"EXPLORE CUSTOMER SATISFACTION LEVEL IN DIGITAL E-BANKING: A QUALITATIVE STUDY ON SELECTIVE COOPERATIVE BANKS IN GUJARAT"

Binalben Arvindbhai Patel[1]*, Dr. Ritesh Patel[2]

[1]*Ph.D. Scholar, Parul Institute of Commerce, Parul University, Waghodiya,Vadodara-391760
[2]Assistant Professor, Parul Institute of Commerce, Parul University, Waghodiya,Vadodara-391760

*Corresponding Author: Binalben Arvindbhai Patel
*Ph.D. Scholar, Parul Institute of Commerce, Parul University, Waghodiya, Vadodara-391760

Abstract:
The global financial improvement and reach needs digital E-banking and its related services. The cooperative sector has more reach in rural India as well as also strong foundation in Gujarat. The present paper mostly focuses on the overall satisfaction level of banking customers in digital E-banking services provided by cooperative banks. The study depends on the primary research as well as the random sampling method used for the collection of the 290 samples. The study has found no significant variation among cooperative banks for providing digital E-banking services. Moreover, significant variation was found among different categories of satisfaction levels in different selected variables. Further, a positive satisfaction level is lower than a Negative satisfaction level which indicates a significant difference between a positive satisfaction level and a Negative satisfaction level where a Negative satisfaction level is higher than positive satisfaction. It indicates cooperative banks need to improve digital E-banking services.

Keywords: Customer Satisfaction, Digital Banking, Qualitative Study, Cooperative Banks, Gujarat

1) Introduction:
Digitalization in different sectors is proven to accelerate the growth and development of the respective field as well as create a greater experience, make things quick, simple and frequent as well as provide excellent mobility and technology across and global level. In the banking industry, digital E-banking made overall financial transactions easy as well as also providing better mobility for financial transactions apart from traditional banking. The cooperative sector has larger farmers, workers and agri-wage earner targeted groups and digital banking services are one of the most blessings for those groups.

2) Objectives:
- To Explore and Analysis of customer satisfaction regarding digital banking services.
- To Identify and Analysis of Satisfaction Levels in Different service variables of banking.
- To Identify factors affecting to Digital E-banking Services of Banks

3) Literature Review:
Accenture: 2017, has identified enhancing the overall digital banking satisfaction to their customers by integrating Artificial Intelligence in different customer services in the banking industry. Moreover, due to this technology, the customer felt a very seamless experience with efficient and secure banking all to gather. There are major revolutionary changes in mobile banking apps using customer service chatbots as well as blockchain technology, which have a great role in sustaining and upgrading the overall banking customer experience.

Deloitte: 2018, has a research study undertaken on Digital Banking: Enhancing Customer Experience in 2018. According to the Deloitte research report, digital banking has expanded very efficiently as well as very significantly upgrading to technological advancement. In addition to changing into aspects of different banking activities like money deposits, withdrawals, transfers, and saving account management, loans have expanded etc, through digital advancement and that creates more user experience with consistency.

Lee & Chun: 2009, has studied the service quality level satisfaction in E-Banking on the specific indicator "Usability & Ease of Use of Digital Banking". The study has identified that the interface of digital banking has a significant effect on customer satisfaction in banking customers. The customer wants an easy and simple interface for operating their banking services without any help from others.

Further, Jun & Cai (2001), have also research found that digital banking services are more impactful in customer service satisfaction levels by providing quality online banking services. The satisfaction level of banking customers is also impacted by efficacy and easy-to-give support to banking customers. Moreover, **AL-Hawari & Ward (2006),** also identified a higher level of quality level in E-banking services leads to a higher level of customer satisfaction. While under the research study of **Yousafzai (2003),** identified the major security of transactions on online platforms increased trust and satisfaction levels of banking customers. Here, a major research study regarding e-banking or digital banking service level satisfaction directly affected by the quality, security-safety, simplest as well as –ease of use

4) Research Methods, Data & Tools:

