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Examining Client Relationship Management Practices and Their Impact on Performance in Biological Science Organizations

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ABSTRACT:

This study investigates the impact of project complexity on client satisfaction with communication practices. To investigate communication preference variations across different client industries served and also to explore the link between project location and clients' feeling of being heard by the company. To analyze the association between perceived value of communication and client trust in the construction company. To investigate the relationship between Net Promoter Score and specific communication practices. The researcher adopted descriptive study and the sample size of the study is 109. The sampling technique is Convenience sampling. This study aims to analyse existing client questionnaire data to gain insights into communication preferences and their impact on client relationship management (CRM) outcomes within the construction industry.

Keywords: Client Relationship Management, communication, customer satisfaction

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1. Introduction

Positive customer interactions are the main goal of the corporate philosophy and practice known as client relationship management, or CRM. It includes all of the tactics and tools a business employs to oversee its communications and relationships with both present and future customers. Without computers, Client Relationship Management (CRM) has a long history. Shopkeepers used their memory, and merchants kept track of information on clay tablets in the beginning. Index cards, ledger books, and Rolodex became indispensable tools as enterprises

expanded. Sales used paper folders and notes to track leads. Typewriters were also somewhat automated. Despite their limitations, these approaches set the foundation for contemporary CRM's emphasis on solid client connections. The development of database marketing in the 1980s, when businesses utilized client data to target certain audiences, is where Client Relationship Management (CRM) got its start. The idea developed into software solutions centered on contact management and sales force automation in the 1990s. By the early 2000s, cloud-based solutions and industry-specific customization had taken center stage, and CRM systems had grown to include features like marketing automation and mobile access. Companies have always made an effort to comprehend and serve their customer base.

2. Review of Literature

1.1.1 Title: **A plan to enhance customer relationship management and green purchasing behaviour in the context of the COVID-19 new normal Uncertain Supply Chain Management 11 (1), 289-298, 2023; N Ekawati, I. Wardana, N Yasa, N Kusumadewi, I. Tirtayani**

Content: The study aimed to investigate society's perception of the natural environment in greater detail, especially in relation to health awareness, which in turn highlights the importance of using natural, eco-friendly products. It is still unclear, meanwhile, what exactly is causing the consumption of eco-friendly items to increase. An expanded model of green purchasing behavior is used in the study. A product that is ecologically friendly should also take into consideration the variable found in this study.

2.1.2 Title: **Artificial intelligence (AI)-enabled CRM capabilities in healthcare: Sujeet Kumar Sharma, Pradeep Kumar, and Vincent Dutot - International Journal of Information Management 69, 102598, 2023 - The influence on service innovation**

Content: The study employed a mixed-method approach to examine the underlying phenomena. In order to bridge the knowledge gap and direct innovative performance in the healthcare sector, AI-enabled CRM skills are being developed, as this paper explains. This is a pressing need in a volatile environment.

2.1.3 Title: **Prashanth Shetty and Y Poornima's Comprehensive Review of the Main Antecedents of Electronic Client Relationship Management (E-CRM) Studies in the Indian Banking Sector - Indian Journal of Marketing 53 (10), 45-59, 2023**

Content: Through a thorough literature analysis using PRISMA criteria, the current study identified the primary antecedents of electronic client relationship management (e-CRM) employed by past studies across the Indian banking sector. The writers looked at Indian banking in great detail in peer-reviewed literature. The study followed PRISMA regulations. Numerous databases are used to test and refine linked keywords.

2.1.4 Title: **User experience, new product development, and customer relationship management's impact on word-of-mouth marketing, with customer happiness acting as a moderating factor. Journal of Management Science (JMAS) 7 (1), 223-231, 2024 - Nisya Nazhifa, Helma Malini, Nur Afifah, Ramadania Ramadania, Karsim Karsi - U digital provider**

Content: This study looked at how user experience, customer relationship management, and product innovation affected word-of-mouth among 227 Indonesian respondents through client satisfaction. Moreover, customer happiness acts as a mediator in the interaction between product innovation and user experience on word-of-mouth. The intriguing conclusion is that

there is no discernible client satisfaction mediation impact on the association between word-of-mouth marketing and client relationship management.

