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"CUSTOMER SATISFACTION ANALYSIS BY RECENT ARTIFICIAL INTELLIGENCE TECHNOLOGY PLATFORMS"

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ABSTRACT

The second era of marketing, started after 1960s, is known as the sales era. During this era, product supply exceeded demand. Thus, firms assumed that consumers would resist buying goods and services deemed nonessential. To overcome this consumer resistance, sellers had to employ creative advertising and skillful personal selling in order to get consumers to buy. The marketing era emerged after firm managers realized that a better strategy was needed to attract and keep customers because allowing products to sell themselves was not effective. Rather, the marketing concept philosophy was adopted by many firms in an attempt to meet the specific needs of customers. Proponents of the marketing concept argued that in order for firms to achieve their goals, they had to satisfy the needs and wants of consumers. The third era of marketing started after 1990s, is known as the strategic concept of marketing. During this era the focus of marketing shifted from the customer or the product to the customer in the context of the broader external environment. Knowing everything about the customer is not enough. To succeed, marketers must know the customer in a context including the competition, government policy & regulation, and the broader economic, social and political macro forces that shape the evolution of markets. In global marketing this may mean working closely with home country government trade negotiators and other officials and industry competitors to gain access to a target country market.

1. Introduction

Artificial Intelligence (AI) is concerned with creation of intelligent agents and usually the systems require the learning capability to explore the intelligence in them. Such systems need the machine learning techniques that deals with design

and development of algorithms in order to induce the learning capability. So, Machine learning is considered to be an area within AI. Further, Data Mining is used to extract the nuggets of knowledge or unknown interesting patterns from a dataset, database or data warehouse. It has taken inspiration from Machine learning, artificial intelligence and Statistics. The three fields might thrive for the same thing but the approaches are different. Various Applications of AI lie in Robotics, Strategic planning and Scheduling, Manufacturing and Maintenance etc. Research workers from all the fields try to share the knowledge that have been gained so far in an attempt to provide new technologies and approaches for more understanding and extracting of hidden knowledge in the respective fields. One of the effective and important techniques for extracting knowledge from the operational or transactional data is the Data Mining (DM) technique which is considered to be the blend of Artificial Intelligence, Machine Learning and Statistics.

The methodological approach of intelligent system is to solve the complex problems efficiently. The intelligence is measured in terms of flexibility, its adaptability, management of uncertain and imprecise data, time complexity, storage, learning mechanism and reasoning. The two main approaches of Artificial Intelligence are to focus on machine that would behave like humans in terms of thinking and acting and focusing on the system evaluation and emulation through computational processes wherein the systems are built on the basis of understanding of human behaviour.

Brunette et al (2009) an important basis for developing intelligent systems is Artificial Intelligence. AI is considered to be the field of Science and Technology that develop the computer programs in order to simulate the working of the biological brain. An important example of such a simulation is the program that plays chess. So, the major focus of AI is on the simulation of human intelligence comprising of reasoning, learning and problem solving. Turing Test is the one that is used to determine the extent to which the performance of the AI program in simulating the human intelligence. Robots like ZAR5 work on the concept of AI.

2. DATA ANALYSIS AND INTERPRETATION

Data was collected from 400 respondents. Objective of this study is Questionnaire On Analysis On The Advancements Of Customer Satisfaction By Recent Artificial Intelligence Technology Platforms. Variables has been recorded at different level of research. Demographic profile of respondent's variables has been analyzed to explore the demographic distribution of respondent. The IBM 24.0 Statistical Package for Social Science (SPSS) was used to transform the data to apply statistical techniques such as reliability test, ANOVA, correlation and regression. The entire study has been divided into three sections:

● **Demographic Profile of Respondents**

4.1.1 Gender of Respondents

From the table we concluded that out of 400 respondents, 84.8% of respondents were male and 15.3% of respondents were female which were involved in the study. It was also represented in graph in Figure 4.1.

