



Criteria 3

Research, Innovations and Extension

3.3- Research Publication and Awards

3.3.1. Number of research papers published per teacher in the Journals notified on UGC care list during the last five years

3.3.2. Number of books and chapters in edited volumes/books published and papers published in national/ international conference proceedings per teacher during last five years



CONSUMER BUYING BEHAVIOUR ON AYURVEDIC PRODUCT IN DINDIGUL
DISTRICT OF TAMIL NADU

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ABSTRACT

In this article discussed on Ayurvedic preparations and treatment are most trustable approach to fix the unidentified and serious maladies without having any symptoms additionally it is financially perception strategies so individuals are eager to receive to fix their sicknesses and looking for the ayurvedic items in the marketing strategies. The consumer purchasing decision to ayurvedic items are chosen by the buyer as indicated by their necessities and climatic conditions. In this specific situation, it is comprehended that strategies that are consolidated to advance the ayurvedic items which pulls in the buyers to settle on buy choices for the kind of items in Dindigul District of Tamil Nadu. It is comprehended that Ayurvedic items are extemporized the wellbeing by reviving the resistant arrangement of the individuals in normal manners so as the examination infers that individuals are continuously utilizing the ayurvedic items to empower their solid life design by devouring the ayurvedic items.

Key Words: Ayurvedic Products, Consumer, Buying Behaviour, Purchase Decision, and Marketing Strategy.

INTRODUCTION

In the 21st century, Ayurvedic products seem to be the prime preference to attract the consumers in due course of its medicinal value and using pattern. In India, the ayurvedic medicines are using since primordial period so as it has a rich history in Hand Remedies therefore it is inseparable nature for the treatment of the Indian chapter. In addition to that generally, Indians are strongly believed their hand remedies which are derived from their pioneer so they are treating the methods, pattern of uses and ayurvedic knowledge as key tool to cure their diseases at their door step.

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Ayurvedic medicines and treatment are most trustable way to cure the unidentified and incurable diseases without having any side effects moreover it is a cost effective methods so people are willing to adopt to cure their diseases and seeking the ayurvedic products in the market. At the same time, it is understood that ayurvedic products usage is shrinking up due to having long time to cure a disease but alternative medical practices are curing the diseases and controlling within a prescribed time so the young generations are seeking the fast relief treatment. Therefore, Indian Government has taken up various steps to promote the ayurvedic products among the people in order to increase the using practices of ayurvedic product among through various initiatives like ayurvedic capsules, creams, toothpastes, soap and shampoos and institutions such as Khadi and Village Industries, Non-Governmental Organizations, Voluntary Associations and Self Help Groups and also Private Companies In this context, the present study is an attempt to understand the consumer buying behaviour of ayurvedic product.

SIGNIFICANCE OF CONSUMER AYURVEDIC PRODUCT BUYING BEHAVIOUR

Consumer satisfaction arises when the ayurvedic products manufacturers provide them with benefits that satisfy their needs and wants. The ayurvedic products needs of consumer begins from the infant to aged people. The ayurvedic products are selected by the consumer according to their needs and climatic conditions. In addition to that consumer preference is falling under the cutting edge of family budget and their position so as ayurvedic product buying decision making on the value of ayurvedic product needs and also selling points used by sales people and mode of payment. Ayurvedic product provides comfort with its ingredients and also its medicinal elements. In this context, it is understood that methods that are combined to promote the ayurvedic products which attracts the consumers to make purchase decisions for the type of products. The consumer needs to consider the economic, climate condition and personal character before buying the ayurvedic products.

REVIEW OF LITERATURE

Tarun (2020) research study corroborated that ayurvedic approach and diet modification has given good results in reducing symptoms of the Wilson's disease [WD]. The WD is an inherited disease of fallacious copper metabolism caused due to mutation in *ATP7B*. The patient's appetite has been improved subsequently who was able to speak a few monosyllabic words, difficulty in swallowing and irritability relieved completely.

The urine copper level became normal and further improvement was seen in generalized stiffness as both the lower limbs were able to extend completely. It is evident that effective management for Wilson's disease but the Ayurvedic approach of proper assessment of Dosha, Dushya and diet modifications helped in providing supportive care and improving the quality of life in such kind of patients.

Sivaranjani (2019) study revealed that a large spectrum [92.0 percent] of the consumers is well aware of ayurvedic products through advertisement [42.7 percent], friends and relatives [32.0 percent] and [10.7 percent] personal selling and exhibitions [6.7 percent]. Further, study found that 84.7 percent of the consumers suggested ayurvedic products to others. It is understood that impact of buying the ayurvedic product among the total respondents, it observed that 54.7 percent are felt that ayurvedic products has no side effect and also 20.7 percent are felt that which are so relevant to cure the diseases. Among the total respondents, 8 percent of the respondents are felt that they bought ayurvedic product at affordable cost and its brand image made them to use the ayurvedic products. Moreover, 56 percent of the consumers are satisfied, 20 percent are highly satisfied with using of ayurvedic products.

Vasanthi, (2016) buying behaviour is a process involving a series of related and sequential stages or activities. Consumer begins a search for information followed by evolution of alternatives and purchase decision. Consumer behaviour and sales promotional methods are positively related for the sales of the product. The sales promotional methods attract the consumer to particular retail stores and motivate them to purchase certain or new established products whereas ayurvedic product trade is a larger use of advertising and made with its trust.

Chaudhary (2014) study found that ayurvedic pharmaceutical companies are developing thousands of new products day by day and those are promoting through advertisement and other communication channels which have become quite popular for promoting Ayurvedic products. Therefore, the communication programs help the people and make them aware about alternative medicine.

Sawant (2013) study observed that use of traditional medicine is increasing safety and efficacy used to improve the nation health if demand and supply is ensured. The demand for Ayurvedic formulations was increasing both in the domestic and international market.

Vaijyanthi (2012) study revealed that ayurvedic medicines are heavy only in certain states such as Kerala, Gujarat, Rajasthan, UP etc. Many Ayurvedic companies are not only manufacturing pharmaceutical products but are also in manufacturing of nutraceuticals products and FMCG like soaps, shampoos, toothpaste, toothpowder using traditional herbal ingredients in the composition of these products.

Purba Rao (2007) study revealed that predictive modeling approaches adopted by marketers to identify segments in target market which would have the largest responses rate pertaining to a certain product and service being offered.

Further, study found that marketing offers the products or services which are able to reach their primary target of market in more effectively for developing the marketing strategy in a personalized and customized ways and means. Consequently, it leads the organization to adopt more integrated strategies and process for enabling the target market.

NEED OF THE STUDY

In the present modernised business world, consumer is the key decision maker to enable the ayurvedic product market whereas it is appropriate to study the consumer behaviour towards selection, security, utilization of the ayurvedic products and its services for satisfying the users of the products. In this context the present is an attempt to study the ayurvedic product consumer's behaviour on preference of the ayurvedic products and their opportunities and challenges faced by the ayurvedic industry.

OBJECTIVES OF THE STUDY

1. To study the Ayurvedic Product Sales trends in the study area
2. To find out the influencing factors to buy the Ayurvedic product by the consumer
3. To find out the bottlenecks in buying of ayurvedic product
4. To offer suitable suggestion to retain the consumers of Ayurveda Product

RESEARCH METHODOLOGY

The study is confined to Dindigul District of Tamil Nadu and nature of the study is descriptive on the basis of survey method covering both primary and secondary data in Ayurvedic Product. The study has depended on primary source of data obtained by survey method using Interview schedule administrated with well-constructed Questions with Likert five point scales. The present study adopted convenience sampling of non-probability method in Dindigul District of Tamil Nadu. For the study, 150 samples have been selected on the basis of simple random techniques.

RESULT AND DISCUSSION

1. SALES SCENARIO OF AYURVEDIC PRODUCT

The study discussed the sales trend of the ayurvedic personal care products of the consumers which are ostensibly indicated that personal care products such as toilet soap, liquid soap, tooth paste, shaving creams, skin cream, lip balm, shampoo, hair oil and body massage oils purchased by the customers in tune with Rs. 23,748 crores. The available data in the table 1 shows that personal care products of Maharishi Ayurveda in the study area. It is understood that a large spectrum [83%] of the changes has made in the sale of liquid soap among the consumer during the study period, followed [28%] by lip balm and body massage

oil [14%]. A few changes have made in respect of the production particularly shampoo [11%], hair oil [9%], skin cream [8%], shaving cream [6%] and toilet soap [5%]. Hence, the study may be inferred that consumers buying behaviour of ayurvedic products has changed based on the usage of the item in their routine activity.

TABLE 1 PERSONAL CARE OF AYURVEDA PRODUCTS

Sl.No.	Product Category	Sales In Crore In the 2017-2018	Sales In Crore In the 2018-2019	% CHANGE
1.	Toilet soap	4635	4849	05.0
2.	Liquid soap	18	33	83.0
3.	Tooth paste	1896	1950	03.0
4.	Shaving cream	135	142	06.0
5.	Skin cream	1562	1688	08.0
6.	Lip balm	07	09	28.0
7.	Shampoo	1141	1265	11.0
8.	Hair oil	1985	2165	09.0
9.	Body massage oil	125	143	14.0
Total		11504	12244	06.4

Source: Computed from secondary data* <http://www.theherbarie.com>

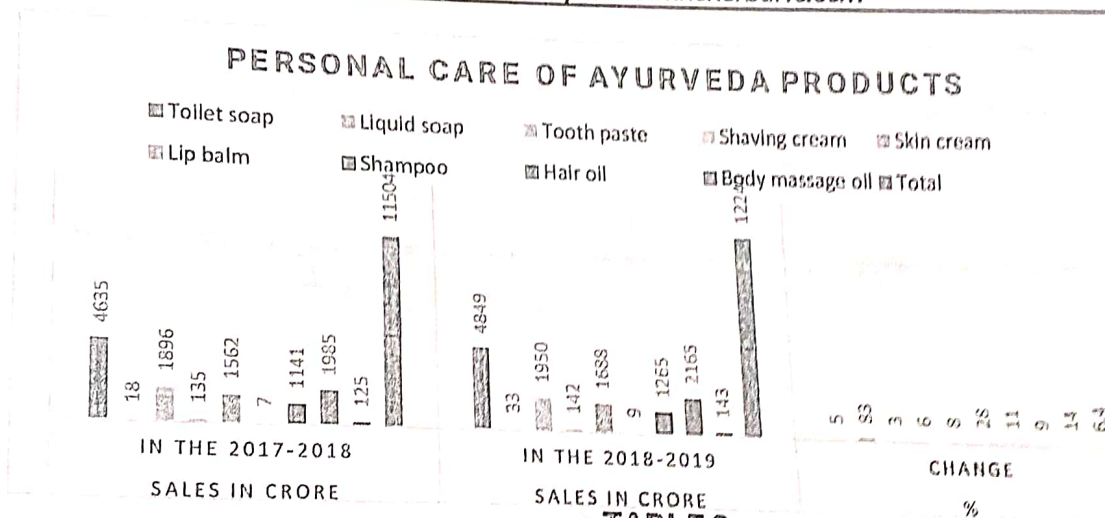
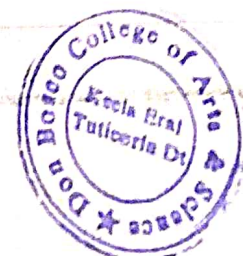


TABLE 2 INFLUENCING FACTORS TO BUY THE AYURVEDIC PRODUCTS

Sl.No	Particulars	Respondent	Percent
1.	Price	32	21.3
2.	Advertisement	72	48.0
3.	Features	42	28.0
4.	Packing	4	2.7
Total		150	100.0
Mean		2.12	--
Std. Deviation		.768	--

Source: Computed from primary data

IMPRESS FACTORS OF AYURVEDIC PRODUCT



The above table 2 exhibits, about what would respondents look first when they buy the product. Out of 150 respondents most of the respondents look at the advertisement of the products is 72, the number of respondents are who look at the price 32. And 42 respondents look at the features of the product. Only 4 of the respondents look at the packing which also an important factor. The mean value is 2.12 and the standard deviation 0.768. The advertisement plays an important role in marketing the product. It is clear from the table that customers are very much impressed about the advertisement of the products.

TABLE 3 VARIETIES OF AYURVEDIC PRODUCTS

Sl.No	Particular	Respondent	Percent
1.	Up to 5 Varieties	85	56.7
2.	Between 6-10 Varieties	40	26.7
3.	Above 10 Varieties	13	8.7
Total		150	100.0
Mean		1.68	--
Std. Deviation		0.936	--

Source: Computed from primary data.

The table 3 indicates that more than a half [56%] of the respondents are preferred up to 5 varieties of ayurvedic products, followed [26%] by 6-10 varieties. Only a few [8%] of the respondents are preferred more than 10 varieties of the ayurvedic products. The statistical analysis result has shown that mean value is (1.68) and the Std. Deviation is (0.936) so it is implied that there is a tremendous change in selection of variety of production in ayurvedic products among the consumers.

TABLE 4 - TIME SPAN

Sl.No	Particular	Respondent	Percent
1.	Less than 1 Year	83	55.4
2.	2-3 Years	34	22.7
3.	Above 3 Years	33	22.00
Total		150	100.0
Mean		2.25	--
Std. Deviation		4.672	--

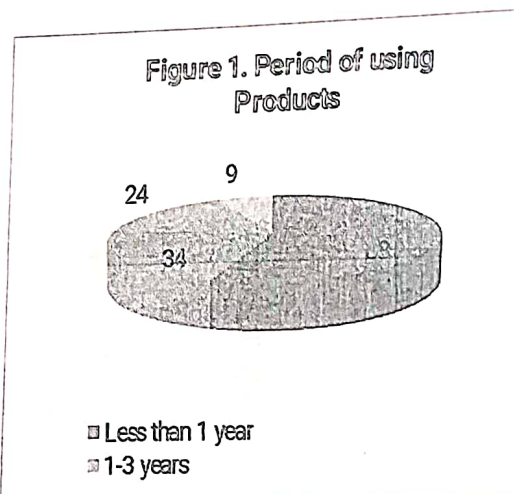
Source: Computed from primary data

Table 4 reveals that among the total respondents, more than half (55%) of the respondents are used the ayurvedic product below 1 year, followed [23%] by between 2- 3 years and also 22 percent of the respondents are having a long period [above 3 years] of ayurvedic product for their routine usages. Therefore, the study may be implied that consumers are preferred to use the ayurvedic product for their routine use due to its medicinal values and affordable cost.

TABLE 5 BUYING HABITS IN A MONTH

Sl.No.	Particular	Respondent	Percent
1.	Once	67	44.7
2.	Twice time	53	35.3
3.	Thrice time and above	30	20.0
Total		150	100.0
Mean		1.79	--
Std. Deviation		0.734	--

Source: Computed from primary data



The available data in the table 5 exhibits that a significant proportion [45%] of the respondents are buying the ayurvedic product once in a month, followed [35%] by twice in a month and 20 percent of the respondents are shopping the ayurvedic product thrice and above in a month. Hence, it is understood that most of the consumers are buying the ayurvedic product in a regular interval.

TABLE 6 MOTIVATING FACTORS

Sl.No.	Particular	Mean Value	Rank
1.	It is reasonable than available branded products	2.11	6
2.	I feel it is home made	2.61	5
3.	I feel it is healthy	2.62	4
4.	I feel it contains less preservative	2.85	2
5.	I feel it is fresh	2.81	3
6.	It tastes good	3.04	1

Source: Computed from primary data

The available data [Table 6] reveals that taste [3.04 Mean value] of the ayurvedic product considered to be the key motivational factor to buy the product, followed [2.85 mean value] by less preservative items, fresh products [2.81 mean value], rich proteins and healthy products [2.62 mean value], homemade [2.61 mean value] and branded products [2.11 mean value] of ayurvedic. Therefore, it is understood that most of the consumers are willing to buy the ayurvedic products for its tastes and freshness so as ayurvedic products attract the consumers for its nature and medicinal values.

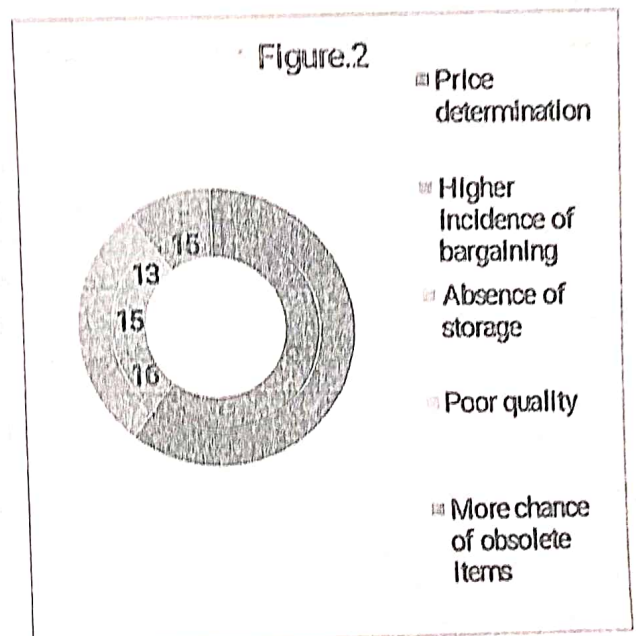
3. CONSTRAINTS FACED BY THE CONSUMERS OF AYURVEDIC PRODUCTS

TABLE 7 BOTTLENECKS OF THE AYURVEDIC PRODUCT

Sl.No	Particular	Respondent	Percent
1.	Price determination	91	60.7
2.	Higher incidence of bargaining	16	10.7
3.	Absence of storage	15	10.0
4.	Poor quality	13	8.7
5.	More chance of obsolete items	15	10.0
Total		150	100.0
Mean		1.97	--
Std. Deviation		1.402	--

Source: Computed from primary data

Table 7 reveals that among the total respondents, a significant [60.7%] of the respondents are facing difficulties of price determination, followed [11%] by bargaining and 10 percent of the respondents are facing inconvenience in the absence of storage facilities. It is understood that a small [10%] of the respondents are facing obsolete items while they are buying the ayurvedic products and only a few [8.7%] of the respondents are facing the difficulties of poor quality. Therefore, the study may be concluded that ayurvedic product has the certain types of problem such as higher price and poor quality when it sells to the consumers.

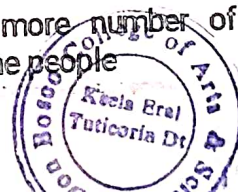


FINDINGS

- The study found that a large spectrum [83%] of the changes has made in the sale of liquid soap among the consumer during the study period, followed [28%] by lip balm and body massage oil [14%].
- A few changes have made in respect of the production particularly shampoo [11%], hair oil [9%], skin cream [8%], shaving cream [6%] and toilet soap [5%].
- Hence, the study may be inferred that consumers buying behaviour of ayurvedic products has changed based on the usage of the item in their routine activity.
- The study reveals that among the total respondents [150 respondents], most of the respondents looked at the advertisement of the products is 72, followed by [42 respondents] features of the product, 32 respondents have checked the price of the products. It is understood that only a few [4 respondents] checked the product package to buy the ayurvedic products. It is implied that customers are very much impressed about the advertisement of the ayurvedic products.
- More than a half [56%] of the respondents are preferred up to 5 varieties of ayurvedic products, followed [26%] by 6-10 varieties.
- Only a few [8%] of the respondents are preferred more than 10 varieties of the ayurvedic products. The statistical analysis result has shown that mean value is (1.68) and the Std. Deviation is (0.936) so it is implied that there is a tremendous change in selection of variety of production in ayurvedic products among the consumers.
- Among the total respondents, more than half (55%) of the respondents are used the ayurvedic product below 1 year, followed [23%] by between 2- 3 years and also 22 percent of the respondents are having a long period [above 3 years] of ayurvedic product for their routine usages. Therefore, the study may be implied that consumers are preferred to use the ayurvedic product for their routine use due to its medicinal values and affordable cost.
- The study found that a significant proportion [45%] of the respondents are buying the ayurvedic product once in a month, followed [35%] by twice in a month and 20 percent of the respondents are shopping the ayurvedic product thrice and above in a month. Hence, it is understood that most of the consumers are buying the ayurvedic product in a regular interval.
- The study revealed that taste [3.04 Mean value] of the ayurvedic product considered to be the key motivational factor to buy the product, followed [2.85 mean value] by less preservative items, fresh products [2.81 mean value], rich proteins and healthy products [2.62 mean value], homemade [2.61 mean value] and branded products [2.11 mean value] of ayurvedic. Therefore, it is understood that most of the consumers are willing to buy the ayurvedic products for its tastes and freshness so as ayurvedic products attract the consumers for its nature and medicinal values.
- The study indicated that a significant [60.7%] of the respondents are facing difficulties of price determination, followed [11%] by bargaining and 10 percent of the respondents are facing inconvenience in the absence of storage facilities. It is understood that a small [10%] of the respondents are facing obsolete items while they are buying the ayurvedic products and only a few [8.7%] of the respondents are facing the difficulties of poor quality. Therefore, the study may be concluded that ayurvedic product has the certain types of problem such as higher price and poor quality when it sells to the consumers.

SUGGESTIONS

- ✓ The Government should take appropriate steps such as advertisements to promote the ayurvedic product among the people particularly at Urban area
- ✓ The Government and Ayurvedic product making company take necessary action to sale the ayurvedic product at reasonable price
- ✓ The Government should necessary action to establish more number of Ayurvedic hospitals to promote the ayurvedic practices as familiar to the people



- ✓ The Government should recognize the ayurvedic doctors as medical practitioners to boost their service more systematic ways and means
- ✓ The Government should take establish the high tech storage for ayurvedic product to keep the products for a long time

CONCLUSION

In the contemporary life style, It is evident that Ayurvedic treatment and its practices are more elegant method to cure the diseases. Moreover, ayurvedic treatment is one of the immortal practices and traditional method to solve the prolonged diseases and non-recoverable cases of alternative showed by alternative medicines. It is understood that Ayurvedic products are improvised the health by revitalising the immune system of the human beings in natural ways so as the study concludes that people are gradually using the ayurvedic products to enable their healthy life pattern by consuming the ayurvedic products.

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Ayurvedic medicines and treatment are most trustable way to cure the unidentified and incurable diseases without having any side effects moreover it is a cost effective methods so people are willing to adopt to cure their diseases and seeking the ayurvedic products in the market. At the same time, it is understood that ayurvedic products usage is shrinking up due to having long time to cure a disease but alternative medical practices are curing the diseases and controlling within a prescribed time so the young generations are seeking the fast relief treatment. Therefore, Indian Government has taken up various steps to promote the ayurvedic products among the people in order to increase the using practices of ayurvedic product among through various initiatives like ayurvedic capsules, creams, toothpastes, soap and shampoos and institutions such as Khadi and Village Industries, Non-Governmental Organizations, Voluntary Associations and Self Help Groups and also Private Companies In this context, the present study is an attempt to understand the consumer buying behaviour of ayurvedic product.

SIGNIFICANCE OF CONSUMER AYURVEDIC PRODUCT BUYING BEHAVIOUR

Consumer satisfaction arises when the ayurvedic products manufacturers provide them with benefits that satisfy their needs and wants. The ayurvedic products needs of consumer begins from the infant to aged people. The ayurvedic products are selected by the consumer according to their needs and climatic conditions. In addition to that consumer preference is falling under the cutting edge of family budget and their position so as ayurvedic product buying decision making on the value of ayurvedic product needs and also selling points used by sales people and mode of payment. Ayurvedic product provides comfort with its ingredients and also its medicinal elements. In this context, it is understood that methods that are combined to promote the ayurvedic products which attracts the consumers to make purchase decisions for the type of products. The consumer needs to consider the economic, climate condition and personal character before buying the ayurvedic products.

REVIEW OF LITERATURE

Tarun (2020) research study corroborated that ayurvedic approach and diet modification has given good results in reducing symptoms of the Wilson's disease [WD]. The WD is an inherited disease of fallacious copper metabolism caused due to mutation in *ATP7B*. The patient's appetite has been improved subsequently who was able to speak a few monosyllabic words, difficulty in swallowing and irritability relieved completely.

The urine copper level became normal and further improvement was seen in generalized stiffness as both the lower limbs were able to extend completely. It is evident that effective management for Wilson's disease but the Ayurvedic approach of proper assessment of Dosha, Dushya and diet modifications helped in providing supportive care and improving the quality of life in such kind of patients.

Sivaranjani (2019) study revealed that a large spectrum [92.0 percent] of the consumers is well aware of ayurvedic products through advertisement [42.7 percent], friends and relatives [32.0 percent] and [10.7 percent] personal selling and exhibitions [6.7 percent]. Further, study found that 84.7 percent of the consumers suggested ayurvedic products to others. It is understood that impact of buying the ayurvedic product among the total respondents, it observed that 54.7 percent are felt that ayurvedic products has no side effect and also 20.7 percent are felt that which are so relevant to cure the diseases. Among the total respondents, 8 percent of the respondents are felt that they bought ayurvedic product at affordable cost and its brand image made them to use the ayurvedic products. Moreover, 56 percent of the consumers are satisfied, 20 percent are highly satisfied with using of ayurvedic products.

Vasanthi, (2016) buying behaviour is a process involving a series of related and sequential stages or activities. Consumer begins a search for information followed by evolution of alternatives and purchase decision. Consumer behaviour and sales promotional methods are positively related for the sales of the product. The sales promotional methods attract the consumer to particular retail stores and motivate them to purchase certain or new established products whereas ayurvedic product trade is a larger use of advertising and made with its trust.

Chaudhary (2014) study found that ayurvedic pharmaceutical companies are developing thousands of new products day by day and those are promoting through advertisement and other communication channels which have become quite popular for promoting Ayurvedic products. Therefore, the communication programs help the people and make them aware about alternative medicine.

Sawant (2013) study observed that use of traditional medicine is increasing safety and efficacy used to improve the nation health if demand and supply is ensured. The demand for Ayurvedic formulations was increasing both in the domestic and international market.

Vaijyanthi (2012) study revealed that ayurvedic medicines are heavy only in certain states such as Kerala, Gujarat, Rajasthan, UP etc. Many Ayurvedic companies are not only manufacturing pharmaceutical products but are also in manufacturing of nutraceuticals products and FMCG like soaps, shampoos, toothpaste, toothpowder using traditional herbal ingredients in the composition of these products.

Purba Rao (2007) study revealed that predictive modeling approaches adopted by marketers to identify segments in target market which would have the largest responses rate pertaining to a certain product and service being offered.

Further, study found that marketing offers the products or services which are able to reach their primary target of market in more effectively for developing the marketing strategy in a personalized and customized ways and means. Consequently, it leads the organization to adopt more integrated strategies and process for enabling the target market.

NEED OF THE STUDY

In the present modernised business world, consumer is the key decision maker to enable the ayurvedic product market whereas it is appropriate to study the consumer behaviour towards selection, security, utilization of the ayurvedic products and its services for satisfying the users of the products. In this context the present is an attempt to study the ayurvedic product consumer's behaviour on preference of the ayurvedic products and their opportunities and challenges faced by the ayurvedic industry.

OBJECTIVES OF THE STUDY

1. To study the Ayurvedic Product Sales trends in the study area
2. To find out the influencing factors to buy the Ayurvedic product by the consumer
3. To find out the bottlenecks in buying of ayurvedic product
4. To offer suitable suggestion to retain the consumers of Ayurveda Product

RESEARCH METHODOLOGY

The study is confined to Dindigul District of Tamil Nadu and nature of the study is descriptive on the basis of survey method covering both primary and secondary data in Ayurvedic Product. The study has depended on primary source of data obtained by survey method using Interview schedule administrated with well-constructed Questions with Likert five point scales. The present study adopted convenience sampling of non-probability method in Dindigul District of Tamil Nadu. For the study, 150 samples have been selected on the basis of simple random techniques.

RESULT AND DISCUSSION

1. SALES SCENARIO OF AYURVEDIC PRODUCT

The study discussed the sales trend of the ayurvedic personal care products of the consumers which are ostensibly indicated that personal care products such as toilet soap, liquid soap, tooth paste, shaving creams, skin cream, lip balm, shampoo, hair oil and body massage oils purchased by the customers in tune with Rs. 23,748 crores. The available data in the table 1 shows that personal care products of Maharishi Ayurveda in the study area. It is understood that a large spectrum [83%] of the changes has made in the sale of liquid soap among the consumer during the study period, followed [28%] by lip balm and body massage

oil [14%]. A few changes have made in respect of the production particularly shampoo [11%], hair oil [9%], skin cream [8%], shaving cream [6%] and toilet soap [5%]. Hence, the study may be inferred that consumers buying behaviour of ayurvedic products has changed based on the usage of the item in their routine activity.

TABLE 1 PERSONAL CARE OF AYURVEDA PRODUCTS

Sl.No.	Product Category	Sales In Crore In the 2017-2018	Sales In Crore In the 2018-2019	% CHANGE
1.	Toilet soap	4635	4849	05.0
2.	Liquid soap	18	33	83.0
3.	Tooth paste	1896	1950	03.0
4.	Shaving cream	135	142	06.0
5.	Skin cream	1562	1688	08.0
6.	Lip balm	07	09	28.0
7.	Shampoo	1141	1265	11.0
8.	Hair oil	1985	2165	09.0
9.	Body massage oil	125	143	14.0
Total		11504	12244	06.4

Source: Computed from secondary data* <http://www.theherbarie.com>

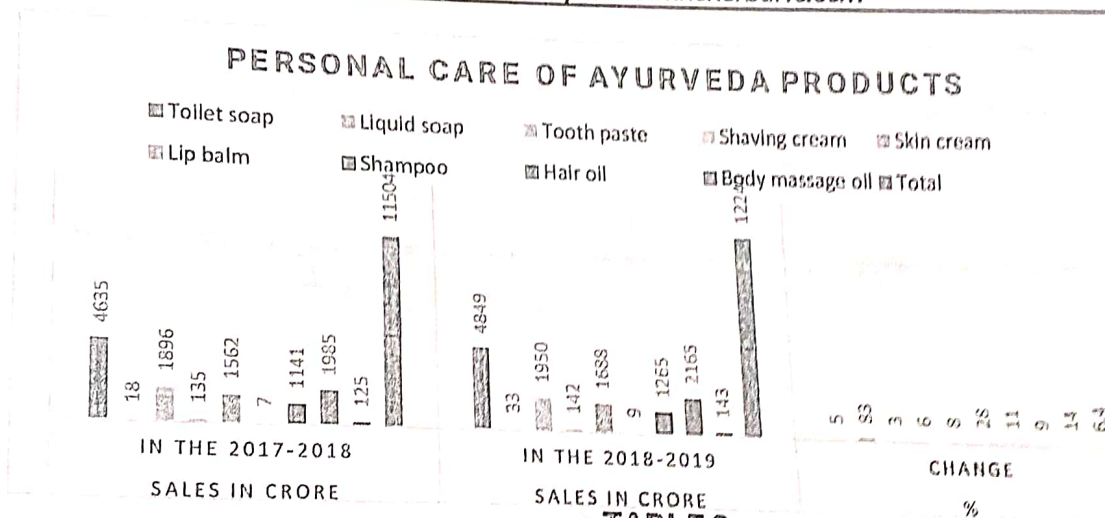
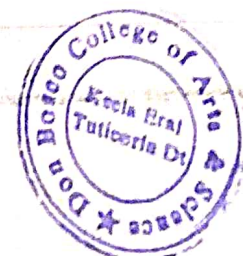
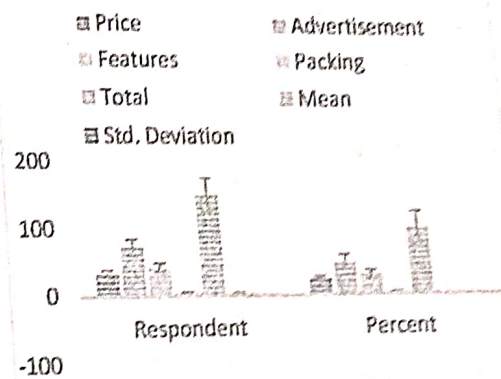


TABLE 2 INFLUENCING FACTORS TO BUY THE AYURVEDIC PRODUCTS

Sl.No	Particulars	Respondent	Percent
1.	Price	32	21.3
2.	Advertisement	72	48.0
3.	Features	42	28.0
4.	Packing	4	2.7
Total		150	100.0
Mean		2.12	--
Std. Deviation		.768	--

Source: Computed from primary data

IMPRESS FACTORS OF AYURVEDIC PRODUCT



The above table 2 exhibits, about what would respondents look first when they buy the product. Out of 150 respondents most of the respondents look at the advertisement of the products is 72, the number of respondents are who look at the price 32. And 42 respondents look at the features of the product. Only 4 of the respondents look at the packing which also an important factor. The mean value is 2.12 and the standard deviation 0.768. The advertisement plays an important role in marketing the product. It is clear from the table that customers are very much impressed about the advertisement of the products.

TABLE 3 VARIETIES OF AYURVEDIC PRODUCTS

Sl.No	Particular	Respondent	Percent
1.	Up to 5 Varieties	85	56.7
2.	Between 6-10 Varieties	40	26.7
3.	Above 10 Varieties	13	8.7
Total		150	100.0
Mean		1.68	--
Std. Deviation		0.936	--

Source: Computed from primary data.

The table 3 indicates that more than a half [56%] of the respondents are preferred up to 5 varieties of ayurvedic products, followed [26%] by 6-10 varieties. Only a few [8%] of the respondents are preferred more than 10 varieties of the ayurvedic products. The statistical analysis result has shown that mean value is (1.68) and the Std. Deviation is (0.936) so it is implied that there is a tremendous change in selection of variety of production in ayurvedic products among the consumers.

TABLE 4 - TIME SPAN

Sl.No	Particular	Respondent	Percent
1.	Less than 1 Year	83	55.4
2.	2-3 Years	34	22.7
3.	Above 3 Years	33	22.00
Total		150	100.0
Mean		2.25	--
Std. Deviation		4.672	--

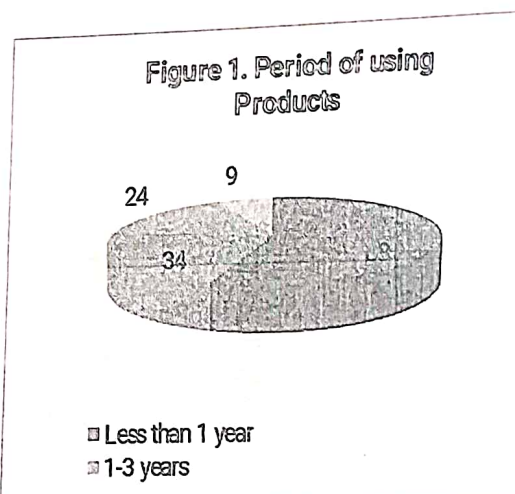
Source: Computed from primary data

Table 4 reveals that among the total respondents, more than half (55%) of the respondents are used the ayurvedic product below 1 year, followed [23%] by between 2- 3 years and also 22 percent of the respondents are having a long period [above 3 years] of ayurvedic product for their routine usages. Therefore, the study may be implied that consumers are preferred to use the ayurvedic product for their routine use due to its medicinal values and affordable cost.

TABLE 5 BUYING HABITS IN A MONTH

Sl.No.	Particular	Respondent	Percent
1.	Once	67	44.7
2.	Twice time	53	35.3
3.	Thrice time and above	30	20.0
Total		150	100.0
Mean		1.79	--
Std. Deviation		0.734	--

Source: Computed from primary data



The available data in the table 5 exhibits that a significant proportion [45%] of the respondents are buying the ayurvedic product once in a month, followed [35%] by twice in a month and 20 percent of the respondents are shopping the ayurvedic product thrice and above in a month. Hence, it is understood that most of the consumers are buying the ayurvedic product in a regular interval.

TABLE 6 MOTIVATING FACTORS

Sl.No.	Particular	Mean Value	Rank
1.	It is reasonable than available branded products	2.11	6
2.	I feel it is home made	2.61	5
3.	I feel it is healthy	2.62	4
4.	I feel it contains less preservative	2.85	2
5.	I feel it is fresh	2.81	3
6.	It tastes good	3.04	1

Source: Computed from primary data

The available data [Table 6] reveals that taste [3.04 Mean value] of the ayurvedic product considered to be the key motivational factor to buy the product, followed [2.85 mean value] by less preservative items, fresh products [2.81 mean value], rich proteins and healthy products [2.62 mean value], homemade [2.61 mean value] and branded products [2.11 mean value] of ayurvedic. Therefore, it is understood that most of the consumers are willing to buy the ayurvedic products for its tastes and freshness so as ayurvedic products attract the consumers for its nature and medicinal values.

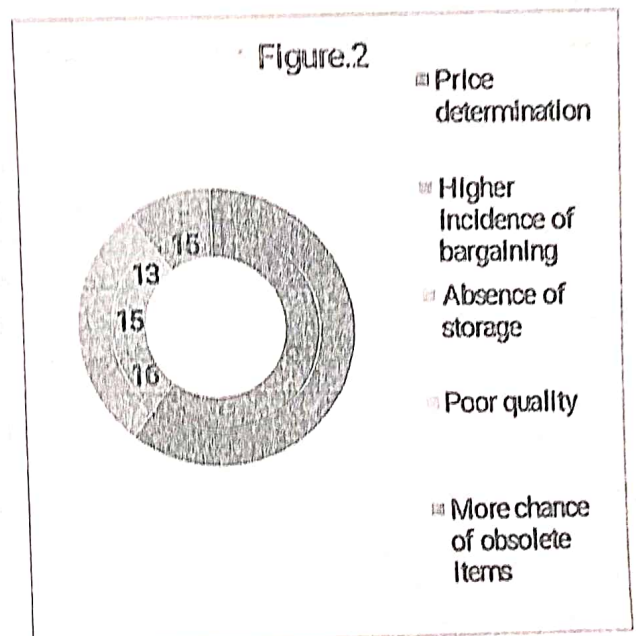
3. CONSTRAINTS FACED BY THE CONSUMERS OF AYURVEDIC PRODUCTS

TABLE 7 BOTTLENECKS OF THE AYURVEDIC PRODUCT

Sl.No	Particular	Respondent	Percent
1.	Price determination	91	60.7
2.	Higher incidence of bargaining	16	10.7
3.	Absence of storage	15	10.0
4.	Poor quality	13	8.7
5.	More chance of obsolete items	15	10.0
Total		150	100.0
Mean		1.97	--
Std. Deviation		1.402	--

Source: Computed from primary data

Table 7 reveals that among the total respondents, a significant [60.7%] of the respondents are facing difficulties of price determination, followed [11%] by bargaining and 10 percent of the respondents are facing inconvenience in the absence of storage facilities. It is understood that a small [10%] of the respondents are facing obsolete items while they are buying the ayurvedic products and only a few [8.7%] of the respondents are facing the difficulties of poor quality. Therefore, the study may be concluded that ayurvedic product has the certain types of problem such as higher price and poor quality when it sells to the consumers.

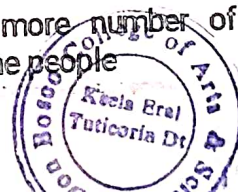


FINDINGS

- The study found that a large spectrum [83%] of the changes has made in the sale of liquid soap among the consumer during the study period, followed [28%] by lip balm and body massage oil [14%].
- A few changes have made in respect of the production particularly shampoo [11%], hair oil [9%], skin cream [8%], shaving cream [6%] and toilet soap [5%].
- Hence, the study may be inferred that consumers buying behaviour of ayurvedic products has changed based on the usage of the item in their routine activity.
- The study reveals that among the total respondents [150 respondents], most of the respondents looked at the advertisement of the products is 72, followed by [42 respondents] features of the product, 32 respondents have checked the price of the products. It is understood that only a few [4 respondents] checked the product package to buy the ayurvedic products. It is implied that customers are very much impressed about the advertisement of the ayurvedic products.
- More than a half [56%] of the respondents are preferred up to 5 varieties of ayurvedic products, followed [26%] by 6-10 varieties.
- Only a few [8%] of the respondents are preferred more than 10 varieties of the ayurvedic products. The statistical analysis result has shown that mean value is (1.68) and the Std. Deviation is (0.936) so it is implied that there is a tremendous change in selection of variety of production in ayurvedic products among the consumers.
- Among the total respondents, more than half (55%) of the respondents are used the ayurvedic product below 1 year, followed [23%] by between 2- 3 years and also 22 percent of the respondents are having a long period [above 3 years] of ayurvedic product for their routine usages. Therefore, the study may be implied that consumers are preferred to use the ayurvedic product for their routine use due to its medicinal values and affordable cost.
- The study found that a significant proportion [45%] of the respondents are buying the ayurvedic product once in a month, followed [35%] by twice in a month and 20 percent of the respondents are shopping the ayurvedic product thrice and above in a month. Hence, it is understood that most of the consumers are buying the ayurvedic product in a regular interval.
- The study revealed that taste [3.04 Mean value] of the ayurvedic product considered to be the key motivational factor to buy the product, followed [2.85 mean value] by less preservative items, fresh products [2.81 mean value], rich proteins and healthy products [2.62 mean value], homemade [2.61 mean value] and branded products [2.11 mean value] of ayurvedic. Therefore, it is understood that most of the consumers are willing to buy the ayurvedic products for its tastes and freshness so as ayurvedic products attract the consumers for its nature and medicinal values.
- The study indicated that a significant [60.7%] of the respondents are facing difficulties of price determination, followed [11%] by bargaining and 10 percent of the respondents are facing inconvenience in the absence of storage facilities. It is understood that a small [10%] of the respondents are facing obsolete items while they are buying the ayurvedic products and only a few [8.7%] of the respondents are facing the difficulties of poor quality. Therefore, the study may be concluded that ayurvedic product has the certain types of problem such as higher price and poor quality when it sells to the consumers.

SUGGESTIONS

- ✓ The Government should take appropriate steps such as advertisements to promote the ayurvedic product among the people particularly at Urban area
- ✓ The Government and Ayurvedic product making company take necessary action to sale the ayurvedic product at reasonable price
- ✓ The Government should necessary action to establish more number of Ayurvedic hospitals to promote the ayurvedic practices as familiar to the people



- ✓ The Government should recognize the ayurvedic doctors as medical practitioners to boost their service more systematic ways and means
- ✓ The Government should take establish the high tech storage for ayurvedic product to keep the products for a long time

CONCLUSION

In the contemporary life style, It is evident that Ayurvedic treatment and its practices are more elegant method to cure the diseases. Moreover, ayurvedic treatment is one of the immortal practices and traditional method to solve the prolonged diseases and non-recoverable cases of alternative showed by alternative medicines. It is understood that Ayurvedic products are improvised the health by revitalising the immune system of the human beings in natural ways so as the study concludes that people are gradually using the ayurvedic products to enable their healthy life pattern by consuming the ayurvedic products.

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THE STUDY ON CHALLENGES OF HR SECTORS IN INDIA

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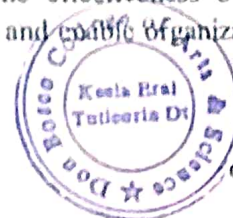
Abstract

The advent of the epoch of liberalization and globalization along with the advancements in information technology (IT) has transformed the world around us. It has brought to center point the significance of human resources, more than ever before. The rationale of human resource management (HRM) is to enable appropriate deployment of human resource so that the quality culture can maintain and satisfy the customers not only in national level but also on a global level. Efficient Human Resource Management is one of the most essential requirement for survival in this competitive world. No organization can achieve its objectives without proper management of human resource. The competitive & deregulatory force have brought a perceptible shift in the customer's expectations.

INTRODUCTION

With the advent of globalization, organizations - big or small have ceased to be local, they have become global. This has increased the workforce diversity and cultural sensitivities have emerged like never before. All this led to the development of Global Human Resource Management. Human resource management is the process of proper and maximum utilization of available limited skilled workforce. The core purpose of the human resource management is to make efficient use of existing human resource in the organization. The best example at present situation is, the construction industry has been facing serious shortage of skilled workforce. It is expected to triple in the next decade from the present 30 percent, will negatively impact the overall productivity of the sector, warn industry experts.

People are the most important and valuable resource for every organization, in the form of employees (Rao 1990). It is further explained that dynamic people can build dynamic organizations. Effective employees can contribute to the effectiveness of the organization competent and motivated people can make things happen and enable organization to achieve its goals.



Global HRM- meaning and Definition

Global human resource management is all about the world wide management of human resources - Process of sourcing, allocating, and effectively utilizing their skill, knowledge, ideas, plan and perspective in responding to TQM.

Objectives of Global HRM

Create a local appeal without compromising the global identity.

Generating awareness of cross cultural sensitivities among managers globally and hiring of staff across geographic boundaries.

Training upon cultures and sensitivities of the host country.

Major challenges in global HRM

Employee and family adjustments:

More involvement for parent-country & third-country nationals, Housing arrangements, Health care, Remuneration packages, assist children left behind in boarding schools and local regulation and tax policies.

HR Managers crucial role is to help employees deployed in a foreign country learn the local language and also assist them to learn the gestures and body language.

Handling Multicultural / Diverse Workforce:

Dealing with people from different age, gender, race, ethnicity, educational background, location, income, parental status, religious beliefs, marital status, geographical locations, ancestry and work experience can be a challenging task for HR managers. With this, managing people with different set of ideologies, views, lifestyles and psychology can be very risky. Effective communication, adaptability, agility and positive attitude of HR managers can bind the diverse workforce and retain talents in the organization.

Managing Change:

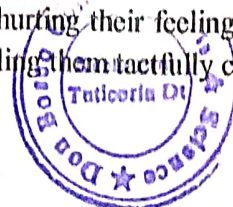
Bringing change in organizational processes and procedures, implementing it, and then managing it is one of the biggest concerns of HR managers, as the ideology and mindsets of employees are affected by change. Business environment is so volatile. Technology keeps changing now and then. All thanks to globalization. Upgrading the existing technology and training people for them is a real headache for HR department. The success rate of technology change depends on how well HR Department can handle the change and manage people's issues in the process.

Retaining the Talents:

Globalization has given freedom to working professionals to work anywhere in the world. Now that they have endless lucrative opportunities to work, hiring and retaining the best industry talent is no joke.

Conflict Management:

HR managers may be domestic or global HRM should know how to handle employee-employer and employer-employee conflicts without hurting their feelings. Although it is almost impossible to avoid conflicts among people still handling them tactfully can help HR managers



to resolve the issues. They should be able to listen to each party, decide and communicate to them in a convincing manner to avoid future conflicts.

Managing Attrition:

Attrition has become a major global challenge for companies like the IT major, Infosys that has seen unprecedented attrition among its employees in recent months. The point here is that attrition in well-known companies affects their brand value and their brand image and considering the fact that companies like Microsoft and Unilever as well as P&G are respected globally for their HR practices, attrition in these companies dents the carefully crafted image of being people friendly.

Mechanisms to cope up with challenges of global HRM

Managing the shift from international human resource management (IHRM) to global HRM: Traditionally, IHRM has concerned with managing an international workforce – the expatriates, frequent commuters, cross-cultural team members and specialists involved in international knowledge transfer. Global HRM is not simply about covering these staff around the world. It concerns managing IHRM activities through the application of global rule- sets.

Enabling capability development on a global basis:

Employees should be recruited and developed based on global competencies. Capability development should be a vital objective of global HRM.

