currency for present and future. Education if done correctly will enable success in the future. There will be a requirement of more niches oriented and diversified education in terms of delivery model and personalized self service. The Disruptive technology or Innovation for education will enable great diversity that provides specialized life and career enabling education. As the education experience becomes more unique and distinctive it will create higher value.

### 4. RESEARCH METHODOLOGY

The study falls within the qualitative paradigm and conceptual in nature based on secondary data, literature survey and cases of disruptive innovation in industries. The study is based on observation of innovative trends prevailing in higher education in India. A total of 16 articles have been used in my conceptual analysis as a reference, where some important factors have been emphasized through study. The study is based on review papers, data, and facts in Higher education. The research framework is based on addressing some important questions as-

Whether we are best served by improved current instructional practices and student behavior or is there a need to change the teaching and learning aspect fundamentally?

Whether education is fundamentally affordable at a lower cost?

How to enable a student to access and afford higher education?

The study attempts to set a relation between disruptive innovation through the advancement and use of technology and its impact on Higher education positively.

## 5. DISRUPTIVE INNOVATION METHODS OF TEACHING AND LEARNING IN HIGHER EDUCATION.

In higher education for continuous up-gradation in teaching and learning, it is essential to consider what new approaches and innovation are pursued and what will be the incurred costs in its implication. The assessment is based on whether improving the student behavior and current instructional practice best serves our educational objectives or do we need a fundamental change in teaching and learning aspect? Which lecture methods would be appropriate either by use of media or presentation techniques. Disruptive Innovation plays a role in many ways in opting new methods given below:

**5.1. (e-text) or Electronic textbooks** – eText is a disruptive innovation or technology. e-text at a basic level can be simply delivering static content in electronic copy or printed book. Its sustainability depends upon its portability, cost, and the benefits it offers. Disruptive innovation plays its role by collaborating e-text and its use with highly interactive and advanced multimedia tools.

**5.2. Learning Analytics System:** The goal of learning analytics is to deliver class wide information by collection and analysis of a significant amount of student data to the teacher and personalized feedback to students. This can be used by the course management system to find about student access to course content, contribution to a discussion, quizzes, engagement, and success. The advance part of learning analytics is called as Open Learning Initiative which deeply analyzes student answers to quizzes and provides additional content and practice as tailored learning. It is still at an early stage and offers online learning. It can reach to a larger group of learners while also providing personalized attention to both on-campus and online education.

**5.3. Flipping the class:** In this method better utilization of class time can be done in learning activities, exploration, and application of content by shifting content delivery online. It is based on video based mini lectures which are

connected to online resources and other content from textbooks. Team based learning which is also a disruptive innovation in instruction method can be paired with flipping the class. Accountability of student can be gathered by a short individual test called "**Readiness Assurance Test**", which ensure about student engagement with material followed by a short test about collaborative learning during the class.

### 5.4 Opportunities and threats by Disruptive Innovation in Higher Education.

Disruption is a great opportunity for Universities because product and services that disrupt a market, target those segments don't consume technology in that market.

Higher Education is shifting towards modularization model. Technology plays a major role as open modular or close proprietary. This breaks down education into different components that result in the outsourcing of certain functions.

Online education challenges Traditional education. Universities, in the long run, have to either make better service in the traditional education market or make reach their services non-consumer of their traditional services.

## 6. THE ONLINE EDUCATION ARENA

The changes and challenges which are coming in front of higher education can be explained by the theory of disruptive innovation and the right solution can be thought upon. Disruptive Innovation can be explained as a process by which a sector which was serving limited few by its product and services due to complication, expensiveness, and inaccessibility of its product and services, is converted into simple, convenient and affordable product and services that serves many. This process redefines the quality in a simple way which has a slow application in the beginning and improves gradually and later on grasps more market share as it starts solving the complicated problems related to product and services. There are several enablers and key elements that are important for the future of higher education. These enablers are given below:



### **7.1. Technology Acts as an Enabler.**

Technology helps innovation take place first by simple application and competes against non-consumption who were not being served. This is done without replicating cost structure of the previous product and services which is gradually replaced and improved year after year. In Higher education, Online Learning has emerged as a technology enabler and ultimately a disruptive innovation. The recent growth shows the increase in online learning in many colleges and Universities and it is projected that there will be 50 percent growth in the coming years.

### **7.2. Business Model as an Enabler:**

Disruptive innovation is connected into new models which helps the Organization serve the customer at a new lower price in a better way without increasing the cost. Disruptive innovation if connected into the existing business model will not lead to the transformation of the model and the existing model take the innovation to sustain how it operates. The disruption in higher education at public universities will likely need to be managed at the state level and not at the level of the individual which struggle to evolve. Private University can utilize this disruptive innovation by creating autonomous business units.

**7.3. Multiplied Value Proposition:** Higher education for decades have given multiplied value proposition by creating knowledge through research, knowledge proliferation by teaching and learning and preparation of student life and careers. Thus higher education has combined three main forms or models of business such as value adding business process, solution shop, and user network facilitator. This created a complex and confusing institution with an increased overhead cost that takes resource away from teaching and research.

Disruptive innovation also creates an opportunity for higher education by rethinking of age old assumption, its process, where it happens and what are its goals. This leads to using of a disruptive organization for the creation of institution operating differently that

can appropriately address the challenges faced by a country related to education. The disruptive innovation by online learning enables learning to take place in many contexts, times and locations. It also leads to changes in curriculum and learning. It focuses on preparing a student for a career, an improving outcome rather than a tightly structured program that does not offer student ability to make their own path.

The emerging disruptive innovation shifted the policy of credit hours and seat time to that which brings progression to competency and mastery. Online learning courses bring actionable assessment that helps a student to increase the past concept and skill they have mastered and understood. In online learning, time is an important variable and hold outcomes and outcomes are more appropriate in judging students and institutions. Thus it requires shifting policy to focus on outcomes rather than building ancillary services. This increases and supports the core value of the institution.

## **8. RECOMMENDATIONS FOR POLICY MAKERS**

Remove barriers of disruptive innovation and collaborate innovators. For better educational opportunities policy maker should make policy for affordable education and remove the threat of disruptive players as a threat

Remove judgment barriers based on seat time, credit hours and student-faculty ratio. Policy maker should encourage policy that creates the environment of an institution to use online education that steps towards next generation learning models. Policy should be not just making traditional methods of education convenient but focus on competency based learning with actionable assessments.

Focus on real outcomes skill and mastery and not just attainment of a degree. The focus should not be jus on degree attainment and it should not be the only measurement of success. The current scenario of unemployment figures and amount spent by an employer on retraining shows that real mastery and skill are more important rather than just attaining a degree



The need for recognition of Research Institutions: Those Institutions in higher education should be recognized where importance on research as well as that focuses on training people too.

Funding higher education for increasing quality and decreasing cost: Change in the policy of federal funding from all or nothing.

### 8.1 Recommendations for Institutions and Universities of Higher Education

Application of correct business model: To increase value proposition correct business model should be used which is sustainable and do not increases the overhead cost.

Encouraging Disruptive innovation: To drive disruptive innovation some institution requires an autonomous business model. This can be done by leveraging their existing fixed resources in the autonomous model to give a cost advantage.