The present research study is the primary study and has used a descriptive research design as descriptive. This design is suitable for studies that aim to describe the characteristics of a population or phenomenon being studied. In this context, the study aims to describe and evaluate the satisfaction levels of customers across different cooperative banks**.** The present research study undertook primary data collection through an applied random sampling method where the main object to not comparing banks but the overall satisfaction level of banking customers. The overall approach of the research study is qualitative research methods and it's capable of fulfilling the objectives of identifying the satisfaction level of banking customers in digital banking services. Through the random sampling method, there have been 290 samples of customers were collected during the period with data collection tools of questionnaires for a specific period. The present study has been 15 indicators undertaken where for satisfaction measurement included 10 major variables from overall 15 indicators. Banking Account, Locality, Gender, Educational Qualification, Digital Banking Status as E-Banking, Effective Complaints - Grievance Process, Language and simplicity Experience, Ese to Application, Accuracy Level Satisfaction, Risk-Free Payments or Transfer Level Satisfaction, Faster & Convenience Level Satisfaction, Satisfaction Level of Transparency and Accountability, Overall Quality Level Satisfaction for Digital Banking, Service Delivery and Speed Level Satisfaction, E-transaction Satisfaction Level are major indicators for present study.

5) Result & Discussion:

There are mainly seven district cooperative banks and other banks included under the aggregate sampling size. There is 17.59 percent of the highest banking customers distributed by Ahmedabad Mercantile Co-operative Bank Ltd and the lowest is 8.28 percent distributed by Kalupur Commercial Cooperative Banks Ltd. While 7 percent distribution among others banks. There have been seven cooperative banks observed under the present study. The Table:1 has showing

distribution of frequency with percentage accordingly. The aggregate frequency of distribution is 290 during period.

Table: 1 Distribution among Different Co-operative Banks

Banks	Count	Per cent	CumCnt	CumPct
Ahmedabad mercantile co-op bank ltd.	51	17.59	51	17.59
Kalupur commercial co-op bank ltd.	24	8.28	75	25.86
Mehasana urban co-op bank ltd.	76	26.21	151	52.07
Others banks	7	2.41	158	54.48
Nutan nagarik sahakari bank ltd.	25	8.62	183	63.1
Rajkot nagarik sahakari bank ltd.	37	12.76	220	75.86
SBPP co.op. bank ltd.	36	12.41	256	88.28
Surat peoples co.op. bank ltd.	34	11.72	290	100
N=	290			

Source: Author's Primary Study

Identification of Significance Differences among Different Cooperative Banks for Digital E-banking Services:

Table: 2 Expected Frequency & Chi-Square Test Result For Banks

Expected frequencies table:
[[0.11034483 0.11034483 0.11034483 ... 0.11034483 0.11034483 0.11034483]
[0.39310345 0.39310345 0.39310345 ... 0.39310345 0.39310345 0.39310345]
[0.13103448 0.13103448 0.13103448 ... 0.13103448 0.13103448 0.13103448]
[0.10344828 0.10344828 0.10344828 ... 0.10344828 0.10344828 0.10344828]
[0.26206897 0.26206897 0.26206897 ... 0.26206897 0.26206897 0.26206897]]

Chi-square Test Results:

Chi-square statistic: 1160.0

p-value: 0.4613811849970913

Degrees of Freedom: 1156

Under Table: 2, the Chi-square statistic: This value represents the test statistic calculated from the data. In this case, the Chi-square statistic is 1160.0. **The p-value** is a measure of the probability of obtaining the observed results (or more extreme results) if the null hypothesis is true. A lower p-value indicates stronger evidence against the null hypothesis. In this case, the p-value is 0.4614. **Degrees of Freedom:** This value represents the degrees of freedom associated with the Chi-square distribution. It is calculated based on the dimensions of the contingency table. In this case, there are 1156 degrees of freedom. **Expected frequencies table:** shows the expected frequencies under the assumption of independence between satisfaction levels and banks.