Gender of Respondents		
	No. of Respondents	**Percent (%)**

Male	339	84.8
Female	61	15.3
Total	**400**	**100.0**

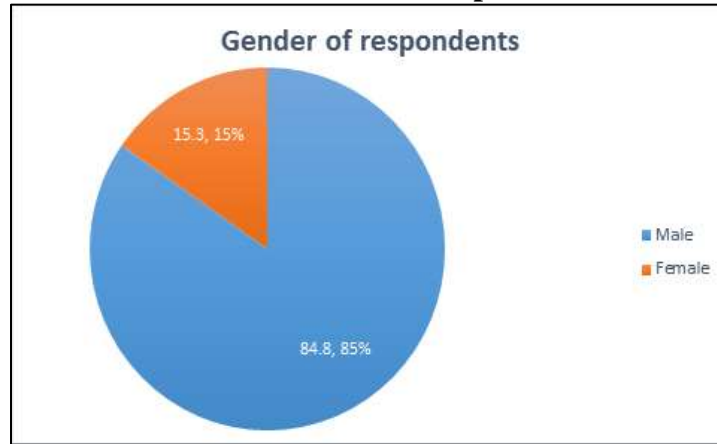**Table 4.1: Gender of respondents**

Figure 4.1: Gender of respondents

4.1.2 Age of Respondents

Now we concluded that out of 400 respondents, 21.0% of respondents were in age groups of 18 – 30 years, 54.8% of respondents were in age groups of 31 – 40 years, 16.5% of respondents were in age groups of 41 – 50 years, 3.5% of respondents were in age groups of 51 – 60 years and 4.3%

of respondents were in age groups of above to 61 years. It was also represented in graph in Figure 4.2.

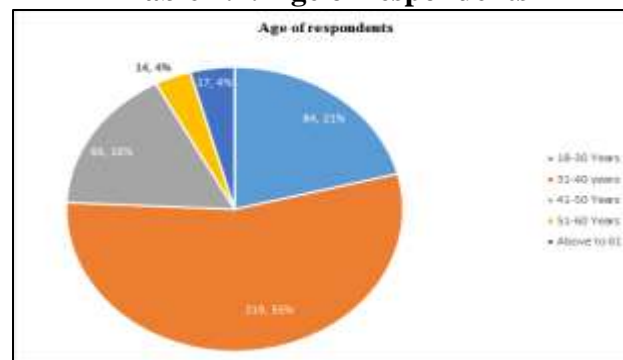| Age of respondents		
	Frequency	**Percent (%)**
18-30 Years	84	21.0
31-40 years	219	54.8
41-50 Years	66	16.5
51-60 Years	14	3.5
Above to 61	17	4.3
Total	**400**	**100.0**

Table 4.2: Age of respondents

Figure 4.2: Age of respondents

4.1.3 Marital Status of Respondents

From the table we concluded that out of 400 respondents, 89.3% of respondents were married and 10.8% of respondents were unmarried which were involved the study. It was also represented in graph in Figure 4.3.

Marital Status of respondents		
	Frequency	**Percent (%)**
Married	357	89.3
Unmarried	43	10.8
Total	**400**	**100.0**

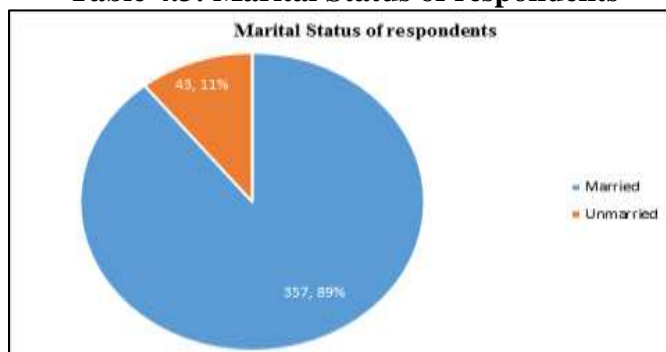**Table 4.3: Marital Status of respondents**
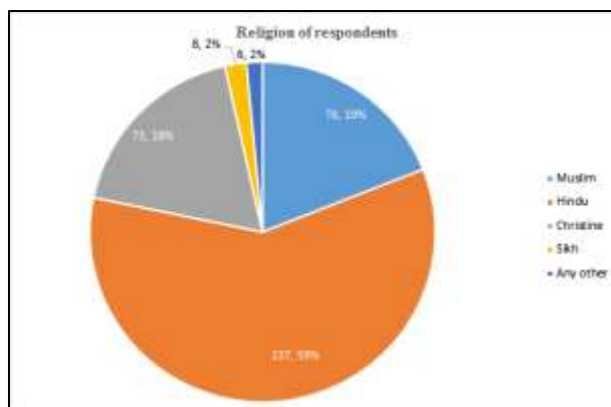

Figure 4.3: Marital Status of respondents

Figure 4.4: Religion of respondents

4.1.5 Education of Respondents

Now we concluded that out of 400 respondents, 13.8% of respondents were having higher secondary or diploma course, 8.0% of respondents were having up to senior secondary education, 13.5% of respondents were having in undergraduate course, 29.3% of respondents were having in post graduate course, 16.8% of respondent were having in PhD course and 18.8% of respondents were having any others course. It was also represented in graph in Figure 4.5.