Building online learning to sustain innovation: New technology such as online learning can be used to disrupt the existing classroom model for increasing convenience to more students and providing a better learning experience.

## 10. CONCLUSION

Disruptive innovation is taking place in every business sector, in the realms of education sector technology is one factor bringing disruptive innovation. In higher education need for innovative learning and teaching is the major requirement for increasing learning experience, increasing accessibility, Interaction with learning material, reducing cost, core use of class time, use of data to enhance instruction and structuring student for better outcomes. Disruptive innovation in higher education is not an easy process and has many challenges and can undermine many existing institutions, leading to resistance from them. It does create opportunities as well as a threat. Online learning is one kind of disruptive innovation and forms a natural medium and platform for these changes in higher education. It also requires a change in policies and model adopted by the institution

with emerging disruption. The old assumption and policies will be inappropriate and will fail in delivering affordable higher quality education in a country. Challenges are many but disruptive innovation is taking place and creating a Paradigm shift by the establishment of new intellectual model and framework that is going to guide and practices leading to continuous improvement.

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# Socio-economic Empowerment through Human Resource Development HRD: A Case of Barefoot College

Dr. Arun Kumar Deshmukh\*

Dr. Ishi Mohan\*\*

## ABSTRACT

Socio-economic change in developing countries such as India hinges upon its human resources and not on just its unskilled masses. Human resource development (HRD) in developing countries has wide scope and applications that go beyond economic interests; it usually encompasses addressing social issues. Moreover, the continuing trend of population growth in the developing world, along with scarce or unavailable resources and infrastructure, has created more challenges. As a result, HRD practitioners in the developing world must become more innovative change agents.

The paper touches and establishes the concept of social entrepreneurship into HRD for ensuring socio-economic empowerment in promoting socio-economic empowerment in the context of developing country like India. A case method was used to showcase the modus operandi of how the various dimensions of HRD can support in the empowerment process. The study follows an interpretive research paradigm is utilized in the paper. A case of Barefoot College; located in Ajmer district of Rajasthan is presented in the paper. The learning from the case will not merely benefit HRD professionals and social entrepreneurs but other stakeholders such as government agencies, NGOs, policy makers, local business organizations and community at large and the individuals getting affected by societal change as well.

**Keywords:** HRD, Social Entrepreneurship, Socio-economic Empowerment, Barefoot College, Case.

## 1. INTRODUCTION

The paper demonstrates the offbeat process of socio-economic development and empowerment of illiterate people in Rajasthan. It challenges the existing ways of looking at the HRD principles which predominantly focuses on white collar employees of some corporate in micro perspective and/or well educated people of a nation in macro perspective. Without giving much words as preface to the exemplary ground work at Barefoot College showcasing the innovative ways of HRD for social and economic well being of illiterates.

### A Case of Barefoot College

The foundation stone of Barefoot College was laid in 1972, when Bunker Roy and friends collectively registered itself as the Social Work and Research Centre (SWRC) which is popularly known as Barefoot College. As a non-government organisation that has been continuously providing basic services and solutions to problems in rural communities in India, with the objective of making them self-sufficient and sustainable. These 'Barefoot solutions' can be broadly categorized into more than nine different aspects of solar energy, water, education, health care, rural handicrafts, people's action, communication, women's empowerment and wasteland development. It is based at Tilonia in Rajasthan, with a population of about 2,000 people. It currently serves the population of 125,000 people. It is solar powered school that teaches illiterate women and men from impoverished villages to become doctor, solar engineer architects etc.

It demonstrated the transformative education system which began in a small village

\* Assistant Professor, Jaypee Business School, JIIT, Noida  
Email Id: [akdeshmukh@fmsbhu.ac.in](mailto:akdeshmukh@fmsbhu.ac.in) / [arund178@gmail.com](mailto:arund178@gmail.com)

\*\* Assistant Professor, Faculty of Commerce (FoC), Banaras Hindu University (BHU),  
Varanasi – 221005. Email Id: [ishimohan@gmail.com](mailto:ishimohan@gmail.com)

of Rajasthan and later spread to more than 9 states in India and countries such as South Africa, Afghanistan, Sierra Lion to bring about a change in the lifestyle of marginalized poor habitants and thereby raise their living standard. It further delineates that one size does not fit all and hence the replica of education system prevailing in urban centers can not serve the need of rural destitute.

The founder's philosophy is influenced by Mahatma Gandhi. The policy of the college is to take women from the poorest of villages and teach them to become professionals without requiring them to read or write. The USPs of the college that is fully powered by solar energy and even illiterate people are transformed to become the professionals. They are not necessarily the pen-paper graduate but the skill and competency they own after attending the college makes them self reliant and also creating the chain of social entrepreneurship. It was a sea change in the socio-cultural belief during 1970s and 80s when this college began working on women empowerment and breaking the disparity of caste and creed whereas many cities were not aware of all these. The six core values that drive this college to serve as a catalyst in society are administration, equality, collective decision making, decentralization, self reliance and austerity.

### **Transformation into Social Enterprise**

It was a breakthrough revolution in the life of habitants of the village- Tiloniya (place where Barefoot College began its functioning in 1972) when an innovative concept of education has emerged and began operating in a customized way for villagers. The pioneer in this transformation process was Mr. Bunker Roy who passionately ushered into the life of rural people of the village. He was determined to empower, educate and alleviate the existing disparities among the rural people.

Meanwhile the retrospection, it has been noticed that the situation of the village was pitiable in terms of socio-economic disparity, where most of the landholdings were subjugated and in the control of few high class landlords, and other social classes were

dependant on them for employment, casteism/racism, suffering from inexorable discrimination for Dalits, severe paucity of potable drinking water since it was an arid region i.e. The Thar Desert in Rajasthan. With such issues of grave concern this village was like any other contemporary village in India with a Pandora's Box of numerous problems. This case is an illustrative study about a humble beginning which is waiting for great voyage ahead as a social enterprise.

### **Major Accomplishments**

**Solar Engineering:** Bare illiterate women from the marginal class of the village are trained as solar engineer which present benefits like double edged sword, one is it empowers the women to come forward and empower themselves as self dependent professionals. So far more than 472 solar engineers have been trained, in India, other parts of Asia and Africa. By 2009 about 20,000 solar lighting systems and 65 solar water heating systems installed in 753 villages, as well as vegetable driers and spinning wheels. As a part of their program Barefoot college invites rural poor from African countries for training in solar engineering. These trainees are trained at college by trained rural women entrepreneurs from India. It will be further discussed thoroughly in the paper how they went about it and the economies generated thereof. This effort directly or indirectly addresses the following challenges;

- Community to community exchanges of knowledge and skills
- Environmental sustainability
- Empowerment of women
- Increasing Livelihoods at the bottom of the pyramid
- Reducing dependency on outside urban skills
- Reducing migration from rural to urban areas
- Re-defining professionalism



- The importance relevance and urgency of partnership models

The major accomplishment of Barefoot is visible in the numbers, as more than 6,000 houses in nearly 100 villages covering 15 of the Least Developed Countries have been solar electrified by nearly 100 mothers and grandmothers demonstrating the first ever fully technically and financially self sufficient villages in the continent of Africa.