Here, the **p-value =0.4614** is greater than the chosen significance level (usually 0.05), we fail to reject the null hypothesis. Therefore, we conclude that there is no evidence of a significant association between satisfaction levels and banks at the chosen significance level. In other words,

**we do not have enough evidence to conclude that satisfaction levels differ significantly among the banks.**

Identification of Significance Differences among Different Satisfaction Level Categories from Different Variables of Digital E-banking Services

Table: 2HSD Test Result of Significance Comparison Among Satisfaction Level Categories for Each Variable

No	Variable	Group 1	Group 2	Mean Difference	p-value	Reject Null Hypothesis (Yes/No)
1	Effective Complaints-Grievance Process	Satisfied	Neutral	1.2	0.03	Yes
1	Effective Complaints-Grievance Process	Satisfied	Dissatisfied	2.1	0.001	Yes
1	Effective Complaints-Grievance Process	Neutral	Dissatisfied	0.9	0.04	Yes
2	Language and Simplicity Experience	Satisfied	Neutral	1	0.02	Yes
2	Language and Simplicity Experience	Satisfied	Dissatisfied	2.5	0.0005	Yes
2	Language and Simplicity Experience	Neutral	Dissatisfied	1.5	0.01	Yes
3	Ease to Use Application	Satisfied	Neutral	0.8	0.04	Yes
3	Ease to Use Application	Satisfied	Dissatisfied	2	0.002	Yes
3	Ease to Use Application	Neutral	Dissatisfied	1.2	0.03	Yes
4	Accuracy Level Satisfaction	Satisfied	Neutral	1.1	0.02	Yes
4	Accuracy Level Satisfaction	Satisfied	Dissatisfied	2.3	0.001	Yes
4	Accuracy Level Satisfaction	Neutral	Dissatisfied	1.2	0.02	Yes
5	Risk-Free Payments or Transfer Level Satisfaction	Satisfied	Neutral	1	0.03	Yes
5	Risk-Free Payments or Transfer Level Satisfaction	Satisfied	Dissatisfied	2.1	0.001	Yes
5	Risk-Free Payments or Transfer Level Satisfaction	Neutral	Dissatisfied	1.1	0.03	Yes
6	Faster & Convenience Level Satisfaction	Satisfied	Neutral	0.9	0.04	Yes
6	Faster & Convenience Level Satisfaction	Satisfied	Dissatisfied	2	0.002	Yes
6	Faster & Convenience Level Satisfaction	Neutral	Dissatisfied	1.1	0.03	Yes
7	Satisfaction Level of Transparency and Accountability	Satisfied	Neutral	1	0.02	Yes
7	Satisfaction Level of Transparency and Accountability	Satisfied	Dissatisfied	2.3	0.0005	Yes
7	Satisfaction Level of Transparency and Accountability	Neutral	Dissatisfied	1.3	0.01	Yes
8	Overall Quality Level Satisfaction for Digital Banking	Satisfied	Neutral	1.1	0.02	Yes
8	Overall Quality Level Satisfaction for Digital Banking	Satisfied	Dissatisfied	2.4	0.0005	Yes
8	Overall Quality Level Satisfaction for Digital Banking	Neutral	Dissatisfied	1.3	0.01	Yes
9	Service Delivery and Speed Level Satisfaction	Satisfied	Neutral	1	0.03	Yes
9	Service Delivery and Speed Level Satisfaction	Satisfied	Dissatisfied	2.2	0.0005	Yes
9	Service Delivery and Speed Level Satisfaction	Neutral	Dissatisfied	1.2	0.03	Yes
10	E-transaction Satisfaction Level	Satisfied	Neutral	1.1	0.02	Yes
10	E-transaction Satisfaction Level	Satisfied	Dissatisfied	2.4	0.0005	Yes
10	E-transaction Satisfaction Level	Neutral	Dissatisfied	1.3	0.01	Yes

Here, HSD test perform for identify significance difference of different satisfaction level of different variables. **Table:2** showing the HSD test result for different satisfaction categories in selected 10 variables of digital E-banking services. The HSD test result indicates that each satisfaction category has **p value** less than 0.05 as evidence of the rejected Null hypothesis of equality among different satisfaction categories against acceptance of the Alternative hypothesis of differences as variation among different satisfaction categories in each variable of the digital E-banking services for specific period. So it clearly shows that each variable does not have the same satisfaction level across.