Ensuring effective knowledge management:

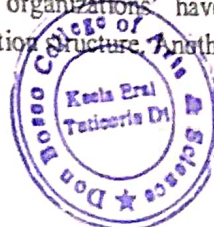
Creating, managing, sharing and utilizing knowledge is a key driver and critical tool for organizational survival, profitability and competitiveness. To manage knowledge effectively organizations should focus on three components- PPT- People, Process and technology and widespread these components globally according to the implied needs of the people and organization.

Providing HR services cost-effectively:

Global companies should have tie ups with the domestic HR Service providers to enter into the foreign markets especially to understand the cultural complexities and also to gain cost advantage.

Changing Scenario 1980's :

Majority of the multinational organizations' had decided that splitting up the HR function on a country-by-country basis when the rest of the organization was increasingly aligned behind global lines of business was not helping the function to achieve its objectives. However, concerns about diversity in employment law and the continuance of strong national influences on the employment relationship meant that total alignment of the HR function with other business processes remained problematic. However, the result was often confusing as HR functions attempted to interweave their day-to-day administration work with the more strategic activities open to them. 1990's: The advent of shared service thinking provided the opportunity to transform HR structures. There does not appear to be a common path to the internationalization of shared service models. Many organizations' have chosen to create regional centers as part of a single international organization structure. Another arrangement has



been to use service centers to support global business streams rather than organize them at a regional level on a geographical basis. 2000's: e-Enabled HRM (sometimes also called web-enabled) is another significant and developing trend in international organizations' that also has extensive resourcing implications for IHR functions.

Latest Scenario:

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Offshoring:

Offshoring is the process of sourcing business services from overseas. Offshoring is not outsourcing per se, but rather concerns the completion of the same task in a different location where the costs are significantly cheaper.

Importance of HRM

The importance of human resource management can be discussed by Yoder, Heneman and others, from three standpoints, viz., social, professional, and individual enterprise.

Social Significance

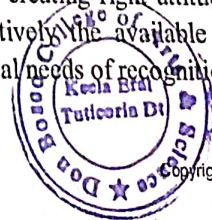
Proper management of personnel enhances their dignity by satisfying their social needs. This is done by maintaining a balance between the jobs available and the jobseekers, according to the qualifications and needs; Providing suitable and most productive employee, which might bring them psychological satisfaction; making maximum utilization of the resources in an effective manner and paying the employee a reasonable compensation in proportion to the contribution made by him eliminating waste or improper use of human resource, through conservation of their normal energy and health; and by helping people make their own decisions, that are in their interests.

Professional Significance

By providing healthy working environment it promotes team work in the employees. This is done by: (i) maintaining the dignity of the employee as a 'human-being'; (ii) providing maximum opportunity for personal development; (iii) providing healthy relationship between different work groups so that work is effectively performed; (iv) improving the employees' working skill and capacity; (v) correcting the errors of wrong postings and proper reallocation of work.

Significance for Individual Enterprise:

It can help the organization in accomplishing its goals by: (i) creating right attitude among the employees through effective motivation; (ii) utilizing effectively the available goals of the enterprise and fulfilling their own social and other psychological needs of recognition, love,



affection, belongingness, esteem and self-actualization. Dynamic and growth - oriented organization do require effective management of people in a fast - changing environment. Organizations flourish only through the efforts and competencies of their human resources.

Major challenges in India

1) Talent Management:

It has been classified into two categories;

Talent Acquisition- In India, public sectors banks are highly regulated that they itself can't acquire talent on their own basis. They are not provided much flexibility to attract talent on market price. That causes the problem of peg on round hole. And create skill mismatch and has decreased the strength of employees in recent times.

Talent development- After Acquisition of talent it is very important to develop the skills in required way. Because changes are always evident from environment and for keeping pace with that changes talent need to be brushed up. Studies found that training and development are not well equipped in PSB's, even not very effective.

2) Staffing and promotion:

Even in public sectors banks vacancies are fulfilled according to the availability of seats not by the skills mismatch, this tendency is another problem for development of talent. Promotion should be linked to the performance and experience both. But these concepts are virtually diluted in the PSB's and affect the best utilization of skills, knowledge, abilities of workforce.

3) Performance Appraisal:

Performance appraisal is the tool that is utilised by HR manager for identifying the problem area and troubleshoot them for managing the performance up to the level. In Indian public sector banks Performance appraisal is not used properly and not linked with the promotion and incentives. It became only a paper activity, there is no such concept as 360 degree appraisal, which is widely used by private sector banks.

Compensation and Incentives:

Compensation and incentives are not linked with the performance of employees in PSB's. Every part of the remuneration and salary is regulated by the government. And some time it causes the equality problem and leads to dissatisfaction of employee and this dissatisfaction lead to employee turnover. Even the salary and remuneration are less in compare to other sectors that is why it is least preferred job by the eminent talent.

5) High Employee turnover:

Although, various vacancies are opening daily by banks and new employees are joining different PSB's but the employee turnover is increasing continuously. New joiners are migrating in high amount from banks for joining new attractive sectors for better facilities and salaries.

Conclusion

In the globalized world of today firms are going global. International HRM links HRM of subsidiaries and creates organizational strategies in order to achieve sustainable competitive



advantage. Human Resource Management we must treat our employees with respect and dignity because in the most automated factory in the world, we need the power of human mind and for the high quality of minds to work for us we must protect the respect and dignity.

In Public Sector Banks Human Resource Management is treated as supportive part not main stream. In this cut throat competition HR is the only sustainable competitive advantage. So, best utilization, development and retention of talented workforce become mandatory for Public Sector Banks. Hence, HR reform is the need of the day for Indian banking sector.

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The screenshot shows a web browser window with the following content:

- Browser address bar: <http://www.ugc-care.org/>
- Page title: UGC-CARE List
- Section header: UGC-CARE List
- Search criteria: You searched for "391-314" Term Journals: 1
- Search buttons: Search (twice)
- Table with 5 columns: S.No, Author in Indian Place Names, The Place Names Society of India, ISBN-13, NA, Downloaded From April 2020
- Table content: 1, Sankar in Indian Place Names, The Place Names Society of India, 978-81-732-314-1, NA, Downloaded From April 2020
- Footer: Copyright © 2011 by the author. All rights reserved. | Disclaimers



THE STUDY ON CHALLENGES OF HR SECTORS IN INDIA

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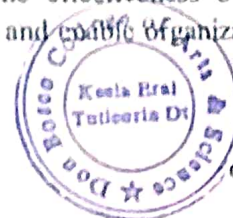
Abstract

The advent of the epoch of liberalization and globalization along with the advancements in information technology (IT) has transformed the world around us. It has brought to center point the significance of human resources, more than ever before. The rationale of human resource management (HRM) is to enable appropriate deployment of human resource so that the quality culture can maintain and satisfy the customers not only in national level but also on a global level. Efficient Human Resource Management is one of the most essential requirement for survival in this competitive world. No organization can achieve its objectives without proper management of human resource. The competitive & deregulatory force have brought a perceptible shift in the customer's expectations.

INTRODUCTION

With the advent of globalization, organizations - big or small have ceased to be local, they have become global. This has increased the workforce diversity and cultural sensitivities have emerged like never before. All this led to the development of Global Human Resource Management. Human resource management is the process of proper and maximum utilization of available limited skilled workforce. The core purpose of the human resource management is to make efficient use of existing human resource in the organization. The best example at present situation is, the construction industry has been facing serious shortage of skilled workforce. It is expected to triple in the next decade from the present 30 percent, will negatively impact the overall productivity of the sector, warn industry experts.

People are the most important and valuable resource for every organization, in the form of employees (Rao 1990). It is further explained that dynamic people can build dynamic organizations. Effective employees can contribute to the effectiveness of the organization competent and motivated people can make things happen and enable organization to achieve its goals.



Global HRM- meaning and Definition

Global human resource management is all about the world wide management of human resources - Process of sourcing, allocating, and effectively utilizing their skill, knowledge, ideas, plan and perspective in responding to TQM.

Objectives of Global HRM

Create a local appeal without compromising the global identity.

Generating awareness of cross cultural sensitivities among managers globally and hiring of staff across geographic boundaries.

Training upon cultures and sensitivities of the host country.

Major challenges in global HRM

Employee and family adjustments:

More involvement for parent-country & third-country nationals, Housing arrangements, Health care, Remuneration packages, assist children left behind in boarding schools and local regulation and tax policies.

HR Managers crucial role is to help employees deployed in a foreign country learn the local language and also assist them to learn the gestures and body language.

Handling Multicultural / Diverse Workforce:

Dealing with people from different age, gender, race, ethnicity, educational background, location, income, parental status, religious beliefs, marital status, geographical locations, ancestry and work experience can be a challenging task for HR managers. With this, managing people with different set of ideologies, views, lifestyles and psychology can be very risky. Effective communication, adaptability, agility and positive attitude of HR managers can bind the diverse workforce and retain talents in the organization.

Managing Change:

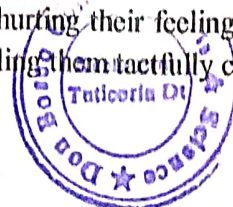
Bringing change in organizational processes and procedures, implementing it, and then managing it is one of the biggest concerns of HR managers, as the ideology and mindsets of employees are affected by change. Business environment is so volatile. Technology keeps changing now and then. All thanks to globalization. Upgrading the existing technology and training people for them is a real headache for HR department. The success rate of technology change depends on how well HR Department can handle the change and manage people's issues in the process.

Retaining the Talents:

Globalization has given freedom to working professionals to work anywhere in the world. Now that they have endless lucrative opportunities to work, hiring and retaining the best industry talent is no joke.

Conflict Management:

HR managers may be domestic or global HRM should know how to handle employee-employer and employer-employee conflicts without hurting their feelings. Although it is almost impossible to avoid conflicts among people still handling them tactfully can help HR managers



to resolve the issues. They should be able to listen to each party, decide and communicate to them in a convincing manner to avoid future conflicts.

Managing Attrition:

Attrition has become a major global challenge for companies like the IT major, Infosys that has seen unprecedented attrition among its employees in recent months. The point here is that attrition in well-known companies affects their brand value and their brand image and considering the fact that companies like Microsoft and Unilever as well as P&G are respected globally for their HR practices, attrition in these companies dents the carefully crafted image of being people friendly.

Mechanisms to cope up with challenges of global HRM

Managing the shift from international human resource management (IHRM) to global HRM: Traditionally, IHRM has concerned with managing an international workforce – the expatriates, frequent commuters, cross-cultural team members and specialists involved in international knowledge transfer. Global HRM is not simply about covering these staff around the world. It concerns managing IHRM activities through the application of global rule- sets.

Enabling capability development on a global basis:

Employees should be recruited and developed based on global competencies. Capability development should be a vital objective of global HRM.

Ensuring effective knowledge management:

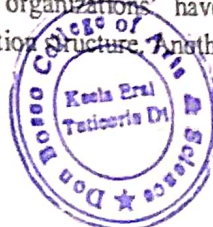
Creating, managing, sharing and utilizing knowledge is a key driver and critical tool for organizational survival, profitability and competitiveness. To manage knowledge effectively organizations should focus on three components- PPT- People, Process and technology and widespread these components globally according to the implied needs of the people and organization.

Providing HR services cost-effectively:

Global companies should have tie ups with the domestic HR Service providers to enter into the foreign markets especially to understand the cultural complexities and also to gain cost advantage.

Changing Scenario 1980's :

Majority of the multinational organizations' had decided that splitting up the HR function on a country-by-country basis when the rest of the organization was increasingly aligned behind global lines of business was not helping the function to achieve its objectives. However, concerns about diversity in employment law and the continuance of strong national influences on the employment relationship meant that total alignment of the HR function with other business processes remained problematic. However, the result was often confusing as HR functions attempted to interweave their day-to-day administration work with the more strategic activities open to them. 1990's: The advent of shared service thinking provided the opportunity to transform HR structures. There does not appear to be a common path to the internationalization of shared service models. Many organizations' have chosen to create regional centers as part of a single international organization structure. Another arrangement has



been to use service canters to support global business streams rather than organize them at a regional level on a geographical basis. 2000's: e-Enabled HRM (sometimes also called web-enabled) is another significant and developing trend in international organizations' that also has extensive resourcing implications for IHR functions.

Latest Scenario:

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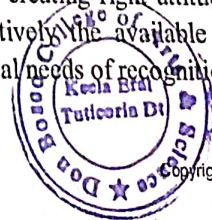
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நூல் விவரம்

நூல்தலைப்பு	தமிழ் இலக்கியப் பதிவுகளில் உறவுகள் (பன்னாட்டு ஆய்வுக்கருத்தரங்கம்) 20 ஆகஸ்ட் 2016
முதல்பதிப்பு	ஆகஸ்ட் 2016
பதிப்புரிமை மற்றும்	
வெளியீடு	வி.இ.நா.செந்திக்குமார் நாடார் கல்லூரி (தன்னாட்சி), விருதுநகர்
மின்னஞ்சல்	Support @Vhnsnc.edu.in
வலைதளம்	www.vhnsn.edu.in
ISBN No	978-93-81-723-53-1
புத்தக அளவு	5.83 x 8.27
பக்கங்கள்	656+14 பக்கங்கள்
விலை	ரூ.600/-
அச்சிட்டோர்	கேள் பாரிண்ட் வசந்த நகர் முதன்மைச் சாலை மதுரை-3

இந்நூலில் இடம்பெற்றுள்ள கட்டுரைக் கருத்துகளுக்கு
அந்தந்தக் கட்டுரையாளர்களே முழுப் பொறுப்பாவார்கள்

44. வள்ளுவம் உணர்த்தும் மனிதனுக்கும் பொருளுக்கும் உள்ள உறவு

திருமதி. சு. தெய்வரத்தினா, எம். ஏ. எம். தமிழ்நாடு அரசுப் பேரவைத் தலைவர், தொன் போஸ்கோகலைமற்றும் அறிவியல் கல்வித் துறை அமைச்சர்.

முன்னுரை

திருவள்ளுவருடைய பொருளியல் கருத்துக்கள் விரிவாகியும் தாழ்வற்ற சமுதாயத்தைப் படைக்கவல்லவை: 'எல்லோர்க்கும் எல்லாக்கிடக்க வேண்டும்' என்ற குறிக்கோளை நடைமுறையாக்கித் தருந்தவையாகும். மனிதனுடைய தேவைகளைப் பூர்த்தி செய்வதற்கு 'பொருள் அவசியமான ஒன்றாகத் திகழ்கின்றது' என்பதனை நாவலர்

"அருளில்லார்க்கு அவ்வுலகம் இல்லை பொருளில்லார்க்கு இவ்வுலகம் இல்லாகி யாங்கு" (குறள் 247)

எனும் குறள்வழி விளக்கியுள்ளார். மனிதனுடைய துன்பத்தினையும் கவலையையும் போக்குகின்ற சாதனமாக மனிதனுக்குப் பொருள் உறவாகவே தொடர்ந்து பயணிக்கின்ற பொருளியல் என்பது அறவியல் ஆகும். அறம் என்ற கருவியைக் கொண்டு புரட்சி செய்து பொருள் எனும் பலனைப் பெறுவதற்காக களமாகவே வள்ளுவப் பெருந்தகையின் பொருளியல் கருத்துக்கு உலகப்பொதுமறையாம் திருக்குறளில் பொதிந்துள்ளது. வள்ளுவத்தில் மனிதனுக்கும் பொருளுக்கும் உள்ள உறவினைப் பற்றி கீழே காண்போம்.

"பொருள்" வரையறை :

ஆடம்ஸ்மித் (Adam Smith) எனும் மேனாட்டு அறிஞர் "ஒருநாட்டின் உற்பத்திக்கு 'நிலம்' (land), 'உழைப்பு' (Labour), 'முதல்' (capital) எனும் முக்கிய காரணிகளால் விளங்குகின்றன" என்பார். 'நிலம்' என்னும் காரணி இயற்கையால்

உருவாகியும், இறைவனால் படைக்கப்பட்டதாகும்; 'முதல்' என்னும் காரணி மனித சக்தியால் படைக்கப்படுகின்றது;

'உழைப்பு' என்னும் காரணி மனிதனுடைய முயற்சியால் உருவாகப்படுகின்றது. 'முதல்' எனப்படும் காரணி பொருள் மனித உழைப்பின் இயக்கத்திற்கு அங்கமளவே விளங்குகின்றது எனலாம்.

மனித சிறந்த சமுதாயத்திற்குத் தேவையான சில அடிப்படைப் பொருள்கள் சார்ந்த நெறிமுறைகளைத் திருக்குறளில் வள்ளுவர் குறிப்பிட்டுள்ளார். மனிதனோடு பொருள் சார்ந்த உறவினைச் சமுதாய அடிப்படையிலே (politic economic sociology) அறிவுபூர்வமாகப் புரிந்துகொள்வதற்கு நுள்.

மனித தேவைகளை நிறைவேற்றக் கூடிய ஆற்றல் வளம் மிகுந்த 'எல்லாப் பரிமாற்ற மதிப்புக் கொண்ட வழி வகைகளைப் பொருள்' (material wealth) என்றே ஜே.என். கீன்ஸ் (j.n. keynes) குறிப்பிட்டுள்ளார்.

மனிதனுக்கும் பொருளுக்கும் உள்ள உறவு:

மனிதன் இயற்கை தந்த நீர்வாத்துடன் தானும் முயன்று உழைத்து, உழைப்பின் பயனைத் தான் நுகர்ந்து பலருக்கும் பகிர்ந்து கொடுப்ப பலரையும் நுகர்ச் செய்த மனித வாழ்க்கையைப் பற்றியும் துன்பமறியே 'பொருள்' ஆகும்.

ஆதிசூலம் தொடர்பே மனிதனுடைய வாழ்க்கை 'தேடல்' என்ற செயலுக்குள் சுற்றித் திரிந்துக் கொண்டு இருந்தது. இதனால் மனிதன் தேடல் உடை, உறையுள் முன்றும் தேடல் என்ற வட்டத்திலிருந்து தப்பி, தேவை என்பதை உணர்ந்து கொண்டான். எனவே தேவையான சொந்த முயற்சியினால் உணவினை உற்பத்தி செய்யத் தொடங்கினான். பிறகு பண்ட மாற்றமுறையால் தனக்குத் தேவையான பொருளையும் பெற்றுக் கொண்டான். பண்டமாற்று முறை தற்போது பயன்படாது என்பதை உணர்ந்து பணம் எனும் கருவினை உருவாக்கிக் கொண்டான். பணத்தின் நிலையில்லாத மதிப்பினையும்

மனிதன் உணர்ந்து கொண்டான். பொருள் எனும் பலவற்றையெல்லாம் துணையோடுதான் தேவையைப் பூர்த்திச் செய்து கொண்டான். பணம் நிலையில்லாத மதிப்பினையும் மனிதன் உணர்ந்து கொண்டான். பொருளினைப் பிறருக்கும் கொடுத்து உதவிகள் பல செய்தும் வாழ்வதற்காக வந்தான். பிறரை வாழச் செய்வதற்கும் மனித இனமே நிலத்தின் மூலம் கொண்டு வாழும் வகையையும் கண்டான். இதன் மூலமே மனிதன் தோற்றம் பெற்றது.

பொருளானது நாட்டின் வளர்ச்சியைப் பற்றி அறிவியல் அன்று. 'யாதும் ஊரே யாவரும் கேளிர்' என்ற பாரதியார் கொண்டு உலகத்தை மக்கள் அனைவரும் ஒருங்கிணைந்து வாழ்வதற்காக வழி வகுக்கும் ஒரு விஞ்ஞானியாக மாறி மனிதனோடு உறவுகொண்ட மாறிவிட்டது.

பண்டைக் காலத்தில் இயற்கையில் தோய்ந்து, இயற்கையிலேயே வளத்தை ஆர்த்தாய்த் துன்பம் பசியைப் போக்கி வந்தவர்களை அளவளவு செய்து கொடுக்கும் பொருள் என்பது பற்றிய சிந்தனை இயற்கையிலேயே இருந்தது. அதோடு உலகத்தில் அன்று வாழ்ந்தோர் அனைவரும் பொருளானது நிலையாமக் கொண்டது என்பதை மனதில் நினைத்துக் கொண்டு இறக்கும் போது யாரும் எந்தப் பொருளையும் உடன் கொண்டு செல்ல முடியாது என்று கூறி வந்தனர். இந்தப் போக்கே மனிதனோடு உறவுகொண்ட உறவுநிலை வெளிப்படுகிறது.

"வாழ்க்கை இலை உதிர்வதைப் போல உதிர்ந்து போகும் என்பது றேறாமரின் கருத்தாகும். விவிலியத்திலும் "மண்ணிலிருந்து வந்த நாம் மண்ணுக்கே திரும்பவும் செல்வோம்" (Dust thou art, and thou shall return to) (Genesis 3:19) என்று மனிதனின் நாட்டுப்பழமொழியும் மனிதனின் பொருள் சார்ந்த உறவு மனப்போக்கை தெள்ளெனக் காட்டிநிற்கின்றன.

பொதுவாக நாட்டின் மொத்தவருமானம் - வருமானம் - பொருள் பெருகவேண்டும் என்றே பலர் நினைத்தனர். ஆனால் மனிதனின் பொருள் பொருள் சார்ந்த உறவு எப்படி இருக்க வேண்டும் என்பதை

பொருள் பெருந்ததை அறத்தினின்று பாருளைச் சேகரிக்க வேண்டியிருக்கின்றார்.

பொருளில் பொருளை, அரசனோ, தனிமனிதனோ அறநெறியில் இருந்து ஒழிபாமல் பணத்தைத் திரட்டலாமா? என்ற வினாவிற்கு நாவலர் மனிதனோடு அருளோடும் அன்போடும் மட்டுமே பொருந்தும் மனப்போக்கை திரட்டவேண்டும் என்ற உறவினையே,

அருளோடும் அன்போடும் வாரப் பொருளாக்கம் புல்லார் புரள விடல் "(குறள் 755)

பொருள் பெருந்ததை மனிதனோடு பொருள் உறவாகத் திரட்ட வேண்டிய நெறியாக நலின்றுள்ளார்.

பொருள் பெருந்ததை பொருள் பற்றிய உறவுகளைத் தமிழ்மறையில் விளக்கியுள்ள பார்ங்கினைப் பார்த்தால் மனிதனின் உண்டாகும் சிறப்பை மேன்மைப்படுத்திக் காட்டுவதாக இருப்பதை மனிதனுக்குப் பொருள் சார்ந்த உறவானது ஒருவனின் மனப்போக்கிலும் மறுமையிலும் பொருளாட்சியினால் பொருள் பெருந்ததை மறையாலும், காத்தல் பிறருக்கு வகுத்துக் கொடுக்கும் மனப்போக்கைப் பொருளைப் பெற்றுச் சிறப்பாக வாழலாம் என்றே மனிதன் வள்ளுவர்.

பொருள் பெருந்ததை அறம், பொருள், இன்பம், வீடு நான்கிற்கும் பொருள் பெருந்ததை ஒன்றாகத் திகழ்கின்றது. மனிதனானவன் நன்னெறியில் இருந்து பெற்றானெனில் அனைத்தும் (பொருள், இன்பம், வீடு) பெறும் என்பதை நாவலர் ,

"ஒன்பொருள் காழ்ப்பு இயற்றியார்க்கு எண்பொருள் ஏனை இரண்டும் ஒருங்கு" (குறள் 760)

பொருள் வழி நலின்றுள்ளார்.

பொருள் பெருந்ததை மனிதனுக்கு உள்ள உறவானது முற்றும் முடிந்த உறவுகளை மறையில்தான் பெறவேண்டும். அது ஒரு கருவியாகவே இருக்கின்றது. மனிதனின் "பொருள்தனைப் போற்றி வாழ்" என்று ஆத்திச்சூடியில்

ஔவையார் கூறியது போலவே பொருள் மனிதனோடு உறவு
பயனிக்கிறது.

பொருளினை மனிதனானவன் அறத்தின் வழி பெற்றானால்
அவனுக்குப் பொருள் அறத்தையும் கொடுக்கும் : இன்பத்தையும்
கொடுக்கும் என்பதை,

“அறன்ஈனும் இன்பமும் ஈனும் திறனறிந்து
தீதின்றிவந்தபொருள்” (குறள் 764)

எனும் குறளின் வழி பொருளானது மனித உறவோடு தொடர்பு
உடையதாக விளங்குகின்றது.

மேலும் மனிதனோடு பொருள் உறவானது வாழ்க்கைக்கு
சுவைத்து வாழ்வதற்கும் பல மத்தியில் மதிப்புடன் வாழ்வதற்கும்
அவசியமானதாகப் பொருள் திகழ்கிறது. பொருள் மனிதனை
இல்லாதவனை இல்லாரும் வேண்டாள்; பெற்றெடுத்தவர், உறவு
வேண்டாள். பொருள் இல்லாதவன் மற்ற எல்லா குணங்களை
பெற்றிருந்தாலும் இகழ்வர், ஆனால் செல்வரைப் பிற நல்ல குணம்
இல்லாவிட்டாலும் சிறப்புச் செய்வர் என்பதையே,

“இல்லாரைஎல்லாரும் எள்ளுவர்செல்வரை
எல்லாரும் செய்வர்சிறப்பு” (குறள் - 752)

எனும் குறளால் நாவலர் மனிதனோடு பொருள் உறவு
உறவு கொண்டு திகழ்வதாக நவீனருள்ளார்.

பொருளானது பலம் கொண்டதோடு ஆற்றலாக மனிதனை
செயல்பட்டுக் கொண்டிருக்கிறது. “வாள் எட்டினமட்டும் பாயும், பாயும்
பாதாளம் வரை பாயும்” எனும் முதுமொழியும் பொருளின் சிறப்பை
எடுத்துரைக்கிறது. ‘திருவள்ளுவருக்குப் பொருள் மதிப்பினை மட்டு
சுட்டித் தருகின்ற ஒன்று அன்று. மனஅமைதியைக் கொடுப்பது
பொருள்’ என்று பென்ஹாம் கூறியுள்ளார்.

வள்ளுவரின் ‘பொருள் செயல்வகை’ எனும் அறிவுரை
பொருளினுடைய தேவைகளின் தன்மைகளை விளக்கும் வகையில்

பொருள் என்னும் காரணி ஒவ்வொரு மனிதனுக்கும்
பொருள் உறவுமான ஒன்றாக உறவு கொள்கிறது. ஒருவருக்குப் பொருள்
உறவு உடையது துணை நிற்கவில்லை என்றால் அவனை யாரும்
உறவு கொள்ள மாட்டார்கள். இதனையே

“பொருளல்லவரைப் பொருளாகச் செய்யும்
பொருளல்லது இல்லைபொருள்” (குறள்- 751)

என்று வள்ளுவரின் மூலம் நவீனருள்ளார்.
பொருளானது மனிதனின் உறவோடு சேர்ந்ததால், அவன்
உறவு உடைய மட்டுமே பொருளை சுட்டுதல் என்பதும் அவனுக்கு விதித்த
தெய்வ ஒன்றாகும் என்பதனையே

“புழிமலைந்துஎய்தியஆக்கத்தின்சான்றோர்
சுறிநல் குரவேதலை” (குறள் - 657)

என்று வள்ளுவரின் சிறப்பினை மனிதஉறவோடு தொடர்புடையதாக
உணர்த்துகிறார்.

மனிதனுக்குப் பொருள் மீதுள்ள பற்றினை மாற்றும் பொருட்டு
தன்னை நிலையாமை கருத்தினையும் உணர்த்தும் விதத்தில்
உறவு உடைய பொருளானது நிலையாமைத் தன்மைக் கொண்டது;
தன்னை நிலையாமை அழியக் கூடியது என்றும் கூறியுள்ளார். மேலும் ஒருவன்
உறவு உடைய, ஏற்பப் பிறருக்குப் பொருளைக் கொடுத்து உதவவேண்டும்.
உறவு உடைய பொருளைப் பாதுகாத்து நடக்கும் வழிமுறையும்
உறவு உடையது.

புறவழியில் ஈட்டும் பொருள் மட்டுமே நிலைத்து நிற்கும்.
உறவு உடைய மனிதனுக்கு அறத்தின் தன்மையையும், அறத்தின் வழி
உறவு உடைய சேர்ப்பதைச் சொல்லுவதும் வள்ளுவரின் குறள்வழி
உறவு உடையதாக அமைந்துள்ளது. செல்வம் பிறரையும் வாழவைத்து
உறவு உடைய வாடுவோருக்கும் உதவிடும் வகையிலும் வாழ்வதே
உறவு உடைய படைத்தவனின் கடமையாகும். ஆகையால் வள்ளுவர்
உறவு உடைய பொருளுக்கும் உள்ள உறவு உடலகத்தில்
உறவு உடையமையுடன் திகழ்ந்து வருவதாக நவீனரிருப்பது உண்மையே!

Perception of Private Insurance Employees towards Employer Branding Image with Special Reference to Thoothukudi District

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Abstract - Employer branding is an emerging technique which helps develop a positive image of the organization, keeping it as an employer of choice in the minds of existing employees and creating awareness and attraction in potential employees. It is also helpful in creating awareness and boosts company positioning on the minds of stakeholders. It is a wide-ranging organizational strategy which can effectively and efficiently fulfill the organizational goals and objectives. It takes the organizational ideology towards its employees. This helps in retaining current employees and also attracting potential employees. Employer branding strategy is the result of a long term strategy which ensures pursuance of vision of the organization. Employer branding conveys organizational value system, policies and practices, and also conveys level of expectations of employer from employees and vice versa.

The present paper main objective is to identify the perception of employer branding attributes on private insurance employees in Thoothukudi District. Stratified random sampling was employed to select 102 employees; from Private Insurance company has located in Thoothukudi District. From the study, it is find that there is a lot of scope to improve except the employer branding attributes called work environment, compensation & reward, work life balance and symbolic benefit in the study area since most of the employee perceive as low in all other employer branding attributes and lesser number of employees perceive it as high

Keywords - Perception, Branding Image, Insurance, Employees and Retention.

I. INTRODUCTION

In the recent years in organizations, competition concerning attracting and retaining the best possible competent employees has increased significantly. This competition will increase even more since the worldwide population ages because in the world population nearly 60 percent employees are in the age of 20-60 years and this will decrease in near future to 45 percent. In market minted with high competition, obtaining and retaining right employees becomes increasingly difficult as applicants per vacant post decrease. The competition for the best employees will be as important as the competition for customers in future. Hence there is an increased need for organizations to develop strategies essential to ensure that their employee will remain in the future. In this regard strategies needed can be summarized under the name of employer brand.

II. REVIEW OF LITERATURE

Punitha (2016) this study discusses the concept of employer branding in private life insurance companies. Generally, employer branding is how the company create the brand image to the market. Here employer plays a major role like a "brand promoters". This study covers the Western region of Tamilnadu as geographical area, which includes seven different districts. The total sample size included 750 Employees. The objective of this study is to find out the employees' opinion towards the human resource practices, employees' perception towards the value proposition and employees' satisfaction level towards the employer branding components among the private Life Insurance companies. The present study is based on both primary and secondary data. A special care was given to design the interview schedule to collect the primary data. The present study is applied the proportionate Stratified Random sampling technique. Data analyzed by using Chi-square test, Garrett Ranking, Independent-Samples T Test, Analysis of Variance. This study reveals that in private life insurance companies, employees are working like rolling stones instead of brand ambassadors. Hence private life insurance companies have to implement the employer branding concept. This concept could help the industry to create a right opinion about their organization to employees, control the attrition, improve the employee attraction as well retention.

Objectives of the study

- To assess the profile of private sector insurance companies employees in the thoothukudi district.
- To know the perception on employer branding attributes on private insurance employees in thoothukudi district.
- To identify the attributes of employer branding with demographic variables of private insurance employees.

III. RESEARCH DESIGN AND METHODOLOGY

The present study carried out by the researcher is an empirical in nature and the study is based on the survey method. The researcher collected the data required for carrying out the present study in two stages. In the first stage, the personal and occupational data relating to sample respondents, their perception about the employer branding attributes and their retention intention attitude were collected among the selected sample respondents with the help of the questionnaire specially designed for this purpose. During the second stage



related to the study such as the concepts relating to employer branding, employer attraction and retention etc., from various journals, published and unpublished records, reports, books, magazines, etc.

Stratified random sampling was employed to select 102 respondents, private from insurance companies located in Thoothukudi District. For analyzing the data collected during the investigation, the following statistical tools such as description analysis and F- test were used based upon the nature of data received from respondents.

IV. RESULTS AND DISCUSSION

Table 1 reveals the profile of respondents. On the basis of age, 26 respondents belong to age group below 30 years, 27 respondents belong to the age group of 31-40 years and 11 respondents belong to the age group of 41-50 years and 11 respondents belong to elder age group of more than 50 years. On the basis of gender, 73 respondents are male employees and 29 respondents are female employees. Considering the marital status, 34 respondents are married and 68 respondents are un married. In terms of family structure, 72 respondents belong to nuclear family and 30 respondents live in joint family structure.

Table No.1
Profile of Private Sector Insurance Respondents

S. No	Variable	Indices of Profile	Private Sector Insurance (N=102)
1	Age	Below 30	36 (35.3)
		31-40	26 (25.5)
		41-50	29 (28.4)
		Above 50	11 (10.8)
		Total	102 (100.0)
2	Gender	Male	73 (71.6)
		Female	29 (28.4)
		Total	102 (100.0)
3	Marital Status	Married	34 (33.3)
		Unmarried	68 (66.7)
		Total	102 (100.0)
4	Type of Family	Nuclear	72 (70.6)
		Joint Family	30 (29.4)
		Total	102 (100.0)
5	Educational Qualification	UG	52 (51.0)
		PG	31 (30.4)
		Professional	19 (18.6)
		Total	102 (100.0)
6	Monthly Income	Below 30000	39 (38.2)
		30001 - 40000	30 (29.4)
		40001 - 50000	17 (16.7)
		Above 50000	16 (15.7)
		Total	102 (100.0)
7	Designation	Officers	65 (63.7)
		Clerk	37 (36.3)
		Total	102 (100.0)
8	Experience	Less	29 (28.4)
		Moderate	39 (38.2)
		Well	34 (33.4)
		Total	102 (100.0)

Source: Primary data; (Figures in parentheses are percentage)

On the basis of educational qualification 52 respondents belong to under graduation category, 31 respondents belong to post graduation category and 19 respondents belong to professional course category. In terms of income 39 respondents earn less than Rs. 30000, 30 respondents earn Rs.30001-40000 per month, 17 respondents earn Rs. 40001-50000 per month and 16 respondents earn more than Rs. 50000 per month. On the basis of designation of the respondents, 65 respondents are officers and the remaining 37 respondents are clerks.

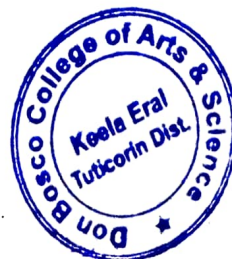
Table 2 presents the perception of private sector insurance employees' about the employer branding attributes.

Table No.2

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Perception of Respondents on Employer Branding
(Private Insurance Respondents N=102)

Dimension	Mean	SD	Level of Perception in Number of Respondents		
			Low	Medium	High
Work Environment	24.56	3.11	21 (21)	42 (41)	39 (38)
Organization Culture	24.18	2.61	25 (25)	50 (50)	26 (25)
Compensation & Reward	24.69	2.80	21 (21)	37 (36)	44 (43)
Work Load	23.46	3.17	29 (28)	56 (55)	17 (17)
Reputation	23.98	2.99	34 (33)	41 (40)	27 (27)
Work Life Balance	24.67	2.96	17 (17)	50 (49)	35 (34)
Symbolic Benefit	24.23	2.76	24 (24)	44 (43)	34 (33)
Training and Development	23.75	2.76	26 (26)	53 (52)	23 (22)
Brand Promise	23.80	2.50	23 (22)	58 (57)	21 (21)
Brand Communication	23.74	2.46	26 (25)	56 (55)	20 (20)

(Mean - SD = Low; Moderate= In between (mean + SD) and (mean - SD);

High= Mean + SD)

Source: Primary Data

The above table reveals that out of one hundred and two employees from private insurance companies, 21 respondents perceive that the Work Environment in their insurance is 'low', 42 (41%) respondents perceive that the Work Environment in their organization is 'medium' and 39 respondents perceive that the work environment is 'high'. With regard to work environment mean value of respondents is 24.56 and standard deviation is 3.11. The mean and the standard deviation value for the attribute called organization culture are 24.18 and 2.61 respectively. Further 50 percent respondents perceive organization culture is medium in level followed by 25 percent respondents perceiving it as low and 25 percent respondents perceive it as high. 21 (21%) respondents perceive that the compensation and reward in their bank is 'low', 37 (36%) respondents perceive that the compensation and reward in their organization is 'medium' and 44 respondents perceive that the compensation and reward are 'high'. The mean and the standard deviation value for the attribute called work load are 23.46 and 3.17 respectively. Further 55 percent respondents perceive that work load in their insurance is medium in level followed by 28 percent respondents perceiving it as low and only 17 percent respondents perceive it as high. 34 respondents perceive that the reputation for their bank is 'low', 41 (40%) respondents perceive that the reputation for their insurance is 'medium' and 27 respondents perceive that the reputation for their insurance is 'high'. With regard to reputation of insurance mean value of respondents is 23.98 and standard deviation is 2.99. The mean and the standard deviation value for the attribute called work life balance are 24.67 and 2.96 respectively. Further 49 percent respondents perceive work life balance opportunity is medium in level followed by 34 percent respondents perceiving it as high and only 17 percent

respondents perceive it as low. 44 (43%) respondents perceive that the symbolic benefit in their insurance is 'medium' 34 (33%) respondents perceive that the symbolic benefit in their organization is 'high' and 24 respondents perceive that the symbolic benefit is 'low'. With regard to symbolic benefit respondents mean value is 24.23 and standard deviation is 2.76. The mean and the standard deviation value for the attribute called training and development opportunities in their bank are 23.75 and 2.76 respectively. In addition 52 percent respondents perceive training and development opportunities as medium in level followed by 26 percent respondents perceiving it as low and 22 percent respondents perceive it as high. In the case of brand promise 57 respondents perceive medium level in their insurance followed by 22 percent respondents perceive as that the brand promise is low in their bank and only 21 percent respondents perceive it is high. Further brand communication is medium level only as 55 percent respondents perceive brand communication is medium and followed by 25 percent respondents perceiving brand communication is low and 20 respondents perceive brand communication is high in their insurance.

It concludes that still there is a lot of scope to improve except the employer branding attributes called work environment, compensation & reward, work life balance and symbolic benefit in the study area since most of the employee perceive as low in all other employer branding attributes and lesser number of employees perceive it as high.

In order to find out whether the difference in the mean scores between the sample respondents who fall under different categories (gender, marital status, type of family, and shifting plan) is significant, independent 't' test has been applied and the results are presented in Table 3.



Table No.3
Mean Score on Attributes of Employer Branding for
Private Sector Insurance Respondents'

Demographic variable	Classification	Size	Mean	S.D	t Value	P value
Gender	Male	73	241.79	15.66	0.767	0.40
	Female	29	239.24	13.82		
Marital Status	Married	34	239.53	14.36	0.725	0.40
	Unmarried	68	241.84	15.55		
Type of Family	Nuclear	72	242.01	14.30	0.977	0.28
	Joint Family	30	238.80	17.01		
Shifting Plan	No	59	239.54	14.86	1.196	0.66
	Yes	43	243.16	15.43		

Source: Computed Data

From Table 3, it is clear that in all the cases p values are more than 0.05. Since p value is more than 0.05 the null hypothesis is accepted at 5 % level of significance. Hence it is concluded that there is no significant difference of mean value of perception about attributes of employer branding between the private sector insurance respondents who have been classified according to the gender, marital status, and type of family, and shifting plan. Comparing the mean attitude score of the respondents and their demographic variable of the respondents is more or less equal to other category and there is no significant mean difference between them since p value is more than 0.05.

V. SUMMARY AND CONCLUSION

- It is observed that in the private sector insurance employees (102), on the basis of age, around 35 percent respondents belong to age group of below 30 years, 71.6 percent respondents are male employees,
- It is find that majority (33.3 percent) of the respondents are married, 70.6 percent respondents belong to nuclear family, 51percent respondents have under graduation qualification, 38.2 percent respondents earn less than Rs. 30000 category and out of total 102 respondents 63.7 percent respondents are officers'.
- It is observed that still there is a lot of scope to improve except the employer branding attributes called work environment, compensation & reward, work life balance and symbolic benefit in the study area since most of the employee perceive as low in all other employer branding attributes and lesser number of employees perceive it as high.
- It is captured that the comparing the mean attitude score of the respondents and their demographic variable of the respondents is more or less equal to other category and there is no significant mean difference between them since p value is more than 0.05.

The contribution of the insurance companies system is highly significant in the development of the economy of any nation. In the case of developing countries like India, insurance

system forms an integral and dominant part of the financial system.

Basically, Insurance companies are service rendering organizations. In order to ensure their survival in the highly competitive insurance environment, they have to ensure that they are provides a unique and superior quality of services to their customers. The rendering of quality services by the insurances to their customers wholly depends on the support extended by their staff. In order to secure the positive support of the staff, it becomes the ultimate responsibility of the insurances to create confidence among the employees that their organization is a good place to work. As the style of functioning and services offered by the private sector insurance companies has created a suitable employer branding strategy for ensuring the effective performance of their staff in the study area.

The present study also express that still there is a lot of scope to improve except the employer branding attributes called work environment, compensation & reward, work life balance and symbolic benefit in the study area since most of the employee perceive as low in all other employer branding attributes and lesser number of employees perceive it as high

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A STUDY ON OPINION OF INSURANCE COMPANIES EMPLOYEES ABOUT EMPLOYER BRANDING IN THOOTHUKUDI DISTRICT

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Abstract

Vice President M Venkatesh Naidu said on February 12, 2018 that the insurance industry in India was expected to grow to \$280 billion by 2020 from \$44.72 billion in 2017 as the country was poised for higher economic growth. Employer brand expresses the work culture within the organization and also communicates strongly the organization objective and the ways adopted to achieve its objectives. Employees as social beings do not respond to the values and beliefs mentioned in the organizational handbooks that are never practiced but respond to principles and values practiced within the organization by its systems and processes. Employees cherish the emotional connections within the organization which give them a sense of belonging and a sense of pride which result in passionate and committed effort towards the organizations' goals. This shapes the behavior of the employees with the highest level of integrity towards organizational vision.

The main aim of study is to examination of perception of employer Branding Image on Private Insurance Employees with special reference to Thoothukudi District. Stratified random sampling was employed to select 200 respondents from Private Insurance company has located in Thoothukudi District. Since the study found that there is no specific Employer branding strategy in insurance, the researcher feels that the policy makers of the respective insurance companies have to design appropriate branding strategy to bring more commitment towards the organizational goal. From the study, it could be concluded that the respondents' perception about attributes of employer branding between the respondents who have been classified according to the gender, marital status, types of family and shifting plan in the study area.

Key Words: Branding Image, Private Life Insurance, Employees, and Perception Attributes

Introduction

The Indian insurance industry seems has been a perceptible change in the market dynamics since liberalization and economic reforms, a considerable amount needs to be done for future growth and development of the market in an orderly and sustained manner. Notwithstanding the strong improvement in penetration and density in the last 10 years, India largely remains an under-penetrated market.

The term "Employer Brand" was first used in the early 1990s to denote an organization's reputation as an employer. Employer brand is understood as a brand which differentiates it from other competitors in the employment market. The term also includes long term strategy that establishes an organization's identity as an employer in the employment market. Ambler and Barrow define employer brand as follows: "The package of functional, economic, and psychological benefits provided by employment, and identified with the employing company". Minchington defines employer brand as "the image of organization as a great place to work in the mind of current employees and key stakeholders in the external market (active and passive candidates, clients, customers and other key stakeholders). The art and science of employer branding is concerned with the attraction, engagement and retention initiatives targeted at enhancing company's employer brand.

Employer branding is central to the concept in HR Marketing. It defines the personality of a company as a preferred employer. The employer brand is the most powerful tool for attracting, engaging and retaining the right talent culture fit that will help leaders grow their organization. Like any brand, employer brand is about perception.

As mentioned above, branding has moved into the field of Human Resources from the discipline of marketing. In principle, brands can be seen as a set of symbols which represent a variety of ideas and attributes, the net result of which is the public image, character or personality of an organization. As such, branding activities involve constructing particular attributes (e.g. the values on an organization) that are considered to represent the image that a company wishes to communicate to potential employees, current staff and the public. Employee branding is targeted to the existing workforce, but employer branding by highlighting that the organization is an employer of choice reinforces the employee branding message to the existing workforce. Nonetheless, it is important to note that the two activities have a different emphasis.

Review of Literature

Mita Mehta, Aarti Kurbetti & Ravneeta Dhankhar (2014) the purpose of this paper is to review the findings of research papers of various authors to derive the factors that impact employee commitment and retention in a work environment. This study examines the following factors: career development opportunities, effective talent management strategies, recruitment,





on boarding and orientation, investment in training and development, compensation and benefits, work life balance, culture of the organisation, leadership, communication, image of the company, autonomy and empowerment, Gallup audits, personal causes, role of HR head and supervisors, work related policies and flexi time, performance appraisals and career growth and development opportunities. There are no one fixed practices which show the importance and significance of the influence of all these above broad points because different organisations lay different emphasis on these pointers depending upon their suitability impacting retention. Based on our understanding of the papers reviewed by us, suggestions are drawn which give a holistic view on the various practices that organizations should adopt to keep the level of employee retention and commitment high.

Narinder Kaur (2016) to assess the retaining good or performing employees has been a challenge all along in the banking sector. Employers have given lot of significance to this issue in employment relations. New and newer strategies have been designed and developed by them. They have also engaged the experts to study the problem of employee attrition in their organizations and recommend effective retention strategies. Consequently, "employee retention" has become a specialist function in people management and the "retention strategist" a specialist. Especially in the US industries, which are always concerned with hiring the right people and retaining them for longer time to reduce the cost of replacements have often spent lot of time in studying the challenge engaging the specialists.

Objectives of the Study

1. To study the Influence of Demographic Variables on the Perception of Employer Branding in Thoothukudi District.
2. To study the relation between Employer Branding Image and Popularity of Insurance Corporation.

Methodology and Design of the Study

The present study carried out by the researcher is an empirical in nature and the study is based on the survey method. The researcher collected the data required for carrying out the present study in two stages. In the first stage, the personal and occupational data relating to sample respondents, their perception about the employer branding attributes and their retention intention attitude were collected among the selected sample respondents with the help of the questionnaire specially designed for this purpose. During the second stage of data collection, the researcher collected the secondary data related to the study such as the concepts relating to employer branding, employer attraction and retention etc., from various published and unpublished records, reports, books, magazines, etc. Convenient Sampling Method was employed to select 200 employees from Private insurance companies located in Thoothukudi District. For analyzing the data collected during the investigation, the following statistical tools such simple frequency, One-Way ANOVA and Correlation were used based upon the nature of data received from respondents.