Education of Respondents		
	Frequency	**Percent**
Higher Secondary/Diploma	55	13.8
Senior Secondary	32	8.0

Under Graduate	54	13.5
Post Graduate	117	29.3
PhD	67	16.8
Any other	75	18.8
Total	**400**	**100.0**

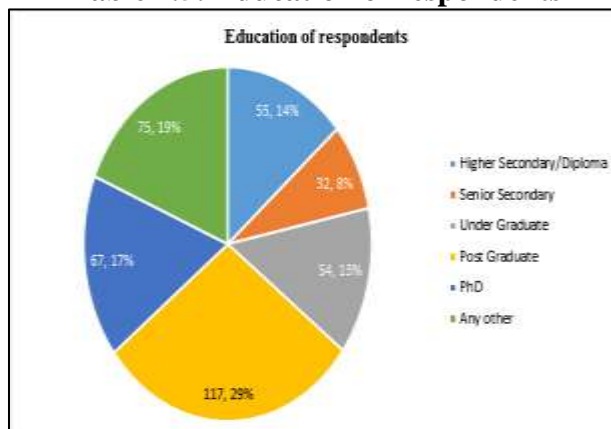**Table 4.5: Education of respondents**

Figure 4.5: Education of respondents

4.1.6 Occupation of Respondents

Now we concluded that out of 400 respondents, 16.0% of respondents were farmer as occupation, 60.8% of respondents were Teacher as occupation, 20.0% of respondents were students, 1.8 % of respondents were in business and 1.5 % of respondents were in any other occupations. It was also represented in graph in Figure 4.6.

Occupation of Respondents		
	Frequency	**Percent**
Farmer	64	16.0
Teacher	243	60.8
Student	80	20.0
Businessman	7	1.8
Any other	6	1.5
Total	**400**	**100.0**

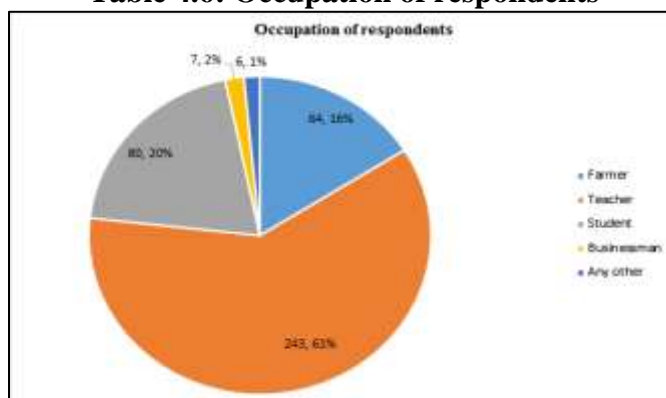**Table 4.6: Occupation of respondents**

Figure 4.6: Occupation of respondents

1. Moderators of Customer Satisfaction

Zhilin (2004) worked on customer perceived value, satisfaction, and loyalty: The role of switching cost had been mentioned. In a competitive setting, such as the Internet market, where competition may be only one click away, has the potential of switching costs as an exit barrier and a binding ingredient of customer loyalty become altered? The moderating effects of switching costs on the association of customer loyalty and customer satisfaction and perceived value are significant only when the level of customer satisfaction or perceived value is above average. In light of the major findings, the article sets forth strategic implications for customer loyalty in the setting of electronic commerce.

Nai-Hwa Lien National and Shu-Luan Kao, (2008) tried to study the Effects of Service Quality Dimensions on Customer Satisfaction Across Different Service types. This study investigates the relative importance of service quality dimensions on customers' satisfaction across utilitarian and hedonic services. The moderating effect of alternative differentiation on the quality/satisfaction relationship is also examined. The results indicate that technical quality is more influential on the satisfaction of utilitarian services, and functional quality is a more important determinant factor of satisfaction in hedonic services than in utilitarian services. The relationship between service quality dimensions and satisfaction varies with the degree of differentiation of other alternatives.