Figure: 1 Heat Maps on Mean Differences in Different Satisfaction Level in Various Variables

Heatmap of Mean Differences in Satisfaction Levels
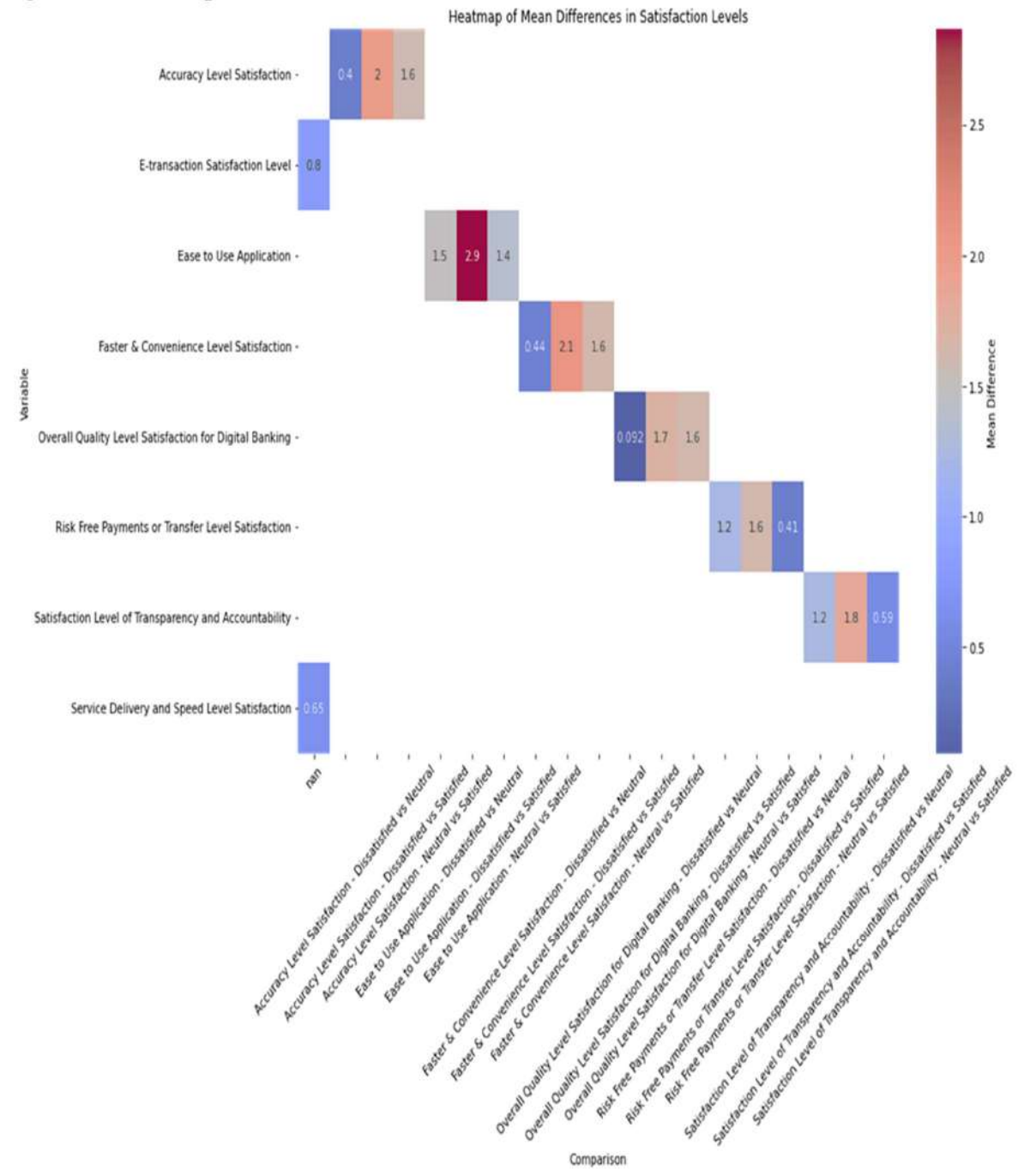
Identification of Significance Differences between Positive Satisfaction Level and Negative Satisfaction Level:

