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PARENTAL PERCEPTIONS, STUDENT ADOPTION, AND SERVICE QUALITY: A TRIANGULAR APPROACH TO MARKETING IN ONLINE EDUCATION

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Abstract

This paper examines the complex nature of online education in terms of its adoption, effectiveness, and consequences in the society. Although the use of digital learning platforms has become increasingly relevant, several gaps in the research remain, especially when it comes to focusing on demographic differences, their effects on society in the long run, and the role of institutional support and parental involvement. The study is expected to determine user satisfaction and perceived usefulness of online education based on empirical data obtained on 208 subjects (students, professionals, and parents). Based on descriptive statistics and structural equation modeling (SEM) the study establishes strong relationships between the quality of content and responsiveness of the service and general satisfaction. The core implications are that properly organized material and quality delivery service contributes greatly to the perception of the usefulness of online education which, again, affects the user satisfaction. Cultural and psychological factors, efficacy in digital marketing, and parental involvement are other issues noted to be important in the study. The findings enhance a more subtle approach to the digital learning ecosystem and can provide a strategic perspective to educators, policymakers, and marketers to enhance the online education experience.

Keywords:
Online education, user satisfaction, service quality, content relevance, digital learning, parental engagement, societal impact, digital marketing in education.

Novelty and Contribution:

This study makes a significant contribution to the literature by extending the service marketing perspective within the context of online education through a multi-stakeholder framework that integrates institutions, instructors, students, and parental perceptions. It offers a novel empirical model linking content quality and service quality to perceived usefulness, satisfaction, and ultimately societal development, validated through PLS-SEM analysis. Unlike prior studies that focus primarily on student adoption, this research incorporates parental engagement and digital marketing effectiveness as critical determinants of the online education ecosystem. From a societal perspective,

the study highlights the role of online education in enhancing inclusive access, bridging socio-economic and geographical disparities, and promoting digital literacy and human capital development. The findings provide actionable insights for policymakers and educational institutions to design more responsive, equitable, and sustainable digital learning systems, thereby contributing to long-term socio-economic development.

1. Introduction

The service sector is booming fast in various countries around the world, it has a significant contribution to the economies of countries, primarily in developed countries. In developed countries of Europe and the United States, the service industry contributes to more than 70 percent of GDP, and the number of people employed in the service industry will not decrease. With decline in the manufacturing and agriculture sector, new employment opportunities are expected to be generated in other areas of service including knowledge-based areas like professional and commercial services. Healthcare is one of the fastest developing service sectors worldwide, as well as education (Johann, June 2015).

With the market becoming more competitive, companies are turning to the external communication, i.e. advertising, publicity to make a stand. Nonetheless, internal communication is also very important because the employees usually provide the best information about the company (Chong M., 2007). The workers are the image of the company, and how they interact with the internal and external stakeholders displays the values of the brand, and in some cases, better than traditional marketing (Tarnovskaya, Elg, and Burt, 2008). In service industries, workers form a linkage between the internal and external environment of the company. The brand promise can be fulfilled or disillusioned by their actions when they interact with the customers or in other words, they can create or destroy the customer perceptions through their behavior (Chakravorti, 2011).

Service organizations must enhance brand-supporting behaviours by ensuring that the employees share a positive comprehension of the core values of the brand and that these values appeal to the employees (Lusch, Vargo, and O'Brien, 2007). A sustainable competitive edge can be established in the firm by having committed employees who promote these values to the outside parties (Chong M., 2007). Thus, the leadership of an organization must understand the presence of the brand value within the workforce and exploit it to its maximum.

Services have become the new order and they have been very instrumental in enabling business meet their marketing goals. Services have become more important in the existence of businesses whose core product is a service. Any service provision must have a successful interface between the service providers and the users. How a service provider behaves plays a significant role in the service quality he or she provides.

Consequently, service capability, proficiency and service inclination of a renderer determines the destiny of a service. This is imperative to the service providers so that they can adjust to the tastes, likes, preferences, and interests of their customers so as to determine whether the services they offer are more satisfactory than services offered by their competitors or not The objective of the study is to consider the effects of demographic features on the marketing of HDFC life insurance services based on the services marketing triangle. (Saxena, 2020 August)

2. Literature Review: Online Education and Service Marketing Impact

Online Education System: Awareness and Utility

The development of online education systems has become one of the most notable changes in the contemporary educational activity, particularly increased by the global pandemic (Dhawan, 2020).

Studies also point to the fact that there is an overall increase in awareness of online education systems in different demographics, but the awareness rates can be very high or very low on the basis of age, geographical location, and access to digital technology (Bharuthram & Kies, 2013). Research also indicates that online education, although being flexible, accessible, may not be universally regarded as being of use to all students. Their effectiveness is usually affected by the learning atmosphere, student interaction, and resources quality (Brown, 2021).

Impact of Online Education on Societal Development

Online education is a debated topic in terms of its societal impact. Advocates believe that online education is associated with the development of the society by making education democratized, geographical barriers and economic barriers are overcome and the experience of education is individualized (Hiltz and Turoff, 2005). Nevertheless, critics point to such problems as the digital divide and the absence of face-to-face communication that can cause the inability to develop the whole society (Tarus, Gichoya, and Muumbo, 2015).