Jamal and Anastasiadou (2009) worked on investigating the effects of service quality dimensions and expertise on loyalty.In their paper they had investigated the effects of individual dimensions of service quality in creating and enhancing customer loyalty via customer satisfaction. They had discovered the direct and indirect effects of customer expertise on customer loyalty. The paper finds that reliability; tangibility and empathy are positively related and moderates the link between satisfaction and loyalty.

Lu Yaobin et al. (2010) used the technology acceptance model and network externalities to examine the factors like – perceived usefulness, communication effectiveness, perceived enjoyment, perceived service cost and perceived network externalities influencing the actual usage of SMS for personal communication in China. Data for the study was collected from 262 Chinese mobile telecommunication users. The study exhibited that perceived enjoyment had a positive effect on actual usage whereas perceived service costs had a negative impact on the same. The moderating effect of age showed that perceived enjoyment had a stronger impact on actual usage for young SMS users than older ones. Further, perceived network externalities had a significant impact on perceived ease of use, perceived usefulness and actual usage. On basis of above observations, it can be concluded that mobile network operators should advertise the benefits, fun and low costs associated with using SMS when marketing their services. In addition, they can also emphasize the number of existing SMS users so that potential adopters realize the network effects which will lead to higher perceived usefulness.

3. Conclusion

In the areas of marketing and IT, information privacy and trust are important topics

due to the explosive growth of digital and advanced technology capabilities. Individuals are constantly forced to balance the dynamic trade-offs between trusting advancement in technology and to recognize the consequences of information privacy breaches. The following suggestions are worth mentioning:

The latest automated assistant generation is focused on modern and improved AI technologies. The leading suppliers of personal assistants are quickly deploying new technologies. "However, it is highly likely that most people are not fully aware of these skills or how to use them due to the rapid deployment pace and the diversity of skill capabilities. Management can concentrate on ensuring customers become conscious of these emerging capabilities and include appropriate examples of how to utilize the application skills to satisfy customer needs. By doing so, users will gain a greater understanding of how digital assistants can provide relevant new information and perform important tasks effectively for them."

● Management can therefore work on getting consumers to realize how automated assistants should be utilized by the common individual to do more than just mundane activities with relative ease. This expands the opportunity for users to integrate digital assistants more fully into their daily lives. If this occurs, then digital assistants switch from a 'cool new technology' evaluation to a regular tool with a high degree of customer satisfaction that is most frequently recommended to friends and family.

● While the management of user expectations can and should be improved, companies must exercise caution and not create unrealistic expectations. If a halo effect becomes prominent, then if the digital assistant results fail to match or surpass these high standards, consumers can feel positive disconfirmation. Thus, affected businesses may experience a rise in consumer defects in rival goods that encourage standards that are more consistent with the expectations of the defecting user.

● In addition to trust perception, managers must combat the temptation of higher income catering programs. "While they may have higher discretionary expenditures, for the low/middle income group, the adverse effects of trust erosion are more impactful. Finally, managers may consider that digital assistant users with a longer tenure may require less attention than less tenured users." Such a point of view might lead to catastrophic results. Longer tenured users have important fundamental experiences that others do not share. This finding shows that there is a life-long need for educational programs, communications, and user experiences, not limited to new users. In order to understand more fully the confidence building process in AI environments, further research is needed. In the meantime, managers must continue to reaffirm the principles of trust in every interaction with customers.

● Like trust, these data privacy perception results indicate that managers build gender-specific systems, communications, and user interfaces that concentrate on key issues relevant to their goods and services. Emphasis should not be limited to higher-income or less-tenured consumers. These results at least illustrate the need for educational initiatives, communications, and user interfaces for everyone to reaffirm user trust in resolving their data privacy concerns. This subject is complex and far-reaching. Therefore, more research is required to better understand the impact of privacy concerns in AI environments.

It is fair to expect such new changes for digital assistants. Future research should strive to collect empirical data for a more complete view of the quality of consumer

expectations and customer loyalty attitudes like automated overtime assistants as well as their contributions to corporate profitability

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