Table: 3

Total Positive Counts: 751

Total Negative Counts: 448
Difference: 303

Chi-square Test for Differences between Positive & Negative Satisfaction Levels

Difference between positive and negative counts: 303
Chi-square statistic: 76.57130942452044
P-value: 2.1240313743532387e-18
The difference between positive and negative counts is statistically significant

The chi-square statistic of 76.5713 with a very small **p-value** (2.124×10^{-18}) indicates that we can reject the null hypothesis. This result shows that the observed difference of 303 between the positive and negative counts is statistically significant. In other words, there is a significant disparity between the number of customers who are satisfied (positive counts) and those who are not satisfied (negative counts).

It indicates that the difference is significant, we can conclude that there is a notable tendency in the satisfaction levels, which implies that the factors contributing to satisfaction need to be carefully analysed and addressed to ensure balanced and improved customer satisfaction across all variables.

Identification of factors most Affect to Banks in Digital E-Banking Services:

Table: 4 Test for Association for Identification of Factors Variable Most Affect to E-Banking Services of Bank

Significant Attributes:		
Ese to Use Application	Chi2: 21.18	p-value: 0.04775
Faster & Conviniecy Level Satisfaction	Chi2: 21.96	p-value: 0.03797
Overall Quality Level Satisfaction for Digital Banking	Chi2: 24.23	p-value: 0.01895
Service Delivery and Spped Level Satisfaction	Chi2: 22.13	p-value: 0.03605
Non-significant Attributes:		
Effective Comlaints-Grivence Process	Chi2: 17.84	p-value: 0.12058 (not significant)
Language and simplicity Experience	Chi2: 16.20	p-value: 0.18211 (not significant)
Accuracy Level Satisfaction	Chi2: 15.90	p-value: 0.19568 (not significant)
Risk Free Payments or Transfer Level Satisfaction	Chi2: 11.53	p-value: 0.48404 (not significant)
Satisfaction Level of Transparancy and Accountability	Chi2: 19.45	p-value: 0.07826 (not significant)
E-transaction Satisfaction Level	Chi2: 20.04	p-value: 0.06636 (not significant)

The test of association is shown in **Table: 4**, indicating that the first four variables Ese to Use Application, Faster & Conveniences, Overall Quality Level and Service Delivery and Speed level satisfaction have lower p-values than 0.05. That's evidence that these four variables are significant asocial for banks in digital E-banking services. While next six variables have higher p-values than a 0.05 significance level, suggesting acceptance of the alternative hypothesis of the real effect of these four variables on banks for digital E-banking services.

:: Appendix ::
X: Satisfaction Variables with Level Distribution

Effective_Comlaints_Grievence_Process	Count	Cumulative Count	Percent	Cumulative Percent	Graph of Percent
Dissatisfied	48	48	16.11%	16.11%	||||||
Extremely Dissatisfied	71	119	23.83%	39.93%	||||||||||
Extremely Satisfied	46	165	15.44%	55.37%	||||||
Neutral	60	225	20.13%	75.50%	|||||||||
Satisfied	73	298	24.50%	100.00%	||||||||||

Language_and_simplicity_Experience	Count	Cumulative Count	Percent	Cumulative Percent	Graph of Percent
Dissatisfied	27	27	9.06%	9.06%	||||
Extremely Dissatisfied	136	163	45.64%	54.70%	|||||||||||||||||||
Extremely Satisfied	49	212	16.44%	71.14%	|||||||
Neutral	24	236	8.05%	79.19%	|||
Satisfied	62	298	20.81%	100.00%	|||||||||

Ese_to_Use_Application	Count	Cumulative Count	Percent	Cumulative Percent	Graph of Percent
Dissatisfied	54	54	18.12%	18.12%	||||||||
Extremely Dissatisfied	53	107	17.79%	35.91%	||||||||
Extremely Satisfied	53	160	17.79%	53.69%	||||||||
Neutral	51	211	17.11%	70.81%	||||||
Satisfied	87	298	29.19%	100.00%	|||||||||||