Results and Discussion

In order to find out the influence of various independent variables of the respondents such as Age Group, Gender Group, Marital Status, Type of Family, Educational Qualification, Monthly Income and Designation on the perception on employer branding attributes that existed in the Life Insurance Corporation, a hypothesis is formulated tested with the help of one way ANOVA and the results are presented in Table No.1

Table No.1: Influence of Personal Variables on the Perception of EB

Factor	Classification	N	Mean Score	F Stat*	P Value @5 % significance
Age	Below 30	70	239.9740 ^a	0.622	0.602
	31-40	51	240.0755 ^a		
	41-50	55	241.4068 ^a		
	Above 50	24	236.7500 ^a		
Education	UG	105	240.4545 ^a	0.853	0.428
	PG	61	240.8485 ^a		
	Professional	34	237.2683 ^a		
Income	Below 30000	84	241.2697 ^a	0.878	0.453
	30000-40000	63	237.7246 ^a		
	40001-50000	36	240.0000 ^a		
	Above 50000	17	242.1111 ^a		
Experience	Less	55	240.6271 ^a	0.106	0.899
	Moderate	79	239.9882 ^a		
	Well	66	239.4247 ^a		

Note: 5% Significant Level.





The above table reveals details about the significant and insignificant relationship between the respondents' profile and their perceptions about attributes of employer branding in their Insurance Corporation. The 'P' value of respondents' profile relating to all the demographic variables are more than 0.05 hence the hypothesis is accepted. Further Duncan's Multiple Range Test reveals that there is no significant difference within the variables relating to all the demographic variables there are no significant difference between them at 5% significant level.

In order to find out whether the difference in the mean scores between the sample respondents who fall under different categories (gender, marital status, type of family, and shifting plan) is significant, independent 't' test has been applied and the results are presented in Table No. 2.

Table No.2: Mean Score on Attributes of Employer Branding for Respondents' Demographic Variables

Demographic variable	Classification	Size	Mean	S.D	t Value	P value
Gender	Male	145	240.13	15.06	0.245	0.806
	Female	55	239.58	14.37		
Marital Status	Married	117	238.62	13.65	1.452	0.148
	Unmarried	93	241.55	16.04		
Type of Family	Nuclear	130	239.81	14.05	0.211	0.833
	Joint Family	70	240.26	16.23		
Shifting Plan	No	138	239.62	14.76	0.444	0.657
	Yes	67	240.54	15.03		

Note: 5% Significant Level.

From the above table, it is clear that in all the cases p value are more than 0.05. Since p value is more than 0.05 the null hypothesis is accepted at 5 % level of significance. Hence it is concluded that there is no significant difference of mean value of perception about attributes of employer branding between the respondents who have been classified according to the gender, marital status, and type of family, and shifting plan. Comparing the mean attitude score of the respondents and their demographic variable of the respondents is more or less equal to other category and there is no significant mean difference between them since p value is more than 0.05.

Relationship between Employer Branding and Popularity

In general those employers doing well in all dimensions of employer branding have become more popular among the general public, prospective employees and other stakeholders. In this connection, the researcher has attempted to check the attributes of employer branding association with popularity of the insurance. For this purpose the researcher has framed the hypothesis as 'there is no significant association between the employer branding attributes and popularity of the insurance and used the correlation matrix and results are presented in the Table No. 3.

Table No.3: Relationship between Employer Branding & Popularity

Employer Branding Factors	Popularity
Work Environment	0.125
Organization Culture	0.180**
Compensation & Reward	0.262**
Work Load	0.166*
Reputation	0.150*
Work Life Balance	0.077
Symbolic Benefit	0.147*
Training and Development	0.198**
Brand Promise	0.283**
Brand Communication	0.227**
Overall	0.332**

Source: Computed Data



From the Table No 3, it is understood that there is no strong relationship between the popularity of insurance and their employer branding attributes, when analyzing separately the popularity of each. Because for all the attributes correlation value is less than 0.30. Hence correlation of this employer branding attributes with popularity is associated but not strongly associated, which means weak correlation exists. In the mean time correlation between employers branding as a whole and popularity of the bank moderately is associated with the correlation value of 0.332.

Summary and Conclusion

1. It is observed that the Duncan's Multiple Range Test reveals that there is no significant difference within the variables relating to all the demographic variables there are no significant difference between them at 5% significant level.
2. It is observed that to find out the difference in the mean scores between the sample respondents who have been classified according to the gender, marital status, type of family and designation, the t test has been applied and the result shows there is no significant difference about perception on employer branding attributes score between the respondents.
3. It is captured from the analysis that there is no significant difference of mean value of perception about attributes of employer branding between the respondents who have been classified according to the gender, marital status, and type of family, and shifting plan.
4. It is identified that the correlation of this employer branding attributes with popularity is associated but not strongly associated, which means weak correlation exists. In the mean time correlation between employers branding as a whole and popularity of the bank moderately is associated with the correlation value of 0.332.

At present companies have invested in promoting efforts and creation of strong brands thereby to accumulate and retain the employees. Employer branding is a HR strategy used by the insurance private insurance companies in India. This paper could be concluded that there is no significant difference of mean value of perception about attributes of employer branding between the respondents who have been classified according to the gender, marital status, and type of family and shifting plan.

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IN TUTICORIN DISTRICT

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Abstract

A Women Hawker is a person who offers goods or services for sale to the public without having a permanently built structure but with a temporary static structure or mobile stall. Women hawkers could be stationary and occupy space on the pavements or other public/private areas. Women hawkers play very important role in India by generating employment and income opportunities. The Hawkers are one of the main important activities in unorganized sectors. Woman are pushed as the Hawkers by the way of broken family, divorced or separated from husband, insufficient income, below poverty line, etc. these type of Woman Hawkers who have less skills and poor economic conditions in the society. It is one of the easy ways to enter the new trade for every poor woman in India. Basically women face more and more problems as a women hawker than men. That is may be eve teasing, sexual harassment, Rapes, etc.

Keywords: Women Hawkers, Business, Product, Production

INTRODUCTION

Women Hawkers play a vital role in India. They are generating their jobs and opportunities as own. Generally the Women Hawkers have poor protection in the society. Actually Women Hawkers are earning less amount of profit in their trade than men hawkers. They cannot move to sale their things from one place to another place because of their physical or any other problems.

The Women Hawkers sell the more number of products like vegetable, fruits, flowers, cosmetics, cloths, hosiery, leather, molded plastic goods and different kinds of goods necessary for household, etc. including with this, they are selling more home made products to the other people. This study focuses on socio economic conditions and their marketing problems faced by women hawker in Tuticorin District.

STATEMENT OF THE PROBLEM

The Women Hawkers play an important role in India. In more number of cities the Women Hawkers have their work. They have not included as a formal labor, they treated only as an informal labor. Women hawkers exhibit remarkable entrepreneurial skills. Purchasing of commodities is no easy task with constant market fluctuations. Besides, middlemen have a major say in the wholesale markets. Commodities have to be in sync with both consumer tastes and paying capacity. As most hawkers deal in perishables, the goods have to be sold at the right time. Studies show that the largest concentration of women hawker is in the age group 16-35 years. It indicates that hawking involves enormous physical labour. A vendor starts early in the morning with the day's purchase. The marketing place is invariably far from his residence. Bringing large sacks of vegetables and fruits and loading them in vehicle is a tedious job. Arranging, cleaning, sorting, weighing and dealing with customers is not easy. Hawkers are on the platform



irrespective of the heat, wind, rain and cold. Calling out loud to attract buyers, consumes time and energy.

Street vending is a very easy way to create an own trade in their living area. But, in this type of street vending the women are facing many challenges like Lack of bargain power, Fluctuation of marketing conditions, Acquiring market place, increased competition, Lack of permanent place, Scarcity of products etc., in that area. Because they cannot easily move from one place to another place to sell their products to the consumer. So, here some economic and working conditions are pushed to work as a woman Hawkers. At the time of working, the Women Hawkers have to face many marketing related problems to gain the profit.

In this study, the main aim is to analyze of socio-economic conditions and marketing problem faced by the women hawkers in Tuticorin District.

OBJECTIVES OF THE STUDY

The objectives of the study are as follows:

1. To Know the socio-economic conditions of the Woman Hawkers in Tuticorin District
2. To analyze the marketing problems faced by the Women Hawkers in Tuticorin District.
3. To offer suitable suggestions based on the study.

RESEARCH METHODOLOGY

Sample size

The selection of sample of Woman Hawkers was selected from the Tuticorin District for the purpose of the study. The samples are selected from the three different taluk in Tuticorin District that is like Kovilpatti, Ettayapuram and Vilathikulam. Purposive sampling was used for the selection of sample respondents and the lottery method should be used to select the sample area. In this study, 200 Woman Hawkers are selected as a sample size from three different taluk in Tuticorin District.

Table 1 Sample Respondents

S.No	Taluk	Number of Respondents	Percentage (%)
1	Kovilpatti	100	50
2	Ettayapuram	50	25
3	Vilathikulam	50	25
Total		200	100

Source: Office file

Here, using both primary and secondary data. The primary data was collected from the respondents directly by the researcher by the way of interview method. The secondary data is collected from the books, journals, websites, etc.

Interview Method

This method is used by obtaining specific information about the Socio - Economic Status and problems faced by the women hawkers by the way of asking some questions to the respondents and gets the data relevant to the particular problem.

Statistical Tools

The below statistical tools are used to analyze the socio - economic factors and the marketing problems faced by the women hawkers.

1. Percentage method
2. Arithmetic Mean
3. Standard Deviation
4. Variance
5. Ranking Method
6. Standard Error
7. One Sample 'T' Test

ANALYSIS AND INTERPRETATION

Socio - Economic Conditions Of Women Hawkers

The socio economic status of the women hawkers is an important one to identify the Women hawker's marketing related problem and their real position in their family by the way of doing this work. The socio economic status includes the following details in the researcher's study.

- > Age of the Women Hawkers
- > Marital status of the women hawkers
- > Types of family
- > Income of the Women Hawkers
- > Educational qualification

These are the main important details collected by the researcher from the Women Hawkers in Tuticorin District. The detailed description of women hawker's socio-economic conditions are in the following particulars.

Marketing Problems Faced By The Women Hawkers

The women hawkers face some marketing related problems in their work place. This type of problems leads to reduce the income earned by the women hawkers. The marketing problem related women hawker's opinions are given below:

TABLE 3 Marketing Problems Faced By the Women Hawkers

S.No	MARKETING PROBLEMS	HA	A	M	DA	HDA	TOTAL
1	Lack of bargain power	26 (13%)	18 (9%)	70 (35%)	52 (26%)	34 (17%)	200
2	Fluctuation of market condition	17 (9%)	87 (43%)	78 (39%)	9 (5%)	9 (4%)	200
3	Acquiring market place	18 (9%)	26 (13%)	130 (65%)	17 (9%)	9 (4%)	200
4	Increased competition	17 (8%)	105 (53%)	43 (21%)	26 (13%)	9 (4%)	200
5	Lack of permanent place	17 (8%)	70 (35%)	78 (39%)	26 (13%)	9 (5%)	200
6	Scarcity of products	17 (8%)	9 (5%)	148 (74%)	17 (8%)	9 (5%)	200
TOTAL		112	323	547	147	79	1200

Source: primary source

The table 3 explained that the marketing problems faced by the women hawkers. here, most of the respondents said that the lack of bargaining power (35%), acquiring market place (65%), lack of permanent place (39%) and scarcity of products (74%) is in



ate level. majority of the respondents are highly affected by the problem of ation of market conditions (43%), increased competition (53%).

ANALYSIS OF MARKETING PROBLEMS FACED BY THE WOMEN HAWKERS

The mean and rank analysis of the marketing problems faced by the women rs are given below:

Table 4
Analysis Of Marketing Problems Faced By The Women Hawkers

No	Marketing Problems	Total Score	Arithmetic Mean	S.D	Variance	Rank
1	Increased competition	695	3.48	0.97680	0.954	1
2	Fluctuation of market condition	694	3.47	0.882666	0.7791	2
3	Lack of permanent place	660	3.30	0.940351	0.88426	3
4	Acquiring market place	627	3.14	0.858356	0.736775	4
5	Scarcity of products	608	3.04	0.805233	0.6484	5
6	Lack of bargain power	550	2.75	1.219631	1.4875	6

The table 4 reveals that, it has analyzed about the lack of bargaining power is not problem to the respondents and it has the high variance (1.4875) difference. But, the tion is a main problem to the women hawkers in the selling area.

SUGGESTIONS

From the glow of forgoing analysis the following suggestions are made to resolve the ting problems of Women Hawkers in Tuticorin District.

- Majority of the women hawkers buy products through credit purchase. So it has increased the cost of the product & price of the product and also affects the sales and profit. So, the women hawkers arrange the amount for buying the product through cash purchase.
- The women hawkers use only the attracting method of call out louder or do not call the person. This activity has affected their sales and profit. So, the women hawkers should use the various attracting methods like using loud speaker, record and play, flex boards, etc., to sell their products.
- The women hawkers should know about their work related schemes and laws to improve their knowledge and trade.
- The Government should arrange the entrepreneurial skill programme for upgrade their skills and the knowledge for improve their business.

- > The woman Hawkers work does not have regular work. Because, by the way of any circumstances like rainy seasons or the climate their work should be affected for more than 2 or 4 days. So, at the time of circumstances the government should provide compensation to the Women Hawkers' family.
- > Women Hawkers are needed to be educated about their work by the way of arrange any motivational Programme to the Women Hawkers to improve their work.

CONCLUSION

An analysis of the comparison of socio - economic factors and marketing problems faced by the women hawkers in tuticorin district has led to know about the socio economic conditions of Women Hawkers and their various problems relating to the marketing. Here, the Women Hawkers have entered the field because it is a family business. And also it is an easy way to venture so only the Women have preferred this type of work. But, however the Women Hawkers face the various problems in their working places. If the government and local authority should take care of Women Hawkers' growth, development and safety, it is leads to improve them in their career and uplift in the society. So, the suggestions should be properly implemented by the women hawkers, local authorities, banks and governments for overcome the problems of women hawker and promote their life on the society.

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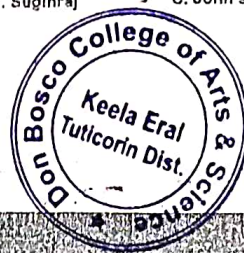
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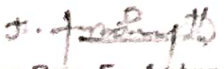
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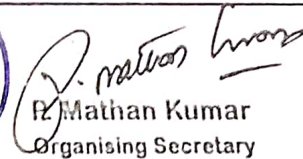
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29. CRM THROUGH CUSTOMER ONLINE REVIEWS AND ANALYSIS

S. ALEXANDER SURESH

Abstract— Merchants selling products on the Web often ask their customers to review the products that they have purchased and the associated services. As e-commerce is becoming more and more popular, the number of customer reviews that a product receives grows rapidly. For a popular product, the number of reviews can be in hundreds or even thousands. This makes it difficult for a potential customer to read them to make an informed decision on whether to purchase the product. It also makes it difficult for the manufacturer of the product to keep track and to manage customer opinions. For the manufacturer, there are additional difficulties because many merchant sites may sell the same product and the manufacturer normally produces many kinds of products. In this research, we aim to mine and to summarize all the customer reviews of a product. This summarization task is different from traditional text summarization because we only mine the features of the product on which the customers have expressed their opinions and whether the opinions are positive or negative. We do not summarize the reviews by selecting a subset or rewrite some of the original sentences from the reviews to capture the main points as in the classic text summarization. Our task is performed in three steps: (1) mining product features that have been commented on by customers; (2) identifying opinion sentences in each review and deciding whether each opinion sentence is positive or negative; (3) summarizing the results. This paper proposes several novel techniques to perform these tasks. Our experimental results using reviews of a number of products sold online demonstrate the effectiveness of the techniques.

Keywords: CRM, OPINION, REVIEWS

XXXIV. INTRODUCTION

With the rapid expansion of e-commerce, more and more products are sold on the Web, and more and more people are also buying products online. In order to enhance customer satisfaction and shopping experience, it has become a common practice for online merchants to enable their customers to review or to express opinions on the products that they have purchased. With more and more common users becoming comfortable with the Web, an increasing number of people are writing reviews. As a result, the number of reviews that a product receives grows rapidly. Some popular products can get hundreds of reviews at some large merchant sites. Furthermore, many reviews are long and have only a few sentences containing opinions on the product. This makes it hard for a potential customer to read them to make an informed decision on whether to purchase the product. If he/she only reads a few reviews, he/she may get a biased view. The large number of reviews also makes it hard for product manufacturers to keep track of customer opinions of their products. For a product manufacturer, there are additional difficulties because many merchant sites may sell its products, and the manufacturer may (almost always) produce many kinds of products. In this research, we study the problem of generating feature-based summaries of customer reviews of products sold online. Here, features broadly mean product features (or attributes) and functions. Given a set of customer reviews of a particular product, our research involves three subtasks: (1) identifying features of the product that customers have expressed their opinions on (called product features); (2) for each feature, identifying review sentences that give

positive or negative opinions; and (3) producing a summary using the discovered information.

Our task is different from traditional text summarization in a number of ways. First of all, a summary in our case is structured rather than another (but shorter) free text document as produced by most text summarization systems. Second, we are only interested in features of the product that customers have opinions on and also whether the opinions are positive or negative. We do not summarize the reviews by selecting or rewriting a subset of the original sentences from the reviews to capture their main points as in traditional text summarization. Our task is performed in three main steps:

(1) Mining product features that have been commented on by customers. We make use of both data mining and natural language processing techniques to perform this task. However, for completeness, we will summarize its techniques in this paper and also present a comparative evaluation. (2) Identifying opinion sentences in each review and deciding whether each opinion sentence is positive or negative. Note that these opinion sentences must contain one or more product features identified above. To decide the opinion orientation of each sentence (whether the opinion expressed in the sentence is positive or negative), we perform three subtasks. First, a set of adjective words (which are normally used to express opinions) is identified using a natural language processing method. These words are also called opinion words in this paper. Second, for each opinion word, we determine its semantic orientation, e.g., positive or negative. A bootstrapping technique is proposed to perform this task using Word Net. Finally, we decide the opinion orientation of each sentence. An effective algorithm is also given for this purpose. (3) Summarizing the results. This step aggregates the results of previous steps and presents them in the format

XXXV. IMPLEMENTATION OF SENSOR NETWORK

1. User login

This is user login module. Here User can login if registered early. Otherwise Register their details and login to this module. In registration module user can get the user name and password to access their account.

2. Admin Login.

This is administrator Login module. In this module Admin can login using their username and password. Admin can login here and view the product purchase details and Customer feedback. Admin can update the product details for customers.

3. View product/purchase details.

In this module Admin can view the purchase details and user can view the product details. Product details module have the details about product name, product model and price details. Purchase details module have the product name, no. of product to be sell, product purchase date, product price details.

4. Product Updating

In this module admin can update the product details for customer. Admin can view the user feedback for change the product categories. Feedback module can be very useful to admin for updating their product information.

DISCUSSIONS

RESULT ANALYSIS

The semantic classification of reviews available training corpus from some Web sites, where each reviews already has a class (e.g., thumbs-up and thumbs-downs, or some other quantitative or binary ratings), they designed and experimented a number of methods for building sentiment classifiers. They show that such classifiers perform quite well with test reviews. They also used their classifiers to classify sentences obtained from Web search

results, which are obtained by a search engine using a product name as the search query. However, the performance was limited because a sentence contains much less information than a review. Our work differs from theirs in three main aspects: (1) our focus is not on classifying each review as a whole but on classifying each sentence in a review. Within a review some sentences may express positive opinions about certain product features while some other sentences may express negative opinions about some other product features. (2) The work in does not mine product features from reviews on which the reviewers have expressed their opinions. (3) Our method does not need a corpus to perform the task. Compare reviews of different products in one category to find the reputation of the target product. However, it does not summarize reviews, and it does not mine product features on which the reviewers have expressed their opinions. Although they do find some frequent phrases indicating reputations, these phrases may not be product features (e.g., "doesn't work", "benchmark result" and "no problem(s)"). In discuss opinion-oriented information extraction. They aim to create summary representations of opinions to perform question answering. They propose to use opinion-oriented "scenario templates" to act as summary representations of the opinions expressed in a document, or a set of documents. Our task is different. We aim to identify product features and user opinions on these features to automatically produce a summary. Also, no template is used in our summary generation.

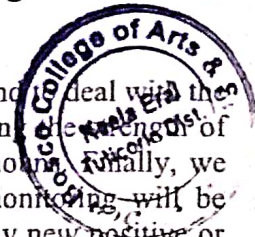
XXXVI. PROPOSED IMPROVEMENTS

The system performs the summarization in three main steps (as discussed before): (1) mining product features that have been commented on by customers; (2) identifying opinion sentences in each review and deciding whether each opinion sentence is positive or negative; (3) summarizing the results. These steps are performed in multiple sub-steps. Given the inputs, the system first downloads (or crawls) all the reviews, and put them in the review database. It then finds those "hot" (or frequent) features that many people have expressed their opinions on. After that, the opinion words are extracted using the resulting frequent features, and semantic orientations of the opinion words are identified with the help of WorldNet. Using the extracted opinion words, the system then finds those infrequent features. In the last two steps, the orientation of each opinion sentence is identified and a final summary is produced. Note that POS tagging is the part-of-speech tagging from natural language processing, which helps us to find opinion features. Below, we discuss each of the sub-steps in turn.

In this research, we study the problem of generating feature-based summaries of customer reviews of products sold online. Here, features broadly mean product features (or attributes) and functions. Given a set of customer reviews of a particular product, the task involves three subtasks: (1) identifying features of the product that customers have expressed their opinions on (called product features); (2) for each feature, identifying review sentences that give positive or negative opinions; and (3) producing a summary using the discovered information.

VI. FUTURE ENHANCEMENT

In our future work, we plan to further improve and refine our techniques, and deal with the outstanding problems identified above, i.e., pronoun resolution, determining the strengths of opinions, and investigating opinions expressed with adverbs, verbs and nouns. Finally, we will also look into monitoring of customer reviews. We believe that monitoring will be particularly useful to product manufacturers because they want to know any new positive or negative comments on their products whenever they are available. The keyword here is new. Although a new review may be added, it may not contain any new information.



V. CONCLUSIONS AND FUTURE DIRECTIONS

In this paper, we proposed a set of techniques for mining and summarizing product reviews based on data mining and natural language processing methods. The objective is to provide a feature-based summary of a large number of customer reviews of a product sold online. Our experimental results indicate that the proposed techniques are very promising in performing their tasks. We believe that this problem will become increasingly important as more people are buying and expressing their opinions on the Web. Summarizing the reviews is not only useful to common shoppers, but also crucial to product manufacturers.

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Multilingual Off-Line Handwriting Recognition in Real-World Images Using Adaptive Neuro Fuzzy Inference System (ANFIS)

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Abstract

Handwriting has been used as one form of communication and information which is recorded in day-to-day human's life. Among this multiple handwritten recognition available in machine, it is significant field where recognition mechanism has been applied. During this study, English and Tamil languages are provided as inputs which are handwriting languages. Additionally it also made study on how this content could be transfer in to binary data. This review aims to focus on concepts which are behind the algorithms of recognition in off-line strategy. Off-line text could be available in images that are scanned. Since handwritten recognition consists of various stages, segmentation is considered as an important process. The existing system would affect the script rate during recognition by directly doing separation on words, characters or lines. Thus it arises the issues if samples in dataset have same content then finding out similar styles for various users and leads to difficult process. In order to solve this issues clustering process are made over the words and characters with similarity style then recognition has been performed on those clustered output. Denoising of image involves many steps namely noise elimination, binarization, size elimination and thresholding. The segmentation of word is carrying out via bat mechanism. At last, the recognition on words has been made using which stands for Adaptive Neuro Fuzzy Inference System (ANFIS). The results are measured using the metrics like precision, recall, f-measure, accuracy and classification time.

Keywords: Off-Line Handwriting, Real-World Images, Adaptive Neuro Fuzzy Inference System (ANFIS), Binarization, Noise Elimination, Thresholding, Size Normalization.

1. Introduction

Many techniques have been introduced in order to recognise the handwriting of various users. These techniques were focuses on characters [1] and numerals [2] but not in word based recognition. Since the presence of handwriting which is unconstraint includes the pattern diversity, illegibility and ambiguity over characters and overlapping of characters in particular word. This clearly shows that there is complexity in the field of recognition of unconstraint based handwriting. Thus it requires some procedures to be carrying out recognition on handwriting which is in unconstrained in nature.

One among those procedures is segmentation depending recognition. A segmentation procedures play a vital role in the processes involves in handwriting involves. On the other hand, an offline handwriting analysis includes many mechanisms to perform process actively. Additionally these processes bring out effective technology in the sense of introducing better recognition.



Offline handwriting can be many formats likely it could be obtained from paper or images. These types of contents could be extracted [3] using Optical Character Recognition shortly OCR [4]. This mechanism are very useful in many areas, one among those are medical field. In ancient days, the analysing of doctor's handwriting is a bit difficult task. This methodology helps to analyse and retrieve the information in the handwriting of doctors.

Although handwriting recognition can be purely of two types such as on-line and off-line, this review only focuses on off-line part. Offline recognition over handwriting is purely depends on text. This text input that means handwriting of people can be obtained from scanned paper and that would be converting to digital [5-6] for processing. In the steps that includes in recognition over handwriting, segmentation is a necessary and an important step. The reason behind this is because of character, line or word separation would affect the rate of recognition in a direct manner. In addition to this, the contents in some dataset many offers similar styles for different users and this are found to be very difficult one.

In the sense of solving these issues, the samples with same form of style for various kinds of users are bring out for clustering process. Words and the characters are made to be cluster [7-8] and finally the recognition process could be carried out. These style identification methods additionally might works with other methods such as edge detection and feature extraction [8]. This totally involves various methodologies such as noise elimination, binarization, size normalization, thresholding, bat algorithm, fuzzy clustering and ANFIS.

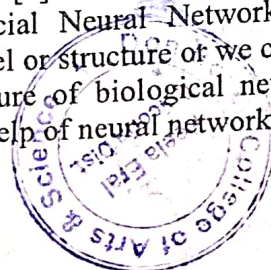
Firstly, the steps in denoising of images are thresholding, noise elimination, size normalization and binarization. Bat Algorithm has been used to perform segmentation of words. On the other hand, fuzzy clustering performs style based identification. At last recognition of words is performed using ANFIS. ANFIS stands for Adaptive Neuro Fuzzy Inference System(ANFIS). This recognition research could be applicable in various real time areas such as verification of signature, checking process in bank, address interpretation in postal field, etc. The remaining paper flows as follows. Literature review on various multilingual handwritten recognition approaches of offline method is yet to be discussed in Section 2 based on images of real-world. Proposed methodology on off-line recognition is being discussed in Section 3. Proposed system comprising of experimental design is yet to be discussed in Section 4 and section 5 comprises of whole process in addition to future work.

2. Literature Review

Radha Revathi et al [1] designed a system for recognition of handwritten characters by using the Artificial Neural Network (ANN). The motive of this development is to recognise the characters even in the noise environment. The Back Propagation (BP) based on Artificial Neural Network (ANN) has been designed such that the noise will not be considered as a major issue. In the various noise environments, the system is tested in JAVA platform. This system is found to produce the effective recognition of characters even in the presence of noise.

Govindarajan [2] has developed a hybrid which is of new classification model for handwritten numerals detection by combining Support Vector Machine (SVM) and Radial Basis Function (RBF) classifiers. The original training sets are resampled to form modified training sets. Here classifiers are combined by voting after construction by using training sets. The proposed hybrid model system provides high accuracy of handwritten recognition of numerals and is illustrated by the empirical outcome obtained from the model.

Chaudhary et al [3] has developed a classifier for Devanagari numerals, recognition is performed via the use of Artificial Neural Network (ANN). ANN, often called as neural network (NN), is a mathematical model or structure of we can also say computational model that is inspired by the functional aspects and structure of biological neural networks. Presented a scheme to recognize hindi number numeral with the help of neural network.



Meshesha and Jawahar [4] defined the Optical Character Recognition (OCR) technology by which the local languages including various characters have been transformed into digital documents. Based on linear discriminant analysis and principal component, a novel feature extraction scheme is used which is followed by Support Vector Machine (SVM) classifier. The performance of the character recognizer is demonstrated by displaying the recognition results in the degraded documents namely, newspaper and magazines which help in gaining knowledge about this model.

Dash and Nayak [5] Artificial Neural Network (ANN) based English character recognition is the model. This recognition model is an offline system where the character match is performed as there is no linear relationship among them. The test is performed against the characters to identify the presence of cluster. This process is being carried out in the MATLAB environment. ANN is trained and network is tested by the English characters containing fifty-two sets of alphabets. The set comprises of 26 capital alphabets and 26 small alphabets. This Neural Network model is proved to produce the effective recognition rate of 85%.

Balei et al [6] proposed a model for converting the handwritten text into digital documents. This model is designed such that it includes two approaches namely, direct classification of words and segmentation of characters. The Convolution Neural Network (CNN) is the methodology employed for former approach. The latter approach involves Long Short Term networks (LSTM) methodology with convolution for the construction of bounding boxes of every character. Then the segmented characters are passed to CNN for the purpose of classification and thus the words are reconstructed based on results.

Sharma [7] developed a Support Vector Machines (SVM) model by the hybridization of SVM/HMM Model as recognition system. By using the character database, SVM is developed prior and is used for training OHR system. Then for the recognition of word, hybridization of SVM and HVM is performed. As this model acts as a replacement for Neural Network (NN), the results are compared with NN. This proposed model is more effective in comparison with other system.

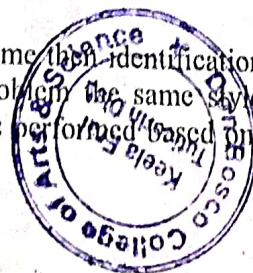
Dineshkumar and Suganthi [8] designed a model comprising of challenges and approaches for offline character recognition of Sanskrit language. This proposed also aims to improve the efficiency of character recognition. The pre-processing is the foremost step involved in this process which comprises filtering, correction and so on. The segmentation of lines, paragraphs is performed for better recognition of characters. The feature extraction of the words is performed and finally the various classification methods are applied to the system to compare which produces the optimal result.

Obaid et al [9] aimed to design a system for handwritten recognition containing 3-layer Artificial Neural network (ANN) based on supervised learning approach. Input samples from the bit map representation are used as feature vector. Along with target vectors the feature vectors are applied to ANN after pre-processing. ANN training process includes English alphabets contained as 55 samples. This model is designed based on two different learning algorithms. In order to deal with input of multiple characters, additive image processing algorithms are developed. It provides an accuracy of 95% on the trained system.

Meng and Morariu [10] aimed to develop the Khmer character recognition model based on the Artificial Neural Network (ANN). This process of character recognition is carried out in a MATLAB environment. The integrated Multilayer Perception (MLP) network and Self-Organization Map (SOM) network utilization along with the algorithm for back propagation is defined by the Khmer recognition system. This system is found to produce the better identification of characters among the various languages used today.

3. Proposed System

Sometime if the dataset samples become same then identification of different users with same styles becomes very difficult task. To solve this problem the same style of the characters and words with different users are clustered then recognition is performed based on those clusters. For image denoising



steps consists of binarization, noise elimination, Thresholding, and size normalization. Then words segmentation is performed by using bat algorithm. Style identification via fuzzy clustering. Finally word recognition is performed by using the ANFIS. The proposed flow diagram is given in figure 1.

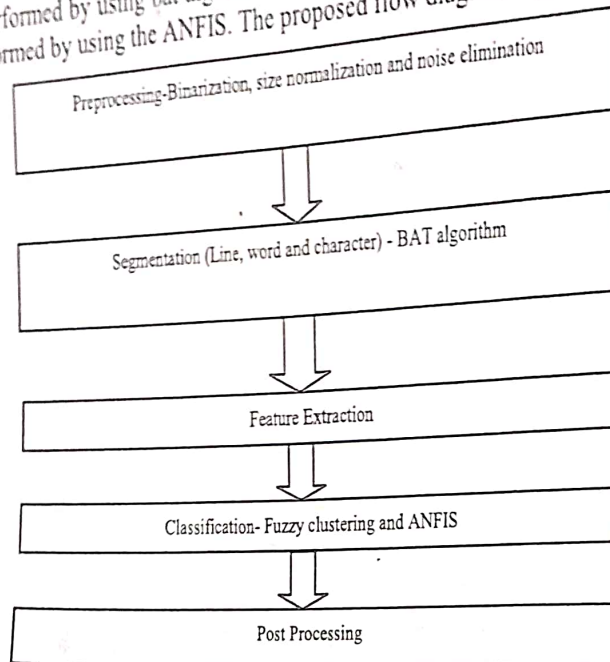


Figure 1: Proposed flow diagram for handwritten recognition

The following are the phases involved in the recognition of handwritten characters in an efficient way.

(i) Pre-Processing

Pre-processing is the process where the source data is provided as input to get the data in the user understandable form on performing the following process:

Binarization: The conversion of normal image into gray scale image and the trailing transformation of binary image occur in the digitalization of images.

Noise elimination: It is the method of excluding the unwanted noises namely, gaps, filled loops, disconnected line segments and bumps which are occurring generally in the scanned images. This method of eliminating the noise will enhance the quality of image in recognition.

Normalization: Process of removing the variations in the words without modifying the identification of words is of normalization. Image cleaning is the initial process of normalization which is followed by skew correction. Line correction and character size normalization occurs next to that process.

(ii) Segmentation

Next to pre-processing, Segmentation occurs in which the characters and words are segmented in order for having the clear separation of words. This process makes the whole system easier for recognition. This involves two various process namely, Script segmentation and image segmentation. Segmentation by means of word, line and character is performed in script segmentation. In this model we have used the BAT algorithm for the process of segmentation which is of effective means. BAT is a kind of optimization technique which has been developed in association of BI with optimization structure.

(iii) Feature Extraction

The recognition rate could be enhanced by means of extracting the feature set from the data even in the presence of least number of elements. Chain Code (CC), Principle Component Analysis (PCA) is some of the process indulged in the extraction of the feature. The output obtained from the feature extraction is inputted to the classification process in handwritten recognition.

iv) Classification

Classification, one among the prominent phases of handwritten recognition plays a role of decision making in this model. The quality of the feature decides the performance of the classifier. Fuzzy logic, an effective style recogniser provides an efficient result in the noise environment. Improved Fuzzy Inference System (ANFIS) algorithm is employed in the final phase of handwritten recognition which is a fusion of fuzzy logic principles and neural network and this algorithm is similar to fuzzy inference system.

(v) Post-Processing

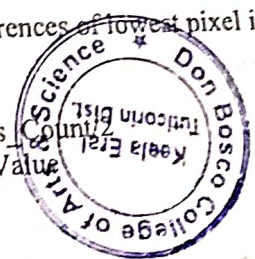
The post processing yields the outcome in the structural format as it is the final phase of handwritten recognition. The errors in classification and segmentation of words occur generally and this could be removed by the post-processing methods. This post-processing involves statistical way of approach and dictionary lookup approach for eliminating the errors. This process is ought to be performed for the effective character recognition.

Noise Elimination

Firstly pre-processing has been carried out for the purpose of removing noise in image. In the sense of obtaining effective reduction process K-Algorithm [11] has been used and this is called as modified technology. It involves two stages namely filtering and binarization. Filtering process has been completed using an algorithm named Re-Sampling. It mainly focus on removing images that are textured slightly or may have some other problems. From the processes carrying out which is said above, almost all possible noises gets removed. While removing the noise, it is very careful in retaining the information that is considered as important. Filter has two types namely, Non-linear and linear filters. Since linear has some issues, the non-linear type is using to overcome those issues such as blurring details, blurring edges and destruction in lines.

Modified_Median_Filter (Image, Matrix_Size)

1. Set $A_Min = -(Matrix_Size)/2$
2. Set $A_Max = (Matrix_Size)/2$
3. For $X = Min_X$ to Max_X
4. For $Y = Min_Y$ to Max_Y
5. For $X1 = A_Min$ to A_Max
 - 5.1. Set $Temp_X = X + X1$
 - 5.1.1. If $(Temp_X \geq Min_X$ and $Temp_X \leq Max_X)$
 - 5.1.2. For $Y1 = A_Min$ to A_Max
Set $Temp_Y = Y + Y1$
 - 5.1.3. If $(Temp_Y \geq Min_Y$ and $Temp_Y \leq Max_Y)$
Add $Pixel_Intensity(Temp_X, Temp_Y)$ to list $Pixel_Values$
 - 5.1.4. End If
 - 5.1.5. End For
 - 5.1.6. End If
6. End For
7. Sort the list $Pixel_Values$
8. Set $No_Occurences =$ Number of the occurrences of lowest pixel intensity value in list $Pixel_Values$
9. If $(No_Occurences == K)$
 - 9.1. $Median_value =$ Value at $Pixel_Values$
 - 9.2. Set $Pixel_Intensity(X, Y) = Median_Value$
10. End If
11. End For
12. End For
13. Return Modified Image



Thus,

Image = Input image is of bitmap type

Matrix_Size = Matrix size of Neighbourhood has defined for pixel. If 3x3 Matrix means, value will be

2.

Min_X = Value for Minimum x coordinate for an inputting image.

Max_X = Denotes Maximum x Coordinate result for inputting image.

Min_Y = Denotes Minimum y Coordinate result for inputting image.

Max_Y = Value for Minimum x coordinate for an inputting image.

Pixel_Intensity(X, Y) = At 0 X and Y coordinates the intensity of pixel could be returned or set.

Pixel_Values = Intensity values for pixels are sorting by using this list.

K = Based on size of matrix, this could be defined. For instance, 3x3 matrixes has its value as one.

Pixel_Values_Count = Denotes values count.

Binarization

Binarization [12] is an approach mainly available for performing image denoising. This technique will do noise removal process by using some advanced system along with. The system named as modified mechanism namely K-Algorithm to remove noise. Algorithm in image processing could do process by combine with filtering and thresholding. Thus it would enhance the quality of every image by acting as refinement mechanism. In order to avoid main problems related to images, binarization is using. This is the process of transformation of filtering in to binary images. At last, threshold value has been calculated and depends on color occurred process are made. In case threshold value is less than intensity in pixel, the color is set to be white which means 0 and it is found to be high the color will be black which means 1.

Binarization (Image)

1. For X=Min_X to Max_X //1
2. For Y=Min_Y to Max_Y //2
 - Pixel_Intensity_Sum=Pixel_Intensity_Sum+Pixel_Intensity(X, Y)
 - Pixel_Count=Pixel_Count+1
3. End For
4. End For
5. Average_Intensity= Pixel_Intensity_Sum/ Pixel_Count
6. For X=Min_X to Max_X
7. For Y=Min_Y to Max_Y
 - 7.1. If (Pixel_Intensity(X, Y) >=Average_Intensity)
 - Set Pixel_Intensity(X, Y) =WHITE
 - 7.2. Else
 - Set Pixel_Intensity(X, Y) =BLACK
 - 7.3. End If
8. End For
9. End For
10. Return Modified Image

Thus,

Image = Input image is of bitmap type

Matrix_Size = Matrix size of Neighbourhood has defined for pixel. If 3x3 Matrix means, value will be

2.

Min_X = Value for Minimum x coordinate for an inputting image.

Max_X = Denotes Maximum x Coordinate result for inputting image.



Min_Y = Denotes Minimum y Coordinate result for inputting image.

Max_Y = Value for Minimum x coordinate for an inputting image.

Pixel_Intensity(X, Y) = At 0 X and Y coordinates the intensity of pixel could be returned or set.

Pixel_Values = Intensity values for pixels are sorting by using this list.

K = Based on size of matrix, this could be defined. For instance, 3x3 matrixes have its value as one.

Pixel_Values_Count = Denotes values count.

Size Normalization

Normalization in image processing field is considered as important process in the sense of image based recognition. It is the process that focuses in modifying the ranges in intensity which is available for images. The main aim of this mechanism is to improve the visual sense over images and to obtain high quality images. But this quality can be based on intensity values. It also consists of normalization process in automatic approach that would normalize any type of image and could obtain result with constant dimensions. Size normalization [13] has been used for alternate the character size based on standard form certainly. Based on direction such as horizontal and vertical, the recognition process over character has been applied.

$$R_1 = \frac{\min\{W_1, H_1\}}{\max\{W_1, H_1\}}, R_2 = \frac{\min\{W_2, H_2\}}{\max\{W_2, H_2\}} \quad (1)$$

Thus,

W1 represents width of character

H1 denotes the character height

W2 represents width of normalized character

H2 denotes the normalized character height

L represents the standard plane size in square format and it might be 32×32 or it may 64×64

R1 usually denotes original character

R2 represents the normalized character

Fuzzy Clustering

Clustering process using Fuzzy [14] has been used to identify the kernel function which could do better performance. Many experiments have been carried out for various functions of kernel for writer identification technology. These functions are useful for measuring the performance of identification. The functions used are namely Gaussian and inverse kernel function.

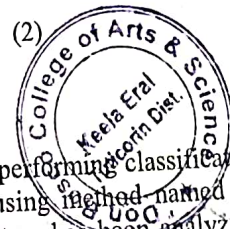
Gaussian Kernel Function: Zero mean and Unit variance with Gaussian has been assumed for distribution in feature vectors. From the result occurred using this function is act as similarly for Exponential kernel function. Similar results as exponential function has been achieved by adjusting the parameters such as variance and mean.

Inverse Kernel Function: It defines the notation for kernel based function.

$$C_{\alpha_k i} = \sum_{p=1}^M \frac{\frac{1}{\text{dist}(x_{\alpha_p}, x_{\alpha_k})}}{\sum_{k=1}^N \frac{1}{\text{dist}(x_{\alpha_p}, x_{\alpha_k})}} \quad (2)$$

Adaptive Neuro-Fuzzy Inference System

Adaptive Neuro-Fuzzy Inference System is mainly useful for performing classification over character that is printed in machine. This system has been trained by using modified back propagation gradient descent and least squares. The performance of this system has been analyzed based on result



obtained from training and accuracy of classification. Adaptive Neuro-Fuzzy Inference system shortly ANFIS mainly focus on to solve the issues which are relating to identification of parameters. ANFIS has forward in which signals of network propagating forwardly and backward pass allows signals of error to move backward. In ANFIS the parameter has made to be fixed and the output obtained could be linear combination of parameters and it is represented using term f . Thus output f can be defined as follows

$$f = (w_1 x)c_{11} + (w_2 y)c_{12} + w_3 c_{13} + w_4 x c_{21} + w_5 y c_{22} + w_6 c_{23} \quad (3)$$

Where, c_j ($j = 1, 2, j = 0, 1, 2$), Parameters that are consequent is represented as c_j in forward pass and the premises parameter are denoted using (a_i, b_i, c_i) which is at backward pass.

4. Experimental Design

The data comprising of 30 characters of Tamil and English from 12000 samples are gathered from various handwritten documents. For the purpose of training 9000 samples (300 samples * 30 characters) are gathered and in order for testing purpose, remaining samples 3000 samples (100 samples * 30 characters) are used. The samples comprising each feature is maintained in the form of Microsoft excel. Figure 2(a) and 2(c) depicts the samples of input Tamil handwriting and English handwriting. Figure 2(b) and 2(d) depicts the results of input Tamil handwriting and English handwriting.

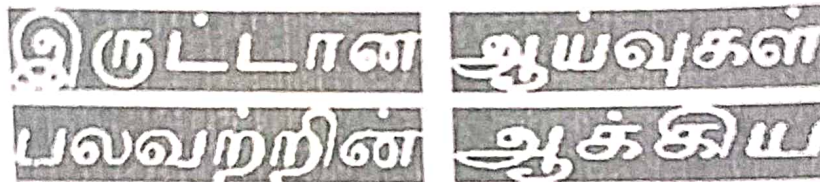


Figure 2 (a): Tamil handwriting samples

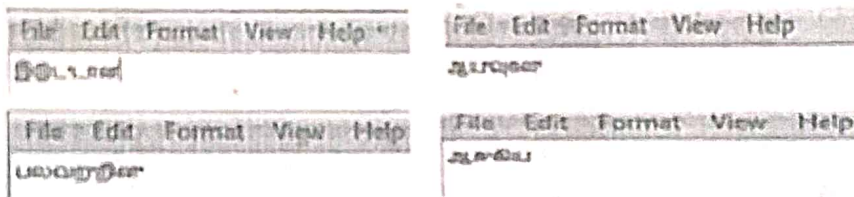


Figure 2 (b): Tamil handwriting recognition results

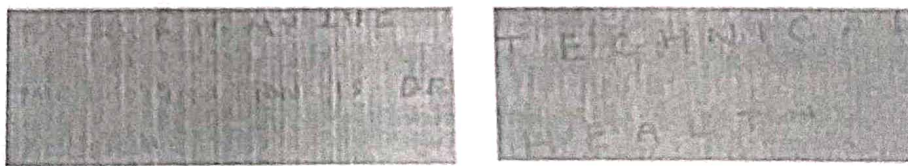


Figure 2(c): English handwriting samples



Figure 2(d): English handwriting recognition results

5. Results

The handwritten recognition comprises of scanned images provided as input which is the first phase of recognition. The words are recognised on performing phases like segmentation, feature extraction, classification and recognition. Figure 2(a) and 2(d) depicts the samples of input Tamil handwriting and English handwriting. Figure 2(b) and 2(c) depicts the results of input Tamil handwriting and English handwriting. The efficiency and performance of the recognition are improvised by employing various algorithms and the accuracy rate is provided in the following tabulation.

The measures like Sensitivity (Sc), Specificity (Sp), Accuracy (Ac) and F-measure are used. At the whole samples, let TP indicates the value of true positive rate of samples, TN indicates the value of true negative rate of samples, FP indicates the value of false positive rate of samples and FN mentions the value of false negative rate of samples. Individually for every sample and on average for the all test samples

$$Sensitivity (or) recall = TP / (TP + FN) \tag{7}$$

$$Specificity = TN / (TN + FP) \tag{8}$$

$$Accuracy = (TP + TN) / (TP + FN + TN + FP) \tag{9}$$

$$Precision = TP / (TP + FP)$$

$$Recall = TP / (TP + FN)$$

$$F\text{-measure} = 2 \cdot \frac{Pr \cdot Re}{Pr + Re}$$

The table 1 shows the results of two different characters and two languages re. maximum and minimum number of iterations required to complete the process. Finally, which iteration the overall character is recognized in the input samples for proposed ANFI.