2.1.5 Title: Stephen Acheampong, Tetyana Pimonenko, and Oleksii Lyulyov, "Sustainable Marketing Performance of Banks in the Digital Economy: The Role of Client Relationship Management," Virtual Economics 6 (1), 19–37, 2023

Content: Client relationship management, or CRM, has become essential to the banking sector's survival in the digital economy and a cornerstone to long-term marketing success. The industrial sector has become digitalized as a result of the development of computers and the Internet, making it possible to integrate CRM and associated components. Numerous advantages have resulted from this, including an increase in partnerships and research documents. Evaluating the current status of CRM and sustainable marketing research in the digital economy is the aim of the study.

2.1.6 Title: How digital marketing changed over time: A scopus database bibliometric analysis Mohammad Faruk, Mahfuzur Rahman, Shahedul Hasan - Heliyon 7 (12), 2021

Content: The purpose of this study is to analyze the literature on digital marketing in order to identify important issues, evaluate the current level of research in the field, and demonstrate the ways that foundational works have impacted the field. These results show that the cooperation index is 2.71, which indicates that an average of 2.18 writers have contributed to all works on digital marketing. The study also names three well-known research areas in digital marketing, including: 1) Strategic strategy and digital marketing 2) developing apps for mobile marketing, and 3) managing client demographic profiles

3.1 Objectives of the Study:

Primary Objective

- To study the impact of project complexity on client satisfaction with communication practices.
- To investigate communication preference variations across different client industries served.
- To explore the link between project location and clients' feeling of being heard by the company.
- To analyze the association between perceived value of communication and client trust in the construction company.
- To investigate the relationship between Net Promoter Score and specific communication practices.

3.1.1 Problem Statement

Effective communication is essential for successful project execution and client satisfaction in the construction sector. On the other hand, inadequate communication techniques can result in major financial losses as well as lost project chances, rework brought on by miscommunications, and possible legal issues. Construction projects are complicated due to their many stakeholders and geographically dispersed teams, which creates special communication issues. In order to better understand communication preferences and how they affect client relationship management (CRM) outcomes in the construction industry, this project will examine data from current customer questionnaires.

3.1.2 Need for the study

This study uses data from current client questionnaires to fill in this gap. Through the analysis of these insights, we want to get insight into the communication strategies that clients find most

effective and how they affect their level of happiness, trust, and ultimately, if they choose to refer the organization. The study will also investigate possible differences in communication preferences according to the location and complexity of the project.

4.1 Research Methodology: -

Research Methodology is an organised approach to issue solving. It is an academic and applied endeavour to discover the proper methods for conducting research. Most importantly, research technique refers to the framework and procedures that scientists employ to precisely characterize, explain, and predict events in order to educate others about what they have done. It can also mean the study of knowledge acquisition strategies. Its objective is to offer the research work schedule.

4.1.1 Research Design:

A correlational design that is non-experimental will be used for this project. The researcher examined the connections between the preexisting data points in the questionnaire rather than adjusting any variables for this investigation. With the use of this design, we may investigate how communication techniques might affect clients' perceptions without really bringing about those changes.

4.1.2 Descriptive Research Design:

It is also known as satirical research design data and characteristics about the population being studied. These design research answer the question who, what, where, when and how, although the data description is actual, accurate, and systematic the research cannot describe what caused a situation, thus it cannot be used to create a causal relationship, where one variation affects another, the description is used for frequencies, averages and other statistical calculations.

4.1.3 Descriptive Research:

The study is descriptive in nature. It includes surveys and fact-finding enquiries of different kinds

4.1.4 Population

The study will cover on Ramanaaa Construction 's clients and customers in Chennai. The company only has one branch in Chennai, with one hundred employees .

4.1.5 Target Respondents

The Target Respondents of this research are Ramanaaa Construction 's clients and customer.

4.1.6 Sample Design

Sample design lays down all the details to be included in a sample. It is a definite plan for obtaining a sample from a given population. The sampling technique used was the convenience sampling

4.1.7 Sampling method:

The study applies Convenience sampling. It means when population elements are selected for inclusion in the sample based on the ease of access,

Sampling area: Samples are being taken in employees of "Ramanaaa Construction "

Sampling size:

The sample size for the project is 100

4.1.8 Data Collection Methods:

There are mainly two types of data collection methods

Primary data • Secondary data

4.1.8.1 Primary Data:

Primary data is the data which is collected by researcher himself for the first time for the specific purpose and they original character. Primary data is collected but researcher data is collected by researcher for the problem that are currently being studied therefore, data obtained pertains specifically to the current consideration of sources are :1) Questionnaire

4.1.8.2. Secondary Data:

It is information collected from those data which have already been obtained from secondary sources. The data has not been collected for this purpose of this research however this information is already available in the market while the current research being sources are: 1) Magazine

4.1.9 Statistical Tools

4.1.9.1 Chi-Square Test

The Chi – Square test is a crucial test among several tests of significance developed by statisticians. As a non – parametric test, chi – square test are often used as:

- (i) A test of goodness fit and
- (ii) A test of independence.