Barefoot College meets its energy needs through 50 kilowatt solar module with 5 battery banks with per unit cost is as low as INR 11. So far close to 16000 solar units have been established which contributed in the reduction of carbon emission of 1.86 million ton per annum since its inception. The college has established a Women Barefoot Solar Cooker Engineer Society (WBSCES) in Tilonia. It is the first association of illiterate and semi-literate women of its kind who can fabricate, install, and maintain 2.5 square meter parabolic solar cookers (UNEP). Continuing the series of success, Barefoot set up its first solar powered rivers osmosis aimed water desalination at an NGO named 'Manthan' near Kotri (Rajasthan)

**Promotion of Rural Handicrafts:** In the early '70s, the lack of employment in the villages of Rajasthan forced many of the rural poor to migrate to cities. The training at Barefoot built the confidence of rural people in capitalizing on their own traditional knowledge and livelihood practices in the village. Today, these rural artisans produce clothing and accessories, decorative home furnishings, furniture, rugs, textiles, handmade paper products, puppets, educational toys, metalwork, and leather goods. The crafts are sold through retail shops and exhibitions held in metropolitan cities of India, Europe, USA and Canada. Direct sales and marketing channels are in function with the college by Friends of Tilonia for these crafts in the U.S.A. To support this effort, FOT has developed an online store-[www.tilonia.com](http://www.tilonia.com) that is promoting sales and direct marketing to individuals, wholesalers and distributors on behalf of Barefoot College. It has marked its presence on yahoo store ([www.store.tilonia.com](http://www.store.tilonia.com))

([www.store.tilonia.com](http://www.store.tilonia.com)) where the customers from various locations across the globe can place their order. Moreover, so as to stay connected with the global customer, the store also ensures its availability in social media such as *facebook* and *twitter*. Some of the country wise locations of these stores are; California, Colorado, Illinois, Massachusetts, New Jersey, New York, North Carolina, Texas, and Canada. These locations are the part of the marketing strategy for the comprehensive coverage of a wide variety of customers to ensure the good experience for the customers across the various touchpoints of its service delivery while making the products made by rural artisan available to global customers.

As a social enterprise it also offers a unique trade affiliate program where anyone and everyone can become the business partner for the promotion of handicraft prepared by rural artisans. These partners should preferably be design partners and those interested in promoting their products. The benefits offered to these affiliates are special trade discounts, seasonal product preview etc.

**Health Care;** the College, as a social enterprise has been training men and women from the villages so that rural communities are less dependent on external aid. Their involvement in the planning, implementation and supervision of all programmes have not only generated employment within rural communities but also reduced migration.

With all its effort to become a social enterprise, it has been promoting women empowerment who was victimized in the male chauvinist society. All the endeavors of Barefoot college are directed towards strengthening the position of women a society both by educating them to become a professional and by providing them the opportunity to experiment with what they have learned. Various positive impacts of these initiatives by Barefoot College include:

- Rural electrification
- Rural employment



- Building capacity at the village-level
- Technology (i.e. solar power) transfer
- Empowerment of women
- Environmental sustainability.

## 2. APPROACH

Mahatma Gandhi's central belief was that the knowledge, skills and wisdom found in villages should be used for development before getting skills from outside. He also believed that sophisticated technology should be used in rural India, but it should be in the hands and in control of the poor communities so that they are not dependent or exploited as it leads to replacement- Barefoot College has internalized and implemented this message of Gandhi's since its inception.

The Barefoot College has been pioneering solar electrification in rural, remote, non-electrified villages, since 1989. The College has demystified solar technology and is decentralizing its application by making it available to poor and neglected communities. By 'demystification' of solar technology and 'decentralisation' of its application, we mean placing the fabrication, installation, usage, repair and maintenance of sophisticated solar lighting units in the hands of rural, illiterate and semi-literate men and women.

The Barefoot College believes and has demonstrated that educational qualifications are not needed by people with rural or poor backgrounds to acquire skills that can be of service to their community. In fact, the existence of theoretical paper-based qualifications has been usually found to be a deterrent to development as those that have them tend to come for work or training with mental blocks and superficial expertise.

The methodology applied for rural solar electrification is unique to the Barefoot College. Only villages that are inaccessible, remote and non-electrified are considered for solar electrification. In the initial meeting, members of the community are told about solar lighting and its benefits. If villagers express the need and

wish for solar lighting then a Village Environment Energy Committee (VEEC) is formed. This committee consists of the village elders, both men, and women. The VEEC consults with the entire village community and identifies households which are interested in acquiring eco-friendly solar lighting units. Every family that wants to obtain solar lighting must pay an affordable contribution every month, irrespective of how poor they are. This is so that even the poorest of the poor can feel a sense of ownership towards their unit and take care of it.

As part of the decentralization and demystification process, the College essentially trains a few members of the community to be 'Barefoot Solar Engineers' (BSEs), who will install, repair and maintain solar lighting units for a period of five years at least, as well as set up a 'Rural Electronic Workshop' where components and equipment needed for the repair and maintenance of solar units will be stored.

The village must agree, in writing, to build or donate a building for the Rural Electronic Workshop (REW), select Barefoot solar engineers and allow them to go to India for six months of training, as well as identify the individuals who will be responsible for punctually collecting the monthly household fee. This way the entire rural community can take part in solar electrification and control and manage it together.

While a percentage of the total contribution pays for a monthly stipend to every BSE, the rest covers the costs of components and spare parts like CFL tubes used during repair. The batteries used in solar lighting units need to be replaced every five to ten years. Households that wish to replace their battery through the organization need to pay an amount which will be collectively deposited in a bank as a fixed deposit, where it will gain interest for five to ten years. Once the fixed deposit matures the amount is used to buy new batteries. However, if this amount falls short for the purchase of all the batteries needed then the villagers need to pay the balance amount. The process of solar electrification is not undertaken till the

villagers, who have expressed a desire for solar lighting, agree to pay or collect the nominal monthly fee, to select Barefoot solar engineers for training, as well as to arrange for a REW, in writing. Barefoot College implements this to initiate and ensure complete participation on behalf of the rural community. Therefore, this community managed, controlled and owned approach is innovative and can be replicated in far corners of the world.

Note: The monthly fee to be paid by each electrified household is determined by how much each family spends on kerosene, candles, torch batteries and wood for lighting every month. The VEEC is responsible for making sure that the Barefoot solar engineers install, repair and maintain all the solar units properly and are paid their stipend on time.

### **Selection and Role of Barefoot solar engineers (BSEs)**

Barefoot solar engineering is an employment opportunity for the poorest of poor members in a rural community. It generates an additional source of income for those who do not 'qualify' even for the lowest government job. The College motivates the communities to give this opportunity especially to middle-aged women, such as those who are widows and single mothers with families. It persuades them to choose people who have their roots in the village and will stay and work there for its development rather than migrate to the city soon after training. By being solar engineers they receive an additional source of income as well as continue to be involved with their family and craft, agriculture, animal husbandry and other income generating activities.

If the village is a small and clustered one with about 50 houses, then only one BSE is selected for training. However, if the houses are far from each other or more in number, two or more BSEs are selected. BSEs are collectively and transparently selected by the whole village community. Everyone in the village should be aware of who has been selected. The BSE's family, the committee and all the members of the community have to allow the trainees to travel to India where they will be trained for six

months at the Barefoot College.