Table 1: Character Recognition vs. Number of Iterations

Methods	Sample character	No. of trained character (minimum and maximum)		No. of particular character to be recognized iterations
		Minimum	Maximum	
DNN		20	100	72
DNN		17	100	80
		15	100	85
ANFIS		20	100	75
		18	100	68
ANFIS		15	100	75
		13	100	82
		16	100	69

Table 2: Performance Comparison Results of Tamil Character-(Proposed ANFIS)

Algorithm	Sensitivity(%)	Specificity (%)	Precision(%)	F-measure(%)	Accuracy(%)	Time(Seconds)
ANFIS	90.20	77.5	93	91.6	93.20	9
DNN	87	74.5	91	89	90.52	12
SVM	82	70	84	83	85.13	19
Naïve Bayes	85	72.3	89	87	87.00	15

Table 3: Performance Comparison Results of English Character-(Proposed ANFIS)

Algorithm	Sensitivity(%)	Specificity (%)	Precision(%)	F-measure (%)	Accuracy(%)	Time(Seconds)
ANFIS	91.20	77	92	91.6	92.20	8.5
DNN	89	77	90	89.5	90	11
SVM	80.13	69	85	82.565	84.13	20
Naïve Bayes	84	72	88	86	86	15

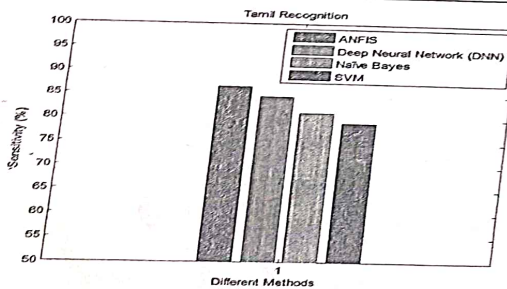


Figure 1: Sensitivity or recall comparison results of Tamil Handwritten recognition methods (proposed ANFIS)

The measures like Sensitivity (Se), Specificity (Sp), Accuracy (Ac) and Precision (Pr), Recall (Re) and F-measure are used. At the whole samples, let TP indicates the value of true positive rate of samples, FP mentions the value of false positive rate of samples, TN indicates the value of true negative rate of samples and FN mentions the value of false negative rate of samples. These measures are computed individually for every sample and on average for the all test samples

$$\text{Sensitivity (or) recall} = TP / (TP + FN) \quad (4)$$

$$\text{Specificity} = TN / (TN + FP) \quad (5)$$

$$\text{Accuracy} = (TP + TN) / (TP + FN + TN + FP) \quad (6)$$

$$\text{Precision} = TP / (TP + FP) \quad (7)$$

$$\text{Recall} = TP / (TP + FN) \quad (8)$$

$$\text{F-measure} = 2 \cdot \frac{Pr \cdot Re}{Pr + Re} \quad (9)$$

The table 1 shows the results of two different characters and two languages results based on the maximum and minimum number of iterations required to complete the process. Final column shows which iteration the overall character is recognized in the input samples for proposed ANFIS classifier.

Table 1: Character Recognition vs. Number of Iterations

Methods	Sample character	No. of trained character (minimum and maximum)		No. of particular character to be recognized within the iterations
		Minimum	Maximum	
DNN		20	100	72
		17	100	80
DNN	i	15	100	85
	j	20	100	75
ANFIS		18	100	68
		15	100	75
ANFIS	i	13	100	82
	j	16	100	69

Table 2: Performance Comparison Results of Tamil Character-(Proposed ANFIS)

Algorithm	Sensitivity(%)	Specificity (%)	Precision(%)	F-measure(%)	Accuracy(%)	Time(Seconds)
ANFIS	90.20	77.5	93	91.6	93.20	9
DNN	87	74.5	91	89	90.52	12
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Naïve Bayes	84	72	88	86	86	15

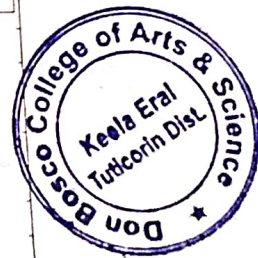
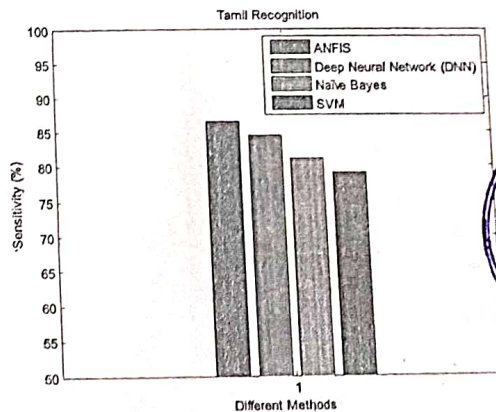


Figure 3: Sensitivity or recall comparison results of Tamil Handwritten recognition methods(proposed ANFIS)

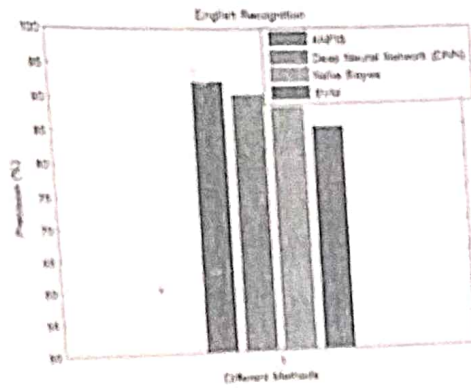


Figure 8: Precision comparison results of english handwritten recognition methods(proposed ANFIS)

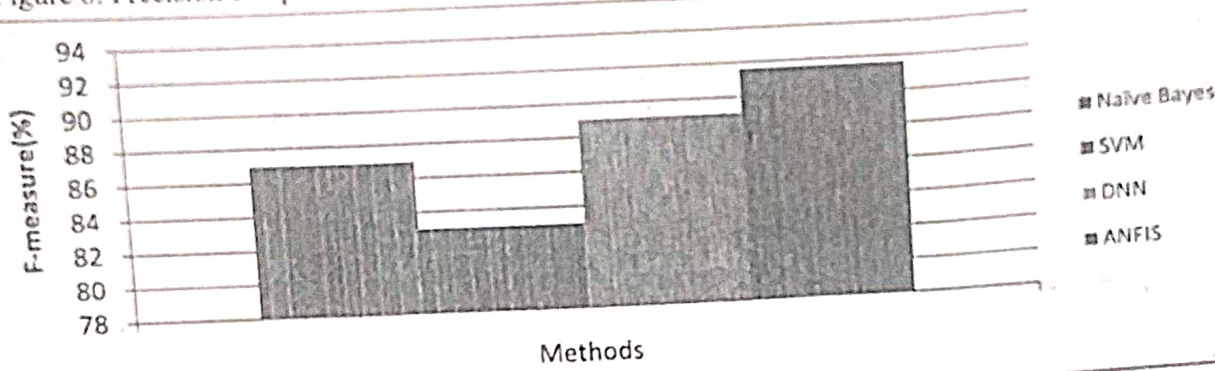


Figure 9: F-measure comparison results of tamil handwritten recognition methods(proposed ANFIS)

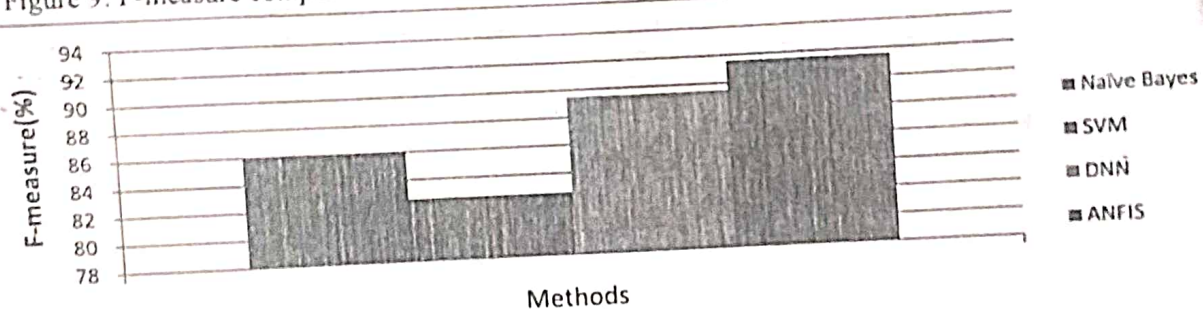


Figure 10: F-measure comparison results of english handwritten recognition methods(proposed ANFIS)

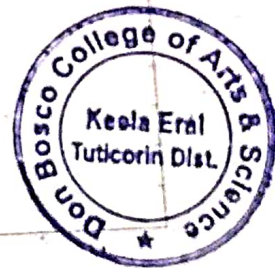
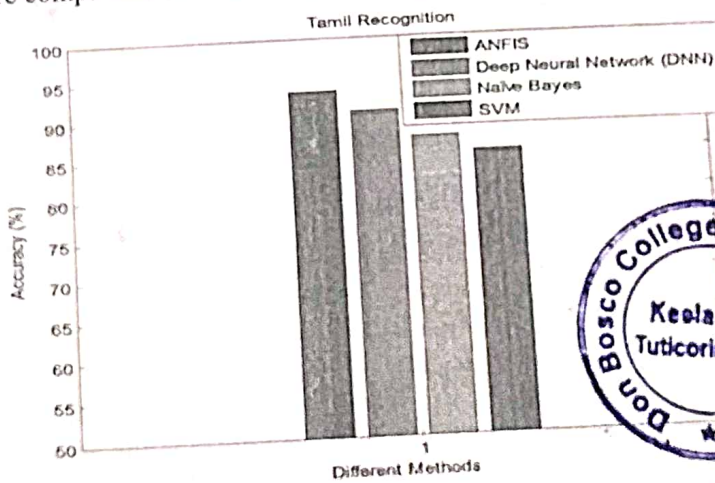


Figure 11: Accuracy comparison results of tamil handwritten recognition methods(proposed ANFIS)

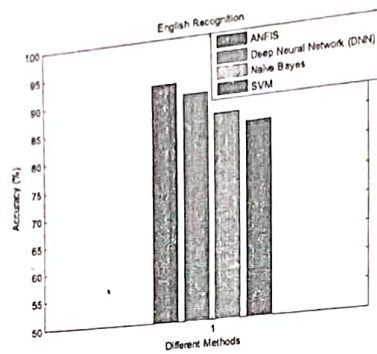


Figure 12: Accuracy comparison results of English Handwritten recognition methods (proposed ANFIS)

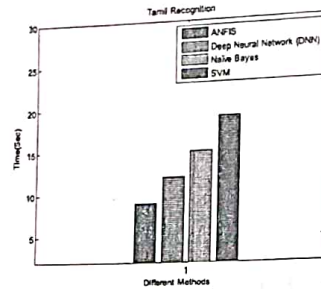


Figure 13: Classification time results of Tamil handwritten recognition methods (Proposed ANFIS)

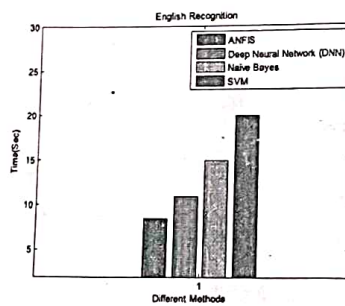


Figure 14: Classification time results of English handwritten recognition methods (proposed ANFIS)

Figure 3, figure 5, figure 7, figure 9, figure 11 and figure 13 shows the results of sensitivity, specificity, precision, f-measure, accuracy and classification time of Tamil handwritten documents with recognition methods. From the results it concludes that the proposed ANFIS classifier performs better for all metrics and lesser computation time when compared to other three classifiers. Figure 4, figure 6, figure 8, figure 10, figure 12 and figure 14 shows the results of sensitivity, specificity, precision, f-measure, accuracy and classification time of English handwritten documents with recognition methods. The values of these metrics are discussed in table 2 and table 3. From the results it concludes that the proposed ANFIS classifier performs better for all metrics and lesser computation time when compared to other three classifiers.

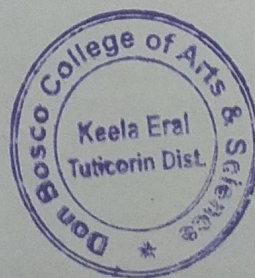
6. Conclusion and Future Work

Online recognition and off-line recognition are the two most common ways of recognising a word or character. This model is designed in a way such that it is based on off-line recognition system which involved various phases of recognition in it. The initial phase is of noise elimination in which noise elimination, normalization and binarization are being performed. Segmentation is followed by initial phase in which the BAT algorithm is involved. Feature extraction is the step trailing to the segmentation where the feature set is obtained for performing the recognition of handwriting. Then the classification is performed where the fuzzy logic and ANFIS algorithms are being applied on the data. Then the errors occurred during all the above process is eliminated in the final phase called post-processing which

improves the efficiency of the recognition model. Edge detection is involved in future work by means of descriptor. The feature set extraction is obtained by means of structural and statistical features in this model.

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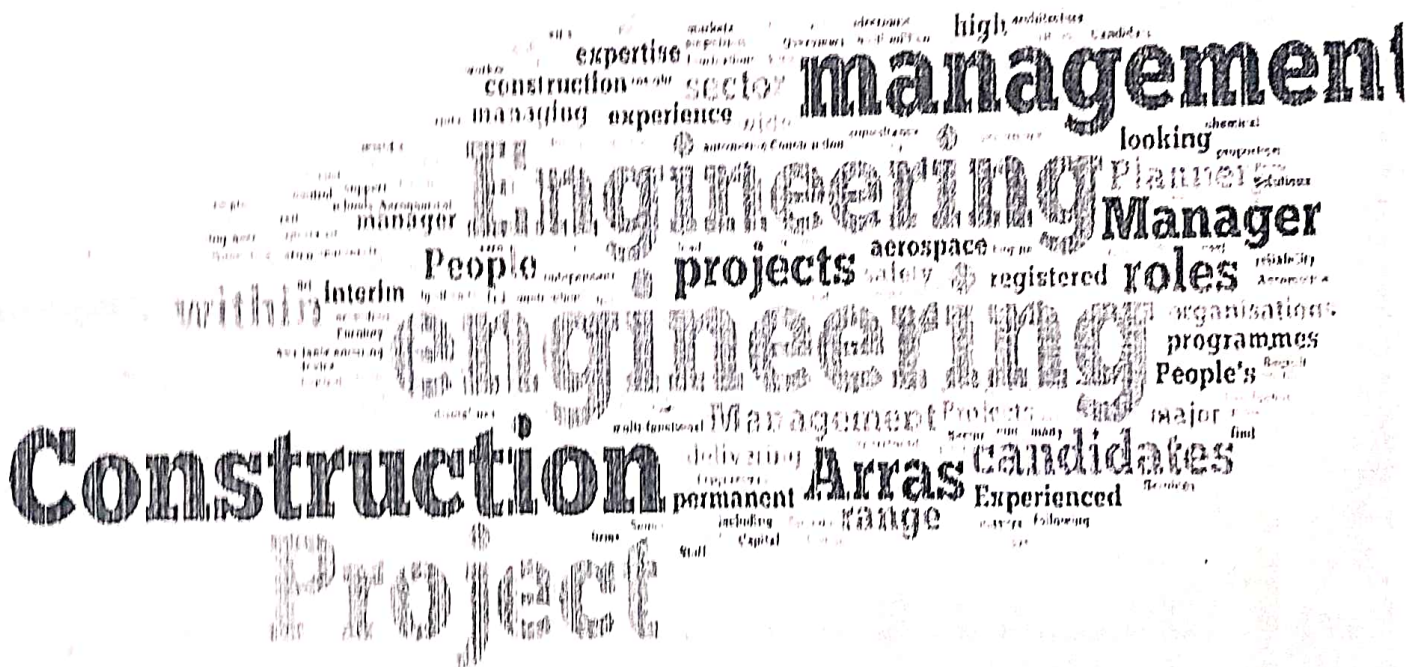


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Interrelationship among factors of OCB in Service industry with respect to Information Technology: An Empirical Study

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Abstract-The purpose of this study is to investigate the role of employee engagement in the relationship between OCB in Information Technology industry in Chennai, Tamilnadu. Quantitative cross-sectional survey design (N = 120) examined the relationship between employee engagement and OCB. Hypotheses were tested through correlation and regression. All the variables studied were significantly related to employee engagement and employee engagement was significantly related to OCB. The regression analysis shows that the Work-Life Balance, Communication at Workplace, Employee Engagement and Employee Retention significantly predicts and has positive effect on Organizational Citizenship. One unit increase in Employee Engagement leads to an increase of 0.841 units in OCB in IT industry, which shows that Employee Engagement is one of the main reasons for OCB.

Keywords-Organizational Citizenship Behaviour, Work-Life Balance, Communication at Workplace, Employee Engagement, Employee Retention

I. INTRODUCTION

Engaged employees bring enduring state of fulfilment at workplace while feeling intrinsically motivated to exhibit positive feelings such as sharing, assisting, cooperating, and supporting, and thus create a holistic framework of the positive psychological, social, and organizational context of work. In this regard, research studies in organizational sciences have recently begun to report a positive association between employee engagement and OCB. Organizational citizenship behavior (OCB), a positive psychological approach of engaged employees towards work and organization is concerned with those informal duties and tasks that go beyond the set boundaries of one's job. In the present study, the researchers attempt to include interrelationship among the variable of OCB also, to find out the impact of some selected independent factors on Organizational Citizenship Behaviour. This study covers that the independent factors that has received less attention in previous research and try to throw light on the potential significance of employee engagement through OCB.

II. REVIEW OF LITERATURE

The continuance of employee engagement goes beyond the traditional notions of job satisfaction, organizational commitment, job involvement etc. Engagement involves the active use of emotional, cognitive, and behavioral energies at workplace while working in coherence with the organization's objectives and strategies (Andrew & Sofian, 2011). Also, engaged employees being focused, energetic, and fully engrossed in their jobs are highly motivated to direct their focused energy towards organizational goals (Macey & Schneider, 2008; Barbera, & Young, 2009). Certainly, organizational performance and effectiveness is a function of the collaborative efforts of engaged employees (Bakker, 2011).

Engaged employees experience greater attachment to their work and organization (Organ, 1994; Schaufeli & Bakker, 2004) For instance, engaged employees are optimistic and spontaneous, they tend to exhibit positive attitudes and proactive behaviors at work place (Schaufeli et al., 2002; Salanova & Schaufeli, 2008)

The presence of OCB has been advocated for the increased organizational effectiveness (Katz & Kahn, 1966; Organ, 1988; Podsakoff & Mackenzie, 1997). OCB has been observed to encompass those behaviors which lubricate the social machinery and construct the psychological fabric of an organization. Hence, OCB is generally considered both critical and beneficial to organizations (Wei et al., 2010).

OCB literature has produced an impressive amount of substantive research on antecedents of OCB (Organ & Ryan, 1995; Podsakoff et al., 1996; Podsakoff et al., 2000). However, the constant evolution of the psychological process of employee engagement has lately begun to emerge as yet another important pathway for the evocation of OCB (Wei et

al., 2010). This furthers the need to improve our existing understanding of causal relationships among antecedents and consequences of OCB.

In the current study, the researcher attempt to include 'organizational effectiveness' variable that has received less attention in previous research to throw light on the potential significance of employee engagement through OCB. We are affirmative that academic efforts that explore how psychological mechanisms encourage and motivate employees to more actively engage in OCB and their impact on organizational effectiveness would most likely provide considerable implications for human resource development scholars and professionals.

Furthermore, as aforementioned, employee engagement encourages OCB (Bakker, Demerouti, & Verberke, (2004); Babcock-Roberson, & Strickland, 2010; Christian et. al., 2011), and OCB have been well documented in literature augmenting the effectiveness of an organization (Walz&Niehoff, 2000).

Taking the same context ahead, it is proposed that employee engagement is related to organizational effectiveness and OCB functions as a mediator in the relationship between employee engagement and organizational effectiveness. The paper does not ostensibly replicate the previous acquisitions linking employee engagement to OCB and OCB to organizational effectiveness, but thoroughly envisages construction of a comprehensive framework that organizes relevant literature to support the connections between employee engagement and organizational effectiveness via OCB. In this direction, the paper seeks to acknowledge this existing yet not explicitly empirically examined link in the extant literature with regard to employee engagement and organizational effectiveness, and exploring organizational citizenship behavior (OCB) as a significant mediator persuading the predicting variable to the criterion variable. No study, to the best of our knowledge has proposed this unique combination of variables and the potential mediating mechanism of OCB between employee engagement and the organizational effectiveness. Therefore, the paper sets forth a new area of potential interest for research and practice in organizational sciences that could be further explored and build upon.

Employee engagement

Considerable attention is given to the notion of employee engagement in contemporary organizations due to the recently reported positive relationship between engagement and direct measures of organizational effectiveness as job performance, output, quality, customer satisfaction, profits, and business growth (Buckingham & Coffman, 1999; Coffman & Gonzalez- Molina, 2002; Buchanan, 2004; Gallup Organization, 2004; Hewitt Associates LLC, 2005; Fleming and Asplund, 2007; Lockwood, 2007; Sundaray, 2011). Therefore, engaged employees nowadays is at the central focus of various organizations.

Though emergence and vast popularity of the concept has often been attributed to practitioners' community, yet a great deal of research from researchers and academicians establishing the instrumentality of the concept, and identifying its differential antecedents and consequences 'has' been flourishing lately (Sonnetag, 2011; Rurkkhum& Bartlett, 2012). Kahn (1990), in his first and foremost qualitative study on engagement states, "Engaged employees drive personal energies (physical, cognitive, and emotional) into their work roles". In this connection, psychological experiences were identified as significant and necessary for an employee to invest his/her personal energies into their work role performance.

Three psychological conditions were also articulated as a result of this notion a) meaningfulness (identification with one's work/creative and challenging work, autonomy etc.), b) safety (elements of social systems), and c) availability (sense of having physical and psychological resources). In this context, engagement was presumed as having positive outcomes for both individual as well as organizations. The fulgent beginning of engagement literature with the works of Kahn (1990) has drifted considerable attention and inclination of researchers in recent times. Hence, numerous definitions on engagement have been produced thereafter:

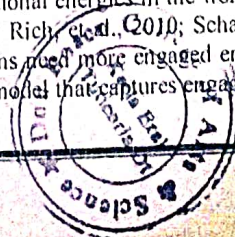
Harter et al., (2002) defined engagement as "the individual's involvement and satisfaction with as well as enthusiasm for work". Schaufeli et al., (2002) defined engagement as "a positive fulfilling, work related state of mind characterized by vigor, dedication, and absorption".

Robinson et al., (2004) defined engagement as "a positive employee attitude towards the organization and its values, involving awareness of business context, and work to improve job and organizational effectiveness".

Saks, (2006) defined employee engagement as "a distinct and unique construct that consists of cognitive, emotional, and behavioural components that are associated with individual role performance" (p. 602).

Shuck & Wollard, (2010) distinctly defined employee engagement as "an individual employee's cognitive, emotional, and behavioral state directed toward desired organizational outcomes".

In sum, an emerging body of research is using a common conceptualization of employee engagement connoting it as high levels of personal investment in terms of physical, cognitive, and emotional energies in the work tasks performed on a job (e.g. Kahn, 1990; Macey & Schneider, 2008; Mayet et al., 2004; Rich, et al., 2010; Schaufeli et al., 2002; Christian et al., 2011). Bakker & Schaufeli (2008) claimed that organizations need more engaged employees who feel energetic, dedicated and absorbed by their work. Schaufeli's three-factor model that captures engagement in terms of



vigor, dedication, and absorption components has been one of the most popular measures (Wefald et al., 2011) due to its vast validity in majority of countries across the world (Bakker et al., 2008).

Vigor-vigor refers to the positive core affect in employees that is characterized by the high levels of positive energy and mental resilience while working, and the willingness to invest time and efforts in job tasks.

Dedication- contains the emotional framework of engagement. It is a state in which employees perceive their work as a significant and meaningful pursuit.

Absorption-refers to the cognitive aspect where employees experience their work as engrossing and something on which they are fully concentrated and one finds it difficult to detach himself from work.

Engaged employees are happily involved and experience their work as engrossing and something to which they can devote their full concentration (Bakker et al., 2010, 2011). Hence, engagement is inferred as a positive experience in itself which has positive consequences for the organizations (Bhatnagar, 2012) in terms of high commitment, task proficiency, less employee turnover, less absenteeism, higher productivity, and consequently, increased performance of the organization.

Employee involvement, commitment, and performance are directly connected to the goals of an organization (Denison et al., 2004). Engaged employees would make a big difference if organizations provide positive psychological climate, good working conditions, job resources, and organizational support to inspire them to give their best and go extra-mile to enhance the effective functioning of the organization. In addition, employees perform better when they experience positive practices at work place for instance, being treated with respect, provided with opportunities to develop their career, adequate reward and recognition for high performance etc.

In fact, employees desire positive feelings about their work experiences that go beyond global attitudes of job satisfaction or commitment (Buckingham & Coffman, 1999; Harter, Schmidt, & Hayes, 2002; Harter, Schmidt, & Keyes, 2003; Wagner & Harter, 2006). Therefore, it is a two way process and much effort is needed on the part of organizations to nurture and leverage engagement. Providing employees a positive work environment is of ominous significance where employees can improvise and consequently help their organization to flourish in the present scenario.

Organizational Citizenship behavior (OCB)

Barnard's (1938) impression of the "willingness to cooperate" has directed considerable interest from industry and management towards that constituent of job performance other than formal role requirement or task performance which has substantial impact on the capability of an organization to achieve its long term goals. In addition, his concern for the cooperative efforts on part of employees in terms of sharing information among organization members to make the organization function smoothly prefigures that willingness of individuals to engage in spontaneous and cooperative gestures are instrumental for the vitality of organizations (Waltz & Niehoff, 2000). While expanding and refining his idea, several authors have made significant contributions thereafter to describe employees' positive and cooperative gestures as those extra role behaviors that are instrumental to the organizational effectiveness (Katz & Kahn, 1966, 1978).

Organ (1988) subsequently conceptualized these efforts as organizational citizenship behaviors that are discretionary, not directly and explicitly recognized by the organizational reward system, and that in aggregate, promote the effective functioning of the organization. Borman & Motowidlo, (1993) conceived the idea as contextual or citizenship performance and defined this type of performance as behaviors that are not directly related to the main task activities but are significant because they support the organizational, social, and psychological context that serves as the critical analyst for tasks to be accomplished.

Further, while sharing a common belief, these behaviors have been defined and termed differently in literature in terms of extra-role behaviors (Dyne et al., 1995), prosocial behaviors (Brief & Motowidlo, 1986), organizational spontaneity (George & Brief, 1992), and as contextual performance (Motowidlo, 1997), but organizational citizenship behavior (OCB) is more comprehensive and popular term that describes these wide range of cooperative behaviors that are positive, voluntary, non-obligatory, and goes beyond the set requirements of a job (Turnipseed & Wilson, 2009).

More recently, while broadening the scope of the construct, Organ (1997) reshaped the definition of OCB's as behaviors that facilitate "the maintenance and enhancement of social and psychological context that supports task performance", explicating similarity to the conceptualization of contextual performance by Borman & Motowidlo (1993).

Further, although there exists a lack of consensus on the dimensionality of OCB among researchers as almost 3 overlapping or somewhat different forms of OCB's have been identified (Podsakoff et al., 2000), but Organ's (1988) taxonomy delineating citizenship behaviors in terms of altruism, courtesy, civic virtue, conscientiousness, and sportsmanship has been widely accepted, popular and much studied in literature reporting the greatest amount of empirical research (LePine et al., 2002).



- a. Altruism refers to the helping approach of an employee towards fellow employees.
- b. Conscientiousness denotes impersonal behaviours for instance, obeying rules.
- c. Sportsmanship invoke behaviors that includes not complaining on fiddling issues and willingness to tolerate less than ideal circumstances
- d. Civic Virtue behaviors that indicate employees' participation and concern about the life of organization such as participating in meetings, and
- e. Courtesy reflects in discretionary behavior such as positive gestures of consulting and passing along the information, aimed at preventing work related problem with others (Organ, 1988).

Given the rationality for a significant association between OCB and organizational effectiveness (Bateman & Organ, 1983; Organ, 1988; Podsakoff & Mackenzie, 1994; Smith, Organ, & Near, 1983; Williams & Anderson, 1991), it has been observed that employee's extra efforts in form of citizenship behavior enable supervisors to devote more time in planning organizational activities, promote optimum utilization of organizational resources, enhances co-workers' and managerial productivity, make organization a better place to work and thereby resulting into better functioning and smooth running of the organization. In fact, reduced absenteeism, increased employee satisfaction and employee retention, are some other contributions of OCB towards increased organizational performance and effectiveness (Chahal & Mehta, 2010; Chughtai & Zafar, 2006; Khalid & Ali, 2005; Podaskoff & Mackenzie, 1997).

Although there is a considerable agreement about the salience of OCB in extant literature, yet there is no consensus on the understanding of sources of OCB. OCB are largely considered as a matter of personal choice based on three underlying motives (motivational factors): a) prosocial values b) organizational-concern c) self-concern (Thayer, 2008). OCB are conceived as predominantly goal-directed behavior that is initiated by internal goals set by an individual. In addition, researchers have emphasized the attitudinal and dispositional factors which determine the extent to which one exhibit OCB (LePine et al., 2002; Organ & Ryan, 1995; Podsakoff et al., 2000) whereas others focused on its contextual factors articulating OCB as an outcome of situational cues that define role- requirements and responsibilities to employees, motivate and provide opportunities or constrains the display of OCB (Farh et al., 2004).

III. OBJECTIVES

This study focuses on the following two objectives:

1. To identify the interrelationship among factors of Organizational Citizenship Behaviour (OCB).
2. To find-out the impact of independent factors on Organizational Citizenship Behaviour (OCB).

IV. RESEARCH METHODOLOGY

- Sample Size: 120 respondents
- Sampling Method: Convenience sampling
- Method of Data Collection: Questionnaire
- Analysis of Tools:
 - ✓ Bi-variate correlation
 - ✓ Multiple regression analysis
- Research Hypothesis:

H₀₁: There is no significant relationship between Work-Life Balance and OCB

H₀₂: There is no significant relationship between Communication at Workplace and OCB

H₀₃: There is no significant relationship between Employee Engagement and OCB

H₀₄: There is no significant relationship between Employee Retention and OCB

H₀₅: Independent variables do not have significant effect on Organizational Citizenship Behaviour

V. RESULTS AND DISCUSSION

Relationship between independent variables and Employee engagement:

To test the significant relationship between independent variables (Work-Life Balance, Communication at Workplace, Employee Engagement and Employee Retention) and Organizational Citizenship Behaviour (OCB), bi-variate correlation is applied to ascertain the relationship between independent variables and Organizational Citizenship Behaviour.

The following null hypotheses were framed:

H₀₁: There is no significant relationship between Work-Life Balance and OCB

H₀₂: There is no significant relationship between Communication at Workplace and OCB

H₀₃: There is no significant relationship between Employee Engagement and OCB

H₀₄: There is no significant relationship between Employee Retention and OCB



Table 5.1: Relationship between independent variables and Organizational Citizenship Behaviour

Independent variables	Organizational Citizenship Behaviour	
	r-value	p-value
Work-Life Balance	0.704**	<.001
Communication at Workplace	0.664**	<.001
Employee Engagement	0.782**	<.001
Employee Retention	0.810**	<.001

** Significant at 1% level

Source: Survey Data

Positive significant correlation is observed between Work-Life Balance and Organizational Citizenship Behaviour ($r = 0.704$). Hence the null hypothesis "There is no significant relationship between Work-Life Balance and Organizational Citizenship Behaviour" is rejected at 1% level. This shows that Work-Life Balance improves Organizational Citizenship Behaviour in IT organizations by 70.4%

Positive significant correlation is observed between Communication at Workplace and Organizational Citizenship Behaviour ($r = 0.664$). Hence the null hypothesis "There is no significant relationship between Communication at Workplace and Organizational Citizenship Behaviour" is rejected at 1% level. This shows that Communication at Workplace increases Organizational Citizenship Behaviour in IT organizations by 66.4%

Positive significant correlation is observed between Employee Engagement and Organizational Citizenship Behaviour ($r = 0.782$). Hence the null hypothesis "There is no significant relationship between Employee Engagement and Organizational Citizenship Behaviour" is rejected at 1% level. This shows that Employee Engagement improves Organizational Citizenship Behaviour in IT organizations by 78.2%

Positive significant correlation is observed between Employee Retention and Organizational Citizenship Behaviour ($r = 0.810$). Hence the null hypothesis "There is no significant relationship between Employee Retention and Organizational Citizenship Behaviour" is rejected at 1% level. This shows that Employee Retention increases Organizational Citizenship Behaviour in IT organizations by 81.0%

Effect of independent variables on Organizational Citizenship Behaviour:

Multiple regression analysis is conducted to identify the effect of independent variables (Work-Life Balance, Communication at Workplace, Employee Engagement and Employee Retention) on Organizational Citizenship Behaviour. Work-Life Balance, Communication at Workplace, Employee Engagement and Employee Retention are taken as independent variables and Organizational Citizenship Behaviour is taken as Dependent variable.

H_{03} : Independent variables do not have significant effect on Organizational Citizenship Behaviour

Table 5.2: Regression analysis for Organizational Citizenship Behaviour

Variables	R ²	Beta	F-statistics	t-value
Work-Life Balance Communication at Workplace Employee Engagement Employee Retention	0.721		59.761**	
	Adjusted R ²	0.602		6.564**
		0.431		7.295**
	0.717	0.841	10.481**	
		0.745	9.280**	

** Significant at 1% level

Source: Survey Data

It is observed from the table 4.32, the regression model's F value is 59.761 and it is significant, the null hypothesis "Independent variables do not have significant effect on Organizational Citizenship Behaviour" is rejected at 1% level. The regression model's coefficient of determination (R²) is 0.721 (72.1% of variability) and adjusted R² value of 0.602 shows better coefficients. Work-Life Balance, Communication at Workplace, Employee Engagement and Employee Retention significantly predicts and has positive effect on Organizational Citizenship Behaviour at 1% level significance. One unit increase in Employee Engagement leads to an increase of 0.841 units in OCB in IT industry which shows that Employee Engagement is one of the main reasons for OCB. Work-Life Balance, Employee Retention



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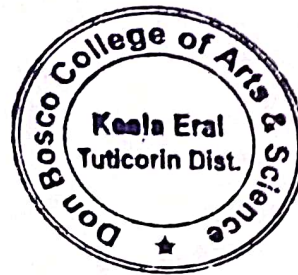
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QoS Measurement of RPL using Cooja Simulator and Wireshark Network Analyser

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Abstract— The Internet of Things (IoT), with its ability to collect data using sensors and store the voluminous data over the cloud has become the de facto standard in building up smart homes and smart cities. The routing protocols are used in the network layer and they play the pivotal role. They perform the intelligent task of forwarding and routing. If the routing is not done properly then there will be a heavy loss and retransmission of the packets, that would cost more power, memory, bandwidth and procession capacity. Therefore, the routing protocols used in the regular networks cannot be used efficiently in IoT. IPv6 routing protocol for Low power and lossy networks (RPL) has become the favourite routing protocol of Internet of Things. There are several metrics used in the RPL to determine the path cost and to help to connect the nodes with each other. The performance quality of RPL can be analysed and measured from the factor that how best it works utilizing the resources like energy, memory, bandwidth etc. The quality of services parameters like packet delivery ratio, network convergence time, remaining energy, latency and control traffic overhead are analysed to measure the performance of RPL. The Cooja simulator running over the Contiki Sensor OS is chosen as an ideal platform due to its special feature of supporting the cross-layer simulation. The open source network analyser Wireshark used in Contiki OS also helps in the process of performing protocol analysis.

Keywords— Internet of things, Routing, Low power and lossy networks, RPL, QoS for RPL, Cooja Simulator, Wireshark

I. INTRODUCTION

The emergence of Internet of Things (IoT) Technology is going to create a great revolution in the field of networking. In IoT a large number of devices, objects and computers are interconnected using various connecting technologies like Zigbee, Bluetooth, Wi-Fi and GSM. These different ways and possibilities of connecting are provided in the link layer of the IoT with IEEE 802.15.4, which is the standard for link layer frames delivery in the low power and lossy networks [1]. In the conventional networks, we usually have connectivity between homogeneous devices, but in IoT, there is connectivity between heterogeneous devices and networks [2]. The wireless sensor networks, when enabled with the ability to store data on the cloud, it is called Internet of Things. In IoT, sensors are used in some way or the other to collect data. The devices in IoT are called nodes and they use minimum energy and usually run for years on small and inexpensive batteries [3].

There is a stack of protocols used in the network to control the data. Among the layers of network, the network layer is the one which controls the flow of data between the nodes [4]. The protocols used in the regular networks cannot be used in the constrained network of IoT due to the scarcity of

memory, energy and processing capabilities available in devices. The protocols such as Open Shortest Path First Protocol (OSPF) Protocol, Intermediate System to Intermediate System (IS-IS) Protocol, Optimized Link State Routing (OLSR) Protocol and Ad hoc On demand Distance Vector protocol (AODV) did not satisfy the needs of the low power and lossy networks, though they were efficient in regular and conventional networks [5]. The routing protocols do the job of forwarding the packets and routing. If these are not performed intelligently then there will be loss of packets and retransmission of the packets, costing more memory, bandwidth and procession power. Therefore, the protocols of the normal network cannot be used here and we adopt RPL to do this job [6].

RPL has become the de facto routing protocol in IoT, due to its advantages over the other routing protocols. RPL has better response time, because the routes are readily available. RPL has only the local routing information, therefore it does not flood the network, and it is scalable. RPL can be used in non-infrastructure network [07].

4) Rank Calculation

Some metrics are used to assign rank and choose the preferred parent based on the rank. Each node moves between being a node and parent depending on the Rank it holds. Rank is a 16-bit integer that indicates the rank of the node and affects the DIO control message. It is a scalar representation of the location of the node in the DAG. Rank is used to avoid loops as well as to detect loops. The rank is not a path metric and it monotonically increases as the nodes go away from the root. As the node is away from the root its rank is increased.

$$DAGRank = \text{floor} \left(\frac{Rank}{MinHopRankIncrease} \right) \quad (1)$$

The MinHopRankIncrease determines the maximum number of hops. The node checks the rank of the parents with the neighbouring node. Whichever has the lowest rank becomes the parent of that node. If both are equal then no change is made [08]. The rank is used to avoid loops and the routing metrics are used to find the shortest path between the nodes. When there are multiple roots, the node with the smallest rank is chosen as the preferred parent [05].

The Zero objective function uses the hop count as the routing metric to determine the rank of the nodes. Each node is assigned a rank based on the calculation made with the hop count.

$$R(N) = R(P) + Rank_{increase} \quad (2)$$

where $R(N)$ = Rank of the node and $R(P)$ = Rank of the Parent Node.

$$Rank_{increase} = (Rf * Sp + Sr) * MinHopRankIncrease \quad (3)$$

where Rf is the Rank Factor, Sp is the step of the rank and Sr is the stretch of the rank [10] [05].

In the minimum rank with hysteresis objective function (MRHOF) the expected transmission count (ETX) is used as the routing metric and the same is also used for the path metric calculation and determination of the rank. There is slightly a different approach from the OF0 is used here in the approximation of the rank for the nodes and the preferred parent. The node with the lower rank is not immediately chosen as the preferred parent, lest it creates a churn in the network. Whereas a threshold is set and if the rank is less than the set threshold then the switch over of the parent takes place. Otherwise the node continues to have its own parent in spite of the available parents with the lower rank [11].

B. Cooja Simulator

Cooja is a network simulator designed for simulating the sensor networks over the Contiki sensor Operating system. It is a Java based simulator but allows sensor nodes to be written in C [06]. Cooja is a flexible, cross-level simulator, which allows the nodes to be in different levels of not only software but also hardware. Cross level simulation allows the simulation to take place at different levels of the system. Cooja combines both low-level simulation and high-level simulation. Cooja is not only flexible but also extensible to

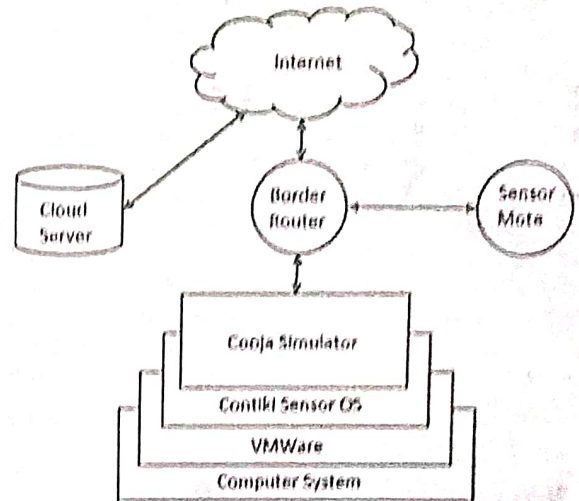


Figure 4. Cooja Simulator and Sensor Structure

different sensor node platform, operating system software, radio transceiver and radio transmission models. The other prevalent network simulators like NS2, TOSSIM, AVRORA and others are capable of running the simulation at only one level of the system. For example, NS2 can run only at the network level. The TOSSIM can run at operating system level and AVRORA at machine code instruction level, whereas Cooja can run at all these three levels at a time [12]. Fig. 4 explains the structure of Cooja simulation and its relationship with the sensor nodes, internet and cloud server.

1) Working of ContikiRPL

The border router is initially set up by the user and it starts functioning as the root node. The root usually takes the ID number 1 and it sends out the DIO message to the neighbours, advertising its parameters. The rank of the border router will be the minimum, that is 1. The neighbours then calculate the rank for themselves and forward the messages. Any node with the lower rank is preferred as the parent by the subsequent nodes. The routing metric is used for the calculation of the rank, and it is determined by the objective function. This process ends once all the available nodes join the DAG. If the nodes do not receive the DIO within a specified time, then they start sending the DIS messages. The nodes that received DIS message would immediately transmit the DIO message.

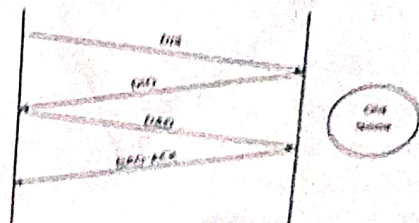
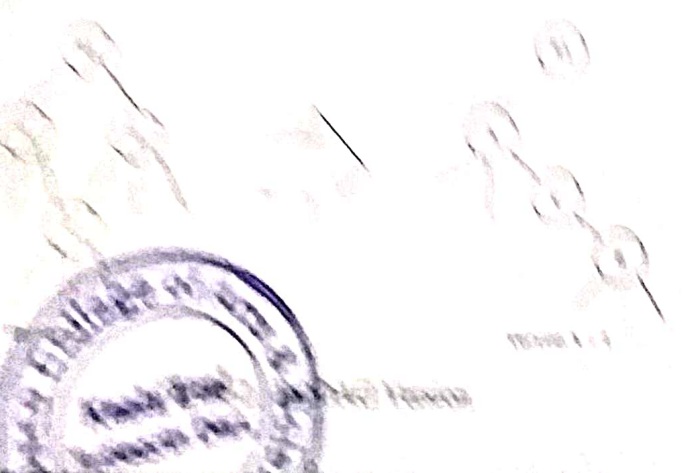


Figure 3. RPL Parent Selection

The first part of the paper discusses the importance of the matrix A in the context of the problem. It is shown that the matrix A is symmetric and positive definite, which implies that the problem is convex. This property is crucial for the development of the algorithm.

The second part of the paper describes the algorithm. It starts with an initial guess for the solution and iteratively improves it. The algorithm is based on the gradient method, which uses the subdifferential of the objective function to find the next point. The convergence of the algorithm is guaranteed under certain conditions.



The third part of the paper discusses the implementation of the algorithm. It details the choice of parameters and the stopping criteria. The algorithm is implemented in a programming language, and its performance is evaluated on a set of test problems. The results show that the algorithm is efficient and robust.

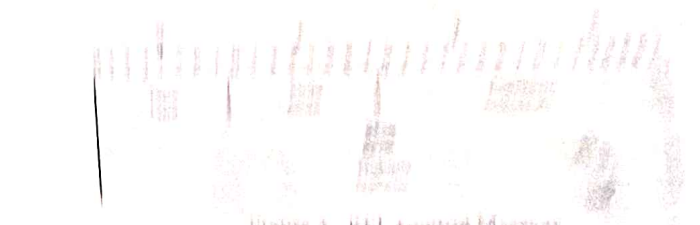


Figure 1: Plot of the objective function value versus the iteration number.

The fourth part of the paper discusses the application of the algorithm to a specific problem. The problem is a linear programming problem, and the algorithm is used to find the optimal solution. The results are compared with those obtained using a standard linear programming solver, and it is shown that the proposed algorithm performs well.

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to find the four levels of energy consumption individually and collectively using this GUI display. The energy consumption output is shown in Fig. 9. The lower the energy consumption of a node and the network, the better it suits for the LLNs.

E. Measurement of Convergence Time

The pcap file captured in Cooja is evaluated by Wireshark network analyser. We use the filter to select only the DIO messages and find the first and last DIO control message. We can also get the convergence time by analysing the mote output of Cooja simulator as shown in Fig. 16. The mote output provides details of the time at which the message is sent, the mote ID number and the details of the transmission. It is very easy to locate the last DIO that joined the DAG in that mote output file. The convergence time needs to be the minimum for a network to provide better stability. Usually it takes from 5 seconds to 15 seconds for a network to get converged. Depending on the mobility of the nodes it may vary.

F. Measurement of PDR

The packet delivery ratio can be calculated using the pcap

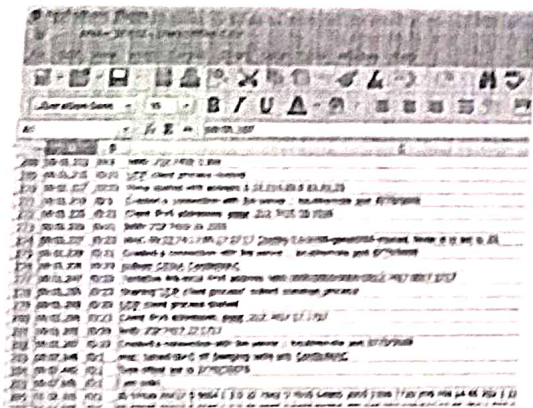


Figure 16. Transmission Time in Mote Output

file in the Wireshark network analyser. The total sent packets and the received packets can be filtered using the filtering mechanism in the Wireshark. Packet delivery ratio is one of the main factors in measuring the reliability of a network. A network with a good transmission range will provide more than 90 % of PDR. The network size affects the PDR value.

G. Measurement of Control Traffic Overhead

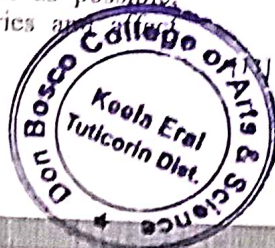
We take into consideration once again the pcap file for the analysis of the control traffic overhead. We filter out only the DIO, DIS and DAO control messages. The sum of all these provides the total control traffic overhead of the network. The control overhead should be reduced as much as possible, because more traffic would drain the batteries and greatly the low powered devices in LLN.

IV. CONCLUSION

The quality of any network consists in the way it delivers the expected result. The quality of services guarantees the network quality and performance. We have taken into consideration some quality measures to ensure the quality of RPL. The results derived from using these measurements can be of great help to predict the robustness, reliability, stability, resilience and other vital qualities of the network.

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LEVEL OF SATISFACTION OF POLICYHOLDERS ON LIFE INSURANCE CORPORATION OF INDIA OF KOVILPATTI REGION OF TAMIL NADU

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Abstract

Life insurance means to repay the contract amount to a family, if the policyholders meet with an untoward incident. On that purpose the LIC is introduced in 1956 in India. In two decades before the Life Insurance Corporation of India only to sell its Insurance Policies. In the year 2000 Insurance Regulatory and Development Authority (IRDA) allows private companies allied with foreign company to sell the life insurance products. Now-a-days LIC meets several competitions to overcome such problems only by increasing the satisfaction level of policyholders. In this study assess the policyholder level of satisfaction of LIC in Kovilpatti Region. It consists of various plans issued by LIC and assesses the level satisfaction about LIC plans, premium level, services provided by LIC. Finally give the conclusion and suggestion to improve the satisfaction level of policyholders to overcome among the high competition. This study can be concluded that the level of satisfaction of policyholders is very high towards services offered by Life Insurance Corporation of India in the study area.