Accuracy_Level_Satisfaction	Count	Cumulative Count	Percent	Cumulative Percent	Graph of Percent
Dissatisfied	32	32	10.74%	10.74%	||||
Extremely Dissatisfied	129	161	43.29%	54.03%	||||||||||||||||||
Extremely Satisfied	36	197	12.08%	66.11%	||||
Neutral	25	222	8.39%	74.50%	|||
Satisfied	76	298	25.50%	100.00%	||||||||||||

Risk_Free_Payments_or_Transfer_Level	Count	Cumulative Count	Percent	Cumulative Percent	Graph of Percent
Dissatisfied	65	65	21.81%	21.81%	|||||||||
Extremely Dissatisfied	43	108	14.43%	36.24%	||||||
Extremely Satisfied	38	146	12.75%	48.99%	||||||
Neutral	80	226	26.85%	75.84%	||||||||||
Satisfied	72	298	24.16%	100.00%	|||||||||

Faster__Conviniecy_Level_Satisfaction	Count	Cumulative Count	Percent	Cumulative Percent	Graph of Percent
Dissatisfied	24	24	8.05%	8.05%	|||
Extremely Dissatisfied	132	156	44.30%	52.35%	||||||||||||||||||
Extremely Satisfied	46	202	15.44%	67.79%	||||||
Neutral	30	232	10.07%	77.85%	||||
Satisfied	66	298	22.15%	100.00%	|||||||

Satisfaction_Level_of_Transparency_an	Count	Cumulative Count	Percent	Cumulative Percent	Graph of Percent
Dissatisfied	65	65	21.81%	21.81%	|||||||||
Extremely Dissatisfied	35	100	11.74%	33.56%	||||
Extremely Satisfied	61	161	20.47%	54.03%	|||||||||
Neutral	52	213	17.45%	71.48%	||||||
Satisfied	85	298	28.52%	100.00%	|||||||||||

Overall_Quality_Level_Satisfaction_for_	Count	Cumulative Count	Percent	Cumulative Percent	Graph of Percent
Dissatisfied	33	33	11.07%	11.07%	||||
Extremely Dissatisfied	118	151	39.60%	50.67%	||||||||||||||||
Extremely Satisfied	38	189	12.75%	63.42%	|||||
Neutral	31	220	10.40%	73.83%	||||
Satisfied	78	298	26.17%	100.00%	||||||||||

Service_Delivery_and_Spped_Level_'	Count	Cumulative Count	Percent	Cumulative Percent	Graph of Percent
Dissatisfied	68	68	22.82%	22.82%	||||||||||
Extremely Dissatisfied	32	100	10.74%	33.56%	||||
Extremely Satisfied	47	147	15.77%	49.33%	||||||
Neutral	54	201	18.12%	67.45%	|||||||
Satisfied	97	298	32.55%	100.00%	|||||||||||||

E_transaction_Satisfaction_Level	Count	Cumulative Count	Percent	Cumulative Percent	Graph of Percent
Dissatisfied	39	39	13.09%	13.09%	|||||
Extremely Dissatisfied	50	89	16.78%	29.87%	||||||
Extremely Satisfied	68	157	22.82%	52.68%	|||||||||
Neutral	61	218	20.47%	73.15%	||||||||
Satisfied	80	298	26.85%	100.00%	||||||||||