BSEs are trained to understand and identify basic electrical terms, components and equipment. They learn to assemble and fabricate circuits and solar lanterns, solar lamps, charge controllers, choke coils and transformers, and learn to correctly connect modules, batteries, lamps and charge controllers. Barefoot College strives to make every trainee capable enough to confidently and independently install, test, repair and maintain fixed solar lighting units, solar lanterns, as well as a REW.

At the end of six months the trainees pass out as Barefoot Solar engineers. As per prior agreements, the 'graduates' go back to their respective villages and electrify the households with solar lighting units and assume the responsibility of repair and maintenance for a minimum of 5 years. Barefoot solar engineers play a key role in sustaining and replicating solar technology in rural communities.

### **Role of a Rural Electronic Workshop (REW)**

REW is a facility set up for Barefoot solar engineers in their villages where they can easily carry out testing, maintenance, repair and production work. A REW acts as a mini-power plant that produces 320W per hour, therefore, it can also be used by the community for educational or social activities like watching television. REWs are important for sustaining solar electrifications in remote rural communities.

A Rural Electronic Workshop comprises of 4 SPV modules (12V, 80W each) with a stand, 1 Charge controller (12V, 40Amp), 1 Inverter (12V, 800VA) and 4 tubular batteries (12V, 75AH each) along with 4mm positive and negative wires and 16mm connectors. Among equipment, 1 digital dual power supply (0 to 30V DC 2Amp), 1 assembly jig, 2 soldering irons with stand, solder wire and spare bits, 1 extension board, 1 personal tool kit for each BSE and spare printed circuit boards and components for repair and production

### 3. WATER

Preservation and accessibility of water in poor rural communities, has been of primary concern to the Barefoot College since its inception in 1972. This holds true particularly for communities that suffer from the scarcity of water or are drought-prone, as well as those that lack hygienic sanitation and drinking water sources. The College has been reinventing its methods as well as methodology, for providing sustainable community-based water sources, through time and experience. The constant factors in all have been a) decentralisation of water sources, b) replenishment of groundwater tables, c) participation of rural communities in implementation d) to reduce dependency on external aid and e) to reduce the drudgery of women and children, who are the worst affected by water problems like poor hygiene, availability and accessibility. Of all the methods that the College has tried and tested, including long hole drilling, handpumps and piped water supply, it has found methods of rain water harvesting to be the most sustainable and effective. Rain Water Harvesting (RWH) is a low cost method with maximum benefits. It provides sweet water for drinking to not only people but also livestock; both, important criteria for rural communities that depend on agriculture and animal husbandry. RWH helps to replenish or rejuvenate groundwater tables directly as well as indirectly. While some methods of RWH like trenches, anicut, contour bunding, and dug wells recharge groundwater tables, directly, by holding the rains long enough for the soil to absorb, other methods like construction RWH underground water tanks and small ponds, indirectly, help to preserve groundwater by creating alternative sources of water for people and livestock, thus reducing the use of groundwater for at least 4-6 months.

Collection of rain water has been a traditional practice through generations for hundreds of years in remote villages of Colombia in South America, Atlas Mountains in West Africa, Himalayas in Asia, islands in Fiji, as well as deserts of Rajasthan in India. The Barefoot College has embraced and acknowledged the architectural brilliance in

traditional knowledge and skills, of age-old techniques, to collect or 'harvest' rain water in order to meet the needs of drinking water and sanitation in rural schools and communities.

The Barefoot approach draws on the local techniques and materials, to reduce dependency on external aid, because it believes these have competently served the purpose of collecting rain water for generations. There should be no need to replace a technique that has stood the test of time only because it is written off as 'old and outdated'. The College believes that for any village-based development to be successful and sustainable, it has to be community managed and owned. Therefore, it involves all the local people to administer, supervise and contribute to any initiative, to create a sense of community ownership.

#### **Barefoot Approach to Community Management and Ownership for RWH Structures:**

##### Work selection and demand proposal

The Barefoot College first organises a collective meeting with all the members of the community, in which the requirements and needs of the people are discussed. Public places or schools are selected as a site for construction of RWH structures, so that men, women and children can have unrestricted access to the water. The capacity of an RWH tank is determined by the average rainfall in the area, the total size of the rooftop (catchment) area, as well as the number of users in the community. Once the site is unanimously selected, a written proposal is formally submitted by the community and school to the Barefoot College. Village Water Committees

Barefoot College sets up a Village Water Committee (VWC) consisting of 10-15 members of the community with equal representation of women. Members of the committee should be persons who are genuinely interested in well being of the community and are willing to devote their time in the construction of RWH structures. The VWC is responsible for the smooth, effective and transparent implementation of the construction

work, for purchase of good quality raw materials and for paying the wage labourers. The committee must also motivate the people to participate in the construction of the RWH structures.

#### Selection of the poor as wage labour

Members of the community and the College, collectively draw up a list of wage labourers who will construct the RWH structures. Since it is an income opportunity, poorest of poor people in the village are given preference to earn minimum wages. The VWC ensures that the selection is unbiased.

#### Bank Account

A bank account is opened for the construction and management of the RWH structures. Barefoot College transfers the needed amount into this VWC bank account. This is done so that only the village has control over the budget and the financial expenditures incurred during implementation. The entire community must be involved to ensure transparency in the whole process. All payments, for expenditures incurred for the RWH structures, must be made only through the Committee's bank account.

Selection of committee members to operate bank accounts All the villagers must collectively select two members of the VWC including one woman, to jointly operate the bank account. In future, if the two members, who are operating the account, need to be changed then it will have to be decided collectively by the VWC and community. Community involvement and their budgetary powers of control

The Barefoot approach requires all members of the community to get together to construct the RWH structures. This contribution is in form of labour and raw materials worth 10% of the total cost of construction. This way the entire community is involved in the implementation of a structure that will be theirs to control, manage and own after it is complete.

#### Transparency and social audit

All information of the construction

undertaken must be made available to any public citizen. To achieve this, the Barefoot College keeps a record of all financial documents, bills, vouchers, muster rolls and photographs that are relevant to the RWH structure. Photocopies of all these documents can be made available for public scrutiny at any time. After the completion of the work, a social audit meeting is conducted with the community where anyone in the village can raise queries and questions related to the construction or expenses incurred for the structure.

#### Photography and documentation

Visual documentation for the RWH structure must be undertaken for physical verification and project documentation. This should consist of still photographs of the work site taken from the same angle, for each of these four stages in construction (a) before work is undertaken (b) voluntary labour being provided (c) work in progress and (d) work completion.

#### Work completion and hand over

After the RWH structure is completed and before it is handed over, the community and school must certify in writing that the structure has satisfactorily been completed and is ready to be used. They must also agree to be responsible for its repair and maintenance in the future.

## 4. EDUCATION

Mark Twain once said, "Never let school interfere with your education"- The Barefoot College education programme is geared for the overall development of rural children, and literacy is only a part of it. It is viewed as a radical departure from the traditional concept of a 'college' because it encourages hands-on or learning-by-doing process of gaining knowledge and skills, rather than imparting it through formal classroom teachings.

Lessons are focussed on arousing awareness about the environment and the social-economic and political forces that dominate development. Achievement skills that guarantee a sustainable development in rural communities, as well as literacy, are considered important for an individual's development. The aim of the



programme is to equip rural children with the right balance of literacy and education, so that in the long run each child voluntarily chooses to stay in the village and work for its development instead of looking to move out.