Keywords: Policyholders, Life Insurance, Satisfaction, Services and Kovilpatti Region.

Introduction

The idea of insurance was born out of the desire of the people to share loss of an individual by many. Originally it restricted to forms other Life Assurance. It started with Marine Insurance. Where the losses on account of perils of sea were shared by all who were engaged in trade. The work "Yogaksheme" is used in the Rig Veda suggesting the same form of community insurance was practiced by the Aryans in India over 3000 years ago.

Insurance companies are called insurers. The business of insurance is to (a) bring together person with common insurance interests (sharing the same risks), (b) collect the share or contribution (called premium)

from all of them, and (c) pay out compensation (called claims) to those who suffer.

In India, insurance business is classified primarily as life and non life or general. Life insurance includes all risks related to the lives of human beings and general insurance covers the rest. Life insurance assures to replace income lost to a family if the policyholders meet with an untoward incident.

Statement of Problem

The main objective of LIC is to spread Life insurance widely and in particular to the rural areas. Now-a-days many insurance companies enter into the insurance marketing so the policyholders satisfaction is essential to overcome the competition. The development

of LIC does not merely depend upon simply introducing various types of products in the market but also depends upon the level of satisfaction derived by the policyholders. Therefore in this study an attempt is made to assess the level of satisfaction of policyholders with LIC plans.

Objectives of the Study

1. To study the various insurance policies offered by Life Insurance Corporation of India.
2. To know the level of satisfaction of policyholders towards services offered by Life Insurance Corporation of India in Kovilpatti Region.

Methodology and Research Design

The present study is based on both primary and secondary data. The primary data were collected from the policyholders in LIC in Kovilpatti Region of Tamil Nadu by using the Interview Schedule Method. The secondary data were obtained from various books, magazines, journals and annual reports.

The present study followed the convenient sampling method for the research work. The information was collected from the 90 policyholder from the selected areas in kovilpatti region.

Analysis and Discussions

Types of Insurance Plans

Types	Weighted Average	Ranks
Insurance Plans	25.7	I
Pension Plans	20.3	III
Units Plans	21.0	II
Special Plans	17.9	V
Group Scheme Plans	18.8	IV

The above table results shows that the policyholders are preferred mostly life insurance plans, followed that units plans, pension plans, group scheme plans and special plans.

Opinion of Policyholders about LIC Premium

Level of Satisfaction	Frequency	%
Highly Satisfied	31	34.44
Satisfied	47	52.23
Moderately Satisfied	9	10.00
Unsatisfied	3	3.33

It is understood from the table 2 that the policyholders' opinion about LIC policy premium is more affordable for them (52.23 per cent), followed by highly satisfied (34.33 per cent), moderately satisfied (10 per cent)

and least number of policyholders are unsatisfied (3.33 per cent) with LIC premium in the study area.

Opinion of Policyholders towards Services offered by LIC

Level of Satisfaction	Frequency	%
Highly Satisfied	78	86.67
Satisfied	12	13.33
Moderately Satisfied	0	0
Unsatisfied	0	0

It is evident from the table 3 that 86.67 per cent of the policyholders are highly satisfied with various services offered by Life Insurance Corporation India and 13.33 per cent of them are satisfied. The result convey that majority of the policyholders are highly satisfied and satisfied towards various services offered by Life Insurance Corporation of India.

Opinion of Policyholders towards Maturity of Policy

Level of Satisfaction	Frequency	%
Highly Satisfied	74	82.22
Satisfied	16	17.78
Moderately Satisfied	0	0
Unsatisfied	0	0

It is identified from the table 4 shows that the maturity of policy amount is given by Life Insurance Corporation of India is highly satisfied (82.22 per cent), and 17.78 per cent of the policyholders are satisfied with maturity policy amount is provided by LIC.

Summary and Conclusion

- ❖ It is find that majority of the policyholders are highly satisfied and satisfied towards various services offered by Life Insurance Corporation of India.
- ❖ According to the result, the policyholders are satisfied in premium of Life Insurance Corporation plans in the study area.
- ❖ It is captured that the satisfaction towards service provided by LIC, death claim, maturity, security of money is highly satisfied to the policyholders.
- ❖ It is also identified that mode of payment the half yearly and quarterly mode are highly preferred by the policyholders.
- ❖ It is find that policyholders are highly satisfied with the insurance plans offered by Life Insurance Corporation of India.

LIC of India is the leading public sector insurance company in India has facing very stiff competition from the new players entering the market. LIC of India is facing

increased competition on one front and a decline in the market share on the other hand. LIC has always been in the forefront of utilizing its resources effectively. This study was conducted with the aim of studying towards the satisfaction of LIC policyholders in Kovilpatti Region. It covers the level of satisfaction and ideas for improving the level of satisfaction of policyholders. This study can be concluded that the level of satisfaction of policyholders is very high towards services offered by Life Insurance Corporation of India in the study area. The present study is suggested that the LIC officials concerned will come forward to implement various suitable life insurance plans and also to enhance various services offered by Life Insurance Corporation of India.

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Abstract - Retention of key employees is critical to the long-term health and success of any organization. This study used a descriptive research approach to examine the gender inequity among school in Tenkasi district. There are 78 educational institutions and 41 hospitals in Tirunelveli city. The researcher has taken 150 samples for education sector 75 samples and health sectors 75 samples. Finally, the researcher has computed percentage analysis for collected data. It is found that the skill recognition, learning & working climate, job flexibility, cost effectiveness, training, benefits, employee motivation, career development, superior-subordinate relationship, compensation, organizational commitment and communication are moderate and low level influence the employee retention level in tirunelveli city.

Keywords: Retention, education and health sectors

I. INTRODUCTION

Effective employee retention is a systematic effort by employers to create and foster an environment that encourages current employees to remain employed by having policies and practices. A strong retention strategy becomes a powerful recruitment tool. Retention of key employees is critical to the long-term health and success of any organization. It is a known fact that retaining your best employees ensures customer satisfaction, increased product sales, satisfied colleagues and reporting staff, effective succession planning and deeply imbedded organizational knowledge and learning. Employee retention matters as organizational issues such as training time and investment; lost knowledge; insecure employees and a costly candidate search are involved. Hence, failing to retain a key employee is a costly proposition for an organization. Various estimates suggest that losing a middle manager in most organizations' costs up to five times of his salary. Intelligent employers always realize the importance of retaining the best talent. Retaining talent has never been so important in the Indian scenario; however, things have changed in recent years. In prominent Indian metros at least, there is no dearth of opportunities for the best in the business, or even for the second or the third best. Retention of key employees and treating attrition troubles has never been so important to companies. It is a fact that, retention of key employees is critical to the long-term health and success of any organization. The performance of employees is often linked directly to quality work, customer satisfaction, and increased product sales and even to the image of a company. When the same is often indirectly linked to, satisfied colleagues and reporting staff, effective succession planning and deeply embedded organizational knowledge and learning.

Factors affecting Employees Retention

I. Skill recognition

Providing skill recognition of personal job accomplishments is an effective retention strategy for employees at any age (Yazinski, 2009). Studies indicate fulfilling peoples need for acceptance by acknowledging individual work accomplishments prolongs employment of employees (Redington, 2007). Yazinski (2009) show trends of an increased number of job applicants seeking out companies that encourage employee input, growth, education, and teamwork, beyond the traditional compensation/benefit packages offered by employers.

II. Learning & Working Climate

Learning and work climate is development opportunities appear crucial for the retention of talented employees (Arnold, 2005) an organisation must establish a supportive learning and working climate. In general, it refers to the environment wherein employees both learn and work.

III. Job Flexibility

Job flexibility is vital for retaining employees of any age. Researchers describe the importance of employment flexibility such as scheduling variations that better accommodate individual work times, workloads, responsibilities, and locations around family responsibilities (Cunningham, 2002). Studies show that 'flexibility' empowers individuals to facilitate a healthier balance between work and personal obligations, something that appeals to all ages of employees.

IV. Cost Effectiveness

the organizations providing cost effective job flexibility options benefit from satisfying the needs of all employees, independent of age, which allows for the reallocation of expenses related to recruitment, work space changes, sick time, absenteeism, and commuting costs, (Cunningham, 2002).

v. Training

Training is a key retention factor for employees at any age. Statistical evidence indicates job training is a critical factor for personal behavioral and professional technical development. The availability for all employees having access to training and development programs is critical in facilitating organizational growth, particularly with performance and technological improvements.

vi. Benefits

The relationship of benefits with retention is another aspect of making people stay is often investigated by researchers. The job satisfaction of employees and supervisors of Bell System over a five-year period and found that the employees and supervisors were satisfied with their pay and benefits and were also motivated to work productively.

vii. Career Development

The career planning as part of an employee development program is not only to help employees feel like their employers are investing in them, but also help people manage the many aspects of their lives and deal with the fact that there is not a clear promotion track. Employers can no longer promise job security, but they can help people maintain the skills they need to remain viable in the job market (Moses, 1999).

viii. Superior-Subordinate Relationship

Employee development programs cannot exist without a culture that supports them. Any effective program must have strong support from people in senior management positions, and these people must also serve as positive role models to subordinates (Zenger, Ulrich, Smallwood, 2000). Managers and supervisors take on a new role when an organization gets into the business of employee development.

ix. Compensation

Creating a compensation structure that supports an employee development program is a distinct challenge for companies. Many organizations claim to base pay raises on performance, but that is not actually the case. Some companies try to emphasize a team environment, but continue to reward people for individual achievement (Feldman, 2000). These inconsistencies can cause frustration and cynicism by employees.

x. Organizational Commitment

Steers (1977) suggest that the more committed an employee is, the less of a desire they have to terminate from the organization. It was found to have a higher intent to remain with the company, a stronger desire to attend work, and a more positive attitude about their employment.

xi. Communication

Studies have indicated that effective communications improve employee identification with their agency and build openness and trust culture. Increasingly, organizations provide information on values, mission, strategies, competitive performance, and changes that may affect employees enthuse (Levine 1995). Many companies are working to provide information that employees want and need in a better way of communication, through the most credible sources on a timely and consistent basis.

xii. Employee Motivation

Management theory and practice has traditionally focused on extrinsic motivators. While these are powerful motivators, by themselves they are no longer enough intrinsic rewards are essential to employees in today's environment (Thomas, 2000). Nowadays motivational issues are more complex because of the wealth and opportunity so many employees have enjoyed.

II. REVIEW OF LITERATURE

Kishore Kumar and Srinivas Rao (2020) Workers are the most significant assets of any association, and yet, they are the most troublesome asset to oversee. In spite of the fact that researchers have learned about the representatives in new companies, generally their inspiration and maintenances issues are disregarded. Right now, new companies are the new pattern of association and they must be taken a gander at from an alternate point of view. Convenient Non random sampling technique is applied to select the sample of 15 startups. Likert's 5-point rating scale is used to collect responses from the sample respondents. Total-30 questions are incorporated which covers the areas like profile of the company, causes of employee churning and employee retention strategies. Descriptive statistics and T-Test are applied for the Data analysis using SPSS Software. Methodologies that work for different associations may not work for a startup. In this way, an investigation explicitly focusing on the issues and difficulties looked by business in spurring and holding the representatives in new businesses must be tended to. This paper studies the various reasons for Employee Churn and also the

various strategies been implementing by the start-ups in order to retain their employees in select start-ups in Hyderabad city region.

Raminder Kaur (2017) Employee Retention is a process in which the employees are encouraged to remain with the organization for the maximum period of time or until the completion of the project. Retention Strategies helps organizations provide effective employee communication to improve commitment and enhance workforce support for key corporate initiatives. These policies, when organized and disseminated in an easily used form, can serve to preempt many misunderstandings between employees and employers about their rights and obligations in the business place. It is tempting, as a new small business owner, to focus on the concerns of the business at hand, and put off the task of writing up a human resource policy. This study will attempt to study the various issues related to employee retention in IT companies operating in India.

Remu Bala (2017) to examine the effect of employee retention strategies of banks employees of Jammu and Kashmir. Employee participation, employee training, job security, work environment, employee motivation and employee-employers relationship on employee retention and employee performance are the variables are studied. Approximately 350 questionnaires are distributed to the bank's employees of Jammu and Kashmir bank, using purposive sampling technique. Employees that having at least five years of services experience are approached. Out of 350 questionnaires distributed to respondents, only 323 questionnaires are returned back. The study results revealed that employee participation, employee training, job security, work environment, employee motivation and employee-employers relationship have positive effect on employee retention as well as employee performance. The theoretical framework of this study would encourage the companies and their employers to constitutes their employees as an important resource as they are difficult to retain and costly to acquire.

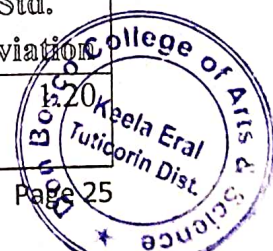
III. RESEARCH METHODOLOGY

Research design is the conceptual structure within which research is conducted. This study used a descriptive research approach to examine the gender inequity among school in Tenkasi district. There are 78 educational institutions in Tirunelveli city. Out of 78 educational institutions, 61 private college levels like Engineering, Arts & Science, Education college and 17 private school level is to be found. 5000 teachers are working in Tirunelveli city. The researcher has applied convenient sample method to collect the data from educational institutions staff. In addition, 41 private hospital is presently running in tirunelveli city, it is inferred that nearly 3000 employees working in this hospital. It is inferred that nearly 8000 employees working in this city. The researcher has taken 150 samples for education sector 75 sample and health sectors 75. Finally, the researcher has computed percentage analysis and mean & S.D value for collected data.

IV. ANALYSIS AND DISCUSSION

Table:1- Employee retention strategy in service sectors

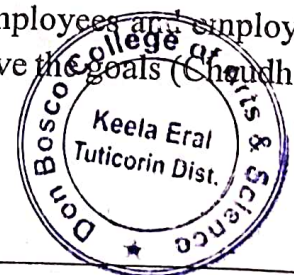
Statement	SA	A	N	DA	SDA	Mean	Std. Deviation
Skill recognition	16 (10.7)	46 (30.7)	44 (29.3)	23 (15.3)	21 (14)	3.08	



Learning & Working Climate	15 (10)	45 (30)	24 (16)	15 (10)	51 (34)	2.72	1.44
Job Flexibility	15 (10)	39 (26)	22 (14.7)	8 (5.3)	66 (44)	2.52	1.50
Cost Effectiveness	31 (20.7)	15 (10)	52 (34.7)	15 (10)	37 (24.7)	2.71	1.14
Training	15 (10)	53 (35.3)	8 (5.3)	66 (44)	8 (5.3)	3.00	1.18
Benefits	31 (20.7)	31 (20.7)	14 (9.3)	15 (10)	59 (39.3)	2.73	1.62
Employee Motivation	15 (10)	22 (14.7)	38 (25.3)	60 (40)	15 (10)	3.25	1.13
Career Development	23 (15.3)	67 (44.7)	22 (14.7)	15 (10)	23 (15.3)	3.34	1.29
Superior-Subordinate Relationship	16 (10.7)	74 (49.3)	22 (14.7)	15 (10)	15 (10)	3.35	1.16
Compensation	23 (15.3)	67 (44.7)	22 (14.7)	22 (14.7)	16 (10.7)	3.39	1.22
Organizational Commitment	23 (15.3)	68 (45.3)	14 (9.3)	23 (15.3)	22 (14.7)	3.31	1.31
Communication	46 (30.7)	37 (24.7)	22 (14.7)	23 (15.3)	22 (14.7)	3.41	1.43

Source: primary data computed.

Table 1 explains the Employee retention strategy in service sectors. Mean and standard deviation are calculated. The mean values observed that the skill recognition (3.08), learning & working climate (2.72), job flexibility (2.52), cost effectiveness (2.71), training (3.00), benefits (2.73), employee motivation (3.25), career development (3.34), superior-subordinate relationship (3.35), compensation (3.39), organizational commitment (3.31), and communication (3.41). It is found that the skill recognition, learning & working climate, job flexibility, cost effectiveness, training, benefits, employee motivation, career development, superior-subordinate relationship, compensation, organizational commitment and communication are moderate and low level influence the employee retention level in tirunelveli city. The previous research supported for our valuable finding, Training is the act of increasing knowledge and skill of an employee for doing a particular job effectively and efficiently Sinha and Sinha (2012). It is a relevant strategy in which employees gain greater control and greater freedom with respect to bridging communication gap between employees and employers (Noah, 2008). Motivation is the process of inspiring people to actions to achieve the goals (Choudhary and Sharma 2012).



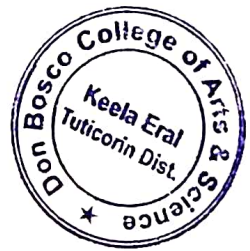
V.CONCLUSION

Retention of a positive and motivated employee is very important for the organization's success. High employee turnover increases the expenses and also has a negative impact on the organization's morale. Employees who enjoy what they do and the atmosphere in which they work are more likely to remain employed with their organization over a longer period of time. An organization can significantly get benefit from employee retention programs because of a direct effect on an employer's strategies. Implementation of an employee retention program is an effective way of making sure that the pivotal workers remain employed while balancing and maintaining job performance and productivity.

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Kalyan Bharati

EMPLOYEES RETENTION STRATEGY IN SERVICE SECTORS IN TIRUNELVELI DISTRICT

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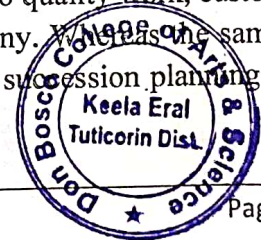
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Abstract - Retention of key employees is critical to the long-term health and success of any organization. This study used a descriptive research approach to examine the gender inequity among school in Tenkasi district. There are 78 educational institutions and 41 hospitals in Tirunelveli city. The researcher has taken 150 samples for education sector 75 samples and health sectors 75 samples. Finally, the researcher has computed percentage analysis for collected data. It is found that the skill recognition, learning & working climate, job flexibility, cost effectiveness, training, benefits, employee motivation, career development, superior-subordinate relationship, compensation, organizational commitment and communication are moderate and low level influence the employee retention level in tirunelveli city.

Keywords: Retention, education and health sectors

I. INTRODUCTION

Effective employee retention is a systematic effort by employers to create and foster an environment that encourages current employees to remain employed by having policies and practices. A strong retention strategy becomes a powerful recruitment tool. Retention of key employees is critical to the long-term health and success of any organization. It is a known fact that retaining your best employees ensures customer satisfaction, increased product sales, satisfied colleagues and reporting staff, effective succession planning and deeply imbedded organizational knowledge and learning. Employee retention matters as organizational issues such as training time and investment; lost knowledge; insecure employees and a costly candidate search are involved. Hence, failing to retain a key employee is a costly proposition for an organization. Various estimates suggest that losing a middle manager in most organizations' costs up to five times of his salary. Intelligent employers always realize the importance of retaining the best talent. Retaining talent has never been so important in the Indian scenario; however, things have changed in recent years. In prominent Indian metros at least, there is no dearth of opportunities for the best in the business, or even for the second or the third best. Retention of key employees and treating attrition troubles has never been so important to companies. It is a fact that, retention of key employees is critical to the long-term health and success of any organization. The performance of employees is often linked directly to quality work, customer satisfaction, and increased product sales and even to the image of a company. When the same is often indirectly linked to, satisfied colleagues and reporting staff, effective succession planning and deeply embedded organizational knowledge and learning.



Factors affecting Employees Retention

I. Skill recognition

Providing skill recognition of personal job accomplishments is an effective retention strategy for employees at any age (Yazinski, 2009). Studies indicate fulfilling peoples need for acceptance by acknowledging individual work accomplishments prolongs employment of employees (Redington, 2007). Yazinski (2009) show trends of an increased number of job applicants seeking out companies that encourage employee input, growth, education, and teamwork, beyond the traditional compensation/benefit packages offered by employers.

II. Learning & Working Climate

Learning and work climate is development opportunities appear crucial for the retention of talented employees (Arnold, 2005) an organisation must establish a supportive learning and working climate. In general, it refers to the environment wherein employees both learn and work.

III. Job Flexibility

Job flexibility is vital for retaining employees of any age. Researchers describe the importance of employment flexibility such as scheduling variations that better accommodate individual work times, workloads, responsibilities, and locations around family responsibilities (Cunningham, 2002). Studies show that 'flexibility' empowers individuals to facilitate a healthier balance between work and personal obligations, something that appeals to all ages of employees.

IV. Cost Effectiveness

the organizations providing cost effective job flexibility options benefit from satisfying the needs of all employees, independent of age, which allows for the reallocation of expenses related to recruitment, work space changes, sick time, absenteeism, and commuting costs, (Cunningham, 2002).

v. Training

Training is a key retention factor for employees at any age. Statistical evidence indicates job training is a critical factor for personal behavioral and professional technical development. The availability for all employees having access to training and development programs is critical in facilitating organizational growth, particularly with performance and technological improvements.

vi. Benefits

The relationship of benefits with retention is another aspect of making people stay is often investigated by researchers. The job satisfaction of employees and supervisors of Bell System over a five-year period and found that the employees and supervisors were satisfied with their pay and benefits and were also motivated to work productively.

vii. Career Development

The career planning as part of an employee development program is not only to help employees feel like their employers are investing in them, but also help people manage the many aspects of their lives and deal with the fact that there is not a clear promotion track. Employers can no longer promise job security, but they can help people maintain the skills they need to remain viable in the job market (Moses, 1999).

viii. Superior-Subordinate Relationship



Employee development programs cannot exist without a culture that supports them. Any effective program must have strong support from people in senior management positions, and these people must also serve as positive role models to subordinates (Zenger, Ulrich, Smallwood, 2000). Managers and supervisors take on a new role when an organization gets into the business of employee development.

ix. Compensation

Creating a compensation structure that supports an employee development program is a distinct challenge for companies. Many organizations claim to base pay raises on performance, but that is not actually the case. Some companies try to emphasize a team environment, but continue to reward people for individual achievement (Feldman, 2000). These inconsistencies can cause frustration and cynicism by employees.

x. Organizational Commitment

Steers (1977) suggest that the more committed an employee is, the less of a desire they have to terminate from the organization. It was found to have a higher intent to remain with the company, a stronger desire to attend work, and a more positive attitude about their employment.

xi. Communication

Studies have indicated that effective communications improve employee identification with their agency and build openness and trust culture. Increasingly, organizations provide information on values, mission, strategies, competitive performance, and changes that may affect employees enthuse (Levine 1995). Many companies are working to provide information that employees want and need in a better way of communication, through the most credible sources on a timely and consistent basis.

xii. Employee Motivation

Management theory and practice has traditionally focused on extrinsic motivators. While these are powerful motivators, by themselves they are no longer enough intrinsic rewards are essential to employees in today's environment (Thomas, 2000). Nowadays motivational issues are more complex because of the wealth and opportunity so many employees have enjoyed.

II. REVIEW OF LITERATURE

Kishore Kumar and Srinivas Rao (2020) Workers are the most significant assets of any association, and yet, they are the most troublesome asset to oversee. In spite of the fact that researchers have learned about the representatives in new companies, generally their inspiration and maintenances issues are disregarded. Right now, new companies are the new pattern of association and they must be taken a gander at from an alternate point of view. Convenient Non random sampling technique is applied to select the sample of 15 startups. Likert's 5-point rating scale is used to collect responses from the sample respondents. Total-30 questions are incorporated which covers the areas like profile of the company, causes of employee churning and employee retention strategies. Descriptive statistics and T-Test are applied for the Data analysis using SPSS Software. Methodologies that work for different associations may not work for a startup. In this way, an investigation explicitly focusing on the issues and difficulties looked by business in spurring and holding the representatives in new businesses must be tended to. This paper studies the various reasons for Employee Churn and also the

various strategies been implementing by the start-ups in order to retain their employees in select start-ups in Hyderabad city region.

Raminder Kaur (2017) Employee Retention is a process in which the employees are encouraged to remain with the organization for the maximum period of time or until the completion of the project. Retention Strategies helps organizations provide effective employee communication to improve commitment and enhance workforce support for key corporate initiatives. These policies, when organized and disseminated in an easily used form, can serve to preempt many misunderstandings between employees and employers about their rights and obligations in the business place. It is tempting, as a new small business owner, to focus on the concerns of the business at hand, and put off the task of writing up a human resource policy. This study will attempt to study the various issues related to employee retention in IT companies operating in India.

Remu Bala (2017) to examine the effect of employee retention strategies of banks employees of Jammu and Kashmir. Employee participation, employee training, job security, work environment, employee motivation and employee-employers relationship on employee retention and employee performance are the variables are studied. Approximately 350 questionnaires are distributed to the bank's employees of Jammu and Kashmir bank, using purposive sampling technique. Employees that having at least five years of services experience are approached. Out of 350 questionnaires distributed to respondents, only 323 questionnaires are returned back. The study results revealed that employee participation, employee training, job security, work environment, employee motivation and employee-employers relationship have positive effect on employee retention as well as employee performance. The theoretical framework of this study would encourage the companies and their employers to constitutes their employees as an important resource as they are difficult to retain and costly to acquire.

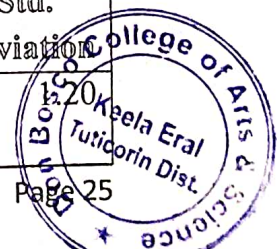
III. RESEARCH METHODOLOGY

Research design is the conceptual structure within which research is conducted. This study used a descriptive research approach to examine the gender inequity among school in Tenkasi district. There are 78 educational institutions in Tirunelveli city. Out of 78 educational institutions, 61 private college levels like Engineering, Arts & Science, Education college and 17 private school level is to be found. 5000 teachers are working in Tirunelveli city. The researcher has applied convenient sample method to collect the data from educational institutions staff. In addition, 41 private hospital is presently running in tirunelveli city, it is inferred that nearly 3000 employees working in this hospital. It is inferred that nearly 8000 employees working in this city. The researcher has taken 150 samples for education sector 75 sample and health sectors 75. Finally, the researcher has computed percentage analysis and mean & S.D value for collected data.

IV. ANALYSIS AND DISCUSSION

Table:1- Employee retention strategy in service sectors

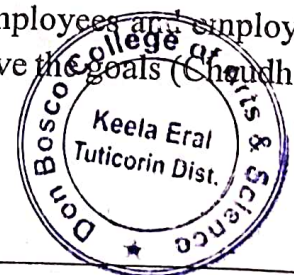
Statement	SA	A	N	DA	SDA	Mean	Std. Deviation
Skill recognition	16 (10.7)	46 (30.7)	44 (29.3)	23 (15.3)	21 (14)	3.08	



Learning & Working Climate	15 (10)	45 (30)	24 (16)	15 (10)	51 (34)	2.72	1.44
Job Flexibility	15 (10)	39 (26)	22 (14.7)	8 (5.3)	66 (44)	2.52	1.50
Cost Effectiveness	31 (20.7)	15 (10)	52 (34.7)	15 (10)	37 (24.7)	2.71	1.14
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Source: primary data computed.

Table 1 explains the Employee retention strategy in service sectors. Mean and standard deviation are calculated. The mean values observed that the skill recognition (3.08), learning & working climate (2.72), job flexibility (2.52), cost effectiveness (2.71), training (3.00), benefits (2.73), employee motivation (3.25), career development (3.34), superior-subordinate relationship (3.35), compensation (3.39), organizational commitment (3.31), and communication (3.41). It is found that the skill recognition, learning & working climate, job flexibility, cost effectiveness, training, benefits, employee motivation, career development, superior-subordinate relationship, compensation, organizational commitment and communication are moderate and low level influence the employee retention level in tirunelveli city. The previous research supported for our valuable finding, Training is the act of increasing knowledge and skill of an employee for doing a particular job effectively and efficiently Sinha and Sinha (2012). It is a relevant strategy in which employees gain greater control and greater freedom with respect to bridging communication gap between employees and employers (Noah, 2008). Motivation is the process of inspiring people to actions to achieve the goals (Choudhary and Sharma 2012).



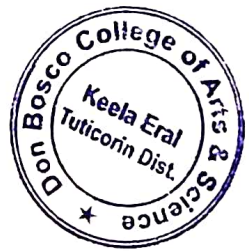
V.CONCLUSION

Retention of a positive and motivated employee is very important for the organization's success. High employee turnover increases the expenses and also has a negative impact on the organization's morale. Employees who enjoy what they do and the atmosphere in which they work are more likely to remain employed with their organization over a longer period of time. An organization can significantly get benefit from employee retention programs because of a direct effect on an employer's strategies. Implementation of an employee retention program is an effective way of making sure that the pivotal workers remain employed while balancing and maintaining job performance and productivity.

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Employee Retention strategy in select private service sectors with special performance to tirunelveli district

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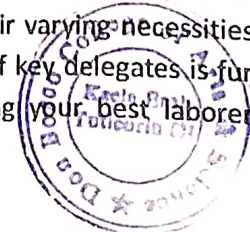
ABSTRACT

HR are the work of a wide range of an association. Regardless of the way that a wide scope of the affiliations are by and by a days, seen to be advancement driven, yet HR are needed to run the development. With all round progression in each and every locale of the economy, there is firm contention on the lookout. With this headway and competition, there are parts and stacks of streets and openings available in the possession of the HR. The best test that affiliations are standing up to the present time isn't simply managing these resources yet moreover holding them. Making sure about and holding skilled specialists expects a basic part in any relationship, since agents' learning and aptitudes are vital to associations' ability to be monetarily engaged. Besides, tenaciously satisfying the delegates is another test that the organizations are facing today. Keeping into account the importance and affectability of the issue of support to any affiliation, the current examination attempts to review the diverse available composition and exploration go after laborer upkeep and the components impacting agent upkeep and occupation satisfaction among the delegates.

Keywords: employee, human resource, organization, retaining, satisfaction.

1. INTRODUCTION

Techniques on the most capable strategy to restrict specialist wearing out, confronted with issues of agent trimming down, organization has a couple of approach decisions viz. changing (or improving existing) courses of action towards selection, assurance, acknowledgment, getting ready, work framework and compensation portion. Approach choice, nevertheless, must be reasonable for the specific examination of the issue. Agent wearing out inferable from helpless decision systems, for example, is presumably not going to upgrade where the game plan adjustment to fixate just on the acknowledgment technique. Also, delegate consistent misfortune inferable from wage rates, which make pay that are not engaged with various firms in the local work exhibit is presumably not going to decrease where the technique alteration basically to update the affiliation's plan of at work getting ready openings. Given that there is addition in and indirect costs of work consistent misfortune, henceforth, organization is a large part of the time asked to recognize the reasons why people leave relationship's with the objective that appropriate move is made by the organization. Wide examination has exhibited that the going with orders of human resources organization factors give a middle course of action of measures that senior organization can use to grow the reasonability of their premium in people and upgrade general corporate execution of business Compelling laborer support is an intentional effort by chiefs to make and develop a space that urges rhythmic movement delegates to remain used by having methodologies and practices set up that address their varying necessities. A strong support approach transforms into a compelling enrolment device. Support of key delegates is fundamental to the long stretch prosperity and achievement of any affiliation. Holding your best laborers ensures



customer steadfastness, extended thing bargains, satisfied accomplices and uncovering staff, convincing movement orchestrating and significantly imbedded definitive data and learning. Laborer upkeep matters as legitimate issues, for instance, getting ready time and adventure; lost data; temperamental agents and a costly candidate look are incorporated. From now on, fail to hold a key specialist is an excessive proposal for an affiliation. Various evaluations suggest that losing a middle boss in numerous affiliations' costs up to multiple times of his compensation.

Cunning organizations reliably comprehend the hugeness of holding the best capacity. Holding capacity has never been so basic in the Indian circumstance; nevertheless, things have changed recently. In recognizable Indian metros at any rate, there is no absence of chances for the best in the business, or despite for the second or the third best. Support of key delegates and treating consistent misfortune bothers has never been so basic to associations.

Maintenance of key agents is fundamental to the long stretch prosperity and achievement of any affiliation. The execution of agents is consistently associated direct to quality work, customer dependability, and extended thing bargains and even to the image of an association. While the equivalent is often in an indirect manner associated with, satisfied accomplices and uncovering staff, incredible movement organizing and significantly embedded progressive data and learning.

Specialist support matters, as, definitive issues, for instance, getting ready time and hypothesis, costly contender look, etc, are incorporated. Along these lines, fail to hold a key delegate is a costly recommendation for any affiliation. Various examinations suggest that losing a middle boss in numerous affiliations, implies lost up to multiple times his remuneration. Specialist support frameworks empower relationship to give convincing agent correspondence to improve obligation and overhaul labor force reinforce for key corporate exercises. The investigation paper is entitled on An Experimental Exploration on Representative Maintenance Techniques of Chose Nationalized Banks in Tirunelveli City. This paper outfit's consistent association among laborers and organization. What's more, moreover the assessment fathoms the degree of motivation at Nationalized Bank. The paper is completely implied that what the various segments are influencing the specialist for holding them.

2. THE THREE R'S OF EMPLOYEE RETENTION

To hold a worker for long haul is certainly not a simple work. The three R's of worker maintenance assume a significant part in representative maintenance and they are regard, acknowledgment and prizes. Regard is one thing where representative anticipate that his/her thoughts are valued. Whatever he/she needed to state is listen then they give an idea whether to acknowledge or dismiss the worry. Acknowledgment is only the thankfulness, worker anticipate either in the structure cash or money related structure. Work acknowledgment of representative lift the confidence of worker and keep them participate in their work. Prize, can be in the thankfulness of association towards the worker which can be accomplished through various ways like advancement, drawing face to face in intrigued zone, pay raise. And so on To keep your laborers profoundly fulfilled you need to take a shot at these three R's and these prompts elite.



3. LITERATURE REVIEW

YiuLichia and Saner Raymond(2014), Through the study of whittling down in Indian organizations and the arrangements picked to experience the issue of high turnover is accounted for as Hr work in present investigation. The specialist found that installment of higher remuneration bundles can limit the pace of weakening. They have recommended to fortify the inward holding, position fulfillment and authoritative duty to guarantee ability maintenance through skill advancement and vocation arranging.

JeenDorance Batty S. (2014), study depended on to discover the components which could be the potential explanations behind representative turnover. The specialist broke down the representative turnover causes and its impact on hierarchical results which was gathered from first and center line supervisors in chose retail sources in Bangalore through organized polls. From the examination it was discovered that representative turnover has been affected by certain components, for example, nature of work life, vocation development, working hours, individual and family reasons, connection with associate, government assistance measures, working condition and compensation.

Kanwal and Muhammad (2013), the examination depended on representative maintenance in banks of Pakistan. The focal point of exploration is on the accompanying elements of worker maintenance as reward and rewards, work fulfillment, preparing and advancement, cooperation and profession presentation. The analyst has discovered that preparation and improvement significantly affected representative maintenance in banks of Pakistan. The creator has recommended that both worker and administrator must work in group and ought to have great participation with one another while acting in collaboration.

Mathur, Atul and Agarwal P.K. (2013), concentrated to comprehend the impact of maintenance techniques on worker turnover in sugar ventures of India. The focal point of study depended on the different factors, for example, government assistance benefits, individual fulfillment and association culture which may be the reason for nonadoptive representative turnover. Remuneration and workplace are the principle purposes behind representative turnover and the investigation uncovered that worker maintenance has high effect on worker turnover. The examination study recommend that the powerful execution of HR rehearses like pay strategy, execution evaluation, preparing and advancement program, input and appointing serious work can improve the state of representative maintenance in associations.

Balkrishnan and Masthan, D. (2013), intended to consider the connection between worker commitment and representative maintenance and the different drivers of worker commitment. The investigation uncovered that representative commitment prompts duty and mental connection which reflects in the high worker maintenance and low weakening rate. It was discovered that the degree of representative commitment can be enhanced by recognizing its compelling variables. Distinguishing best ability to hold and planning and conveying the monster rehearses associations can hold their exceptionally gifted and concentrated human asset absent a lot of monetary weight. Measurable proof utilized in present investigation affirms that the representative maintenance can be improved by tending to non-monetary drivers of worker commitment, for example, correspondence, acknowledgment, administrator/director relationship, work commitment, cooperation and job clearness.



4. OBJECTIVES OF THE STUDY

1. To study the supportive relationship between employees and management.
2. To analyse the level of motivation in the organization.
3. To analyse the stress level of employees in the organization.
4. To understand the various factors influencing the employee for retaining them.
5. To suggest and recommend some measures to improve employee retention strategies.

5. SCOPE OF THE STUDY

This will be valuable for the organization to know their laborers' demeanor towards their movement. The proposition and suggestion of the examination can moreover be associated with relative expand. It will be valuable for the organization to perceive the prerequisites of agents in order to hold them in the affiliation. This endeavor can be used for the understudies who taking care of the work in the connected district and to the relationship to have best upkeep approaches.

6. RESEARCH METHODOLOGY

Examination Methodology is a way to deal with productively deal with the investigation issue. Exploration is a specialty of consistent assessment. The moved understudy's assertion references of recurring pattern English lay are down the significance of exploration as, "an attentive assessment (or) solicitation, especially through the output for new surenesses in any part of data". For this endeavor in the investigation from the start the expert used clear exploration to report the factor in that limit occur. Later on the used exploratory examination to find the conditions and outcome. The fundamental data is those which are accumulated a fresh and all of a sudden and thusly end up being in extraordinary character. For this endeavor, Primary data were assembled with the help of a survey and easygoing gathering was moreover prompted get the quick responses of the agents concerning fundamental components. Helper data are those data open starting at now in the books of records. Discretionary data was assembled from association records and yearly reports. The quantifiable instruments used for analyzing the data accumulated Percentage procedure, Mean and standard deviation, Correlation, Chi-square, Weighted typical.



7. ANALYSIS & DISCUSSION

TABLE 7.1 Satisfaction Levels Towards of two Variables

Particulars		Performance Appraisal System					Total
		Highly Satisfied	Satisfied	Neutral	Dissatisfied	Highly Dissatisfied	
Received recognition for doing work	Highly Satisfied	1	3	3	0	0	7
	Satisfied	5	26	12	2	2	47
	Neutral	7	9	5	5	1	27
	Dissatisfied	0	14	1	3	0	18
	Highly Dissatisfied	0	0	1	0	0	1
Total		13	52	22	10	3	100

TABLE 7.2 Analysis of Pearson Correlation

Particulars		Received recognition or praise for doing good work	The Performance Appraisal System
Received recognition or praise for doing good work	Pearson Correlation	1	0.043
	Sig. (2-Tailed)	0.673	0.673
	N	100	100
The Performance Appraisal System	Pearson Correlation	0.043	1
	Sig. (2-Tailed)	0.673	
	N	100	100

It is to investigation of relationship between's gotten acknowledgment or recognition for accomplishing great work and the exhibition evaluation framework. From the Table VII.2, plainly the representative maintenance of the association is profoundly related with a connection coefficient of 0.673 and there is decidedly corresponded. From the connection examination, it is deduced that the association is effectively utilizing the representative maintenance methodology.

7.2. Chi-Square Analysis

Hypotheses were formulated keeping the content and coverage of the framed objectives. The Formulated hypotheses are tested by employing appropriate statistical tools.

H0: There is no significant difference between Age and Feel Comfortable with the workload of employees.
H1: There is significant difference between Age and Feel Comfortable with the workload of employees.



TABLE 7.3 Analysis of Pearson Correlation

Cross Tabulation between feel comfortable with workload and Age

Particulars		Age				Total
		Below 23 years	26-35 years	36-45 years	Above 45 years	
Perceived recognition for doing work	Highly Satisfied	1	4	1	0	6
	Satisfied	7	13	14	10	44
	Neutral	9	7	5	4	25
	Dissatisfied	2	4	4	3	13
	Highly Dissatisfied	2	2	1	2	7
Total		21	35	25	19	100

TABLE 7.4. Tabulation of Pearson Chi-Square Tests

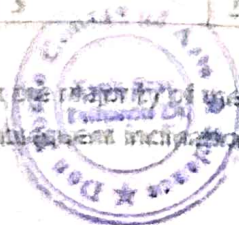
Particulars	Value	Df.	Asymp. Sig. (2-sided)
Pearson Chi-Square	9.353 ^a	12	0.673
Likelihood Ratio	9.855	12	0.629
Linear by-Linear Association	0.015	1	0.902
N of Valid cases	100		

The level of significance is 0.673, since the calculated value is greater than the tabulated value, the Null Hypothesis (H0) is rejected and the Alternative Hypothesis (H1) is accepted. Hence, it has been inferred that there is an association between Age and Feel Comfortable with the workload of employees.

TABLE 7.5 Rank Orders of Different Variables by Respondents

Motivation Factor											
Rank	w	Nature of Work		Remuneration		Flexible working Hour		Team Relationship		Job Security	
		x1	wx1	x2	wx2	x3	wx3	x4	wx4	x5	wx5
1	5	42	210	17	85	49	245	41	205	30	150
2	4	11	44	2	8	21	84	6	24	13	52
3	3	5	15	1	3	5	15	12	36	44	132
4	2	2	4	53	106	4	26	34	68	4	8
5	1	40	40	27	27	11	11	5	5	5	5
Total		100	313	100	229	90	381	100	646	100	359
cw		3.13		2.29		3.83		3.46		3.59	
Rank		4		5		1		3		2	

From the above weighted normal estimation, it has been concluded that the majority of the respondents are favored Flexible working hours in the association, at that point the subsequent inclination is an elevated



level of employer stability. The respondents are given a third position for group relationship, and afterward the fourth position is the idea of the work. Also, the last position is held by compensation. Where the workers are respondents' low level fulfillment by compensation

8. LIMITATION OF THE STUDY

The assessment is compelled to Tirunelveli Private Banks by the discoveries of the examination can't be summarized to other affiliation. The examination was finished in Tirunelveli thusly its disclosures can't be summarized to various areas due to land assortment. A segment of the respondents are faltering to give whole hearted supposition. Respondent's evaluation may change sporadically and the response is respected to assortment dependent upon the condition and the disposition of the respondents at the hour of the study.

9. SUGGESTIONS AND RECOMMENDATIONS

Considering the examination the going with recommendations are made the agents are not content with affirmation and execution assessment gave by the affiliation. In this manner, they should give some essentialness towards it. The affiliation must give genuine pay to the laborers to hold them for a drawn out timespan. The delegates are feeling over weight towards the remaining burden. Thusly, the affiliation should base on their smooth outstanding burden to reduce the weight on the agents. The association among agents and organization needs to push ahead

10. CONCLUSION

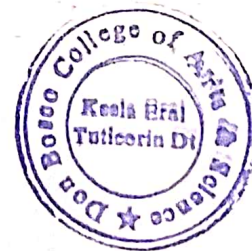
Given the creating necessities for relationship to hold its best delegates despite contention, the disclosures of the assessment suggest that particular elements are fundamental in affecting the laborers' decision to one or the other leave or remain in an affiliation. Such factors consolidate planning and Development, affirmation/compensate for good execution, an engaged pay group and boss steadiness. Regardless, the hugeness of various elements should not to be Under-evaluated while calculating an upkeep methodology. It is only an expansive blend of trademark and outward inspirational components that can update support and reduce the high pace of specialist turnover in our diverse association

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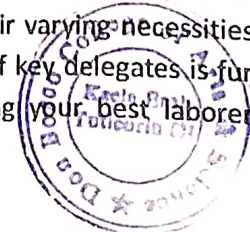
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HR are the work of a wide range of an association. Regardless of the way that a wide scope of the affiliations are by and by a days, seen to be advancement driven, yet HR are needed to run the development. With all round progression in each and every locale of the economy, there is firm contention on the lookout. With this headway and competition, there are parts and stacks of streets and openings available in the possession of the HR. The best test that affiliations are standing up to the present time isn't simply managing these resources yet moreover holding them. Making sure about and holding skilled specialists expects a basic part in any relationship, since agents' learning and aptitudes are vital to associations' ability to be monetarily engaged. Besides, tenaciously satisfying the delegates is another test that the organizations are facing today. Keeping into account the importance and affectability of the issue of support to any affiliation, the current examination attempts to review the diverse available composition and exploration go after laborer upkeep and the components impacting agent upkeep and occupation satisfaction among the delegates.

Keywords: employee, human resource, organization, retaining, satisfaction.

1. INTRODUCTION

Techniques on the most capable strategy to restrict specialist wearing out, confronted with issues of agent trimming down, organization has a couple of approach decisions viz. changing (or improving existing) courses of action towards selection, assurance, acknowledgment, getting ready, work framework and compensation portion. Approach choice, nevertheless, must be reasonable for the specific examination of the issue. Agent wearing out inferable from helpless decision systems, for example, is presumably not going to upgrade where the game plan adjustment to fixate just on the acknowledgment technique. Also, delegate consistent misfortune inferable from wage rates, which make pay that are not engaged with various firms in the local work exhibit is presumably not going to decrease where the technique alteration basically to update the affiliation's plan of at work getting ready openings. Given that there is addition in and indirect costs of work consistent misfortune, henceforth, organization is a large part of the time asked to recognize the reasons why people leave relationship's with the objective that appropriate move is made by the organization. Wide examination has exhibited that the going with orders of human resources organization factors give a middle course of action of measures that senior organization can use to grow the reasonability of their premium in people and upgrade general corporate execution of business Compelling laborer support is an intentional effort by chiefs to make and develop a space that urges rhythmic movement delegates to remain used by having methodologies and practices set up that address their varying necessities. A strong support approach transforms into a compelling enrolment device. Support of key delegates is fundamental to the long stretch prosperity and achievement of any affiliation. Holding your best laborers ensures



customer steadfastness, extended thing bargains, satisfied accomplices and uncovering staff, convincing movement orchestrating and significantly imbedded definitive data and learning. Laborer upkeep matters as legitimate issues, for instance, getting ready time and adventure; lost data; temperamental agents and a costly candidate look are incorporated. From now on, fail to hold a key specialist is an excessive proposal for an affiliation. Various evaluations suggest that losing a middle boss in numerous affiliations' costs up to multiple times of his compensation.

Cunning organizations reliably comprehend the hugeness of holding the best capacity. Holding capacity has never been so basic in the Indian circumstance; nevertheless, things have changed recently. In recognizable Indian metros at any rate, there is no absence of chances for the best in the business, or despite for the second or the third best. Support of key delegates and treating consistent misfortune bothers has never been so basic to associations.

Maintenance of key agents is fundamental to the long stretch prosperity and achievement of any affiliation. The execution of agents is consistently associated direct to quality work, customer dependability, and extended thing bargains and even to the image of an association. While the equivalent is often in an indirect manner associated with, satisfied accomplices and uncovering staff, incredible movement organizing and significantly embedded progressive data and learning.