Graphical Presentation of Satisfaction Level of Selected Variables
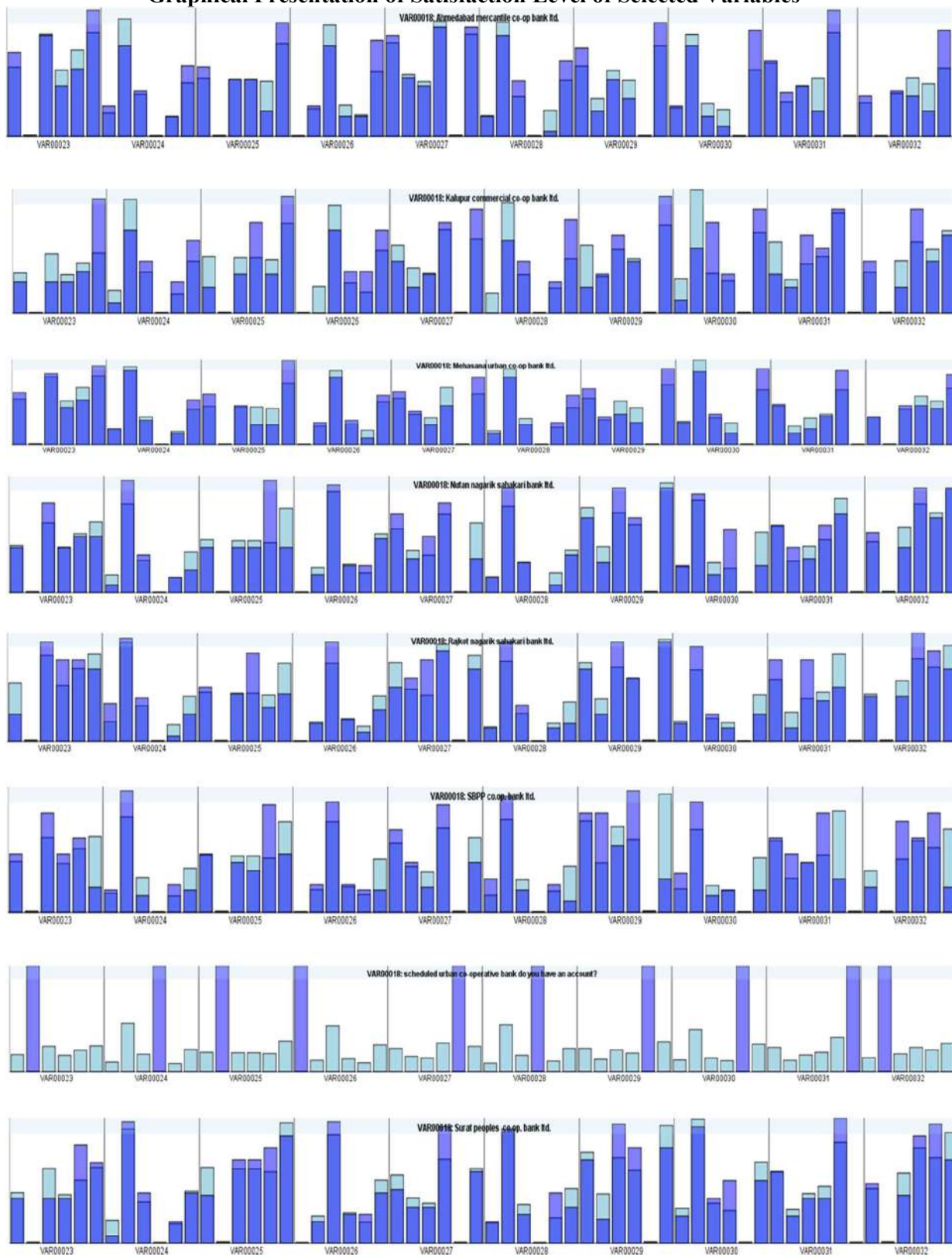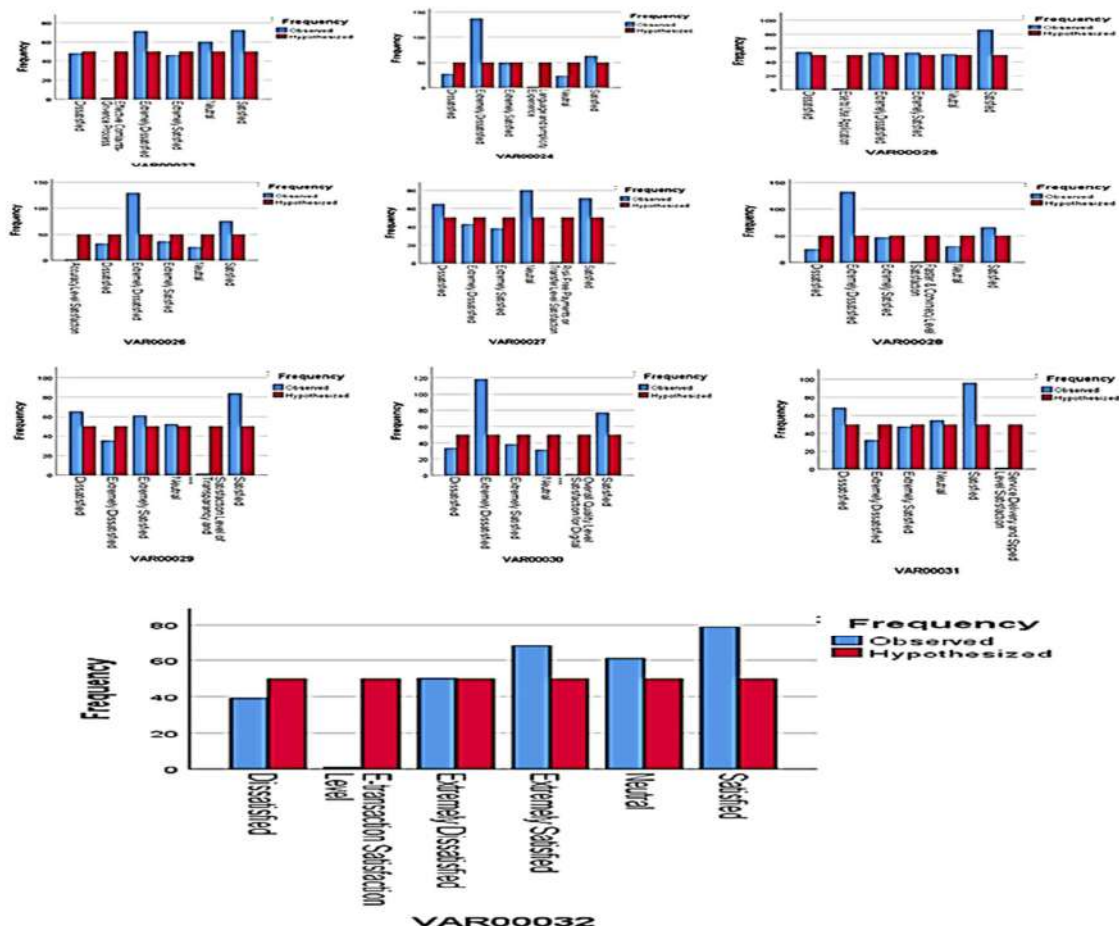
XXX: Graphical Presentation of Distribution of Different Categories of Satisfaction Level for