Barefoot College draws on the same philosophy when it selects members of the rural community to provide education in its rural schools. This is done to reduce dependency on external aid as well as reduce migration by generating employment within the rural communities. The College gives little importance to urban experts with paper degrees and qualifications because most of them do not have the patience, listening skills, open minds or humility to show respect to traditional knowledge and skills and are unfit to live and work in remote areas. The Barefoot education section has successfully existed as a purely rural programme for children, men and women since 1975. The Barefoot approach has been replicated by 714 Barefoot teachers in 559 day and night schools across 8 states of India including Uttarakhand, Madhya Pradesh, Assam, Bihar, Orissa, Arunachal Pradesh, Andhra Pradesh and Rajasthan, as well as by 510 women *balsevikas* (crèche teachers) in 280 *balwadis* (rural crèches) across four districts in Rajasthan including Ajmer, Sikar, Jaipur and Barmer.

## 5. HEALTH CARE

The Barefoot College health care section aims to provide basic health services to more than 150 villages in five development blocks of Rajasthan, through a team of Barefoot doctors, health workers, midwives, pathologists and dentists with little or no educational backgrounds.

Since 1973, more than 1,442 rural men and women have gained livelihood through health programmes, both curative as well as preventive in nature. The College has demystified medical technologies and decentralised its uses to equip the grassroot levels with basic health facilities. Through a network of the Barefoot health team, Barefoot communicators and teachers, the Barefoot College has created health awareness among rural men, women and

children on issues such as hygiene, food and nutrition, mother and child care, immunization, oral health, family planning, HIV/ AIDS, midwifery, common ailments etc.

The College has been training men and women from the villages so that rural communities are less dependent on external aid. Their involvement in the planning, implementation and supervision of all programmes have not only generated employment within rural communities but also reduced migration.

## Peoples' Action

The Barefoot College was the born out of practical experience and people's action. It was not inspired by books or by the theories of academics or practitioners based in urban areas. It was the result of hours of work in the villages, weeks of meeting ordinary people who wanted to get together and live and work in a village. No ideological learnings of any kind, no costly survey to decide what to do, no assistance from the traditional, well-established voluntary movements of India. Whether the Gandhian, the Sarvodaya, the Christian or the Ramakrishna Mission, the Barefoot College wanted to break away from the 'social work tradition' among groups oriented to social action.

Many people who had started projects earlier did not give this non-professional approach much of a chance. The Barefoot College was in fact taking calculated risks on a number of fronts:

It was all oriented towards People's Action. No project plan was designed in advance, no clear time schedule, no detailed programme activities, no organisational and administrative arrangements, project staff or physical inputs. The Barefoot College let the organisation grow as a process where human beings and their development, their confidence and personal growth meant more and mattered more. The investment was more in people than in projects. This has been the first priority. No recruitment through advertisement but by word of mouth and by trial and error.

## Financial Resources

Social Work and Research Centre,



popularly known as the Barefoot College, was registered as a Non Government Organisation (NGO) on 5th of February 1972, under the Society Act 1860. The organisation considers a financial year from April 1st of one year to March 31st of the following year. Every year, a financial report is prepared by chartered accountants at the organisation inclusive of details such as:

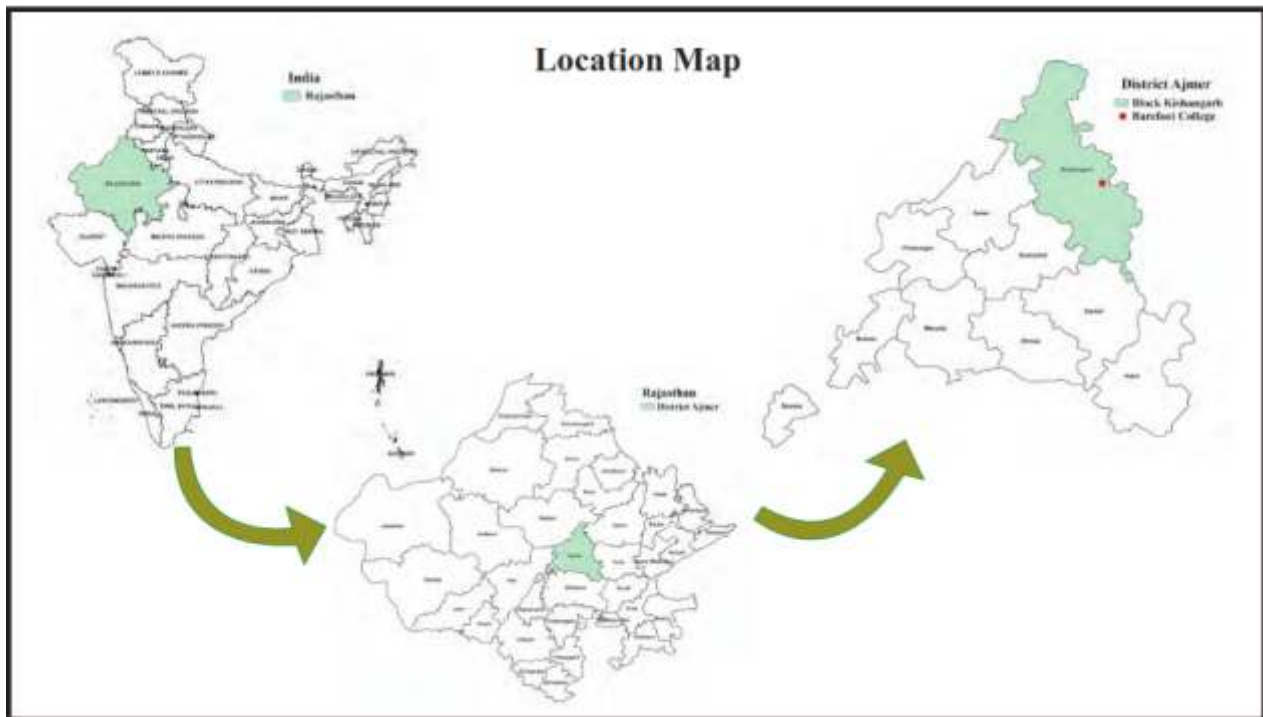
- Grants and donations received from the Government of India, international funding agencies as well as private foundations.
- Income generated through own sources, if any
- Expenditures incurred during the financial year

Since 1972, the organisation has been appointing chartered accountancy firms to audit its accounts and reports for every financial year.

### Barefoot Accountants

More than 30 members of the College, who are barely literate, have been trained to keep Barefoot accounts in Tilonia and its sub-centres in Rajasthan, Jammu-Kashmir, Sikkim, Himanchal Pradesh, Kerala and Assam.

Barefoot accountants are responsible for financial planning and transactions and, allocation and maintenance of funds received by the College. It stresses on transparency and accountability and the Barefoot accountants play an essential role in implementing this process. It holds public hearings and shares financial information, usually considered as confidential, with the members of the rural community. Anyone can access the audit statements and ask for information related to sources of funding and, amounts received and spent.