Specialist support matters, as, definitive issues, for instance, getting ready time and hypothesis, costly contender look, etc, are incorporated. Along these lines, fail to hold a key delegate is a costly recommendation for any affiliation. Various examinations suggest that losing a middle boss in numerous affiliations, implies lost up to multiple times his remuneration. Specialist support frameworks empower relationship to give convincing agent correspondence to improve obligation and overhaul labor force reinforce for key corporate exercises. The investigation paper is entitled on An Experimental Exploration on Representative Maintenance Techniques of Chose Nationalized Banks in Tirunelveli City. This paper outfit's consistent association among laborers and organization. What's more, moreover the assessment fathoms the degree of motivation at Nationalized Bank. The paper is completely implied that what the various segments are influencing the specialist for holding them.

2. THE THREE R'S OF EMPLOYEE RETENTION

To hold a worker for long haul is certainly not a simple work. The three R's of worker maintenance assume a significant part in representative maintenance and they are regard, acknowledgment and prizes. Regard is one thing where representative anticipate that his/her thoughts are valued. Whatever he/she needed to state is listen then they give an idea whether to acknowledge or dismiss the worry. Acknowledgment is only the thankfulness, worker anticipate either in the structure cash or money related structure. Work acknowledgment of representative lift the confidence of worker and keep them participate in their work. Prize, can be in the thankfulness of association towards the worker which can be accomplished through various ways like advancement, drawing face to face in intrigued zone, pay raise. And so on To keep your laborers profoundly fulfilled you need to take a shot at these three R's and these prompts elite.



3. LITERATURE REVIEW

YiuLichia and Saner Raymond(2014), Through the study of whittling down in Indian organizations and the arrangements picked to experience the issue of high turnover is accounted for as Hr work in present investigation. The specialist found that installment of higher remuneration bundles can limit the pace of weakening. They have recommended to fortify the inward holding, position fulfillment and authoritative duty to guarantee ability maintenance through skill advancement and vocation arranging.

JeenDorance Batty S. (2014), study depended on to discover the components which could be the potential explanations behind representative turnover. The specialist broke down the representative turnover causes and its impact on hierarchical results which was gathered from first and center line supervisors in chose retail sources in Bangalore through organized polls. From the examination it was discovered that representative turnover has been affected by certain components, for example, nature of work life, vocation development, working hours, individual and family reasons, connection with associate, government assistance measures, working condition and compensation.

Kanwal and Muhammad (2013), the examination depended on representative maintenance in banks of Pakistan. The focal point of exploration is on the accompanying elements of worker maintenance as reward and rewards, work fulfillment, preparing and advancement, cooperation and profession presentation. The analyst has discovered that preparation and improvement significantly affected representative maintenance in banks of Pakistan. The creator has recommended that both worker and administrator must work in group and ought to have great participation with one another while acting in collaboration.

Mathur, Atul and Agarwal P.K. (2013), concentrated to comprehend the impact of maintenance techniques on worker turnover in sugar ventures of India. The focal point of study depended on the different factors, for example, government assistance benefits, individual fulfillment and association culture which may be the reason for nonadoptive representative turnover. Remuneration and workplace are the principle purposes behind representative turnover and the investigation uncovered that worker maintenance has high effect on worker turnover. The examination study recommend that the powerful execution of HR rehearses like pay strategy, execution evaluation, preparing and advancement program, input and appointing serious work can improve the state of representative maintenance in associations.

Balkrishnan and Masthan, D. (2013), intended to consider the connection between worker commitment and representative maintenance and the different drivers of worker commitment. The investigation uncovered that representative commitment prompts duty and mental connection which reflects in the high worker maintenance and low weakening rate. It was discovered that the degree of representative commitment can be enhanced by recognizing its compelling variables. Distinguishing best ability to hold and planning and conveying the monster rehearses associations can hold their exceptionally gifted and concentrated human asset absent a lot of monetary weight. Measurable proof utilized in present investigation affirms that the representative maintenance can be improved by tending to non-monetary drivers of worker commitment, for example, correspondence, acknowledgment, administrator/director relationship, work commitment, cooperation and job clearness.



4. OBJECTIVES OF THE STUDY

1. To study the supportive relationship between employees and management.
2. To analyse the level of motivation in the organization.
3. To analyse the stress level of employees in the organization.
4. To understand the various factors influencing the employee for retaining them.
5. To suggest and recommend some measures to improve employee retention strategies.

5. SCOPE OF THE STUDY

This will be valuable for the organization to know their laborers' demeanor towards their movement. The proposition and suggestion of the examination can moreover be associated with relative expand. It will be valuable for the organization to perceive the prerequisites of agents in order to hold them in the affiliation. This endeavor can be used for the understudies who taking care of the work in the connected district and to the relationship to have best upkeep approaches.

6. RESEARCH METHODOLOGY

Examination Methodology is a way to deal with productively deal with the investigation issue. Exploration is a specialty of consistent assessment. The moved understudy's assertion references of recurring pattern English lay are down the significance of exploration as, "an attentive assessment (or) solicitation, especially through the output for new surenesses in any part of data". For this endeavor in the investigation from the start the expert used clear exploration to report the factor in that limit occur. Later on the used exploratory examination to find the conditions and outcome. The fundamental data is those which are accumulated a fresh and all of a sudden and thusly end up being in extraordinary character. For this endeavor, Primary data were assembled with the help of a survey and easygoing gathering was moreover prompted get the quick responses of the agents concerning fundamental components. Helper data are those data open starting at now in the books of records. Discretionary data was assembled from association records and yearly reports. The quantifiable instruments used for analyzing the data accumulated Percentage procedure, Mean and standard deviation, Correlation, Chi-square, Weighted typical.



7. ANALYSIS & DISCUSSION

TABLE 7.1 Satisfaction Levels Towards of two Variables

Received recognition for doing work * the performance appraisal system cross tabulation							
Particulars		Performance Appraisal System					Total
		Highly Satisfied	Satisfied	Neutral	Dissatisfied	Highly Dissatisfied	
Received recognition for doing work	Highly Satisfied	1	3	3	0	0	7
	Satisfied	5	26	12	2	2	47
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Particulars		Received recognition or praise for doing good work	The Performance Appraisal System
Received recognition or praise for doing good work	Pearson Correlation	1	0.043
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7.2. Chi-Square Analysis

Hypotheses were formulated keeping the content and coverage of the framed objectives. The Formulated hypotheses are tested by employing appropriate statistical tools.

H0: There is no significant difference between Age and Feel Comfortable with the workload of employees.
H1: There is significant difference between Age and Feel Comfortable with the workload of employees.



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Cross Tabulation between feel comfortable with workload and Age

Particulars		Age				Total
		Below 23 years	26-33 years	36-43 years	Above 45 years	
Perceived recognition for doing work	Highly Satisfied	1	4	1	0	6
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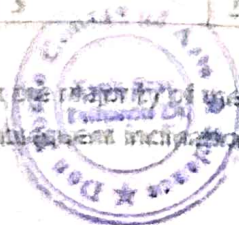
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N of Valid cases	100		

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TABLE 7.5 Rank Orders of Different Variables by Respondents

Motivation Factor											
Rank	w	Nature of Work		Remuneration		Flexible working Hour		Team Relationship		Job Security	
		x1	wx1	x2	wx2	x3	wx3	x4	wx4	x5	wx5
1	5	42	210	17	85	49	245	41	205	30	150
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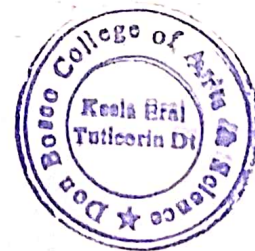
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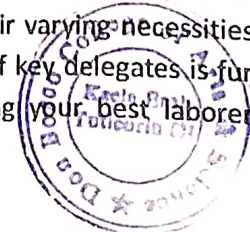
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Specialist support matters, as, definitive issues, for instance, getting ready time and hypothesis, costly contender look, etc, are incorporated. Along these lines, fail to hold a key delegate is a costly recommendation for any affiliation. Various examinations suggest that losing a middle boss in numerous affiliations, implies lost up to multiple times his remuneration. Specialist support frameworks empower relationship to give convincing agent correspondence to improve obligation and overhaul labor force reinforce for key corporate exercises. The investigation paper is entitled on An Experimental Exploration on Representative Maintenance Techniques of Chose Nationalized Banks in Tirunelveli City. This paper outfit's consistent association among laborers and organization. What's more, moreover the assessment fathoms the degree of motivation at Nationalized Bank. The paper is completely implied that what the various segments are influencing the specialist for holding them.

2. THE THREE R'S OF EMPLOYEE RETENTION

To hold a worker for long haul is certainly not a simple work. The three R's of worker maintenance assume a significant part in representative maintenance and they are regard, acknowledgment and prizes. Regard is one thing where representative anticipate that his/her thoughts are valued. Whatever he/she needed to state is listen then they give an idea whether to acknowledge or dismiss the worry. Acknowledgment is only the thankfulness, worker anticipate either in the structure cash or money related structure. Work acknowledgment of representative lift the confidence of worker and keep them participate in their work. Prize, can be in the thankfulness of association towards the worker which can be accomplished through various ways like advancement, drawing face to face in intrigued zone, pay raise. And so on To keep your laborers profoundly fulfilled you need to take a shot at these three R's and these prompts elite.



3. LITERATURE REVIEW

YiuLichia and Saner Raymond(2014), Through the study of whittling down in Indian organizations and the arrangements picked to experience the issue of high turnover is accounted for as Hr work in present investigation. The specialist found that installment of higher remuneration bundles can limit the pace of weakening. They have recommended to fortify the inward holding, position fulfillment and authoritative duty to guarantee ability maintenance through skill advancement and vocation arranging.

JeenDorance Batty S. (2014), study depended on to discover the components which could be the potential explanations behind representative turnover. The specialist broke down the representative turnover causes and its impact on hierarchical results which was gathered from first and center line supervisors in chose retail sources in Bangalore through organized polls. From the examination it was discovered that representative turnover has been affected by certain components, for example, nature of work life, vocation development, working hours, individual and family reasons, connection with associate, government assistance measures, working condition and compensation.

Kanwal and Muhammad (2013), the examination depended on representative maintenance in banks of Pakistan. The focal point of exploration is on the accompanying elements of worker maintenance as reward and rewards, work fulfillment, preparing and advancement, cooperation and profession presentation. The analyst has discovered that preparation and improvement significantly affected representative maintenance in banks of Pakistan. The creator has recommended that both worker and administrator must work in group and ought to have great participation with one another while acting in collaboration.

Mathur, Atul and Agarwal P.K. (2013), concentrated to comprehend the impact of maintenance techniques on worker turnover in sugar ventures of India. The focal point of study depended on the different factors, for example, government assistance benefits, individual fulfillment and association culture which may be the reason for nonadoptive representative turnover. Remuneration and workplace are the principle purposes behind representative turnover and the investigation uncovered that worker maintenance has high effect on worker turnover. The examination study recommend that the powerful execution of HR rehearses like pay strategy, execution evaluation, preparing and advancement program, input and appointing serious work can improve the state of representative maintenance in associations.

Balkrishnan and Masthan, D. (2013), intended to consider the connection between worker commitment and representative maintenance and the different drivers of worker commitment. The investigation uncovered that representative commitment prompts duty and mental connection which reflects in the high worker maintenance and low weakening rate. It was discovered that the degree of representative commitment can be enhanced by recognizing its compelling variables. Distinguishing best ability to hold and planning and conveying the monster rehearses associations can hold their exceptionally gifted and concentrated human asset absent a lot of monetary weight. Measurable proof utilized in present investigation affirms that the representative maintenance can be improved by tending to non-monetary drivers of worker commitment, for example, correspondence, acknowledgment, administrator/director relationship, work commitment, cooperation and job clearness.



4. OBJECTIVES OF THE STUDY

1. To study the supportive relationship between employees and management.
2. To analyse the level of motivation in the organization.
3. To analyse the stress level of employees in the organization.
4. To understand the various factors influencing the employee for retaining them.
5. To suggest and recommend some measures to improve employee retention strategies.

5. SCOPE OF THE STUDY

This will be valuable for the organization to know their laborers' demeanor towards their movement. The proposition and suggestion of the examination can moreover be associated with relative expand. It will be valuable for the organization to perceive the prerequisites of agents in order to hold them in the affiliation. This endeavor can be used for the understudies who taking care of the work in the connected district and to the relationship to have best upkeep approaches.

6. RESEARCH METHODOLOGY

Examination Methodology is a way to deal with productively deal with the investigation issue. Exploration is a specialty of consistent assessment. The moved understudy's assertion references of recurring pattern English lay are down the significance of exploration as, "an attentive assessment (or) solicitation, especially through the output for new surenesses in any part of data". For this endeavor in the investigation from the start the expert used clear exploration to report the factor in that limit occur. Later on the used exploratory examination to find the conditions and outcome. The fundamental data is those which are accumulated a fresh and all of a sudden and thusly end up being in extraordinary character. For this endeavor, Primary data were assembled with the help of a survey and easygoing gathering was moreover prompted get the quick responses of the agents concerning fundamental components. Helper data are those data open starting at now in the books of records. Discretionary data was assembled from association records and yearly reports. The quantifiable instruments used for analyzing the data accumulated Percentage procedure, Mean and standard deviation, Correlation, Chi-square, Weighted typical.



7. ANALYSIS & DISCUSSION

TABLE 7.1 Satisfaction Levels Towards of two Variables

Received recognition for doing work * the performance appraisal system cross tabulation							
Particulars		Performance Appraisal System					Total
		Highly Satisfied	Satisfied	Neutral	Dissatisfied	Highly Dissatisfied	
Received recognition for doing work	Highly Satisfied	1	3	3	0	0	7
	Satisfied	5	26	12	2	2	47
	Neutral	7	9	5	5	1	27
	Dissatisfied	0	14	1	3	0	18
	Highly Dissatisfied	0	0	1	0	0	1
Total		13	52	22	10	3	100

TABLE 7.2 Analysis of Pearson Correlation

Particulars		Received recognition or praise for doing good work	The Performance Appraisal System
Received recognition or praise for doing good work	Pearson Correlation	1	0.043
	Sig. (2-Tailed)		0.673
	N	100	100
The Performance Appraisal System	Pearson Correlation	0.043	1
	Sig. (2-Tailed)	0.673	
	N	100	100

It is to investigation of relationship between's gotten acknowledgment or recognition for accomplishing great work and the exhibition evaluation framework. From the Table VII.2, plainly the representative maintenance of the association is profoundly related with a connection coefficient of 0.673 and there is decidedly corresponded. From the connection examination, it is deduced that the association is effectively utilizing the representative maintenance methodology.

7.2. Chi-Square Analysis

Hypotheses were formulated keeping the content and coverage of the framed objectives. The Formulated hypotheses are tested by employing appropriate statistical tools.

H0: There is no significant difference between Age and Feel Comfortable with the workload of employees.

H1: There is significant difference between Age and Feel Comfortable with the workload of employees.



TABLE 7.3 Analysis of Pearson Correlation

Cross Tabulation between feel comfortable with workload and Age

Particulars		Age				Total
		Below 23 years	26-33 years	36-43 years	Above 45 years	
Perceived recognition for doing work	Highly Satisfied	1	4	1	0	6
	Satisfied	7	13	14	10	44
	Neutral	9	7	5	4	25
	Dissatisfied	2	4	4	3	13
	Highly Dissatisfied	2	2	1	2	7
Total		21	33	25	19	100

TABLE 7.4. Tabulation of Pearson Chi-Square Tests

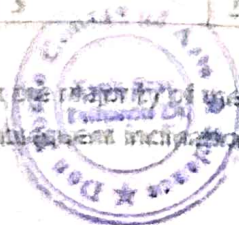
Particulars	Value	Df.	Asymp. Sig. (2-sided)
Pearson Chi-Square	9.353 ^a	12	0.673
Likelihood Ratio	9.855	12	0.629
Linear by-Linear Association	0.015	1	0.902
N of Valid cases	100		

The level of significance is 0.673, since the calculated value is greater than the tabulated value, the Null Hypothesis (H0) is rejected and the Alternative Hypothesis (H1) is accepted. Hence, it has been inferred that there is an association between Age and Feel Comfortable with the workload of employees.

TABLE 7.5 Rank Orders of Different Variables by Respondents

Rank	Motivation Factor										
	Nature of Work		Remuneration		Flexible working Hour		Team Relationship		Job Security		
X	w	x1	wx1	x2	wx2	x3	wx3	x4	wx4	x5	wx5
1	5	42	210	17	85	49	245	41	205	30	150
2	4	11	44	2	8	21	84	6	22	13	52
3	3	5	15	1	3	5	15	12	36	40	144
4	2	2	4	53	106	4	26	34	68	4	8
5	1	40	40	27	27	11	11	5	5	5	5
Total		100	313	100	229	90	381	100	646	100	359
cw		3.13		2.29		3.83		3.46		3.59	
Rank		4		5		1		3		2	

From the above weighted normal estimation, it has been concluded that the majority of the respondents are favored Flexible working hours in the association, at that point the subsequent inclination is an elevated



level of employer stability. The respondents are given a third position for group relationship, and afterward the fourth position is the idea of the work. Also, the last position is held by compensation. Where the workers are respondents' low level fulfillment by compensation

8. LIMITATION OF THE STUDY

The assessment is compelled to Tirunelveli Private Banks by the discoveries of the examination can't be summarized to other affiliation. The examination was finished in Tirunelveli thusly its disclosures can't be summarized to various areas due to land assortment. A segment of the respondents are faltering to give whole hearted supposition. Respondent's evaluation may change sporadically and the response is respected to assortment dependent upon the condition and the disposition of the respondents at the hour of the study.

9. SUGGESTIONS AND RECOMMENDATIONS

Considering the examination the going with recommendations are made the agents are not content with affirmation and execution assessment gave by the affiliation. In this manner, they should give some essentialness towards it. The affiliation must give genuine pay to the laborers to hold them for a drawn out timespan. The delegates are feeling over weight towards the remaining burden. Thusly, the affiliation should base on their smooth outstanding burden to reduce the weight on the agents. The association among agents and organization needs to push ahead

10. CONCLUSION

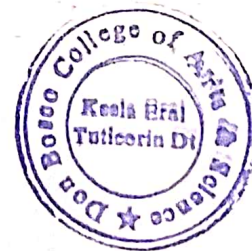
Given the creating necessities for relationship to hold its best delegates despite contention, the disclosures of the assessment suggest that particular elements are fundamental in affecting the laborers' decision to one or the other leave or remain in an affiliation. Such factors consolidate planning and Development, affirmation/compensate for good execution, an engaged pay group and boss steadiness. Regardless, the hugeness of various elements should not to be Under-evaluated while calculating an upkeep methodology. It is only an expansive blend of trademark and outward inspirational components that can update support and reduce the high pace of specialist turnover in our diverse association

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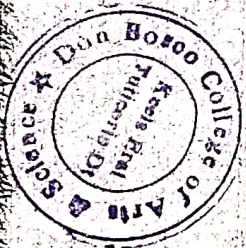
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POSTMODERNISM IN SHAKESPEARE'S PLAYS

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Abstract

William Shakespeare's worldwide popularity ascends from his innovative language, unforgettable characters, and brilliant stories. Having been discussed for more than four centuries, he is still believed by many critics to be the most important English dramatist. He has remained a genius, whose challenging views of postmodernism in *Hamlet* and *The Tempest*. Based on the dominant traits characterisation of postmodernist thinkers and through a careful language analysis, the postmodern elements of these plays are detected and discussed. By spotlighting Shakespeare's postmodern notions in his plays, the study wants to show the affinity of Shakespeare with the 21st century generation of postmodern world. By finding and analysing these features in the language of the play, it becomes arguable that *Hamlet*, *The Tempest* and many of his dramas as postmodern plays. The focal point of the study is therefore to show Shakespeare as a man of all times.

Keywords: Shakespeare; Postmodernism; *Hamlet*; *The Tempest*; Drama; Philosophy

Postmodernism is the term used to indicate an intellectual trend found in literature, arts and philosophy that takes a different position from modernity. It questions and in fact rejects many of the assumptions of modern thought. In the process, postmodernism, confuses many people, frustrates some, delights others, and raises some questions that affect almost all branches of human discourse. It is not something that is promoted by a few thinkers cut off from real life. The issues it raises, and the language that is used may seem strange to those who are unfamiliar with it. But, if we listen to it carefully, we will in fact confront many of our unquestioned assumptions, and our way of seeing the world. Certainly, it will affect us and probably change our way of perceptions.

What is Postmodernism?

Postmodernism has no 'founding father' and no catechism of vital creeds. It is not an 'ism' in the way we would understand a set of doctrines such as

Catholicism or Protestantism or Vaishnavism or Marxism, etc. Postmodernism articulates more a mood of our times than a doctrine. Often it is difficult to understand the cultural phenomenon, unless we know the period called 'modern,' and see how wilfully postmodern authors or artists see it and sort out the new paths in literature, in arts, and in social theory that are identified as 'postmodern.' Often postmodernism is perceived, rightly or wrongly, as a pervasive critique of the modern modes of thought.

Charles Lemart, an American scholar explains postmodernism, giving examples taken from different cultures, from architecture, from the media, etc. He says: Postmodernism is not what you think, that is: Not only is it not what you might suppose it is, it is not primarily something that one thinks... it is not principally a form of social thought. True, it has spawned a great deal of social theory. But this fact alone must be interpreted with respect to the more interesting question: what does the remarkable appearance of postmodernism in fields as seemingly different from each other as social theory, architecture, and pop music say about the world? [1]

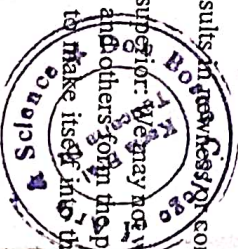
Modernity is the period well-defined in contrast to antiquity. It began with the Renaissance. It included the socio-economic and political systems developed in the West from the eighteenth century onwards. Postmodernist marks the termination of the social forms associated with modernity. Writers and Authors do not agree whether there is greater continuity or break between the two periods. Modernisation indicates the stages of social development based on industrialisation. Modernism concerns a particular set of cultural or aesthetic styles that began around the turn of the century. But postmodernism discards the legitimizing myth of modernity and the totalising function of reason.

Newness or Confusion Brought by Postmodernism

Postmodernism challenges the following which results in postmodernist confusion:

- a) The claim of a culture or group to consider itself superior. We may not want to be confronted about the area where we are the centre and others form the periphery. Postmodernism challenges the right of any group to make itself the centre, according to which the rest are to be rated.
- b) The unjust gender equations: It examines the unequal social relations in the different areas of life, and questions its structure.

- c) Abuse of nature to advance technology: It challenges the destruction of thousands of trees in the name of progress and development, in production.



d) The marginalisation of people: It questions marginalisation of large sections of people in the name of progress and modernisation (e.g. the large slums found in most of our cities).

e) The neglect of the arts in the name of culture: the rational gets the lion's share of attention, and the emotional is sidelined as the peripheral. In the name of new culture the local arts connected with life are sidelined.

f) The need to study the different expressions of the peripheral groups: Art forms, writings, unwritten histories of the previously marginalised groups (eg. tribal art) were so far considered as unimportant; they need to be given serious consideration.

g) Re-reading of texts: Literary or religious classics have so far been read only from the perspective of the central; they can be read from various other perspectives. Eg. Feminist re-reading of a religious text or a Dalit re-interpretation of a canon.

h) An idea that colonizer's culture as superior: During the period of colonisation, the colonizer's culture was looked as the only valid pattern of civilisation. Every culture is unique and full of life.

i) An idea that science is the only answer to all our problems: Science and technology are basically ambiguous in their relationship to human progress; and technology can both heal and kill. As there is many other ways to answer our problems, one can recourse to other forms as well.

The postmodernist argument is that we need to look at the world with new eyes, and that this new perspectives are better than the classical or modern. Postmodernism is a culture that believes that there is a better world than the modern one. In particular it disapproves of modernism's uncritical assumption that European culture (including its Diaspora versions in such places as South Africa, the United States, Australia, and Argentina) is an authentic, self-evident, and true universal culture in which all the peoples of the world ought to believe. Postmodernism is a culture that prefers to break things up, to respect the several parts of social world. When it speaks of culture, it prefers to speak of culture. [2]

These views are threatening for some and confusing for others. No wonder postmodernism has its share of enemies, who see it as an intellectual virus, or worse. Others, instead, see the rich possibilities offered by this broad shift in consciousness.

Is postmodernism, then, a clear and conscious break with the modern? Yes and no; there are authors who hold this view. Justifying their position would be the kind of opposition we have outlined above, especially the rejection of grand narratives, the dethroning of reason and the rejection of a privileged centre. On the other hand, postmodernism can also be seen as a continuation and growth of modernism, as other authors hold. However, postmodernism is not a set theory, nor a movement organised by a power lobby, but a free intellectual work and – not to be tied to the crippling assumptions of modern culture. It can help us to be aware of the dehumanising ideologies of modernism which we may have absorbed, consciously or unconsciously.

Post modernistic Elements in *Hamlet*

Hamlet is a tragedy set in ancient Denmark. The main protagonist is Prince Hamlet, the son of King Hamlet and Queen Gertrude. The story begins with the event of fratricide. Fratricide is an odious crime but in quite a number of cases we do find that throne has often been accompanied with fratricide. This happens even in our own times as we see sometimes powerful politicians get their rivals killed. When the play opens, King Hamlet has recently died. Claudius, King Hamlet's brother, has been crowned the new King and has married Gertrude. Shortly after his mother's marriage, Prince Hamlet meets his father's spirit. People believe that King Hamlet was killed by a poisonous snake bite. However, the Ghost tells Hamlet that he was murdered by Claudius. Claudius killed the king by pouring poison into his ear while he slept. He says that Claudius has seduced Gertrude and stolen the throne. The Ghost tells Hamlet that "The serpent that did sting thy father's life now wears his crown." [3] The spirit implores Hamlet to seek revenge: "Let not the royal bed of Denmark be a couch for luxury and damned incest." [4] Hamlet's elaborate revenge plot results in slaughter and bloodshed. Hamlet's mother has married Claudius without the knowledge of the fact that this man is the murderer of her late husband. Now prince Hamlet's state of mind is on the verge of insanity. He wants to take revenge but postpones his action waiting for a suitable opportunity. Having learnt the brief summary let us analyse the postmodernistic elements in *Hamlet*.

Hamlet and the Problem of Subjectivity

Most Postmodernists agree with the problem of subjectivity: the powerlessness of the individual human to break free from his or her own, unique, cognitive and psychological experience to experience the object world. In one way or other, we are all confined within our own senses and our own consciousness,

and there is no way to objectively judge the precision of our concepts. This theme is treated a number of times in *Hamlet*. At a biological level, our senses don't really deliver to us the full objective experience of reality. For example, dogs can hear sounds that for us 'don't exist', or each of us perceive colours somewhat differently based on the specific bio-chemical-neural makeup of our eyes.

At a conceptual level, our knowledge is fashioned by experience and is stored both as culturally defined language and as faulty memory. No two individuals have the same life experience. So, as Locke says that knowledge is shaped by experience, we are doomed to a separate knowledge. And as Freud argued, all knowledge is coloured by our emotions, or as Marx argued, all knowledge is coloured by our economic relations. Then, ultimately we are isolated from actual experiences, because they are coloured by our sensory perceptions. Our experiences are individual and unique, and these experiences are not really 'knowledge' until they have been moulded by culturally defined language and unique emotions. This is what we mean by 'the problem of subjectivity'.

This is exactly what Hamlet realizes about himself: his perception of reality is being shaped by his own depression; he cannot accurately determine which elements of his reality are accurate and which are illusory. For example, he is in a dilemma to find whether his father's ghost is real. He is utterly isolated from everyone else, so he cannot accurately judge his experience or his knowledge by testing it against the opinions of others. Like each of us, he is left alone to determine what is real. The following text proves the above argument.

Gull. Prison, my lord!

Ham. Denmark's a prison.

Ros. Then is the world one.

Ham. A goodly one, in which there are many confines, wards and dungeons, Denmark being one o' the worst.

Ros. We think not so, my lord.

Ham. Why, then, 'tis none to you; for there is nothing either good or bad, but thinking makes it so: to me it is a prison.

Ros. Why then, your ambition makes it one; 'tis too narrow for your mind.

Ham. O God, I could be bounded in a nut shell and count myself a king of infinite space, were it not that I have bad dreams [5]

Rejection of Structure

In crafting *Hamlet*, Shakespeare like a postmodernist, broke several rules, one of them is the rule of action over character. In his day, plays were commonly expected to follow the advice of Aristotle in his *Poetics*, which declared that a drama should not focus on character so much as action. However, the highlights of *Hamlet* are not the action scenes, but the soliloquies, wherein Hamlet reveals his motives and thoughts to the audience. Also, unlike Shakespeare's other plays, there is no strong subplot: all plot divisions are directly connected to the main vein of Hamlet struggling to gain revenge. The play is full of apparent discontinuities and irregularities of action. At certain point, Hamlet is resolved to kill Claudius; in the next scene, he is suddenly lame. A kind of confusion and dishemony is present throughout the play. The rejection of grand narratives in *Hamlet* makes Shakespeare a postmodern thinker.

Hamlet as a Postmodern Character

Hamlet is often perceived as a postmodern character. He expresses a post modernist idea when he says to Rosenkrantz: "there is nothing either good or bad but thinking makes it so." [6] The idea that nothing is real except in the mind of the individual finds its roots in the Greek Sophists, who argued that since nothing can be perceived except through the senses, truth was entirely relative. According to them there is no absolute or superior truth. However, Hamlet's thinking goes a step higher embracing one's own individualism making him a postmodern character.

Hamlet is perhaps most affected by the predominant scepticism in Shakespeare's day in response to the Renaissance's humanism. Humanists prior to Shakespeare's time had argued that man was godlike, capable of anything. Scepticism toward this attitude is clearly expressed in Hamlet's words "What a piece of work is a man" speech:

... this most excellent canopy the air, look you, this brave overarching firmament, this majestical roof fretted with golden fire, why it appeared nothing to me but a foul and pestilent congregation of vapours. What a piece of work is a man—how noble in reason, how infinite in faculties, in form and moving, how express and admirable in action; how like an angel in apprehension, how like a god; the beauty of the world, the paragon of animals. And yet, to me, what is this quintessence of dust? [7]



Hamlet as a Radical Critique

The encumbrance of the complexities of life and death are introduced from the beginning of Hamlet. In the wake of his father's death, Hamlet can't stop thinking and considering the meaning of life, and its eventual ending. Many questions emerge as the text progresses. However, in Hamlet's mind the idea of dying is not so bad. It is the ambiguity of the afterlife that frightens Hamlet away from suicide, even though he is obsessed with the notion. A turning point for Hamlet occurs in the graveyard scene in Act V. Hamlet has been appalled and revolted by the moral corruption of the living. But by seeing Yorick's skull (someone Hamlet loved) drives Hamlet's realization that death eliminates the differences between people. However, the questions about death and what comes after are left unanswered. The play thus stands as postmodern, leaving the audience to find answer by themselves.

Narration in Postmodern Style

In *Hamlet*, since the shift from modernism to postmodernism is quite tangible, different layers of narration are contrasted, so that no single, linear, logical sequence of event can be traced. The reader is left in a constant mood of suspense and uncertainty; sometimes, we may confront a sequential but soon we are disillusioned. The narrative itself is something arbitrary and its interpretations in various situations based on the layer surfaced through the viewpoints of thoughtful readers. According to postmodernism, dialogues based on traditional norms are regarded as ideologically constructed and cannot reflect the disordered and chaotic situation of man. This we see in Hamlet's dilemma that only a shattered rhetoric can fully transfer the sense of anxiety and disturbance to the readers. In addition, one of the significant functions of stream of narration in *Hamlet* is that it challenges a specific plot, setting and characterisation.

Post-modernistic Elements in the *Tempest*

The Tempest is one of the intelligent comedy plays by William Shakespeare. The different themes that are illustrated in the play are freedom, friendship, repentance and forgiveness. The different temperament illustrates temperance and intemperance. The plot starts when King Alonso of Naples and his entourage sail home for Italy after attending his daughter's wedding in Tunis, Africa. They encounter a violent storm, or Tempest. Everyone jumps overboard and are washed ashore on a strange island inhabited by the magician Prospero who has deliberately conjured up the storm. Prospero and Miranda live in the island which is also

inhabited by Ariel, a sprite who carries out the command of Prospero, and the ugly, half-human Caliban. Various plots against the main characters fail. Finally, the play ends with all the plotters repenting and the *Tempest* is calmed. Having learnt the summary, let us now analyse the post modernistic elements in the play.

'Play, anarchy, dispersal, and intersexuality' are among the features of a postmodern piece of literary writing. The names of some characters of Shakespeare's plays are in line with these features. Some names are playful: having their roots in Greek and Latin, their meanings are associated with characters' occupation, speeches, actions, and mentality. Some are allusive, referring to historical, geographical, mythological and religious figures, events and places. Finally, some names possess all the above elements. With the use of allusive, playful, and polysyllabic names, Shakespeare has enriched the play with a postmodern language, besides making it intersexual which again is itself a postmodern feature.

Caliban

Caliban is one of the most interesting and debated characters of Shakespeare. Caliban's name as well as his presence, shape, diction, and personality contribute largely to the richness of the play. In the drama, first of all, Caliban is described as a 'salvage and deformed slave', preparing the reader to meet an animalistic, evil creature. The reader confronts Caliban, first, in act I, scene ii, where he expresses his wish to rape Miranda. Later he plots to murder Prospero by encouraging Stephano to kill him, seize Miranda as his wife and become the king of the isle. Caliban is continually referred to as: 'slave, villain, earth, tortoise, poisonous, abhorred, capable of all ill, savage, vile race, hag seed, and devil'. Just in one scene he is nineteen times referred to as "monster" and "moon calf" by Trinculo and Stephano. In all these instances, Caliban is associated with being terrestrial, earthly, evil, black and lowly. Caliban was taught language by Prospero and Miranda, but he even uses this virtue as an opportunity to constantly curse others. As the above evidences clarify, Caliban's name is in complete accordance with his shape, actions, language and personality. Moreover, by being associated with different sources of *The Tempest*, the name further makes the language playful and adds to the multiple layers of allusiveness and intersexuality of the play. Therefore, Caliban's name has a huge role in making the language of the play postmodern.

Sycorax

Sycorax is one of the remarkable minor characters of Shakespeare. Though an absent character, she has a great sway on creating a postmodern atmosphere in

the play. The name Sycorax comes from combination two Latin words: "sys" meaning "sow" and "korax" meaning "raven," the animal that is associated with lust, darkness, and evil omen. Her name is very much connected with her past action. First of all, she was a witch practicing black magic, which was in the Renaissance time sinful and evil. Many witches were burnt alive or left to drown in the Thames. Furthermore, Sycorax had committed a crime, whose normal punishment was execution, but, because of being pregnant she had been exiled and not executed. She had continued her practice of necromancy in her exile in the island by confining Ariel into a tree. In a level of allusiveness, Sycorax has features in common with the ancient mythological witches, particularly Circe a Greek mythological figure, had been exiled to the island of Arca because of committing murder. By using different layers of allusions, as well as playing on the word in a single name of an absent character, Shakespeare displays his mastery in the language and thus with its richness and multiplicity of meaning, makes the play a postmodern.

Prospero's Attitude and Relationship

Prospero's most dominant trait is his forgiving quality. He enjoyed unlimited powers but he does not exercise them ruthlessly. Sometimes Prospero appears short-tempered, especially in his dealings with Caliban. But we must remember that he was kind toward Caliban in the beginning and tried his best to civilize him. At times, he was very harsh towards Caliban because he tried to deflower Miranda. He was also harsh towards Ferdinand only to test the strength of Ferdinand's love for his daughter. Thus Prospero is essentially kind and forgiving towards all. This attitude of Prospero's forgiving nature and his dealings with all kinds of creatures without partiality explicitly project Shakespeare's postmodern attitude in this play.

Miranda's Sympathy

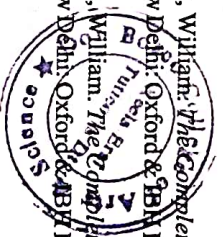
The quality of Miranda that strikes the reader most is her instinctive sympathy for suffering people. When she sees the shipwreck brought 'about by her father, her heart is wrong'. When her father narrates to her the circumstances that led to his exile, her 'heart bleeds'. She exclaims, "Alack, what trouble was I then to you". [8] Secondly, her love for Ferdinand brings out all her best qualities. She falls in love with Ferdinand at first sight. Her love is not as short-lived fancy. The strength of her love is very evidence when she defies her father's prohibition and meets Ferdinand. She accompanies him when he carries the logs, and also offers to relieve him by carrying the logs herself. She offers to be his servant, if he does not marry her. These attitudes are examples of thinking out of the box. We find here a strong rejection of 'grand narratives'. Though her father causes destruction yet she is full of sympathy and love, a post-modern attitude of de-marginalisation and decentralisation.

Conclusion

This study was an attempt to show that though Shakespeare lived four hundred years ago, in his thinking and contribution to the world, in one way he was a postmodern. Of all his plays, we find the dominant traits of postmodernism in *Hamlet* and *The Tempest*. The language and techniques used in *Hamlet* and *The Tempest* leaves open for a postmodernist approach. However, the same techniques can be applied to Shakespeare's other plays as well. Because of being rich in language techniques and the indeterminacy of language, these plays are very much postmodern. Thus, to travel with Shakespeare is an unending voyage of exploration, of the self and the other. He has certainly transcended time and space. As Ben Jonson appreciates: "He was not of an age, but for all times."

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CUSTOMER RELATIONSHIP MANAGEMENT PRACTICES IN LIFE INSURANCE COMPANIES IN MADURAI CITY

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Abstract

The Insurance companies would benefit through tailoring their offering to high value customers that is high net investors and the telecom companies have been suggested to develop churn prediction models by using tools like data mining. Customer Relationship Management (CRM) now playing an inevitable role in the business world. Every institution wants to attract more and more customers and always struggling to retain their existing customers. CRM leads to modern trend in the field of business. Nowadays Customer Relationship Management is attracting the expanded attention of scholars and practitioners. In order to maintain customer relationship, life insurance companies should provide proper service whenever and wherever it is required. The present study can serve as a platform for future work on the subject and this will naturally stimulate new ideas and also further research on the subject. This article highlights the customer relationship management practices in life insurance companies in Madurai city

Key Words: Customer Relationship Management, Financial Institutions, Life Insurance Companies, Relationship Practices and Attitudes.

INTRODUCTION

At present, the customer relationship management (CRM) is the latest idea of managing and propagating insurance business more successfully. It is a tool that helps to design insurance products which match with the customer expectations. It also helps to build customer trust and develops loyalty of the customer. The main strategy of CRM is to pay attention to customer needs, innovative marketing channels, uniform quality outlets and identification of target market and also customer groups.

The new generation companies claim to grow by customer services by tuning up technology, training staff and tackling existing markets. Private players are picking up market share from competitors. With better prospects offered in the technology sector, the capacities and capabilities of the life insurance sector to retain and improve customer base is strengthened. The timely and efficient policy towards customer service makes this possible and acceptable to the insurers.

The quality of customer relationship is often the differentiator. It is more so for life insurance business because the insurers are in the business of improving the quality of life of the customers. The understanding that a life insurance business is essentially one of partnership in helping customers and meets their lives, opportunities and adversities will go a long way in aligning the functional arms in the business.

This study includes the analysis of customers view in maintaining CRM practices, their opinions on requirement of CRM practices by the service providers and their intentions regarding satisfaction, retention, repurchase and in referring to new customers and the enhancement which can be made through good relationship.



management practices. Added to it the opinions of people who are likely to have close contact with customers like dealers and employees with customer contacts are analyzed. Analysis of demographics and their effects are also made.

REVIEW OF LITERATURE

Rajeswari and Karthikeyan (2011) determined that the customer satisfaction as the perception of customers on the service whether that service has met his needs and expectations. Service quality, personal factors, perception of equity and fairness, price, product quality, situational factors and attributions for service success or failure are the factors that influence the customer satisfaction. However, the perceptions and expectations of the policyholders who have taken the policies from Life Insurance Companies vary from person to person. This study emphasizes the perceptions of the policyholders about the service rendered by the LIC of India and intends to promote a better theoretical understanding and recognition of the complexities to service quality and its measurement with respect to life insurance.

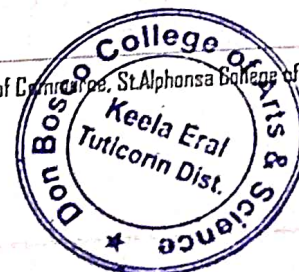
Ammamalah (2013) determined that in Malaysia, the life insurance industry has grown the strength and plays an important role in the capital market. This study examines the various socioeconomic and demographic factors associated with decisions to life insurance purchasing behaviour and total policies expenditures on life insurance by Malaysian married couples. Primary data from a survey were used in this study. The Logit model was formulated to investigate life insurance purchasing decisions and total expenditure on life insurance policy amongst married couples. Results from the empirical analysis showed income and education level of the household head supports the explanatory variables for life insurance purchasing decisions. In addition, the profile of life insurance policy purchaser is constructed to identify the segment of people and to provide good understanding on the demand for life insurance in Malaysia and would help in the formation of policies for further developing of the insurance industry.

OBJECTIVES OF THE STUDY

1. To analyse the outlook of life insurance companies in India.
2. To know the advantages of Customer Relationship Management in Insurance Sectors.
3. To evaluate employees' attitude towards CRM practices adopted by life insurance companies in Madurai city.

METHODOLOGY AND RESEARCH DESIGN

The study is based on both primary and secondary data. Primary data are collected for understanding the customer relationship management practices of the policyholders in Madurai city. In Madurai city policyholders is mainly concentrated in LIC of India, SBI life insurance, Birla sun life insurance, ICICI Prudential life insurance and Bajaj Allianz life insurance. Hence, the study is based on primary survey, concentrates only on large area of policyholders in Tami Nadu. Primary data were collected from a sample of 130 policyholders from Five Insurance Companies in Madurai city. The secondary information has been collected from the reports of the select insurance companies and related agencies. Further books, journals, reports and websites have been referred.



I. CRM In Indian Insurance Sectors

With the increase in the number of insurance companies in the market and consumers becoming more aware of different policies. Insurance companies have realized the importance of CRM. The cost of attracting a new customer is five times more than that is incurred to make an existing customer happy. Therefore, to survive in the market, insurance companies need to implement CRM in their organizations. This is the key to success in the industry. The organizations can succeed who have been able to build a base of their loyal customers, because a loyal customer advocates the companies' products much better than the organization itself. The basic existence of the organisation lies in the hands of its customers. It can be easily concluded that for success, it is necessary to implement CRM in the right manner.

Insurance companies available in India

1. Life Insurance Corporation of India
2. SBI Life Insurance Co. Ltd
3. Tata AIG General Insurance
4. New India Assurance
5. Oriental Insurance
6. ING Vysya Life Insurance
7. Shriram Life Insurance
8. ICICI Prudential Life Insurance
9. HDFC Standard Life Insurance
10. Bajaj Allianz General Insurance
11. IFFCO TOKIO General Insurance
12. ICICI Lombard General Insurance
13. Birla Sun Life Insurance
14. Aviva Life Insurance
15. Max Life Insurance
16. MetLife India Insurance
17. Reliance Life Insurance
18. Sahara India Life Insurance
19. Om Kotak Mahindra Insurance Company
20. Agriculture Insurance Company of India Ltd
21. Amsure Insurance
22. ANZ Insurance
23. Cholamandalam General Insurance
24. Employee's State Insurance Corporation
25. Peerless Smart Financial Solutions
26. Royal Sundaram Alliance Insurance India
27. Export Credit Guarantee Corporation of India Ltd.

II. Advantages of CRM

CRM is the process of acquiring, retaining and growing profitable customers. It requires a clear focus on the service attributes that represent value to the customer that create loyalty. Customer relationship management has several advantages:

- Company can easily find the needs of the customers.



- It can easily target specific customers by focusing on their needs.
- It makes easier to track the effectiveness of a given campaign.
- It gives knowledge about the customer who is loyal to the product.
- Direct contact with the customers, creates the potential customers' existence.
- Marketing of a product is based on customer-oriented not price oriented.
- As per the customers' wish, a product is manufactured and marketed.
- It prevents overspending on low-value clients or under-spending on high value ones.
- It speeds up the time to develop and market a product.
- CRM reduces advertisement costs.
- Product quality to be increased.
- Volume of sale is to be raised.
- It improves the use of the customer channel, thus making the most of each contact with a customer.

III. Profile and Attitude Practices of Policyholders

The profile of the respondents, Age wise, Gender wise, Education qualification, occupation. Nature of the family, monthly income, type of bank account, duration of maintaining accounts with the Insurance.

The sex wise comparison of sample reveals that majority of the customers is male (80.7 percent). In terms of age, it is evident that 30 percent of the respondents are in the age group of 31 years to 40 years, undergraduate account for 54 percent, 49.4 percent are business man, 92 percent of the respondents are living in Nuclear family. The monthly income statistics revealed that 44 percent earn Rs. 20,001 to Rs.40,000 and 36.7 percent of the respondents have maintaining their policy in insurance between 3 to 5 years.

- ❖ In the highly competitive insurance market to survive and have a competitive edge, insurance companies need to implement CRM not only technically but also as part of the culture.
- ❖ The employees should be trained on interpersonal skills so as to provide politeness, comfort, and individual attention to their customers.
- ❖ It observed that the branches have no authority for CRM. So, that the insurance companies should consider CRM department for every branches.
- ❖ Employee engagement needs to be properly designed in order to feed a large number of customers retaining satisfaction at the same time.
- ❖ The insurance companies should formulate a sound customer knowledge strategy. It should realize that one time collection of customer data is not enough. Customer knowledge gets built when information is collected systematically over a period of time. This can be done through regular surveys and during customer interactions.
- ❖ Insurance companies must introduce new ways and means that makes its customer highly delighted with its quality of services.





STUDY OF CUSTOMER PERCEPTION ABOUT PRIVATE LIFE INSURANCE COMPANY SERVICES WITH REFERENCE TO THOOTHUKUDI REGION

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Abstract

Insurance sector in India plays a dynamic role in the well-being of its economy. It substantially increases the opportunities for savings amongst the individuals, safeguards their future and helps the insurance sector form a massive pool of funds. With the help of these funds, the insurance sector highly contributes to the capital markets and government schemes thereby increasing large infrastructure developments in India.

The main aim of study is to examine the level of perception of policyholders of private life insurance companies in Thoothukudi Region. Convenience sampling was employed to select 100 respondents from private insurance company located in Thoothukudi Region. For analyzing the data collected during the investigation, the following statistical tools such as simple frequency and Ranking Technique were used based upon the nature of data received from respondents. From the study it could be concluded that the success of the insurance industry is achieved only if the company can create the right environment, good rapport with agents and evaluate the expectations and perceptions of customers, the culture and attitude of the employees to serve the customers better.

Key Words: Perception, Private, Life Insurance, Policyholders, and Intention.

Introduction

Insurance in India is usually understood as a measure to save the tax for an individual. It has not been considered as a medium for investment for a long time. In Indian mentality, savings can be done only in banks in terms of fixed deposits and other investment facilities available to them. Some people also like to invest in gold. After independence, the LIC was nationalized in 1956, and then the general insurance business was nationalized in 1972. LIC of India has monopoly over the Indian life insurance sector. But after the entry of private insurance players having alliance with foreign insurance experts, Indian insurance market turned into a highly competitive market. The Insurance Regulatory and Development Authority Act 1999 (IRDA Act) was passed by parliament of India and in the year president of India gave his consent to the act.