4.1.9.2 Correlation Test

Correlation is employed to experiment relationships between quantitative variables or categorical variables. In other words, it's a measure of how things are connected. The research says how variables are correlated is named correlation analysis.

4.1.9.2 Mann-Whitney U Test

A Mann-Whitney U test (sometimes called the Wilcoxon rank-sum test) is used to compare the differences between two independent samples when the sample distributions are not normally distributed and the sample sizes are small ($n < 30$). It is considered to be the nonparametric equivalent to the two-sample independent t-test.

4.1.9.3 Kruskal-Wallis Test

The Kruskal-Wallis test is a non-parametric alternative to ANOVA. It analyzes differences in medians among three or more groups. It ranks all data points together, then compares the distribution of ranks across the groups to see if there's a statistically significant difference.

4.1.9.4 Kendall's Tau-B Test

Kendall's Tau-b is a nonparametric measure of correlation for ordinal or ranked variables that take ties into account. The sign of the coefficient indicates the direction of the relationship, and its absolute value indicates the strength, with larger absolute values indicating stronger relationships. Possible values ranges from – 1 to 1.

5.1 Data Analysis and Interpretation

5.1.1 Perceived Effectiveness of Communication

Communication Efficacy	No Of Respondents	% Of Respondents
Excellent	54	49.5
Good	31	28.4
Neutral	24	22.1

Poor	0	0
Very Poor	0	0
Total	109	100

(Source: Primary Data)

How would you rate our firm's communication ?
109 responses

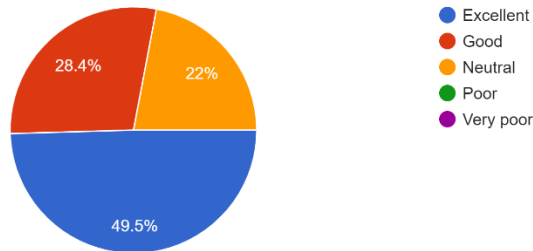


Table 5.1.1

Chart 5.1.1
Inference

The above table shows that, regarding the company's communication efficacy, 49.5% of respondents thought it was excellent, 28.4% thought it was good, and 22.1% thought it was neutral.

5.1.2 Likelihood to Recommend the Company

Likelihood to Promote	No Of Respondents	% Of Respondents
Extremely Likely(Promoter)	55	50.5
Likely	31	28.4
Neutral	22	20.2
Somewhat Unlikely	1	0.9
Very Unlikely(Detractor)	0	0
Total	109	100

(Source: Primary Data)

Table 5.1.2

Would you recommend our company to others ?
109 responses

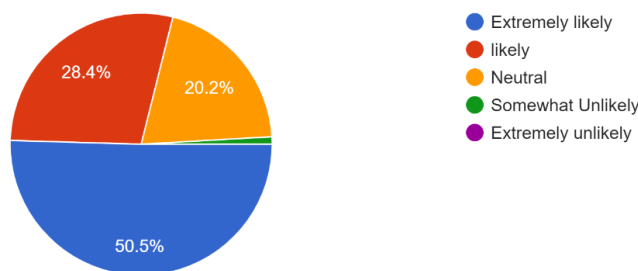


Chart 5.1.2

Inference

The above data shows that 50.5% of respondents indicated they would recommend the company to others with extreme likelihood. After that, 28.4% said it was likely, 20.2% said it was neutral, and 0.9% said it was somewhat unlikely.