## 6. LEARNING AND IMPLICATIONS

The case discussed above put forth few path-breaking learning for the scholars in academic fraternity, practitioners and other stakeholders of the society at large. Some

exemplary initiatives taken at Barefoot College for the societal development and empowerment of local clients such as in area of education, health care, handicraft, rural electrification etc. gives impetus to other NGOs, policy makers and government agencies to develop replicate

Barefoot like low cost sustainable solutions for other parts of India where the poor people struggle to make two ends meet. It also teaches us that HRD is not just for developing highly educated and technically sophisticated manpower of a nation but it must orient its endeavour towards illiterate and under privileged masses in the third world that are collectively also known as bottom of the pyramid masses.

Moreover, policy makers should pin pointedly analyze the sustenance of such model of developing human resources as it also backs the vision of present government to enhance the livelihood of rural people. Another social initiative that relates to such vision is Providing Urban Amenities to Rural Areas (PURA) which was coined by the former President of India Dr. APJ Abdul Kalam. However, it still needs the attention of the government for execution.

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# Product Development as a Growth Strategy for XYZ Apparels- A Case Study

Ms. Vasundhara Chaudhary\*

Dr.Jagriti Mishra\*\*

## ABSTRACT:

The case is focussed on XYZ apparels, a leading Departmental Chain headquartered in Dubai and how it adopted product development as a growth strategy. With specialization in casual wear, formal wear, ethnic wear, sportswear, etc. the company made a logical move in exploring the maternity wear segment. The case explores the process of product development through its different stages including research to study current market situation and assess future business potential, exploration of concepts, idea screening, final product development, and product launch. The objective of offering maternity wear as a new product was to address the existing gaps while maintaining coherence with the current product portfolio.

**Keywords:** Product Development, Growth Strategy, Case Study.

## 1. BACKGROUND:

XYZ Apparels was a leading Departmental chain with Headquarters in Dubai with over 300 stores across 17 countries. It was a leading retail chain in India with the presence of more than 200 stores across 80 Indian cities and headquarters at Bengaluru. The retailer offered a variety of products including clothing for men, women & kids, shoes, jewellery, accessories, etc. At the annual sales meet organized at the company headquarters, the Executive Director Mr. Vasant Iyer stated “We are growing at 35 percent CAGR (compounded annual growth rate). This year we will be crossing INR 1,800 crore. We have targeted to become INR 3,000 crore company in the next two years (FY19).” He added, “I leave it to you all to come up with suggestions for achieving this target. We can realise our goal by expanding, diversifying or developing new products for our existing consumers.”

## 2. BUSINESS OPPORTUNITY ASSESSMENT

New ideas started pouring in at team level meetings. Since the company was already specializing in menswear, womenswear, and kidswear, so their obvious choice was in the apparel category. Therefore, they concluded that their new diversification could be in the same area. Now the discussion descended upon which type of apparel to get into. They were already into casual wear, formal wear, ethnic wear, sportswear, etc.; deciding a new range seemed to be more difficult than they had apprehended. The managers were instructed to go through trend reports, business journals and forecasts to assess the potential products which could be introduced and would be beneficial to

\* AssociateProfessor & Centre Coordinator Department of Fashion Technology  
National Institute of Fashion Technology, Gandhinagar, Gujarat, E-Mail: [vasundharab2002@gmail.com](mailto:vasundharab2002@gmail.com)

\*\* Assistant Professor & Centre Coordinator Department of Fashion Management Studies  
National Institute of Fashion Technology, Gandhinagar, Gujarat, E-Mail: [jagritimishra84@gmail.com](mailto:jagritimishra84@gmail.com)



the company.

After a lot of deliberations, some of the products which were zeroed down included athleisure wear, sustainable garments, maternity wear, intimate wear, etc. Maternity wear was a segment with a huge gap in the Indian market. There was a huge dearth of comfortable maternity clothing which was also aesthetically appealing (Shang & Hu, 2015).

Therefore a meeting of the research team was conducted in the board room and it was decided to carry out thorough research of the maternity wear segment. The business survey reports by the research team suggested that where the global maternity wear market was expected to grow at a CAGR of 2.01%, the Indian market was expected to grow at a relatively higher CAGR of 17.3% from 2014-2018 which was even higher as compared to 16% in 2008-2013. Technavio's market research analyst predicted that the maternity wear market would reach a market value of around USD 13 billion by the end of 2019. According to recently released study "Global Maternity Wear Market 2015-2019" conducted by "Research and Markets" (Technavio, 2018) growing awareness, especially from the market in the west, and exposure through travelling, the internet, and other media, plus the convenience of online shopping are all contributing factors in making women more conscious about the style quotient during pregnancy and thus increasing sales.

The report of the research team also indicated that the existing maternity wear products were offered in routine and mundane designs in limited variety and the price range was also very high which made it inaccessible for most of the customers (Sohn, 2009). The range available in the market had minimal flair, negligible pleats and marginal gathering (Sultana & Tabraz, 2017). Most of these garments were offered in the polyester blend which was unsuitable for Indian weather conditions. Thus the idea of introducing comfortable yet fashionable maternity wear was generated.

### 3. PRODUCT CONCEPT

Immediately afterwards a meeting of the product development department was called out to discuss the product concept. "The most important consideration in regard to the expected mother's wardrobe is that it should be attractive", stated the Product Development Head, Mr. Mehra. He also read a report on pregnancy and clothing (Furer, 1968), "The more a woman can take her mind away from being pregnant, the more her physical well-being is enhanced. The pregnant woman needs to continue her normal social life in order to maintain a healthy mental outlook. Ever-changing body shape in pregnancy poses a very specific requirement with respect to clothing needs."

Adding to the conversation Mr. Patil, the senior manager stated, "The major changes which occur in the body during this phase are in the bust, belly and hip area. The most concentrated advancement ensues in the waist area. Previously the sole purpose of maternity wear was to hide the baby bump, irrespective of the fit of the garment. But lately, due to the high purchasing power of working women, the demand for fashionable maternity wear has been on a surge." The discussion went on for a while with suggestions from all the team members. Mr. Patil also shared a report by senior NIFT Professor which stated that maximum increment in the measurement during the maternity period occurs in the waist area (Anand, 2012).

Concluding the meeting, Mr. Mehra stated, "After our deliberations today we can deduce that to provide comfort to the pregnant women, relaxed attire is essential. This aspect can be incorporated through design attributes and through careful selection of fabrics and trims. The designs should follow the art principles of good design which are balance, scale, proportion, rhythm, and emphasis. Besides these historical inspirations, physical changes and expansion should also be looked into with elements such as line, form, colour, space, and texture. So let us get back to work." The team created a process flowchart which was to be



followed by everyone (Refer Exhibit 1).