Human life is a most important asset and life insurance is the most important type of insurance which provides financial protection to a person and his family at the time of uncertain risks or damage. Life insurance provides both safety and protection to individuals and also encourages savings among people. Customer service is an integral part of life insurance organization. It is necessary to identify the key success factors in life insurance industry, in terms of customer satisfaction so as to survive in intense competition and increase the market share.

Review of Literature

Ashfaq Ahmed (2013) in his study "perception of life insurance policies in rural India" revealed that there is low level of awareness and understanding of life insurance products. There are various factors that influence consumer thinking when they are planning to invest in insurance schemes. Most of the customers show their interest in life insurance having higher risk coverage and also for good return with safety. The other player in perception of life insurance policies in rural market by members of the family varies with knowledge parameters as well as with the type of products and sometimes with the company name also. While a number of psychological variables are useful in obtaining and consumer's perception towards buying life insurance policies in rural areas. The insurance company name also plays an important role in purchasing.





Nisamudheen (2013), The present study was selected with an objective to analyze the preferences of customers while life policy investment decision-making. Various reasons to take insurance policies have been discussed in the paper. The data for the study has been collected from both primary and secondary sources. The study area is limited to Nagpur District of Maharashtra. The paper concludes with that most of the respondents take insurance policies for „Savings“ and „Wide risk coverage“. This study result was revealed that the type of policy taken by the customers. It was also expressed that in LIC, 20% of the customers taken the endowment policy are only 14%. It is observed that no customers will take the policy of without profit. In HDFCSL 30% of the customers taken the children deferred insurance.

Objectives of the Study

1. To identify the development of insurance companies in India.
2. To study the level of perception of policyholders of private life insurance companies in Thoothukudi Region.

Methodology and Design of the Study

The present study carried out by the researcher is an empirical in nature and the study is based on the survey method. The researcher collected the data required for carrying out the present study in two stages. In the first stage, the personal and occupational data relating to sample respondents, their perception about the private life insurance companies services were collected among the selected sample respondents with the help of the questionnaire specially designed for this purpose. During the second stage of data collection, the researcher collected the secondary data related to the study such as the concepts relating to employer branding, employer attraction and retention etc., from various published and unpublished records, reports, books, magazines, etc.

Convenience sampling was employed to select 100 respondents, from private insurance company located in Thoothukudi District. For analyzing the data collected during the investigation, the following statistical tools such simple frequency, and Mean Score Ranking Method were used based upon the nature of data received from respondents. According to IRDA ranking top two private insurance companies namely Bajaj Allianz, and Birla Sunlife in Thoothukudi Region

Analysis and Discussion

I. Private Life Insurance Companies in India

The Indian Insurance Sector is basically divided into two categories – Life Insurance and Non-life Insurance. The Non-life Insurance sector is also termed as General Insurance. Both the Life Insurance and the Non-life Insurance is governed by the IRDAI (Insurance Regulatory and Development Authority of India). This government organization thoroughly monitors the entire insurance sector in India and also acts like a custodian of all the insurance consumer rights. This is the reason all the insurers have to abide by the rules and regulations of the IRDAI.

The Insurance sector in India consists of total 57 insurance companies. Out of which 24 companies are the life insurance providers and the remaining 33 are non-life insurers. Out which there are seven public sector companies. Private insurers companies, who have done a joint venture with foreign insurance companies to start their insurance businesses in India.

Private Life Insurance Companies

1. Aegon Life Insurance Co. Ltd.
2. Aviva Life Insurance Co. India Ltd.
3. Bajaj Allianz Life Insurance Co. Ltd.
4. Bharti AXA Life Insurance Co. Ltd.
5. Birla Sun Life Insurance Co. Ltd.
6. Canara HSBC Oriental Bank of Commerce Life Insurance Co. Ltd.
7. DHFL Pramerica Life Insurance Co. Ltd.





8. Edelweiss Tokio Life Insurance Co. Ltd
9. Exide Life Insurance Co. Ltd.
10. Future Generali India Life Insurance Co. Ltd.
11. HDFC Standard Life Insurance Co. Ltd.
12. ICICI Prudential Life Insurance Co. Ltd.
13. IDBI Federal Life Insurance Co. Ltd.
14. IndiaFirst Life Insurance Co. Ltd
15. Kotak Mahindra Old Mutual Life Insurance Ltd.
16. Max Life Insurance Co. Ltd.
17. PNB MetLife India Insurance Co. Ltd.
18. Reliance Life Insurance Co. Ltd.
19. Sahara India Life Insurance Co. Ltd.
20. SBI Life Insurance Co. Ltd.
21. Shriram Life Insurance Co. Ltd.
22. Star Union Dai-Ichi Life Insurance Co. Ltd.
23. Tata AIA Life Insurance Co. Ltd.

II. Level of Perception of Policyholders about Private Insurance Sector Services

Table No.1: Gender of the Respondents

Gender	Frequency	Percent	Cumulative Percent
Male	72	72	72
Female	28	28	100.0
Total	100	100.0	

Source: Primary Data

From the above Table 1 shows that gender wise classification of customers. It can be revealed that 72 per cent of the LIC customers are from male group and remaining 28 per cent of the respondents from female group.

Table No.2: Reason for Taken Life Insurance Policy

Sl.No.	Particulars	Mean Score	Ranks
1	Return on Investment	4.4	II
2	Tax Benefits	3.5	V
3	Agent's Compulsion	4.8	I
4	Safety or Security	2.9	VI
5	Kind of Savings	4.1	III
6	Recognition or status	3.7	IV
7	Low Premium	2.3	VII

Source: Primary Data

According to mean score rank method the reason for taken life insurance policy result reveals that main reason for taken life insurance policy is Agent's Compulsion, followed by Return on Investment, Kind of Savings, Recognition or status, Tax Benefits and least reason for selection of life insurance policy are Safety or Security and





Low premium. This analysis conveys that the main reason for taken of life insurance policy is force or compulsion from agents.

Table No.3: Type of Insurance Policy

Types	Frequency	Percentage (%)
Whole life Policy	30	30.00
Endowment Policy	16	16.00
Annuity Policy	02	2.00
Children Deferred Policy	27	27.00
Money Back Policy	13	13.00
Double Accident Policy	10	10.00
Joint Life Policy	02	2.00
Total	100	100

Source: Primary Data

From table 3 shows that the type of policy taken by the customers. It is revealed that in private life insurance companies, 30 per cent of the customers taken the whole life policy, followed that children deferred policy (27 Per cent), endowment policy (16 per cent), money back policy (13 per cent), double accident policy (10 per cent) and only 2 per cent of the customers are taken annuity policy and joint life policy. The overall the output express that majority of the customers are taken whole life policy, children deferred policy and endowment policy.

Table No.4: Opinion about Quality of Private Insurance Companies Services

Service	Frequency	Percent
Excellent	10	10.00
Very Good	22	22.00
Good	38	38.00
Average	20	20.00
Poor	10	10.00
Total	100	100.0

Source: Primary Data

This table shows the rating of services of insurance company. It is clear that in private life insurance companies services: 38 per cent of customers opinion is that it's services is good, followed by 22 per cent of customers response is that the private insurance companies services is very good, 20 per cent of the customers reveals that the insurance service is average, and 10 per cent of customers is opinion that the insurance companies services is poor. Ultimately reveals that majority of customers are opinion that the private insurance companies services is good.





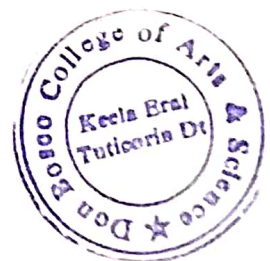
Summary and Conclusion

1. It is identified that 72 per cent of the LIC customers are from male group and remaining 28 per cent of the respondents from female group.
2. It is identified that the main reason for taken of life insurance policy is force or compulsion from agents.
3. It is captured that majority of the customers are taken whole life policy, children deferred policy and endowment policy.
4. It is observed that majority of customers are opinion that the private insurance companies services is good.

The contribution of the insurance company system is highly significant in the development of the economy of any nation. In the case of developing countries like India, Insurance sector system forms an integral and dominant part of the financial system. It is observed that among the policy holders with different age groups, the younger groups have a positive attitude with the insurance plans than elders. It is evident from the study that majority of the policyholders were satisfied with the policies and preferred new innovative marketing insurance plans and policies at different times, and most of the respondents came to know about the services through agents. So, the success of the insurance industry is achieved only if the company can create the right environment, good report with agents and evaluate the expectations and perceptions of customers, the culture and attitude of the employees to serve the customers better.

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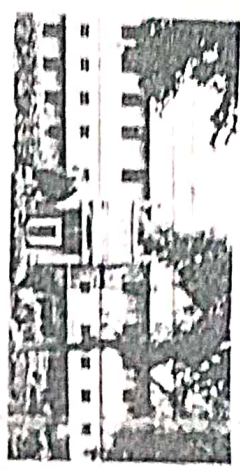
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SUBJIGATION AND EMPOWERMENT OF WOMEN IN CHIMAMANDA NGOZI ADICHIE'S PURPLE HIBISCUS

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Abstract

African Literature is rich in tradition and folklore. It includes various genres and is ranging from oral literature to written literature in colonial languages such as English, French and Portuguese. It included the stories, novels, dramas and histories which present the stories of great heroes and women writers focus on the struggles of women and their empowerment in the patriarchal society. Of the prominent writers, one who deals delicately with the contemporary issues such as subjugation and empowerment of women is Chimamanda Ngozi Adichie. She endeavours very intelligibly the portrait of post-colonial identity in her novel Purple Hibiscus. This paper is therefore an attempt to figure out the subjugation of women in the post-colonial African culture and their emancipation as presented in Chimamanda Ngozi Adichie's Purple Hibiscus.
Keywords: post-colonialism, subjugation, women empowerment, discrimination, racism

Chimamanda Ngozi Adichie was born in 5th September, 1977 in Enugu, Nigeria. Her parents are Grace Ifeoma and James Nwoye Adichie. She was the fifth of six children of her parents. She grew up in Nsukka in the house which was formerly occupied by the most prolific Nigerian writer Chinua Achebe. Her father was the first professor of Statistics in Nigeria. He was working in the University of Nigeria and later he became the Vice-Chancellor of the University. Her mother was the first female registrar of the University of Nigeria.
Chimamanda completed her secondary education at the University school and received several academic prizes. After her secondary education, she studied medicine and pharmacy in the University of Nigeria for a year and half. During this year, she edited the magazine, The Compass, run by the catholic Medical students of the university. At the age of nineteen, she left for the United States to do communication at Loyola University in Philadelphia. Then she pursued a degree in Communication and Political science at Eastern Connecticut State University. After her graduation, she pursued her master's degree in Creative writing from John Hopkins University, Baltimore in 2003. During her last years of

Eastern University, she started working on her first novel, Purple Hibiscus. It was published in October 2003 by Algonquin Books in association with the Workman Press. The book has received many positive critical acclaim. It was shortlisted for the Orange Fiction Prize in 2004. It was awarded the Commonwealth Writers' Prize for Best First Book in 2005. The other works are, The Things Around Your Neck, collection of short stories published in April 2009, Half of a Yellow Sun, her second novel published in 2006, and Americanah, her third novel published in 2013.
Purple Hibiscus is a subtle and gripping story of an abusive childhood which is set in the postcolonial Nigeria. She also presents the political and economic instability of the country in this novel. Adichie introduces many themes in this novel such as the difficulties of adolescence, violence, silence, brutality of patriarchal society, religious zeal, and personal sacrifice. The central character and the narrator of the novel is Kambili Achike, a fifteen year old girl. She is living in Enugu, Nigeria. Her father is Eugene Achike, a wealthy factory owner and is an active philanthropist and an upstanding Catholic. He is both a religious zealot and a violent figure in the house, subjecting his wife Beatrice (Mama), his

daughter Kambili and his son Chukwuka (Jaja) to beatings and psychological cruelty. He owns a Newspaper called Standard, which criticizes the new Nigerian Head of State.
The story is told through Kambili's eyes and is essentially about the disintegration of her family unit and her struggle to grow to maturity. The most important period is the time Kambili and her brother spent at the house of her Auntie Ifeoma, and her three children Auntie's house was in total contrast to what Kambili and Jaja are used to. Though Catholic, yet practiced a completely different form of Catholicism, where there was loss of happiness, freedom and space to speak their minds. In the environment, both Kambili and Jaja were more open and able to voice their own opinions. Moreover, at Auntie Ifeoma's house, Kambili falls in love with Father Amadi, a young priest, which awakens her sense of her own sexuality.
Back at home, unable to cope with Eugene's violence, Beatrice poisons him. Jaja takes the blame for the crime and is put behind bars. In the course of time, Auntie Ifeoma and her family go to America after she is unfairly dismissed from her job as the lecturer at the University of Nigeria. The novel ends on a cautiously optimistic note. Kambili is now eighteen years old, more confident than before, while her brother Jaja is about to be released from prison. Their mother, Beatrice, psychologically ill is now shows small signs of improvement. The novel ends with the possibility of better future.
Adichie divides the whole novel into four main sections. They are "Breaking Gods - Palm Sunday, Speaking with our Spirits - Before Palm Sunday, The Pieces of Gods - After Palm Sunday, and A Different Slice - The present". She does not write the novel in the straightforward chronological order of narration. She starts from the present and goes back to the past events which lead them to this present situation and concludes in the present.
During colonialism the land was conquered by the missionaries, clergyman, businessmen and soldiers. Bill Ashcraft and et al state in their book The Empire Writes Back that "more than the... quarter of the people living of the world today have had their life shaped by the experience of colonialism". The colonizers came with the mission to rescue the Africans and make them civilized people in their unnamed continent. But in the bargain, the whites have imposed the European ideas in the minds of Africans in the name of civilization. It affected their cultural habits, tradition, way of thinking, language, and their own identity. Chinua Achebe in his The Novels as a Teacher says that political colonialism leads to the cultural colonialism. Cultural colonialism discards all the traditional and culture of Africa and imposes the western culture among them. Thus Achebe says that cultural colonialism is more dangerous than political colonization.
Chimamanda Ngozi Adichie's Purple Hibiscus is different from other post-colonial novels such as Achebe's Things Fall Apart and Arrow of God and Buchi Emecheta's The Joy of Mahe Good. Adichie demonstrates different ways in which colonialism spread into the local country and remained even after the freedom of the country. Adichie presented women's subjugation of men and women empowerment as the Post-colonial identity in her novel Purple Hibiscus.
Two significant themes of Purple Hibiscus are subjugation of women and empowerment of women. Adichie exposed these two post-colonial aspects with two different characters. Mama and Ifeoma. Beatrice Achike (Mama) is a victim of subjugation to men in the beginning of the novel. Mama tolerated all the brutality of her husband, Eugene Achike. He did not give freedom to express her feelings and choice. She was extremely controlled by her husband. When she felt unwell, she thought of waiting in the car. But Eugene compelled her to come to visit Father Benedict. When they had reached home, he beat her brutally until she had miscarriage. He used to treat her as a slave. She did not have any authority to decide anything regarding the house and the children. She could not even select the colour of curtains to hang on the walls of the mansion. Kambili observed that "Kevin brought samples for Papa to look at and she picked some and showed Papa, so he could make the final decision" (192). It was confirmed that Beatrice was subjugated in relation with her husband

Beatrice served as a victim of domestic violence in this novel too. She bore the physical beating done by Eugene and never told anything to anyone. Because she was very much attached to her marriage with Eugene, she felt that he was a source of physical, spiritual and emotional strength. Beatrice was presented as an epitome of all good women who tolerated all kinds of humiliation. She told Kamahl that the villagers wanted her father to marry another wife when she could not give birth to more children. She says:

God is faithful. You know after you came and I had miscarriages, the villagers started to whisper. The members of our "umuna" even sent people to your father to urge him to have children with someone else. So many people had university graduates, too. They might have many sons had taken over our home and driven us out, like Mr. Ezenodu's second wife did. But your Papa stayed with me, with us... "Yes" I said, more sons with another woman, of course, for not choosing to take a second wife. But then Papa was different. (238)

Adichie produces the character of Beatrice embedded in silence. She failed to voice out her feelings, pain, and sufferings. She did not even share this with her children. Although she was abused and unloved by her husband, she was subservient to her husband. She washed out her pains and sufferings through crying. Kamahl said: "She cried for a long time. She cried until her hand, clasped in hers, felt stiff. She cried until Aunty Ifeoma finished cooking the roasting meat in a spicy stew. She cried until she fell asleep, her head against the seat of the chair. Jaja laid her on a mattress on the living room floor." (250)

Craving made her situation hopeless and worse. She cried in the face of violence. When Kamahl was assaulted by her father and hospitalized, she wanted her Mama to do something against the violence handed by her father. Adichie forecasts the turmoil of the family in the opening lines of the novel: "Things started to fall apart at home" (1). When Papa broke all the figurines on the staircase, Mama did not want it

to be replaced. She symbolically represented her refusal to live with the usual patriarchy of Papa.

Beatrice had another miscarriage when Kamahl and Jaja had visited their Aunty Ifeoma's house in Nsukka. She came to Nsukka in a taxi without the knowledge of her husband. Her face was pale and dry. She looked like very weak and unable to walk properly. Aunty Ifeoma enquired her about her health and the reason behind her hospitalization. Mama looked around the room and started explaining the miscarriage. She said: "You know that small table where we keep the family Bible, me? Your father broke it on my belly". She sounded as if she were talking about someone else, as if the table were not made of sturdy wood. "My doctor finished on that floor even before he took me to St. Agnes. My doctor said there was nothing he could do to save it." Mama shook her head slowly. A thin line of tears crawled down her cheeks as though it had been a struggle for them to get out of her eyes. (248)

This brutality of Eugene led him to his cruel death. Beatrice thought that she could not bear his brutality anymore. So she wanted to empower herself against her husband. She wanted to break her silence and empower herself to have her own identity. So she did not control Jaja, when he protested against his father. She wanted to put an end to his cruel behaviour. Finally, she poisoned her husband's drink that slowly killed him. She explained this to Kamahl, when Eugene's body was taken to autopsy. Kamahl observes: "Her movements were calm and slow. When she spoke, her voice was just as calm and slow. It started putting the poison in his tea before I came to Nsukka. Sisi got it for me, her uncle is a powerful witch doctor." (290)

Adichie presents another character in contrast to Beatrice. She presents Ifeoma as a 'real woman' in contrast to Beatrice. Ifeoma was an epitome of women empowerment. She was a widow. She was working as a professor in the University of Nsukka. She was highly an independent woman. She brought up her three children - Amaka, Okoro and Chima on her own. She did not depend on anyone. Chodorow blamed sexual inequality in society on the division of labour that allocated the primary infant and child care to women at home while men look

valued occupations outside. She further posited that in most societies daughters and sons were treated differently and consequently developed differently. The daughters who shared the core female identity with the mother coped and autonomously. Ifeoma did not show any gender discrimination to her children in assigning the domestic duties. She taught all the household chores to her children. Adichie creates the character of Ifeoma to challenge the gender stereotypes of the society.

Aunty Ifeoma brought many changes in the life of Jaja and Kamahl. She presented a different view of life and religion to them. Though a Christian, she had a great respect for her tradition. She identified herself with her nativity. She explained Kamahl and Jaja about the ancestral tradition and rituals. She also taught her children to respect their native culture and tradition. Ifeoma created a burning desire for consciousness and freedom inside Kamahl and Jaja. So, they wanted to get away from the patriarchy of their family. Their journey to Nsukka, discovered their true self and their desire for freedom. Kamahl was able to identify the goal standard set by her father whereas Ifeoma allowed the cousins to choose their needs and aspirations. Ifeoma's house was filled with joy, laughter and aspirations, whereas Kamahl and Jaja missed all those things in Enugu. Adichie supports Ifeoma's way of upbringing the children. "Georgiads, Mboya, Kivai marks, "According to Adichie, the home should be a garden where different flowers bloom like Ifeoma's garden" (45).

Ifeoma was a courageous woman. She voiced out the corruption and instability of the government. She raised questions against the way the government appointed the administrators for the University. She was accused of being disloyal to the government. She was subjected to police harassment and sucked. Through the character of Ifeoma, Adichie suggests that women should do something to change the functions of the stereotyped society. Ifeoma wonders when can we speak about oppression. "When do we speak about oppression and students attend lectures with guns to their heads. When do we speak out?" Aunty Ifeoma's words

was raised. But the blaze in her eyes focused on the woman, she was something that was bigger than the woman I met" (223). She expressed his anger about oppression and lack of freedom in these lines. She was angry with the helplessness and passivity of her colleagues in the University. Adichie wants all the women to identify the oppression and empower over the oppressor.

Ifeoma also raised her voice against her brother Eugene's religious fanaticism and the domestic violence. She never accepted Eugene's concept of Christianity. She asked Eugene to help her for the funeral of their father Papa-Nnukwu. But Eugene demanded that Papa Nnukwu had to be converted into Catholicism before his burial, so that he could participate in the funeral. On hearing this, Ifeoma outraged herself and said: "I will put my dead husband's grave up for sale, Eugene, before I give our father a Catholic funeral. Do you hear me? I said I will sell Ifeoma's grave first! Was our father a Catholic? I ask you, Eugene, was he a Catholic? Ucha gbu gbu. Aunty Ifeoma snapped her fingers at Papa, she was throwing a curse at him. Tears rolled down her cheeks. (189)

Ifeoma was also furious when she heard the brutality of Eugene. She raised against her brother's attitude of bearing his wife. She thought that it was an act of humiliation. During Brincker's second miscarriage, Ifeoma asked her to stay with her in Nsukka for some days. But Mama gave excuses and expressed the need to go back to her house. Ifeoma compared her late husband with her brother and told that money she did not make her to worship him like a god. She wanted Beatrice to empower against her husband. Thus, Adichie presents two different types of women in this novel. Beatrice who follows and respects the gender stereotypes of the society, and she represents subjugation, on the other hand, Ifeoma breaks the gender stereotypes and empowers herself as a modern woman.

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TRADITIONAL METHODS OF TEACHING ENGLISH IS BORING: LET US GO FOR FUNS TO DEVELOP COMMUNICATIVE COMPETENCY

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Abstract

This paper presents the results from a qualitative research study that explores the experiences of high school teachers in relation to pedagogical approaches. The study considers teachers who may not have explicitly learned about or applied innovative approaches in teaching English. It investigates how feasible and desirable they find the techniques and pedagogical approaches to be based on their teaching experiences in school with largely upper-middle class students, so the issue of applying pedagogical approaches with different students adds a dimension of interest to this study. It was generally expected that school teachers would be implementing several teaching approaches prescribed in NCF 2005 but these pedagogies were found only partially implemented by them at Elementary stage in Manipal. Probably this could be one of the main reasons that the students are not excellent in communicative skill or life skills which are emerging demand of English. Therefore, there is a need to address this issue because it may not help future careers of the children in this global market of English. After the identification of the problem, ten schools (5 Private English medium schools and 5 Government schools) were selected for our study. Among these 5 private schools 2 of them were convent schools. Of the 5 Government schools, one is a model school where relatively more facilities have been created by the Government. In order to carry out the investigation, questionnaires were administered to the teachers of English, who are working in these ten schools, and their responses were analyzed. In addition, the Heads/Principals were also consulted by the investigator in relation to teaching/learning process, evaluation systems, and their administration. We found some divergent views in methods, approaches and techniques adopted by teachers due to which low achievement in English occurs. The investigator assesses the communicative abilities of the students with some of the techniques, which could be used in the classroom to assist in developing life skills.

Keywords: Pedagogical approaches, Elementary stage, NCF-2005, Listening skill, Speaking, Teaching Aesthetics, Teaching English

Introduction

The term "Pedagogical Approaches" was attached to the work of Brazilian Literacy educator and curriculum specialist Paulo Freire. Pedagogical Approaches, or Critical pedagogy brings a new socio-political view of linguistics and language teaching that is beginning to influence the teaching of English to speakers of other languages field. In short, critical pedagogy was started out of the need of reforming education in a way that it would acknowledge the influence of the social and political elements existent in each and every educational context. Teacher and student engagement is critical to the classroom because it has the power to influence whose knowledge will become part of school-relevant knowledge and whose voices will shape it. Students are not just learning people; they are adults should devise solutions and problems. They are observers of their own conditions and should be participants in developing solutions to their problems.

solving related to their education future opportunities. Hence children need to be aware that their experiences and perceptions are important and they should be encouraged to develop the mental skills needed to think and reason independently and have the courage to dissent. Participatory learning and teaching emotion and experience need to have a definite and valued place in the classroom. While classroom participation is a powerful strategy it becomes an instrument to enable teachers to meet their own ends. True participation starts from the experiences of both students and teachers.

Angell Carter (1997) states that "research in SLA has been dominated by questions regarding the psychological process of language learning with less concern for the wider social context, the power relations within the context, and their effect on psychological variables" (p. 263). Therefore, critical pedagogy followers advocate that the field of TESOL should not focus on Linguistics, but



NEUTROSOPHIC BETA OMEGA RESOLVABLE AND IRRESOLVABLE SPACES

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Abstract

In this paper, we introduce the concepts of neutrosophic beta omega resolvable, neutrosophic beta omega irresolvable, neutrosophic open hereditarily irresolvable spaces and analyze the properties of these spaces. Furthermore, we have defined and studied the concepts of somewhat neutrosophic beta omega continuous mapping and somewhat neutrosophic beta omega open mapping.

Keywords: neutrosophic beta omega resolvable space, neutrosophic beta omega irresolvable space, neutrosophic open hereditarily irresolvable space, somewhat neutrosophic beta omega continuous mapping and somewhat neutrosophic beta omega open mapping.

AMS Mathematics Subject Classification: 18B30, 03E72

1 Introduction

Fuzzy set theory introduced by Zadeh[11] has laid the foundation for the new mathematical theories in the research of mathematics. Later the notions of intuitionistic fuzzy sets was introduced by Atanasiu[2]. The concept "neutrosophic set" was first given by Smarandache[7]. Neutrosophic operations and Neutrosophic Continuous Functions have been investigated by Salama[10]. Later Caldas[3] introduced neutrosophic resolvable



and neutrosophic irresolvable spaces. Here we shall introduce neutrosophic beta omega resolvable space, neutrosophic beta omega irresolvable space, neutrosophic open hereditarily irresolvable space, somewhat neutrosophic beta omega continuous mapping and somewhat neutrosophic beta omega open mapping. Also we present characteristics of these spaces.

2 Preliminaries

Definition 2.1. [7] Let Δ_N be a non-empty fixed set. A neutrosophic set (NS) G_N is an object having the form $G_N = \{ \langle \lambda, \mu_{G_N}(\lambda), \sigma_{G_N}(\lambda), u_{G_N}(\lambda) \rangle : \lambda \in \Delta_N \}$ where $\mu_{G_N}(\lambda)$, $\sigma_{G_N}(\lambda)$ and $u_{G_N}(\lambda)$ represent the degree of membership, degree of indeterminacy and the degree of nonmembership respectively of each element $x \in \Delta_N$ to the set G_N . A Neutrosophic set $G_N = \{ \langle \lambda, \mu_{G_N}(\lambda), \sigma_{G_N}(\lambda), u_{G_N}(\lambda) \rangle : \lambda \in \Delta_N \}$ can be identified as an ordered triple $\langle \mu_{G_N}, \sigma_{G_N}, u_{G_N} \rangle$ in $[0, 1]^3$ on Δ_N .

Definition 2.2. [1] For any two sets G_N and H_N ,

1. $G_N \subseteq H_N \Leftrightarrow \mu_{G_N}(\lambda) \wedge \mu_{H_N}(\lambda), \sigma_{G_N}(\lambda) \wedge \sigma_{H_N}(\lambda)$ and $u_{G_N}(\lambda) \vee u_{H_N}(\lambda), \lambda \in \Delta_N$
2. $G_N \cap H_N = \langle \lambda, \mu_{G_N}(\lambda) \wedge \mu_{H_N}(\lambda), \sigma_{G_N}(\lambda) \wedge \sigma_{H_N}(\lambda), u_{G_N}(\lambda) \vee u_{H_N}(\lambda) \rangle$
3. $G_N \cup H_N = \langle \lambda, \mu_{G_N}(\lambda) \vee \mu_{H_N}(\lambda), \sigma_{G_N}(\lambda) \vee \sigma_{H_N}(\lambda), u_{G_N}(\lambda) \wedge u_{H_N}(\lambda) \rangle$
4. $G_N^c = \{ \langle \lambda, u_{G_N}(\lambda), 1 - \sigma_{G_N}(\lambda), \mu_{G_N}(\lambda) \rangle : \lambda \in \Delta_N \}$
5. $0_N = \{ \langle \lambda, 0, 0, 1 \rangle : \lambda \in \Delta_N \}$
6. $1_N = \{ \langle \lambda, 1, 1, 0 \rangle : \lambda \in \Delta_N \}$.

Definition 2.3. [9] A neutrosophic topology (NT) on a non-empty set Δ_N is a family τ_N of neutrosophic subsets in (Δ_N, τ_N) satisfies the following axioms:

1. $0_N, 1_N \in \tau_N$
2. $G_{N_1} \cap G_{N_2} \in \tau_N$ for any $G_{N_1}, G_{N_2} \in \tau_N$
3. $\cup G_{N_i} \in \tau_N$ where $\{G_{N_i} : i \in J\} \subseteq \tau_N$

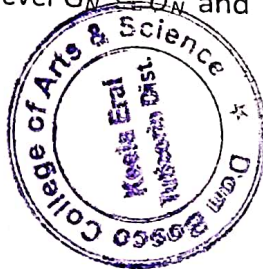
Here the pair (Δ_N, τ_N) is a neutrosophic topological space (NTS) and any neutrosophic set in τ_N is known as a neutrosophic open set (N-Open set) in Δ_N . A neutrosophic set G_N is a neutrosophic closed set (N-Closed set) if and only if its complement G_N^c is a neutrosophic open set in (Δ_N, τ_N) .

Definition 2.4. [8] A neutrosophic set G_N of a neutrosophic topological space (Δ_N, τ_N) is called neutrosophic beta omega closed (NB ω -Closed) if $\beta cl_N(G_N) \subseteq U_N$ whenever $G_N \subseteq U_N$ and U_N is N ω -Open in (Δ_N, τ_N) .

Definition 2.5. [8] For every set $G_N \in (\Delta_N, \tau_N)$, we define

1. $\beta \omega cl_N(G_N) = \cap \{V_N : G_N \subseteq V_N \text{ and } V_N \in NB\omega C(\Delta_N, \tau_N)\}$.
2. $\beta \omega int_N(G_N) = \cup \{U_N : U_N \subseteq G_N \text{ and } U_N \in NB\omega O(\Delta_N, \tau_N)\}$

Definition 2.6. [3] A neutrosophic topological space (Δ_N, τ_N) is called neutrosophic resolvable (N-resolvable) if there exists a N-dense set G_N in (Δ_N, τ_N) such that $cl_N(G_N^c) = 1_N$. Otherwise (Δ_N, τ_N) is called neutrosophic irresolvable (N-irresolvable).



3 NEUTROSOPHIC BETA OMEGA RESOLVABLE AND IRRESOLVABLE SPACE

Definition 3.1. A neutrosophic set G_N in neutrosophic topological space (Δ_N, τ_N) is called neutrosophic beta omega dense ($N\beta\omega$ -dense) if there exists no neutrosophic beta omega closed set H_N in (Δ_N, τ_N) such that $G_N \subset H_N \subset 1_N$

Definition 3.2. A neutrosophic topological space (Δ_N, τ_N) is called neutrosophic beta omega resolvable ($N\beta\omega$ -resolvable) if there exists a $N\beta\omega$ -dense set G_N in (Δ_N, τ_N) such that $\beta\omega cl_N(G_N^c) = 1_N$. Otherwise (Δ_N, τ_N) is called neutrosophic beta omega irresolvable ($N\beta\omega$ -irresolvable).

Example 3.1. Let $\Delta_N = \{a, b, c\}$, $\tau_N = \{O_N, G_N, 1_N\}$ and $(\Delta_N, \tau_N) = \{O_N, G_N, H_N, I_N, J_N, 1_N\}$ where $G_N = \langle x, (\begin{smallmatrix} \lambda_1 & \lambda_2 & \lambda_3 \\ 0.7 & 0.8 & 0.8 \end{smallmatrix}), (\begin{smallmatrix} \lambda_1 & \lambda_2 & \lambda_3 \\ 0.7 & 0.8 & 0.8 \end{smallmatrix}), (\begin{smallmatrix} \lambda_1 & \lambda_2 & \lambda_3 \\ 0.7 & 0.8 & 0.8 \end{smallmatrix}) \rangle$, $I_N = \langle x, (\begin{smallmatrix} \lambda_1 & \lambda_2 & \lambda_3 \\ 0.1 & 0.2 & 0.2 \end{smallmatrix}), (\begin{smallmatrix} \lambda_1 & \lambda_2 & \lambda_3 \\ 0.1 & 0.2 & 0.2 \end{smallmatrix}), (\begin{smallmatrix} \lambda_1 & \lambda_2 & \lambda_3 \\ 0.1 & 0.2 & 0.2 \end{smallmatrix}) \rangle$, $J_N = \langle x, (\begin{smallmatrix} \lambda_1 & \lambda_2 & \lambda_3 \\ 0.8 & 0.9 & 0.9 \end{smallmatrix}), (\begin{smallmatrix} \lambda_1 & \lambda_2 & \lambda_3 \\ 0.8 & 0.9 & 0.9 \end{smallmatrix}), (\begin{smallmatrix} \lambda_1 & \lambda_2 & \lambda_3 \\ 0.8 & 0.9 & 0.9 \end{smallmatrix}) \rangle$. Then τ_N is a NT.

Then we observe the following:

- (i) $N\omega O(\Delta_N, \tau_N) = \{O_N, G_N, I_N, J_N, 1_N\}$
- (ii) $N\beta\omega C(\Delta_N, \tau_N) = \{O_N, H_N, I_N, 1_N\}$

Here H_N is $N\beta\omega$ -dense. Moreover $\beta\omega cl_N(H_N^c) = 1_N^c$. Hence (Δ_N, τ_N) is $N\beta\omega$ -resolvable.

Example 3.2. Let $\Delta_N = \{a, b, c\}$, $\tau_N = \{O_N, G_N, 1_N\}$ and $(\Delta_N, \tau_N) = \{O_N, G_N, H_N, I_N, J_N, K_N, L_N, 1_N\}$ where $G_N = \langle x, (\begin{smallmatrix} \lambda_1 & \lambda_2 & \lambda_3 \\ 0.7 & 0.8 & 0.8 \end{smallmatrix}), (\begin{smallmatrix} \lambda_1 & \lambda_2 & \lambda_3 \\ 0.7 & 0.8 & 0.8 \end{smallmatrix}), (\begin{smallmatrix} \lambda_1 & \lambda_2 & \lambda_3 \\ 0.7 & 0.8 & 0.8 \end{smallmatrix}) \rangle$, $I_N = \langle x, (\begin{smallmatrix} \lambda_1 & \lambda_2 & \lambda_3 \\ 0.1 & 0.2 & 0.2 \end{smallmatrix}), (\begin{smallmatrix} \lambda_1 & \lambda_2 & \lambda_3 \\ 0.1 & 0.2 & 0.2 \end{smallmatrix}), (\begin{smallmatrix} \lambda_1 & \lambda_2 & \lambda_3 \\ 0.1 & 0.2 & 0.2 \end{smallmatrix}) \rangle$, $J_N = \langle x, (\begin{smallmatrix} \lambda_1 & \lambda_2 & \lambda_3 \\ 0.8 & 0.9 & 0.9 \end{smallmatrix}), (\begin{smallmatrix} \lambda_1 & \lambda_2 & \lambda_3 \\ 0.8 & 0.9 & 0.9 \end{smallmatrix}), (\begin{smallmatrix} \lambda_1 & \lambda_2 & \lambda_3 \\ 0.8 & 0.9 & 0.9 \end{smallmatrix}) \rangle$, $K_N = \langle x, (\begin{smallmatrix} \lambda_1 & \lambda_2 & \lambda_3 \\ 0.1 & 0.2 & 0.2 \end{smallmatrix}), (\begin{smallmatrix} \lambda_1 & \lambda_2 & \lambda_3 \\ 0.1 & 0.2 & 0.2 \end{smallmatrix}), (\begin{smallmatrix} \lambda_1 & \lambda_2 & \lambda_3 \\ 0.1 & 0.2 & 0.2 \end{smallmatrix}) \rangle$, $L_N = \langle x, (\begin{smallmatrix} \lambda_1 & \lambda_2 & \lambda_3 \\ 0.4 & 0.6 & 0.6 \end{smallmatrix}), (\begin{smallmatrix} \lambda_1 & \lambda_2 & \lambda_3 \\ 0.4 & 0.6 & 0.6 \end{smallmatrix}), (\begin{smallmatrix} \lambda_1 & \lambda_2 & \lambda_3 \\ 0.4 & 0.6 & 0.6 \end{smallmatrix}) \rangle$. Then τ_N is a NT.

Then we observe the following:

- (i) $N\omega O(\Delta_N, \tau_N) = \{O_N, G_N, I_N, J_N, 1_N\}$
- (ii) $N\beta\omega C(\Delta_N, \tau_N) = \{O_N, H_N, I_N, K_N, 1_N\}$

Here L_N is $N\beta\omega$ -dense. Moreover $\beta\omega cl_N(L_N^c) \neq 1_N$. Hence (Δ_N, τ_N) is $N\beta\omega$ -irresolvable.

Proposition 3.1. A neutrosophic topological space (Δ_N, τ_N) is a $N\beta\omega$ -resolvable space iff (Δ_N, τ_N) has a pair of $N\beta\omega$ -dense set G_N and H_N such that $G_N \subseteq H_N^c$.

Proof. Let (Δ_N, τ_N) be a neutrosophic topological space and $N\beta\omega$ -resolvable space. Suppose $G_N \not\subseteq H_N^c$ for all $N\beta\omega$ -dense sets G_N and H_N . Then $G_N \supset H_N^c$ which implies that $\beta\omega cl_N(G_N) \subset \beta\omega cl_N(H_N^c)$. Therefore $1_N \supset \beta\omega cl_N(H_N^c)$. Also $H_N \supset G_N^c$, then $\beta\omega cl_N(H_N) \supset \beta\omega cl_N(G_N^c)$ which implies that $\beta\omega cl_N(G_N^c) \supset 1_N$. Hence

$\beta\omega cl_N(G_N^c) \neq 1_N$ and $\beta\omega cl_N(H_N^c) \neq 1_N$ which is a contradiction to $\beta\omega cl_N(G_N^c) = 1_N$ and $\beta\omega cl_N(H_N^c) = 1_N$ since (Δ_N, τ_N) is a $N\beta\omega$ -resolvable. Hence (Δ_N, τ_N) has a pair $N\beta\omega$ -dense set G_N and H_N such that $G_N \subseteq H_N^c$. Conversely, suppose that the neutrosophic topological space (Δ_N, τ_N) has a pair of $N\beta\omega$ -dense set G_N and H_N such that $G_N \subseteq H_N^c$. Suppose that (Δ_N, τ_N) is a $N\beta\omega$ -irresolvable space. Then $\beta\omega cl_N(G_N^c) \neq 1_N$ and $\beta\omega cl_N(H_N^c) \neq 1_N$ for all $N\beta\omega$ -dense set G_N and H_N . Therefore there exists a $N\beta\omega$ -Closed set V_N in (Δ_N, τ_N) such that $H_N^c \subset V_N \subset 1_N$. Then $G_N \subset V_N \subset 1_N$ which is a contradiction. Hence (Δ_N, τ_N) is a $N\beta\omega$ -resolvable space. \square

Proposition 3.2. If (Δ_N, τ_N) is $N\beta\omega$ -irresolvable iff $\beta\omega int_N(G_N) \neq 0_N$ for all $N\beta\omega$ -dense set G_N in (Δ_N, τ_N) .

Proof. Since (Δ_N, τ_N) is a $N\beta\omega$ -irresolvable space, we have $\beta\omega cl_N(G_N^c) \neq 1_N$ for all $N\beta\omega$ -dense set G_N in (Δ_N, τ_N) . Then $(\beta\omega int_N(G_N))^c \neq 1_N$ which implies that $(\beta\omega int_N(G_N)) \neq 0_N$. Conversely assume that $\beta\omega int_N(G_N) \neq 0_N$, for all $N\beta\omega$ -dense set G_N in (Δ_N, τ_N) . Suppose that (Δ_N, τ_N) is $N\beta\omega$ -resolvable. Then there exists a $N\beta\omega$ -dense set G_N in (Δ_N, τ_N) such that $\beta\omega cl_N(G_N^c) = 1_N$. This implies that $(\beta\omega int_N(G_N))^c = 1_N$ which again implies $\beta\omega int_N(G_N) = 0_N$ which is a contradiction. Hence (Δ_N, τ_N) is $N\beta\omega$ -irresolvable space. \square

Definition 3.3. a neutrosophic topological space (Δ_N, τ_N) is called a $N\beta\omega$ -submaximal space if every $N\beta\omega$ -dense set G_N in (Δ_N, τ_N) is $N\beta\omega$ -Open.

Example 3.3. Consider the example 3.2. In this example, (Δ_N, τ_N) is $N\beta\omega$ -submaximal space since L_N is the only $N\beta\omega$ -dense set which is $N\beta\omega$ -Open.

Proposition 3.3. If the neutrosophic topological space (Δ_N, τ_N) is $N\beta\omega$ -submaximal, then (Δ_N, τ_N) is $N\beta\omega$ -irresolvable.

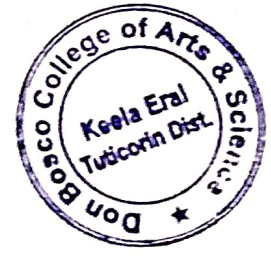
Proof. Let (Δ_N, τ_N) be a $N\beta\omega$ -submaximal space. If we assume that (Δ_N, τ_N) is a $N\beta\omega$ -resolvable space. Then there exists a $N\beta\omega$ -dense set G_N in (Δ_N, τ_N) such that $\beta\omega cl_N(G_N^c) = 1_N$. Hence $(\beta\omega int_N(G_N))^c = 1_N$ which implies that $\beta\omega int_N(G_N) = 0_N$. Then $G_N \notin N\beta\omega O(\Delta_N, \tau_N)$. This is a contradiction. Hence (Δ_N, τ_N) is $N\beta\omega$ -irresolvable space. \square

Definition 3.4. A neutrosophic topological space (Δ_N, τ_N) is called neutrosophic beta omega open hereditarily irresolvable space ($N\beta\omega$ -Open-hereditarily-irresolvable space) if

$\beta\omega int_N(\beta\omega cl_N(G_N)) \neq 0_N$, then $\beta\omega int_N(G_N) \neq 0_N$ for any non zero neutrosophic set G_N in (Δ_N, τ_N) .

Example 3.4. Let $\Delta_N = \{a, b, c\}$, $\tau_N = \{0_N, G_N, 1_N\}$ where $G_N = \langle x, (\frac{\lambda_1}{0.7}, \frac{\lambda_2}{0.6}, \frac{\lambda_3}{0.2}), (\frac{\lambda_1}{0.2}, \frac{\lambda_2}{0.3}, \frac{\lambda_3}{0.2}), (\frac{\lambda_1}{0.2}, \frac{\lambda_2}{0.4}, \frac{\lambda_3}{0.3}) \rangle$, $H_N = \langle x, (\frac{\lambda_1}{0.2}, \frac{\lambda_2}{0.3}, \frac{\lambda_3}{0.2}), (\frac{\lambda_1}{0.4}, \frac{\lambda_2}{0.3}, \frac{\lambda_3}{0.4}), (\frac{\lambda_1}{0.8}, \frac{\lambda_2}{0.7}, \frac{\lambda_3}{0.8}) \rangle$. Then τ_N is a NT. Here any N-set which satisfying $\beta\omega int_N(\beta\omega cl_N(G_N)) \neq 0_N$ satisfies $\beta\omega int_N(G_N) \neq 0_N$. Hence (Δ_N, τ_N) is $N\beta\omega$ -Open-hereditarily-irresolvable space.

Proposition 3.4. Let (Δ_N, τ_N) be a neutrosophic topological space. If (Δ_N, τ_N) is $N\beta\omega$ -Open- hereditarily-irresolvable, then (Δ_N, τ_N) is $N\beta\omega$ -irresolvable.



Proof. Let G_N be a $N\beta\omega$ -dense set in (Δ_N, τ_N) . Then $\beta\omega cl_N(G_N) = 1_N$ which implies that $\beta\omega int_N(\beta\omega cl_N(G_N)) = 1_N \neq 0_N$. Since (Δ_N, τ_N) is $N\beta\omega$ -Open-hereditarily-irresolvable, we have $\beta\omega int_N(G_N) \neq 0_N$. Therefore (Δ_N, τ_N) is $N\beta\omega$ -irresolvable by proposition 3.2. □

Proposition 3.5. Let (Δ_N, τ_N) be a $N\beta\omega$ -Open-hereditarily-irresolvable. Then $\beta\omega int_N(G_N) \not\subseteq (\beta\omega int_N(H_N))^c$ for any two $N\beta\omega$ -dense sets G_N and H_N in (Δ_N, τ_N) .

Proof. Let G_N and H_N be any two $N\beta\omega$ -dense sets in (Δ_N, τ_N) . Then $\beta\omega cl_N(G_N) = 1_N$ and $\beta\omega cl_N(H_N) = 1_N$ implies that $\beta\omega int_N(\beta\omega cl_N(G_N)) = 0_N$ and $\beta\omega int_N(\beta\omega cl_N(H_N)) \neq 0_N$. Since (Δ_N, τ_N) is $N\beta\omega$ -Open-hereditarily-irresolvable, $\beta\omega int_N(G_N) = 0_N$ and $\beta\omega int_N(H_N) \neq 0_N$. Therefore (Δ_N, τ_N) is irresolvable. Hence by proposition 3.2, $G_N \not\subseteq H_N^c$. Therefore $\beta\omega int_N(G_N) \subseteq G_N \not\subseteq H_N^c \subseteq (\beta\omega int_N(H_N))^c$. Hence we have $\beta\omega int_N(G_N) \not\subseteq (\beta\omega int_N(H_N))^c$ for any two $N\beta\omega$ -dense sets G_N and H_N in (Δ_N, τ_N) . □

Proposition 3.6. Let (Δ_N, τ_N) be a $N\beta\omega$ -Open-hereditarily-irresolvable. Then $\beta\omega int_N(G_N) = 0_N$ for any nonzero set G_N in (Δ_N, τ_N) which implies that $\beta\omega int_N(\beta\omega cl_N(G_N)) = 0_N$.

Proof. Let G_N be a neutrosophic set in (Δ_N, τ_N) such that $\beta\omega int_N(G_N) = 0_N$. Suppose that $\beta\omega int_N(\beta\omega cl_N(G_N)) \neq 0_N$. Since (Δ_N, τ_N) is $N\beta\omega$ -Open-hereditarily-irresolvable, $\beta\omega int_N(G_N) \neq 0_N$ which is a contradiction. Therefore $\beta\omega int_N(\beta\omega cl_N(G_N)) = 0_N$. □

Proposition 3.7. Let (Δ_N, τ_N) be a $N\beta\omega$ -Open-hereditarily-irresolvable. Then $\beta\omega cl_N(G_N) = 1_N$ for any nonzero $N\beta\omega$ -dense set G_N in (Δ_N, τ_N) implies that $\beta\omega cl_N(\beta\omega int_N(G_N)) = 1_N$.