6.1 Statistical Tools and Analysis

6.1.1 Correlation Analysis

Finding Overall Client Perception Using Spearman’s Rank Correlation

To understand a client's general satisfaction with CRM practices

Hypothesis Study

Null Hypothesis (HO): There is no statistically significant relationship between the variables. In simpler terms, client perception is not related to communication effectiveness, feeling valued, recommendation

Alternative Hypothesis(H1): There is statistically significant relationship between the variables. In simpler terms, client perception is related to communication effectiveness , feeling valued, recommendation

Correlations

Correlations							
			CLIENT PERCEPTION	COMMUNICATION EFFECTIVENESS	FEELING VALUED	RECOMMENDATION LIKELIHOOD	FUTURE PROJECT INTENT
Spearman's rho	CLIENT PERCEPTION	Correlation Coefficient	1.000	.947**	.950**	.951**	-.020
		Sig. (2-tailed)	.	<.001	<.001	<.001	.836
		N	109	109	109	109	109
	COMMUNICATION EFFECTIVENESS	Correlation Coefficient	.947**	1.000	.988**	.977**	-.038
		Sig. (2-tailed)	<.001	.	<.001	<.001	.696
		N	109	109	109	109	109
	FEELING VALUED	Correlation Coefficient	.950**	.988**	1.000	.981**	-.036
		Sig. (2-tailed)	<.001	<.001	.	<.001	.707
		N	109	109	109	109	109
	RECOMMENDATION LIKELIHOOD	Correlation Coefficient	.951**	.977**	.981**	1.000	-.017
		Sig. (2-tailed)	<.001	<.001	<.001	.	.863
		N	109	109	109	109	109
	FUTURE PROJECT INTENT	Correlation Coefficient	-.020	-.038	-.036	-.017	1.000
		Sig. (2-tailed)	.836	.696	.707	.863	.
		N	109	109	109	109	109

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

Interpretation

From the above table, it is found that the correlation is significant at 0.01 level

Inference

All the factors have a positive association with each other, according to the correlation study, with the exception of future project intent, which has a negative correlation with every other. Put more simply, the effectiveness of communication, feeling appreciated, and recommendation all affect the client's perception.

6.1.2 Kruskal Wallis Test

Finding Impact of Responsiveness

To understand how quickly responding to client inquiries impacts their satisfaction level

Hypothesis Study

Null Hypothesis (HO): There is no significant difference in client satisfaction level between clients across different response time categories

Alternative Hypothesis(H1): There is a significant difference in client satisfaction level based on response time

Hypothesis Test Summary

	1	2
Null Hypothesis	The medians of RESPONSE TIME are the same across categories of CLIENT SATISFACTION.	The distribution of RESPONSE TIME is the same across categories of CLIENT SATISFACTION.
Test	Independent-Samples Median Test	Independent-Samples Kruskal-Wallis Test
Sig. ^{a,b}	<.001	<.001
Decision	Reject the null hypothesis.	Reject the null hypothesis.

a. The significance level is .050.

b. Asymptotic significance is displayed.

Independent-Samples Kruskal-Wallis Test Summary

Total N	109
Test Statistic	39.477 ^a
Degree Of Freedom	2
Asymptotic Sig.(2-sided test)	<.001

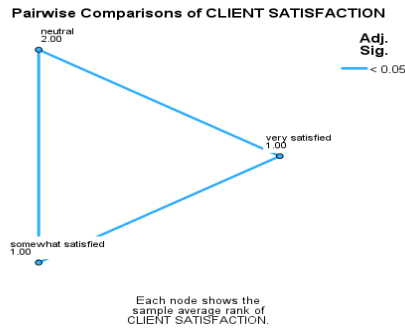
a. The test statistic is adjusted for ties.

Pairwise Comparisons of CLIENT SATISFACTION

Sample 1-Sample 2	Test Statistic	Std. Error	Std. Test Statistic	Sig.	Adj. Sig. ^a
very satisfied-somewhat satisfied	-11.098	5.480	-2.025	.043	.129
very satisfied-neutral	-40.117	6.387	-6.281	<.001	.000
somewhat satisfied-neutral	-29.019	7.064	-4.108	<.001	.000

Each row tests the null hypothesis that the Sample 1 and Sample 2 distributions are the same. Asymptotic significances (2-sided tests) are displayed. The significance level is .050.

a. Significance values have been adjusted by the Bonferroni correction for multiple tests.



Inference

From the above test, it is found that There is a significant difference in client satisfaction level based on response time.

6.1.3 Mann-Whitney U Test

Finding Impact of Project Scope

To determine if project scope has an impact on response time

Hypothesis Study

Null Hypothesis (HO): There is no significant difference in the median response times between the two project scopes (construction and renovation) .

Alternative Hypothesis(H1): There is a statistically significant difference in the median response times between the two project scopes (construction and renovation) .