#### 4. SCREENING

After methodical technical assessments and detailed research conducted by the research team, a detailed analysis report was submitted to the Research Head, Mr. Jain. Based on the report Mr. Jain stated to the screening committee comprising of the Board members, "Based on the research conducted by our team, the major brands dealing in maternity wear are Mothercare, Babyoye, W, Oxolloxo, First Cry, Nine Maternity, Mama Couture, Uzazi and Morph Maternity. Most of the silhouettes offered by these brands are either H or Sheath or Shift. The price range starts from INR 717 and goes up to INR 7269 and includes product options such as t-shirts, tunics, dresses, shirts, tops and tank tops. The fabric range mostly available is Polyester, Poly Moss, Crepe, Georgette, Viscose and cotton. The design features built-in some of the garments are flair, pleats, and gatherings. The team has also come up with the study of size charts of these brands (Refer to Exhibit 2). The measurement of bust and hip ranges from 32 inches-40 inches for small size, 34 inches-42 inches for medium size and inches 36 inches-44 inches for large size. Similarly, measurement of waist ranges from 30 inches-36 inches for small size, 32 inches-40 inches for medium size, 34 inches-44 inches for large size." Then he looked at the Production head and asked him gingerly whether the factory was ready to support this new business venture. Mr. Verma, the Production Head was more than ready to take on this new challenge. He buoyed the idea enthusiastically and confirmed that the production floor was equipped to face the task. The Marketing head, Mr. Prasadhook his head and said nonchalantly, "Everything said and done, we need to look at this business proposal practically. Being over-enthusiastic without any preparation will not help. Although we have desiccated the segment, we are yet to ascertain the gaps in terms of silhouettes, fabrics and price points. Therefore what is required is an extensive survey to identify the market gaps which we plan to bridge through the launch of our maternity wear collection."

In order to understand the consumers, a generalised questionnaire was filled up by pregnant or expectant mothers. When evaluating the questionnaire, it was found that participants would like to not only shop ethnic wear but emphasised on western casual wear also. They would prefer to shop in the second and third trimester instead of the first one. The most commonly occurring problem which they faced was the size, followed by style, price, comfort and lastly fabric. In terms of clothing, consumers preferred styles such as tunics, shirts, dresses, and t-shirts. When evaluating the questionnaire, it was found that the A-line silhouette was desirable (Refer to Exhibit 3). Participants also indicated their fondness for belly supporters. The expectant mothers preferred extra length as the belly would grow larger in the second and third trimester. The responses gave an impression of pregnant women preferring, pleats and gathers (Refer Exhibit 4). An adjustable waistband was also looked-for as they did not want the clothes to be too tight near the belly nor they wanted them to be baggy.

#### 5. PRODUCT DEVELOPMENT

The motivation for product development came from various fronts: from gaps identified in the already available maternity garments, results of the survey and feedback from employees having personal experiences regarding changes in the body (majorly chest, waist, and hips) during the second and third trimester. From these mind boggling sessions, the design team came up with innumerable rough sketches. The preferred product categories were tunics, shirts, dresses, and t-shirts in the corresponding order. Although not all designs were feasible, some of them were finalised. The final ones had features including different forms of fullness in terms of pleats and gatherings (Refer Exhibit 5).

It was decided that a good strategy would be to cover up the baby bumps. Ritu, the womenswear designer said, "All the gathers will make the bump difficult to be seen which is what we are aiming here". The Senior Designer Ms. Sethi added, "The most preferred silhouette

is an A-line which creates an A shape. It gives a slim look and it is flattering also. Different types of sleeves and necklines will take the attention away from the expanding bump”.

Ms. Sethi further stated, “Colour continues to be an inspiration and a key influencer of fashion trends. In earlier times, darker, dull and inconspicuous tones were expected to be worn by the pregnant women. But the Physiological and psychological changes a pregnant woman goes through demands for attractive tones of colours of moderate value. The present trend in fashion colours, including colour for maternity segment are more uninhibited such as Meadowlark i.e. bright yellow, glistening with joy and illuminating the world, Cherry Tomato that exudes heat and energy, Sky blue which is no longer for little boys, Earthy brown-based red which adds flavourful definition to the spring and Pink Lavender which is soft and romantic. These are some of the important findings from a recent forecast published by Pantone and we must keep that in mind while deciding the colour palette.” The team kept in mind some of these important points from a recent forecast published by Pantone while deciding the colour palette for the range (Carlstadt, 2018).

The team decided that the choice of fabrics for pregnant women should not be too transparent, too stiff, or too heavy. The quality desired in this segment are washability, easy care, breathability, good absorbency, wrinkle free. Thus the team zeroed down to fabrics such as linen which is known for being the lightest and coolest fabric of all, cotton – soft natural fibre known for its versatility, bon-bon- is 100% polyester spandex – has a high quality stretch which is light and airy, bengaline is a strong lustrous fabric with a cross-wise rib made of polyester, viscose, and lycra. It has a nice shine matte effect. It gives a very beautiful satiny sensation. Another fabric not to be missed is viscose lycra which has breathability similar to cotton weaves and last but not the least stretch denim which requires little or no maintenance and it is versatile and durable (Sultana & Tabraz, 2017).

To make the segment commercially viable different features like gatherings, different types of sleeves such as askimono, bell, and puff; different necklines with knots to make the figure appear smaller such as deep V neck and deep U-neck, empire line, etc. (Refer Exhibit 6). A variety of pleats such as box pleats, knife pleats, accordion, sun-burst pleats, crystal pleats, and inverted pleats were incorporated. Oriental inspiration was also incorporated in terms of silhouette such as A-line and tent style.

## 6. TEST MARKETING

Before proceeding for a full-fledged market launch, test marketing seemed imperative. Since the company had a huge women workforce, selection of pregnant women to test the products wasn't difficult. The criteria for selection of test subjects were to be in their third trimester, to be either Medium or Large sized and lastly to be in the height range of 5'1” to 5'4” that is the average Indian women height. Ten women participated in this experiment. Half of them worked on the production floor, two of them were in the design team, two on the retail front end and the last one was a cleaning staff. From their nature of jobs, it was possible to evaluate the circumstances under which the products would be used. All pregnant women wore garments and performed all the day-to-day activities. The criteria on which the garments were evaluated were fabric, style, and comfort. Features of the styling of the garments which were especially liked by the subjects were deeper necklines, fullness and general appearance. Set-in Sleeve was preferred. Straight hanging pleats were appreciated instead of expanding pleats. Subjects also liked the fullness in front where it was needed the most. One of the negative comments received by the subjects working on the production floor was that the inverted pleated skirt was fuller than needed and it hindered their activities. The tent dress with the back zipper was not valued by the design subjects as it made sitting and leaning on a chair for back support uncomfortable. The zipper protruded into the skin of the participants which was a major turn off.

To resolve the extreme fullness in the inverted pleated skirt, the design team decided to decrease the intake of the pleats and thereby decreasing the fullness. For the tent dress, it was decided to eliminate the back zipper and use buttons instead with a front closure. The front closure increased the reachability and made leaning easier.