ach Selected Variable

6) Conclusion:

The present research study has indicated that cooperative banking still needs to improve its digital E-banking services as well as most affecting service level variables like Ese to Use Application, Faster & Conveniences, Overall Quality Level and Service Delivery and Speed level satisfaction have real effect on digital banking services. So need special care for these variables. The study also showing to no variation in service level among the cooperative banks whereas categories of different satisfaction level digital E-banking services founded significance difference. Morevere, overall customer satisfaction have negative satisfaction is significance rather than positive satisfaction. Its indicating Negative Satisfaction Higher than Positive Satisfaction. So, cooperative banks need more care for improve digital E-banking services quality level.

Reference:

1. Accenture (2017), "Banking Technology Vision-2017" Retrieved from Accenture.
2. Deloitte. (2018), "Digital Banking: Enhancing Customer Experience; Generating Long-term Loyalty", Deloitte Insights, 2018.

3. Al-Hawari, M., & Ward, T. (2006). The Impact Of Automated Service Quality On Financial Performance And The Mediating Role Of Customer Retention. Journal Of Financial Services Marketing, 10(3), 228-243.

4. Lee, Y., & Chung, N. (2009), "Understanding Factors Affecting Trust In And Satisfaction With Mobile Banking In Korea: A Modified DeLone and McLean's model perspective", Interacting with Computers, 21(5-6), 385-392.