Ranks				
	PROJECT SCOPE	N	Mean Rank	Sum of Ranks
RESPONSE TIME	construction	57	37.84	2157.00
	renovation	18	38.50	693.00
	Total	75		

Test Statistics ^a	
	RESPONSE TIME
Mann-Whitney U	504.000
Wilcoxon W	2157.000
Z	-.137
Asymp. Sig. (2-tailed)	.891

a. Grouping Variable: PROJECT SCOPE

Interpretation

From the above table, it is found that the significance is 0.891

INFERENCE

It can be shown from the statistical test above that there is no difference between the two project scopes' median response times. When two groups—construction and renovation—are considered.

6.1.4 Kendall's Tau-B Test

Finding Association Between To Variables

To find whether project location affects the perceived value of communication

Hypothesis Study

Null Hypothesis: There is no significant association between project location and perceived value of communication (Kendall's tau = 0).

Alternative Hypothesis: There is a significant association between project location and perceived value of communication (Kendall's tau ≠ 0).

Correlations

			PERCIEVED VALUE OF COMMUNICATI ON	PROJECT LOCATION
Kendall's tau_b	PERCIEVED VALUE OF COMMUNICATION	Correlation Coefficient	1.000	-.087
		Sig. (2-tailed)	.	.348
		N	109	109
	PROJECT LOCATION	Correlation Coefficient	-.087	1.000
		Sig. (2-tailed)	.348	.
		N	109	109

Interpretation

From the above table, it is found that the correlation coefficient is - 0.87 with significance 0.348

INFERENCE

Based on the Kendall's taub coefficient of -0.087 in the above table, it appears that there isn't a significant or strong correlation between the perceived value of communication and the project location. The perceived value of communication does not significantly correlate with the location of the project.

7.1 Findings, Suggestions and Conclusion

7.1.1 Findings

49.5% of respondents thought it was excellent in company's communication efficacy

49.5% strongly agree that they are valued as clients

50.5% of respondents indicated they would recommend the company to others with extreme likelihood

94.5% of respondents are willing to work on future projects with the company

(68.8%) of respondents selected this company for their low-complexity projects

(68.9%) of respondents selected this company for their low-Budget projects

(82.6%) of respondents selected this company for their Residential projects

7.1.2 Suggestions

Enhancing Communication Effectiveness

- ✓ Conduct focus groups or surveys to gather detailed feedback on communication style, preferred channels (email, phone, etc.), and content.
- ✓ Develop a communication plan that outlines clear expectations, timelines, and milestones for client updates.
- ✓ Train staff on active listening and clear communication to ensure clients feel informed and valued.
- ✓ Regularly measure and track client satisfaction with communication through surveys or feedback forms.

Strengthening Client Relationships

- ✓ Implement a customer relationship management (CRM) system to track interactions, preferences, and project history.
- ✓ Personalize communication by addressing clients by name and tailoring content to their specific project needs and concerns.
- ✓ Develop a client loyalty program that rewards repeat business and referrals.
- ✓ Organize client appreciation events to foster stronger relationships and gather feedback.

Optimizing Project Selection and Targeting

- ✓ Analyze successful projects to identify characteristics of clients and projects that lead to high satisfaction.
- ✓ Develop targeted marketing campaigns to attract clients with complex or high-budget projects, potentially through showcasing expertise or successful case studies.
- ✓ Expand outreach efforts to suburban and rural areas to reach a wider client base.

Maintaining Responsiveness

- ✓ Maintain a consistent response time within 24 hours for all inquiries.
- ✓ Offer multiple communication channels (phone, email, online chat) to cater to client preferences.
- ✓ Implement a system for tracking and escalating unresolved issues to ensure timely resolution.

Additional Considerations

- ✓ Invest in employee training programs to enhance communication skills, customer service expertise, and project management efficiency.
- ✓ Regularly review and update CRM practices to ensure they remain effective in meeting evolving client needs.
- ✓ Conduct periodic customer satisfaction surveys to monitor progress and identify new areas for improvement.

7.1.3 Conclusion

The customer satisfaction research, this study finds, not only showed favorable client opinions but also pointed out areas that needed assistance. The organization can achieve continuous customer pleasure, broaden its market reach, and strengthen client loyalty by putting the recommended relationship-building tactics, project targeting initiatives, and communication innovations into practice. Additionally, by emphasizing continual development by consistent data analysis and feedback gathering, the business will be able to stay competitive in the market and adapt to changing customer wants. Putting money into training programs for staff members that emphasize effective communication, knowledge of customer service, and efficient project management will enable them to provide clients with even better experiences. In the end, these coordinated efforts will set up the business for long-term success and cement its standing as a reliable partner for its customers.

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