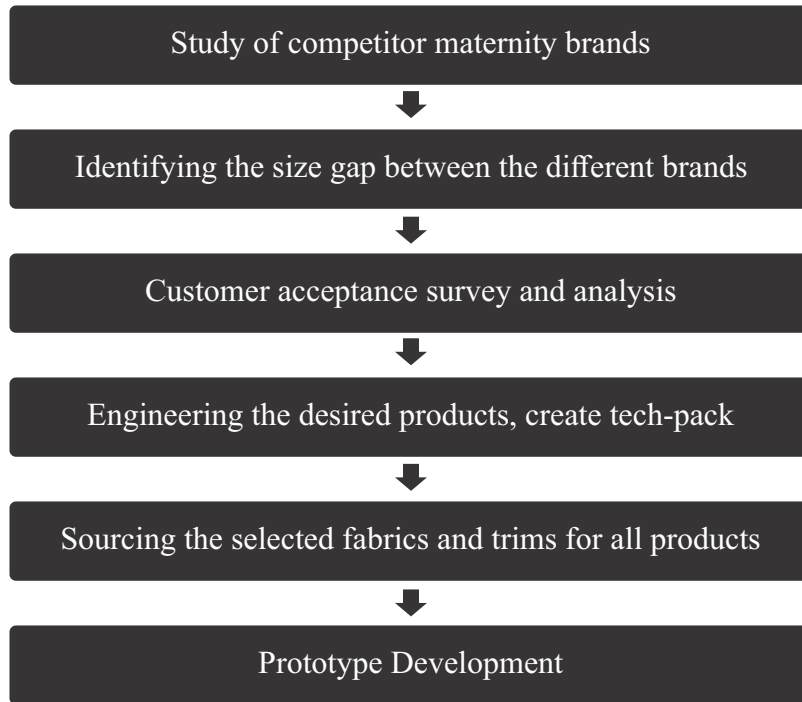
**7. LAUNCH**

“We must not loose sight of reality”, said Mr.Vasant. He added that this new segment may or may not attract any attention. The decision to launch a maternity wear segment with only a few months of research involved over hundreds

of prototypes, designers, technicians, pattern masters, fabric manufacturers, trims dealers, tailors, etc. but the most difficult part of launching, according to Mr. Vasant was trying to get the store managers to stock the merchandise. It was almost a 'catch 22' situation, as the store managers were not convinced unless they saw the sales figure.

Eventually, the metro city stores proved the feasibility of the maternity wear collection with their sales data which provided good publicity and slowly the Tier-II cities overcame the resistance and adopted the latest collection whole-heartedly.

**Exhibit 1: Process Flow**



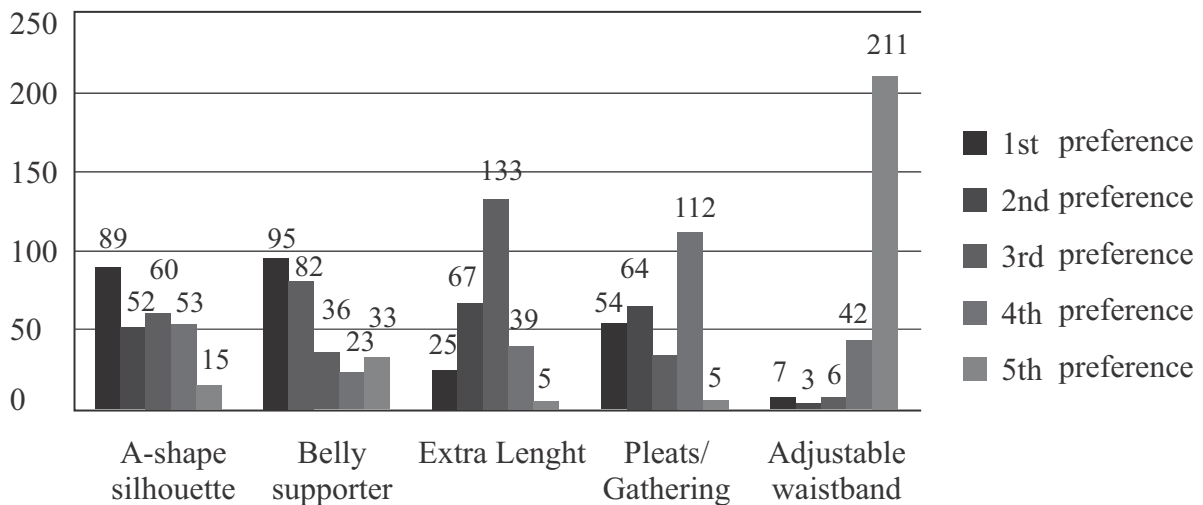
**Exhibit 2: Size chart Range of Competitor Brands**

	Small	Medium	Large
Bust	32"-40"	34"-42"	36"-44"
Waist	30"-36"	32"-40"	34"-44"
Hip	32"-40"	34"-42"	36"-44"

**Exhibit 3: Problem Areas.**

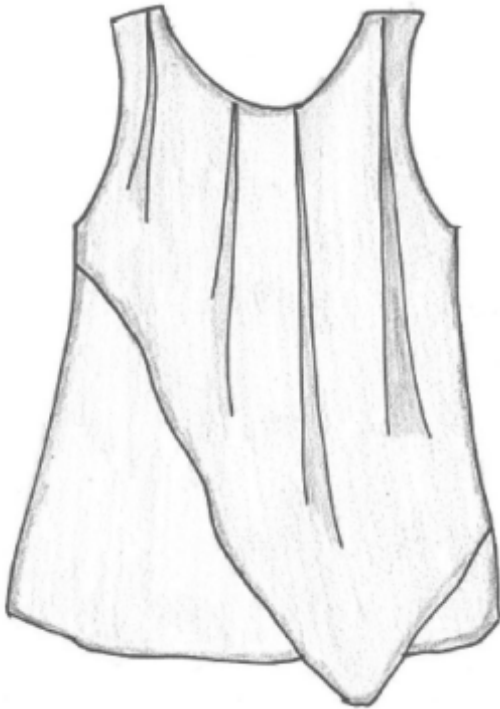
S. No.	Findings	Suggestions
1	<b>H Silhouette:</b> This silhouette is usually of a one-piece garment, going straight from shoulder to hip, and crossed at the waist with a belt, thus resembling the letter H.	<b>A-Line Silhouette:</b> This is a silhouette, usually of a one-piece garment, flaring gently at the waist or hips, thus resembling the letter A.
	<b>Sheath Silhouette:</b> This silhouette flows straight down from the neckline, thus gently hugging\ body form.	<b>A-Line Silhouette</b>
	A shift dress is a garment that features straight lines and doesn't hug the body"s curves or cinch the waist.	<b>A- line silhouette</b>
2.	<b>Minimum use of pleats and gathers</b>	Gathering and pleating introduced at the belly area to cover the bump
3.	<b>Empire waist with elastic and tying belt:</b> This style actually accentuates belly.	Loosening the empire line and avoid belt, buttons, etc.

**Exhibit 4: Style Feature Preferences**

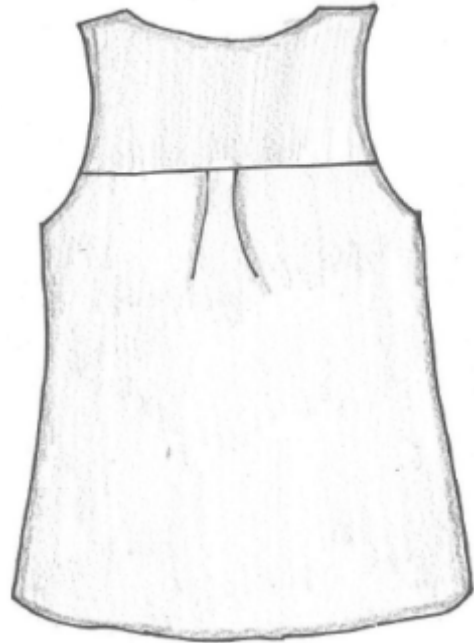




**Exhibit 5: Pleated Tunics**



**Front View**



**Back View**



**Front View**



**Back View**

**Exhibit 6: V- Neck Tunic with a Knot**



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**NOTE**

Name of the organization and characters have been disguised and this case has been written creating hypothetical situations.