Proof. Let G_N be a neutrosophic set in (Δ_N, τ_N) such that $\beta\omega cl_N(G_N) = 1_N$. Then we have $(\beta\omega cl_N(G_N))^c = 0_N$ which implies that $\beta\omega int_N(G_N^c) = 0_N$. Since (Δ_N, τ_N) is $N\beta\omega$ -Open-hereditarily-irresolvable by proposition 3.6. We have $\beta\omega int_N(\beta\omega cl_N(G_N^c)) = 0_N$. Therefore $(\beta\omega cl_N(\beta\omega int_N(G_N)))^c = 0_N$ implies that $\beta\omega cl_N(\beta\omega int_N(G_N)) = 1_N$. □

4 SOMEWHAT NEUTROSOPHIC BETA OMEGA CONTINUOUS AND SOMEWHAT NEUTROSOPHIC OPEN MAPPING

Definition 4.1. Let (Δ_N, τ_N) and (Γ_N, σ_N) be any two neutrosophic topological spaces. A function $f: (\Delta_N, \tau_N) \rightarrow (\Gamma_N, \sigma_N)$ is called somewhat neutrosophic beta omega continuous (somewhat $N\beta\omega$ -Continuous) if for $H_N \in \beta\omega O(\Gamma_N, \sigma_N)$ and $f^{-1}(H_N) \neq 0_N$, there exists $G_N \in \beta\omega O(\Delta_N, \tau_N)$ such that $G_N \neq 0_N$ and $G_N \subseteq f^{-1}(H_N)$.

Definition 4.2. Let (Δ_N, τ_N) and (Γ_N, σ_N) be any two neutrosophic topological spaces. A function $f: (\Delta_N, \tau_N) \rightarrow (\Gamma_N, \sigma_N)$ is called somewhat neutrosophic beta omega open (somewhat $N\beta\omega$ -Open) if for $G_N \in \beta\omega O(\Delta_N, \tau_N)$ and $G_N \neq 0_N$, there exists $H_N \in \beta\omega O(\Gamma_N, \sigma_N)$ such that $H_N \neq 0_N$ and $H_N \subseteq f(G_N)$.

Proposition 4.1. Let (Δ_N, τ_N) and (Γ_N, σ_N) be any two neutrosophic topological spaces. If the function $f: (\Delta_N, \tau_N) \rightarrow (\Gamma_N, \sigma_N)$ is somewhat $N\beta\omega$ -Continuous and injective. If $\beta\omega int_N(G_N) = 0_N$ for any nonzero neutrosophic set G_N in (Δ_N, τ_N) , then $\beta\omega int_N(f(G_N)) = 0_N$ in (Γ_N, σ_N) .

Proof. Let G_N be a nonzero neutrosophic set in (Δ_N, τ_N) such that $\beta\omega int_N(G_N) = 0_N$. Now we have to prove that $\beta\omega int_N(f(G_N)) = 0_N$. Suppose that $\beta\omega int_N(f(G_N)) \neq 0_N$ in (Γ_N, σ_N) . Then there exists a nonzero $N\beta\omega O$ set H_N in (Γ_N, σ_N) such that $H_N \subseteq f(G_N)$. Thus, we have $f^{-1}(H_N) \subseteq f^{-1}(f(G_N))$. Since f is somewhat $N\beta\omega$ -Continuous, there exists $I_N \in \beta\omega O(\Delta_N, \tau_N)$



such that $I_N \neq 0_N$ and $I_N \subseteq f^{-1}(H_N)$. Hence $I_N \subseteq f^{-1}(H_N) \subseteq G_N$ which implies that $\beta\omega\text{int}_N(G_N) \neq 0_N$ in (Γ_N, σ_N) .

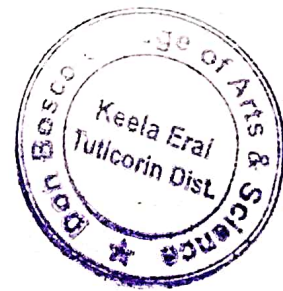
0_N . This is a contradiction. Hence \square

Proposition 4.2. Let (Δ_N, τ_N) and (Γ_N, σ_N) be any two neutrosophic topological spaces. If the function $f : (\Delta_N, \tau_N) \rightarrow (\Gamma_N, \sigma_N)$ is somewhat $N\beta\omega$ -continuous, injective and $\beta\omega\text{int}_N(\beta\omega\text{cl}_N(G_N)) = 0_N$ for any nonzero neutrosophic set G_N in (Δ_N, τ_N) , then $\beta\omega\text{int}_N(\beta\omega\text{cl}_N(f(G_N))) = 0_N$ in (Γ_N, σ_N) .

Proof. Let G_N be a nonzero neutrosophic set in (Δ_N, τ_N) such that $\beta\omega\text{int}_N(\beta\omega\text{cl}_N(G_N)) = 0_N$. We claim that $\beta\omega\text{int}_N(\beta\omega\text{cl}_N(f(G_N))) = 0_N$ in (Γ_N, σ_N) . Suppose that $\beta\omega\text{int}_N(\beta\omega\text{cl}_N(f(G_N))) \neq 0_N$ in (Γ_N, σ_N) . Then $\beta\omega\text{cl}_N(f(G_N)) \neq 0_N$ and $(\beta\omega\text{cl}_N(f(G_N)))^c \neq 0_N$. Now $(\beta\omega\text{cl}_N(f(G_N)))^c \cap 0_N \in (\Gamma_N, \sigma_N)$. Since f is somewhat neutrosophic $\beta\omega$ continuous, there exists $H_N \in \beta\omega O(\Delta_N, \tau_N)$, such that $H_N \cap 0_N$ and $H_N \subseteq f^{-1}(\beta\omega\text{cl}_N(f(G_N)))^c$. Observe that $H_N \subseteq (f^{-1}(\beta\omega\text{cl}_N(f(G_N))))^c$ which implies that $f^{-1}(\beta\omega\text{cl}_N(f(G_N))) \subseteq H_N^c$. Since f is injective, thus $G_N \subseteq f^{-1}(f(G_N)) \subseteq f^{-1}(\beta\omega\text{cl}_N(f(G_N))) \subseteq H_N^c$ which implies that $G_N \subseteq H_N^c$. Therefore $H_N \subseteq G_N^c$. This implies that $\beta\omega\text{int}_N(G_N^c) \cap 0_N$. Let $\beta\omega\text{int}_N(G_N^c) = I_N \cap 0_N$. Then $\beta\omega\text{cl}_N(\beta\omega\text{int}_N(G_N^c)) = \beta\omega\text{cl}_N(I_N) \neq 1_N$ which implies that $\beta\omega\text{int}_N(\beta\omega\text{cl}_N(G_N)) \neq 0_N$. But this is a contradiction. Hence $\beta\omega\text{int}_N(\beta\omega\text{cl}_N(f(G_N))) = 0_N$ in (Γ_N, σ_N) . \square

Proposition 4.3. Let (Δ_N, τ_N) and (Γ_N, σ_N) be any two neutrosophic topological spaces. If the function $f : (\Delta_N, \tau_N) \rightarrow (\Gamma_N, \sigma_N)$ is somewhat $N\beta\omega$ -open and $\beta\omega\text{int}_N(G_N) = 0_N$ for any nonzero neutrosophic set G_N in (Γ_N, σ_N) , then $\beta\omega\text{Oint}_N(f^{-1}(G_N)) = 0_N$ in (Δ_N, τ_N) .

Proof. Let G_N be a nonzero neutrosophic set in (Γ_N, σ_N) such that $\beta\omega\text{int}_N(G_N) = 0_N$. We claim that $\beta\omega\text{int}_N(f^{-1}(G_N)) = 0_N$ in (Δ_N, τ_N) . Suppose that $\beta\omega\text{int}_N(f^{-1}(G_N)) \neq 0_N$ in (Δ_N, τ_N) . Then there exists a nonzero $N\beta\omega$ -Open set H_N in (Δ_N, τ_N) such that $H_N \subseteq f^{-1}(G_N)$. Thus, we have $f(H_N) \subseteq f(f^{-1}(G_N)) \subseteq G_N$. This implies that $f(H_N) \subseteq G_N$. Since f is somewhat $N\beta\omega$ -open, there exists $I_N \in \beta\omega O(\Gamma_N, \sigma_N)$ such



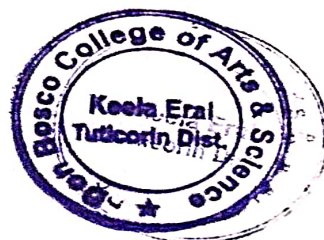
that $I_N = 0_N$ and $I_N \subseteq f(H_N)$. Therefore $I_N \subseteq f(H_N) \subseteq G_N$ which implies that $I_N \subseteq G_N$. Hence $\beta\text{wint}_N(G_N)$ in $(\Delta_N, 0_N)$ which is a contradiction. Hence $\beta\text{wint}_N(f^{-1}(G_N)) = 0_N$ in (Δ_N, τ_N) . \square

Proposition 4.4. Let (Δ_N, τ_N) and (Γ_N, σ_N) be any two neutrosophic topological spaces. Let (Δ_N, τ_N) be a $N\beta\omega$ -Open-hereditarily-irresolvable space. If $f: (\Delta_N, \tau_N) \rightarrow (\Gamma_N, \sigma_N)$ is somewhat $N\beta\omega$ -open, somewhat $N\beta\omega$ -continuous and a bijective function, then (Γ_N, σ_N) is a $N\beta\omega$ -open hereditarily space.

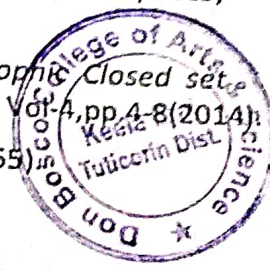
Proof. Let G_N be a nonzero neutrosophic set in (Γ_N, σ_N) such that $\beta\text{wint}_N(G_N) = 0_N$. Now $\beta\text{wint}_N(G_N) = 0_N$ and f is somewhat $N\beta\omega$ -open which implies $\beta\text{wint}_N(f^{-1}(G_N)) = 0_N$ in (Δ_N, τ_N) by proposition 4.3. Since (Δ_N, τ_N) is a $N\beta\omega$ -Open-hereditarily-irresolvable space, we have $\beta\text{wint}_N(\beta\omega\text{cl}_N(f^{-1}(G_N))) = 0_N$ in (Δ_N, τ_N) by proposition 3.6. Since $\beta\text{wint}_N(\beta\omega\text{cl}_N(f^{-1}(G_N))) = 0_N$ and f is somewhat $N\beta\omega$ -continuous by proposition 5.2, we have that $\beta\text{wint}_N(\beta\omega\text{cl}_N(f(f^{-1}(G_N)))) = 0_N$. Since f is onto, $\beta\text{wint}_N(\beta\omega\text{cl}_N(G_N)) = 0_N$. Hence by proposition 3.6. (Γ_N, σ_N) is a $N\beta\omega$ -Open-hereditarily-irresolvable space. \square

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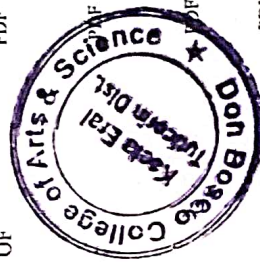
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NEUTROSOPHIC BETA OMEGA OPEN SETS IN NEUTROSOPHIC TOPOLOGICAL SPACES

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ABSTRACT

Exploring a new type of neutrosophic set in neutrosophic topological spaces is the major aim of our research. In this paper, the concept "Neutrosophic Beta Omega Open Sets" is newly defined and their properties and some interesting theorems are discussed. We have analyzed the relationships between this newly introduced set and the already existing neutrosophic sets.

Keywords: neutrosophic beta omega open set, neutrosophic beta omega interior.

AMS Mathematics Subject Classification: 18B30, 03E72.

1. INTRODUCTION

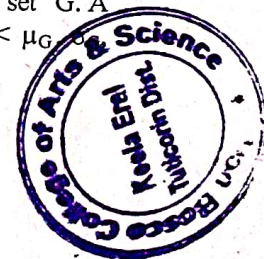
Fuzzy set theory has played a vital role in the research of mathematics. The research on fuzzy set theory has been witnessing an exponential growth in mathematics. Zadeh [13] introduced the fuzzy set as an extension of a classical notion of crisp set in 1965. K. Atanassov, established the intuitionistic fuzzy set as a extension of fuzzy set. Then Florentin Smarandache [5] extended the concept intuitionistic fuzzy sets as Neutrosophic sets in 1999. Later A. Salama and S. A. Alblowi [9] studied the concept of neutrosophic topological spaces.

2. PRELIMINARIES

Definition 2.1: [4] Let X be a non-empty fixed set. A neutrosophic set (NS) G is an object having the form $G = \{ \langle x, \mu_G(x), \sigma_G(x), \nu_G(x) \rangle : x \in X \}$ where $\mu_G(x)$, $\sigma_G(x)$ and $\nu_G(x)$ represent the degree of membership, degree of indeterminacy and the degree of nonmembership respectively of each element $x \in X$ to the set G . A neutrosophic set $G = \{ \langle x, \mu_G(x), \sigma_G(x), \nu_G(x) \rangle : x \in X \}$ can be identified as an ordered triple $\langle \mu_G, \sigma_G, \nu_G \rangle$ in $]0, 1^+]$ on X .

Definition 2.2: [1] For any two sets G and H ,

1. $G \subseteq H \Leftrightarrow \mu_G(x) \leq \mu_H(x), \sigma_G(x) \leq \sigma_H(x)$ and $\nu_G(x) \geq \nu_H(x), x \in X$
2. $G \cap H = \langle x, \mu_G(x) \wedge \mu_H(x), \sigma_G(x) \wedge \sigma_H(x), \nu_G(x) \vee \nu_H(x) \rangle$
3. $G \cup H = \langle x, \mu_G(x) \vee \mu_H(x), \sigma_G(x) \vee \sigma_H(x), \nu_G(x) \wedge \nu_H(x) \rangle$
4. $G^c = \{ \langle x, \nu_G(x), 1 - \sigma_G(x), \mu_G(x) \rangle : x \in X \}$
5. $0_N = \{ \langle x, 0, 0, 1 \rangle : x \in X \}$
6. $1_N = \{ \langle x, 1, 1, 0 \rangle : x \in X \}$.



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Definition 2.3: [9] A neutrosophic topology (NT) on a non-empty set X is a family τ of neutrosophic subsets in X satisfies the following axioms:

1. $0_N, 1_N \subseteq \tau$
2. $G_1 \cap G_2 \subseteq \tau$ for any $G_1, G_2 \subseteq \tau$
3. $\cup G_i \subseteq \tau$ where $\{G_i : i \in J\} \subseteq \tau$

Here the pair (X, τ) is a neutrosophic topological space (NTS) and any neutrosophic set in τ is known as a neutrosophic open set (N-open set) in X . A neutrosophic set G is a neutrosophic closed set (N-closed set) if and only if its complement G^c is a neutrosophic open set in X .

Definition 2.4: [12] A subset G of a neutrosophic topological space (X, τ_N) is called,

- (1). a neutrosophic semi open set (NSO set) if $G \subseteq Cl_N(Int_N(G))$ and a neutrosophic semi closed set (NSC set) if $Int_N(Cl_N(G)) \subseteq G$.
- (2). a neutrosophic pre open set (NPO set) if $G \subseteq Int_N(Cl_N(G))$ and a neutrosophic pre closed set (NPC set) if $Cl_N(Int_N(G)) \subseteq G$.
- (3). a neutrosophic α open set ($N\alpha O$ set) if $G \subseteq Int_N(Cl_N(Int_N(G)))$ and a neutrosophic α closed ($N\alpha C$ set) if $Cl_N(Int_N(Cl_N(G))) \subseteq G$.
- (4). a neutrosophic semi pre open set (NSPO set) if $G \subseteq Cl_N(Int_N(Cl_N(G)))$ and a neutrosophic semi pre closed set (NSPC set) if $Int_N(Cl_N(Int_N(G))) \subseteq G$.
- (5). a neutrosophic regular open (NRO) set if $G = Int_N(Cl_N(G))$ and a neutrosophic regular closed (NRC) set if $G = Cl_N(Int_N(G))$.

Definition 2.5: A subset G_N of a neutrosophic topological space (X, τ_N) is called

- (1). a neutrosophic generalized closed set (NG-closed set) [4] if $cl_N(G_N) \subseteq U_N$ whenever $G_N \subseteq U_N$ and U_N is N-open in (X, τ_N) .
- (2). a neutrosophic generalized semi closed set (briefly NGS-closed) [11] if $Scl_N(G_N) \subseteq U_N$ whenever $G_N \subseteq U_N$ and U_N is N-open in (X, τ_N) .
- (3). a neutrosophic ω closed set ($N\omega$ -closed set) [9] if $cl_N(G_N) \subseteq U_N$ whenever $G_N \subseteq U_N$ and U_N is NS-open in (X, τ_N) .
- (4). a neutrosophic α generalized closed set (briefly $N\alpha G$ -closed) [7] if $\alpha cl_N(G_N) \subseteq U_N$ whenever $G_N \subseteq U_N$ and G_N is N-open in (X, τ_N) .
- (5). a neutrosophic generalized regular closed set (briefly NGR-closed) [2] if $Rcl_N(G_N) \subseteq U_N$ whenever $G_N \subseteq U_N$ and U_N is N-open in (X, τ_N) .

Definition 2.6: [8] A neutrosophic set G of a neutrosophic topological space (X, τ_N) is called neutrosophic beta omega closed ($N\beta\omega$ -closed) if $\beta cl_N(G) \subseteq U$ whenever $G \subseteq U$ and U is $N\omega$ -open in (X, τ_N) .

3. NEUTROSOPHIC BETA OMEGA OPEN SET

Definition 3.1: A neutrosophic set G of a neutrosophic topological space (X, τ_N) is called neutrosophic beta omega open ($N\beta\omega$ -open) if the complement of G is $N\beta\omega$ -closed set.

Example 3.1: Let $X = \{a, b, c\}$, $\tau_N = \{0_N, G, 1_N\}$ where $G = \langle x, (\frac{a}{0.2}, \frac{b}{0.2}, \frac{c}{0.2}), (\frac{a}{0.3}, \frac{b}{0.3}, \frac{c}{0.3}), (\frac{a}{0.7}, \frac{b}{0.7}, \frac{c}{0.7}) \rangle$. Then τ_N is a NT and consider $W = x, (\frac{a}{0.7}, \frac{b}{0.9}, \frac{c}{0.8}), (\frac{a}{0.8}, \frac{b}{0.9}, \frac{c}{0.8}), (\frac{a}{0.2}, \frac{b}{0.2}, \frac{c}{0.1}) \rangle$. Whenever $W \subseteq U$ and U is $N\omega$ -open, we get $\beta cl_N(W) \subseteq U$. Then W^c is $N\beta\omega$ -closed. Hence W is $N\beta\omega$ -open.

Theorem 3.1: Every N-open set in (X, τ_N) is $N\beta\omega$ -open in (X, τ_N) .

Proof: Let G be N-open in (X, τ_N) . Then G^c is N-closed set. Let U be any $N\omega$ -open such that $G^c \subseteq U$. Since G^c is N-closed, we get $cl_N(G^c) = G^c$. Therefore, $G^c \subseteq U$ implies $\beta cl_N(G^c) \subseteq cl_N(G^c) \subseteq U$. Therefore $\beta cl_N(G^c) \subseteq U$. Hence G^c is $N\beta\omega$ -closed set. Hence G is $N\beta\omega$ -open set.

Remark 3.1: The converse of the above theorem need not be true.

Example 3.2: Let $X = \{a, b, c\}$, $\tau_N = \{0_N, G, H, 1_N\}$ where $G = \langle x, (\frac{a}{0.4}, \frac{b}{0.3}, \frac{c}{0.4}), (\frac{a}{0.3}, \frac{b}{0.3}, \frac{c}{0.2}), (\frac{a}{0.7}, \frac{b}{0.7}, \frac{c}{0.7}) \rangle$.



Theorem 3.2: Every $N\beta$ -open set in (X, τ_N) is $N\beta\omega$ -open in (X, τ_N) .

Proof: Let G be $N\beta$ -open in (X, τ_N) . Then G^c is $N\beta$ -closed in (X, τ_N) . Let U be $N\omega$ -open such that $G^c \subseteq U$. Since G^c is $N\beta$ -closed, we have $\beta cl_N(G^c) = G^c \subseteq U$. Therefore G^c is $N\beta\omega$ -closed set. Hence G is $N\beta\omega$ -open set.

Remark 3.2: The converse of the above theorem need not be true.

Example 3.3: Let $X = \{a, b, c\}$, $\tau_N = \{0_N, G, 1_N\}$ where $G = \langle x, (\frac{a}{0.3}, \frac{b}{0.2}, \frac{c}{0.1}), (\frac{a}{0.7}, \frac{b}{0.8}, \frac{c}{0.8}), (\frac{a}{0.6}, \frac{b}{0.8}, \frac{c}{0.7}) \rangle$. Then τ_N is a NT and consider $W = \langle x, (\frac{a}{0.2}, \frac{b}{0.2}, \frac{c}{0.1}), (\frac{a}{0.2}, \frac{b}{0.1}, \frac{c}{0.2}), (\frac{a}{0.7}, \frac{b}{0.8}, \frac{c}{0.8}) \rangle$. Then W is $N\beta\omega$ -open. But W is not $N\beta$ -open.

Theorem 3.3: Every NG^* -open set in (X, τ_N) is $N\beta\omega$ -open in (X, τ_N) .

Proof: Let G be NG^* -open in (X, τ_N) . Then G^c is a NG^* -closed set in (X, τ_N) . Let U be $N\omega$ -open such that $G^c \subseteq U$. Since U is $N\omega$ -open, U is NG -open. Therefore, we have $\beta cl_N(G^c) \subseteq cl_N(G^c) \subseteq G^c$. Therefore G^c is $N\beta\omega$ -closed set. Hence G is $N\beta\omega$ -open set.

Remark 3.3: The converse of the above theorem need not be true.

Example 3.4: Let $X = \{a, b, c\}$, $\tau_N = \{0_N, G, H, I, 1_N\}$ where $G = \langle x, (\frac{a}{0.3}, \frac{b}{0.2}, \frac{c}{0.4}), (\frac{a}{0.4}, \frac{b}{0.3}, \frac{c}{0.4}), (\frac{a}{0.7}, \frac{b}{0.8}, \frac{c}{0.7}) \rangle$, $H = \langle x, (\frac{a}{0.43}, \frac{b}{0.34}, \frac{c}{0.44}), (\frac{a}{0.45}, \frac{b}{0.43}, \frac{c}{0.42}), (\frac{a}{0.61}, \frac{b}{0.73}, \frac{c}{0.71}) \rangle$, $I = \langle x, (\frac{a}{0.3}, \frac{b}{0.2}, \frac{c}{0.4}), (\frac{a}{0.3}, \frac{b}{0.2}, \frac{c}{0.4}), (\frac{a}{0.8}, \frac{b}{0.85}, \frac{c}{0.8}) \rangle$. Then τ_N is a NT and consider $W = \langle x, (\frac{a}{0.8}, \frac{b}{0.88}, \frac{c}{0.87}), (\frac{a}{0.21}, \frac{b}{0.13}, \frac{c}{0.37}) \rangle$. Then W is $N\beta\omega$ -open. But W is not NG^* -open.

Theorem 3.4: Every $N\psi$ -open set in (X, τ_N) is $N\beta\omega$ -open in (X, τ_N) .

Proof: Let G be $N\psi$ -open in (X, τ_N) . Then G^c is $N\psi$ -closed in (X, τ_N) . Let U be any $N\omega$ -open set such that $G^c \subseteq U$. Since every $N\omega$ -open is NSG -open, U is NSG -open, we have $Scl_N(G^c) \subseteq U$. But $\beta cl_N(G^c) \subseteq Scl_N(G^c)$. Then we get $\beta cl_N(G^c) \subseteq U$. Therefore G^c is $N\beta\omega$ -closed set. Hence G is $N\beta\omega$ -open set.

Remark 3.4: The converse of the above theorem need not be true.

Example 3.5: Let $X = \{a, b, c\}$, $\tau_N = \{0_N, G, H, 1_N\}$ where $G = \langle x, (\frac{a}{0.27}, \frac{b}{0.38}, \frac{c}{0.41}), (\frac{a}{0.41}, \frac{b}{0.38}, \frac{c}{0.27}), (\frac{a}{0.63}, \frac{b}{0.65}, \frac{c}{0.66}) \rangle$, $H = \langle x, (\frac{a}{0.33}, \frac{b}{0.49}, \frac{c}{0.49}), (\frac{a}{0.45}, \frac{b}{0.49}, \frac{c}{0.4}), (\frac{a}{0.5}, \frac{b}{0.5}, \frac{c}{0.5}) \rangle$. Then τ_N is a NT and consider $W = \langle x, (\frac{a}{0.7}, \frac{b}{0.7}, \frac{c}{0.7}), (\frac{a}{0.7}, \frac{b}{0.8}, \frac{c}{0.9}), (\frac{a}{0.1}, \frac{b}{0.2}, \frac{c}{0.3}) \rangle$. Then W is $N\beta\omega$ -open. But W is not $N\psi$ -open.

Theorem 3.5: Every NWG^* -open set in (X, τ_N) is $N\beta\omega$ -open in (X, τ_N) .

Proof: Let G be NWG^* -open in (X, τ_N) . Then G^c is NWG^* -closed in (X, τ_N) . Let U be any $N\omega$ -open set such that $G^c \subseteq U$. Since every $N\omega$ -open is NG -open, U is NG -open, we have $cl_N(int_N(G)) \subseteq U$. But $int_N(cl_N(int_N(G))) \subseteq cl_N(int_N(G))$ which implies $\beta cl_N(G) \subseteq U$. Therefore G^c is $N\beta\omega$ -closed set. Hence G is $N\beta\omega$ -open set.

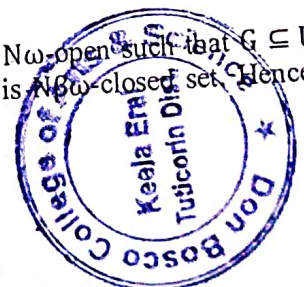
Remark 3.5: The converse of the above theorem need not be true.

Example 3.6: Let $X = \{a, b, c\}$, $\tau_N = \{0_N, G, H, 1_N\}$ where $G = \langle x, (\frac{a}{0.22}, \frac{b}{0.33}, \frac{c}{0.22}), (\frac{a}{0.33}, \frac{b}{0.22}, \frac{c}{0.27}), (\frac{a}{0.77}, \frac{b}{0.88}, \frac{c}{0.77}) \rangle$, $H = \langle x, (\frac{a}{0.33}, \frac{b}{0.44}, \frac{c}{0.33}), (\frac{a}{0.44}, \frac{b}{0.33}, \frac{c}{0.33}), (\frac{a}{0.66}, \frac{b}{0.77}, \frac{c}{0.66}) \rangle$. Then τ_N is a NT and consider $W = \langle x, (\frac{a}{0.5}, \frac{b}{0.5}, \frac{c}{0.5}), (\frac{a}{0.5}, \frac{b}{0.6}, \frac{c}{0.5}) \rangle$. Then W is $N\beta\omega$ -open, but not NWG^* -open.

Theorem 3.6: Every NP -open set in (X, τ_N) is $N\beta\omega$ -open in (X, τ_N) .

Proof: Let G be NP -open in (X, τ_N) . Then G^c is NP -closed in (X, τ_N) . Let U be any $N\omega$ -open set such that $G^c \subseteq U$. We have $Pcl_N(G) = G$. But $\beta cl_N(G) \subseteq Pcl_N(G)$. Then we get $\beta cl_N(G) \subseteq U$. Therefore G^c is $N\beta\omega$ -closed set. Hence G is $N\beta\omega$ -open set.

Remark 3.6: The converse of the above theorem need not be true.



Example 3.7: Let $X = \{a, b, c\}$, $\tau_N = \{0_N, G, 1_N\}$ where $G = \langle x, (\frac{a}{0.3}, \frac{b}{0.4}, \frac{c}{0.1}), (\frac{a}{0.4}, \frac{b}{0.2}, \frac{c}{0.2}), (\frac{a}{0.6}, \frac{b}{0.0}, \frac{c}{0.7}) \rangle$. Then τ_N is a NT and consider $W = \langle x, (\frac{a}{0.5}, \frac{b}{0.5}, \frac{c}{0.5}), (\frac{a}{0.5}, \frac{b}{0.5}, \frac{c}{0.5}), (\frac{a}{0.5}, \frac{b}{0.5}, \frac{c}{0.5}) \rangle$. Then W is $N\beta\omega$ -open but not NP-open.

Remark 3.7: The following examples show that $N\beta\omega$ -open set and NGS-open are independent in (X, τ_N) .

Example 3.8: Let $X = \{a, b, c\}$, $\tau_N = \{0_N, G, H_N, I, 1_N\}$ where $G = \langle x, (\frac{a}{0.23}, \frac{b}{0.34}, \frac{c}{0.43}), (\frac{a}{0.20}, \frac{b}{0.38}, \frac{c}{0.43}), (\frac{a}{0.77}, \frac{b}{0.85}, \frac{c}{0.67}) \rangle$, $H = \langle x, (\frac{a}{0.33}, \frac{b}{0.44}, \frac{c}{0.44}), (\frac{a}{0.33}, \frac{b}{0.48}, \frac{c}{0.44}), (\frac{a}{0.69}, \frac{b}{0.79}, \frac{c}{0.57}) \rangle$, $I = \langle x, (\frac{a}{0.22}, \frac{b}{0.24}, \frac{c}{0.4}), (\frac{a}{0.2}, \frac{b}{0.3}, \frac{c}{0.4}), (\frac{a}{0.0}, \frac{b}{0.87}, \frac{c}{0.69}) \rangle$. Then τ_N is a NT and consider $W = \langle x, (\frac{a}{0.8}, \frac{b}{0.9}, \frac{c}{0.7}), (\frac{a}{0.82}, \frac{b}{0.72}, \frac{c}{0.68}), (\frac{a}{0.12}, \frac{b}{0.23}, \frac{c}{0.34}) \rangle$. Then W is $N\beta\omega$ -open. But W is not NGS-open.

Example 3.9: Let $X = \{a, b, c\}$, $\tau_N = \{0_N, G, 1_N\}$ where $G = \langle x, (\frac{a}{0.7}, \frac{b}{0.8}, \frac{c}{0.7}), (\frac{a}{0.67}, \frac{b}{0.67}, \frac{c}{0.67}), (\frac{a}{0.38}, \frac{b}{0.23}, \frac{c}{0.33}) \rangle$. Then τ_N is a NT and consider $W = \langle x, (\frac{a}{0.3}, \frac{b}{0.2}, \frac{c}{0.3}), (\frac{a}{0.3}, \frac{b}{0.3}, \frac{c}{0.3}), (\frac{a}{0.8}, \frac{b}{0.8}, \frac{c}{0.8}) \rangle$. Then W is NGS-open. But W is not $N\beta\omega$ -open.

Remark 3.8: The following examples show that $N\beta\omega$ -open set and $N\alpha G$ -open are independent in (X, τ_N) .

Example 3.10: Let $X = \{a, b, c\}$, $\tau_N = \{0_N, G, H, 1_N\}$ where $G = \langle x, (\frac{a}{0.42}, \frac{b}{0.41}, \frac{c}{0.32}), (\frac{a}{0.43}, \frac{b}{0.22}, \frac{c}{0.41}), (\frac{a}{0.61}, \frac{b}{0.71}, \frac{c}{0.53}) \rangle$, $H = \langle x, (\frac{a}{0.48}, \frac{b}{0.43}, \frac{c}{0.42}), (\frac{a}{0.45}, \frac{b}{0.33}, \frac{c}{0.44}), (\frac{a}{0.52}, \frac{b}{0.7}, \frac{c}{0.5}) \rangle$. Then τ_N is a NT and consider $W = \langle x, (\frac{a}{0.7}, \frac{b}{0.8}, \frac{c}{0.9}), (\frac{a}{0.7}, \frac{b}{0.9}, \frac{c}{0.8}), (\frac{a}{0.2}, \frac{b}{0.3}, \frac{c}{0.1}) \rangle$. Then W is $N\beta\omega$ -open. But not $N\alpha G$ -open.

Example 3.11: Let $X = \{a, b, c\}$, $\tau_N = \{0_N, G, 1_N\}$ where $G = \langle x, (\frac{a}{0.66}, \frac{b}{0.66}, \frac{c}{0.76}), (\frac{a}{0.43}, \frac{b}{0.22}, \frac{c}{0.54}), (\frac{a}{0.56}, \frac{b}{0.46}, \frac{c}{0.56}) \rangle$. Then τ_N is a NT and consider $W = \langle x, (\frac{a}{0.76}, \frac{b}{0.76}, \frac{c}{0.76}), (\frac{a}{0.74}, \frac{b}{0.64}, \frac{c}{0.66}), (\frac{a}{0.36}, \frac{b}{0.26}, \frac{c}{0.46}) \rangle$. Then W is $N\alpha G$ -open but W is not $N\beta\omega$ -open.

Remark 3.9: The following examples show that $N\beta\omega$ -open set and NG-open are independent in (X, τ_N) .

Example 3.12: Let $X = \{a, b, c\}$, $\tau_N = \{0_N, , 1_N\}$ where $G = \langle x, (\frac{a}{0.7}, \frac{b}{0.8}, \frac{c}{0.7}), (\frac{a}{0.6}, \frac{b}{0.7}, \frac{c}{0.6}), (\frac{a}{0.3}, \frac{b}{0.4}, \frac{c}{0.3}) \rangle$. Then τ_N is a NT and consider $W = \langle x, (\frac{a}{0.8}, \frac{b}{0.9}, \frac{c}{0.6}), (\frac{a}{0.7}, \frac{b}{0.8}, \frac{c}{0.7}), (\frac{a}{0.2}, \frac{b}{0.3}, \frac{c}{0.2}) \rangle$. Then W is $N\beta\omega$ -open but W is not NG-open.

Example 3.13: Let $X = \{a, b, c\}$, $\tau_N = \{0_N, , 1_N\}$ where $G = \langle x, (\frac{a}{0.6}, \frac{b}{0.6}, \frac{c}{0.6}), (\frac{a}{0.5}, \frac{b}{0.5}, \frac{c}{0.5}), (\frac{a}{0.4}, \frac{b}{0.4}, \frac{c}{0.4}) \rangle$. Then τ_N is a NT and consider $W = \langle x, (\frac{a}{0.2}, \frac{b}{0.2}, \frac{c}{0.2}), (\frac{a}{0.4}, \frac{b}{0.4}, \frac{c}{0.4}), (\frac{a}{0.8}, \frac{b}{0.8}, \frac{c}{0.8}) \rangle$. Then W is NG-open but W is not $N\beta\omega$ -open.

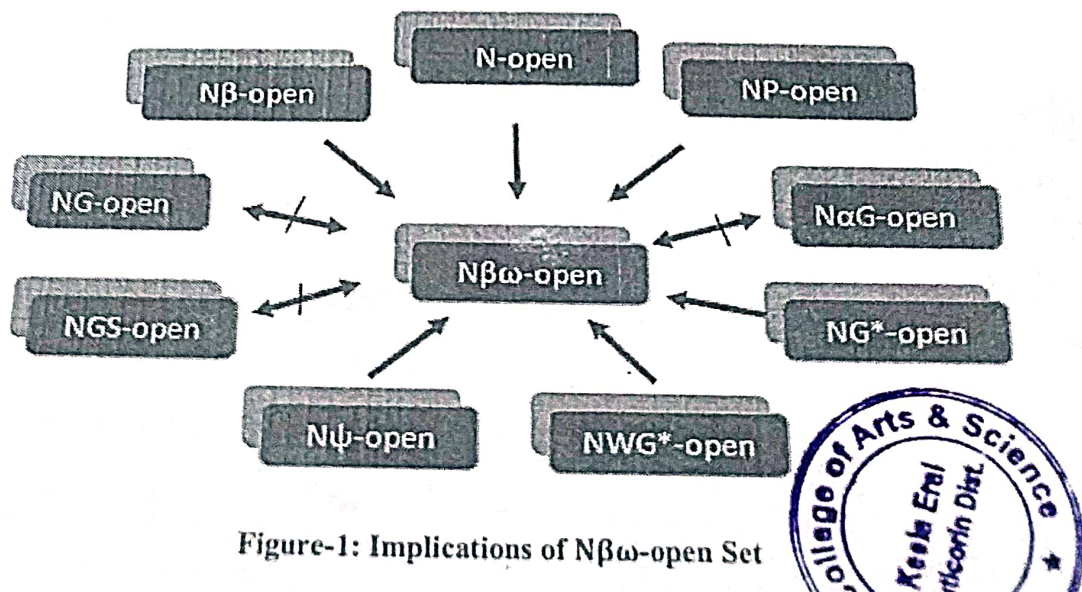


Figure-1: Implications of $N\beta\omega$ -open Set

4. BETA OMEGA INTERIOR

Definition 4.1: For any $G \in (X, \tau)$, $\beta\text{oint}_N(G)$ is defined as the union of all $N\beta\omega$ -open sets contained in G . That is, $\beta\text{oint}_N(G) = \cup \{H : H \subseteq G \text{ and } H \in N\beta\omega O(X, \tau)\}$

Theorem 4.1: Let G be any subset of (X, τ) . Then

1. $(\beta\text{oint}_N(G))^c = \beta\text{oc}_N(G^c)$
2. $\beta\text{oint}_N(G) = (\beta\text{oc}_N(G^c))^c$
3. $\beta\text{oc}_N(G) = (\beta\text{oint}_N(G^c))^c$

Lemma 4.1: For any set $G \in (X, \tau)$, $\text{int}_N(G) \subseteq \beta\text{oint}_N(G)$.

Proof: The proof follows from that every N -open set is $N\beta\omega$ -open set.

Theorem 4.1: For any two subsets G and H of (X, τ) , the following statements are true:

1. $\beta\text{oint}_N(1_N) = 1_N$ and $\beta\text{oint}_N(0_N) = 0_N$
2. $\beta\text{oint}_N(G) \subseteq G$
3. If H is any $N\beta\omega$ -open set contained in G , then $H \subseteq \beta\text{oint}_N(G)$
4. If $G \subseteq H$, then $\beta\text{oint}_N(G) \subseteq \beta\text{oint}_N(H)$
5. If G and H are subsets of (X, τ) , then $\beta\text{oint}_N(G) \cup \beta\text{oint}_N(H) = \beta\text{oint}_N(G \cup H)$.
6. If G and H are subsets of (X, τ) , then $\beta\text{oint}_N(G \cap H) \subseteq \beta\text{oint}_N(G) \cap \beta\text{oint}_N(H)$.

Proof:

1. Since 1_N and 0_N are $N\beta\omega$ -open sets, $\beta\text{oint}_N(1_N) = \cup \{G : G \subseteq 1_N \text{ and } G \in N\beta\omega O(X, \tau)\} = 1_N$. Similarly, since 0_N is the only $N\beta\omega$ -open set contained in 0_N , $\beta\text{oint}_N(0_N) = 0_N$.
2. By the definition of $N\beta\omega$ -interior of G , it is obvious that $\beta\text{oint}_N(G) \subseteq G$
3. Let H be any $N\beta\omega$ -open set contained in G . Since $\beta\text{oint}_N(G)$ is the union of all $N\beta\omega$ -open sets contained in G , $\beta\text{oint}_N(G)$ is containing every $N\beta\omega$ -open set containing G . Hence $H \subseteq \beta\text{oint}_N(G)$
4. Follows from the definition 4.1.
5. Since $G \subseteq G \cup H$ and $H \subseteq G \cup H$, we get $\beta\text{oint}_N(G) \subseteq \beta\text{oint}_N(G \cup H)$ and $\beta\text{oint}_N(H) \subseteq \beta\text{oint}_N(G \cup H)$ which implies that $\beta\text{oint}_N(G) \cup \beta\text{oint}_N(H) \subseteq \beta\text{oint}_N(G \cup H)$. Also $\beta\text{oint}_N(G \cup H) = \cup \{V : V \subseteq G \cup H, V \in N\beta\omega O(X, \tau)\} \subseteq \cup \{V : V \subseteq G, V \in N\beta\omega O(X, \tau)\} \cup \{V : V \subseteq H, V \in N\beta\omega O(X, \tau)\} = \beta\text{oint}_N(G) \cup \beta\text{oint}_N(H)$. Hence $\beta\text{oint}_N(G \cup H) = \beta\text{oint}_N(G) \cup \beta\text{oint}_N(H)$.
6. Since $G \cap H \subseteq G$ and $G \cap H \subseteq H$, by theorem 4.1(4), $\beta\text{oint}_N(G \cap H) \subseteq \beta\text{oint}_N(G)$ and $\beta\text{oint}_N(G \cap H) \subseteq \beta\text{oint}_N(H)$. Hence $\beta\text{oint}_N(G \cap H) \subseteq \beta\text{oint}_N(G) \cap \beta\text{oint}_N(H)$.

Remark 4.3: The following example shows that the reverse inclusion of theorem 4.1(6) is not true.

Example 4.1: Let $X = \{a, b, c\}$, $\tau_N = \{0_N, G, 1_N\}$ where $G = \langle x, (\frac{a}{0.8}, \frac{b}{0.8}, \frac{c}{0.7}), (\frac{a}{0.6}, \frac{b}{0.6}, \frac{c}{0.6}), (\frac{a}{0.4}, \frac{b}{0.6}, \frac{c}{0.5}) \rangle$. Then τ_N is a NT and consider $W_N = \langle x, (\frac{a}{0.8}, \frac{b}{0.8}, \frac{c}{0.9}), (\frac{a}{0.8}, \frac{b}{0.7}, \frac{c}{0.9}), (\frac{a}{0.9}, \frac{b}{0.8}, \frac{c}{0.9}) \rangle$ and $V_N = \langle x, (\frac{a}{0.2}, \frac{b}{0.2}, \frac{c}{0.2}), (\frac{a}{0.2}, \frac{b}{0.2}, \frac{c}{0.2}), (\frac{a}{0.2}, \frac{b}{0.2}, \frac{c}{0.2}) \rangle$. Here, $\beta\text{oint}_N(W) \cap \beta\text{oint}_N(V) = W \cap V$ and $\beta\text{oint}_N(W \cap V) = 0_N$. Hence $\beta\text{oint}_N(W) \cap \beta\text{oint}_N(V) \not\subseteq \beta\text{oint}_N(W \cap V)$.

Proposition 4.1: Let G be any subset of (X, τ) . If G is $N\beta\omega$ -open in (X, τ) then $\beta\text{oint}_N(G) = G$.

Proof: Let G be $N\beta\omega$ -open in (X, τ) . We know that $\beta\text{oint}_N(G) \subseteq G$. Also G is a $N\beta\omega$ -open set containing $\beta\text{oint}_N(G)$. Hence $G \subseteq \beta\text{oint}_N(G)$. Hence $\beta\text{oint}_N(G) = G$.

Corollary 4.1: $\beta\text{oint}_N(\beta\text{oint}_N(G)) = \beta\text{oint}_N(G)$

Proof: By (2) and (4) of theorem 4.1., $\beta\text{oint}_N(\beta\text{oint}_N(G)) \subseteq \beta\text{oint}_N(G)$.

5. PROPERTIES OF NEUTROSOPHIC $N\beta\omega$ -OPEN SET

Theorem 5.1: G is any $N\beta\omega$ -open iff $H \subseteq \beta\text{int}_N(G)$ where H is $N\omega$ -closed and $H \subseteq G$.

Proof: Let G be any $N\beta\omega$ -open set and H be $N\omega$ -closed such that $H \subseteq G$. Then $G^c \subseteq H^c$ which implies $\beta\text{cl}_N(G^c) \subseteq H^c$, since G^c is $N\beta\omega$ -closed and H^c is $N\omega$ -open. Therefore, we have $H \subseteq \beta\text{int}_N(G)$. Conversely, assume that $H \subseteq \beta\text{int}_N(G)$ whenever H is $N\omega$ -closed and $H \subseteq G$. Let I be any $N\omega$ -open such that $I^c \subseteq G$. Then I^c is $N\omega$ -closed. Therefore by assumption, $I^c \subseteq \beta\text{int}_N(G)$ which implies $\beta\text{cl}_N(G^c) \subseteq I^c$. Hence G is $N\beta\omega$ -open.



Theorem 5.2: If $\beta \text{int}_N(G) \subseteq H \subseteq G$ and G is $N\beta\omega$ -open, then H is $N\beta\omega$ -open.

Proof: $\beta \text{int}_N(G) \subseteq H \subseteq G$ implies $G^c \subseteq H^c \subseteq \beta \text{cl}_N(G)^c$. Since G is $N\beta\omega$ -open, G^c is $N\beta\omega$ -closed. Therefore, H is $N\beta\omega$ -closed. Hence H is $N\beta\omega$ -open.

Theorem 5.3: The union of the $N\beta\omega$ -open sets is $N\beta\omega$ -open.

Proof: Let G and H_N be $N\beta\omega$ -open sets in (X, τ_N) . By theorem 4.1., $\beta \text{int}_N(G \cup H) = \beta \text{int}_N(G) \cup \beta \text{int}_N(H) = G \cup H$. However, $\beta \text{int}_N(G \cup H) \subseteq G \cup H$. Therefore $G \cup H = \beta \text{cl}_N(G \cup H)$. Hence $G \cup H$ is $N\beta\omega$ -open set.

Remark 5.1: The intersection of two $N\beta\omega$ -open sets need not be $N\beta\omega$ -open.

Example 5.1: Let $X = \{a, b, c\}$, $\tau_N = \{0_N, G, 1_N\}$ where $G = \langle x, (\frac{a}{0.7}, \frac{b}{0.7}, \frac{c}{0.4}), (\frac{a}{0.7}, \frac{b}{0.6}, \frac{c}{0.6}), (\frac{a}{0.4}, \frac{b}{0.6}, \frac{c}{0.5}) \rangle$. Then τ_N is a NT and consider $W = \langle x, (\frac{a}{0.1}, \frac{b}{0.1}, \frac{c}{0.1}), (\frac{a}{0.2}, \frac{b}{0.2}, \frac{c}{0.2}), (\frac{a}{0.2}, \frac{b}{0.2}, \frac{c}{0.2}) \rangle$ and $V = \langle x, (\frac{a}{0.9}, \frac{b}{0.8}, \frac{c}{0.7}), (\frac{a}{0.8}, \frac{b}{0.7}, \frac{c}{0.9}), (\frac{a}{0.8}, \frac{b}{0.8}, \frac{c}{0.8}) \rangle$. Then W and V are $N\beta\omega$ -open. But $W \cap V$ is not $N\beta\omega$ -open.

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Declaration

I hereby declare that the details and information given above are complete and true to the best of my knowledge and conviction.

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