Service Marketing Triangle and Revenue Generation

Service marketing triangle, the relationship between the company, employees and customers has been a key structure in the interpretation of how businesses tend to generate revenue through services (Azhari, et al., 2020). The service marketing triangle would be applicable in the online education context whereby the interaction of educational institutions to the students (customers) and instructors (employees) may be analyzed to provide quality educational services. Effective communication and service quality is important in increasing customer satisfaction and loyalty to boost the growth of revenue in the online education sector (Kotler and Keller, 2016).

Parental Risk and Distress in Online Education

The issue of parental involvement and the perceived risks by parents is one of the major factors of online education (Firmansyah, et al., 2021). The parents might experience distress associated with the quality of education, the child involvement, and the possible adverse effects on the socialization. There are studies proposing that online education systems can lower parental stress through giving them more control in the learning environment, but not all agree on this matter (Ghavifekr & Rosdy, 2015). The interaction between the perception of online education and parental support of the system is a vital issue that would affect the success of the system (Birch and Irvine, 2009).

Adoption of Online Education by Students and Parents' Views on Knowledge Enhancement

The process of adoption of online education among the students is complicated and depends on the level of technology preparation, student preference, and the institutional support (Chen and Tseng, 2012). On their part, parents might consider online learning to improve the level of knowledge of their children, which is in line with the national goals of education and helps develop society (Vaiopoulou, Papadakis, Sifaki, Stamovlasis, and Kalogiannakis, 2021). Nevertheless, it is also not completely clear whether online education actually promotes the work of nation-building, and it can be explained by the fact that it is often conditional upon the quality of the material, the availability, as well as the general quality of the educational infrastructure (Levine, Waite, Bowman, and Kachinsky, 2019).

Digital Marketing and Awareness of Online Educational Services

The increasing importance of digital marketing in online marketing of online educational services cannot be disputed. Studies also show that families and students are turning into greater consumers of online advertisements, social media, and peer referrals in learning about online education platforms

(Choi and Lee, 2020). Digital marketing assists in creating awareness and building confidence in online systems of education, yet its success may depend on the quality of marketing material and its compliance with the requirements of the potential students (Sharma and Sheth, 2017).

2.1 CONTENT (ADEQUACY AND RELEVANCE)

Content is a root of user experience and service effectiveness in the context of information systems, education, and government services and platforms of digital platforms. Adequacy and relevance are two important critical dimensions of content that have constantly surfaced in the literature as important determinants of perceived value, trust, and satisfaction and decision making.

2.1.1. Adequacy of Content

Adequacy in content is a measure of the completeness, adequacy and fullness of the presented information that gives the information users an opportunity to make informed decisions or accomplish tasks. Central to the perceptions of quality of web sites by users is content adequacy which establishes that incomplete or shallow information is severely de-credentializing and unhelpful (McKinney, Yoon, and Zahedi, 2002). In the same way, proper content results in superior accomplishment of tasks, which has a direct impact on user satisfaction and desire to go back to the service (Palmer, 2002).

Transparency and accountability are also guaranteed by content adequacy in the context of digital public services. The user is likely to have more confidence in government portals that provide detailed information in terms of services, procedures, and results (Bertot, Jaeger, and Grimes, 2010). Poor content on the other hand is confusing, erroneous and unsatisfactory.

2.1.2. Relevance of Content

Relevance of content refers to the extent to which information meets specific needs, contexts and expectations of the users. Relevance as a satisfier in web content, pointing out that users are more involved and contented with web content when they feel like it is directly relevant to their objectives (Zhang and von Dran, 2000). Relevance improves cognitive trust as well as emotional attachment to the service (Rosen and Purinton, 2004).

Relevancy is particularly a major concern in personalized and user-centered systems. Relevance increases the perceived value and the credibility of information and thus, leads to the positive behavioral intentions (Xu, Benbasat, and Cenfetelli, 2013). Adaptive content mechanisms used in the modern information systems are becoming important in order to maintain relevance including the recommender systems and context-aware interfaces (Adomavicius, 2005).

Adequacy and relevance become the constructs of perceived content quality, which affect the wider user responses of trust, satisfaction, perceived usefulness, and continued use (Kim and Swinney, 2009).

2.2 USEFULNESS

One of the cornerstones of assessing the effectiveness of services, particularly in information systems, digital platforms as well as in information systems and other service-related projects, is usefulness, which can be described as the level that a system or a service contributes to the performance of the user or assist in the accomplishment of the desired goals. It does not only affect the satisfaction and adoption behavior of individuals but has wider implications in the society.

2.2.1. Usefulness and Need Mapping

Need mapping entails aligning the features, services or contents of a platform with the real needs of

the users of the platform. When users have the perception that the system is designed to meet their unique needs, then the perceived usefulness of the system goes a long way to enhance the usefulness (Davis, 1989). Technology Acceptance Model (TAM) affirms that the perceived usefulness is among the direct predictors of technology acceptance particularly in the instances where services are perceived as useful towards the objectives of the users.

In e-service provision, proper need mapping would help to personalize and context sensitize information and functions that would then increase perceived value and user trust (Venkatesh & Davis, 2000). As an example, in e-governance, services that are conscious of the informed/procedural requirements of citizens such as localized taxation or customized healthcare services are considered significantly more useful (Al-Awadhi and Morris, 2008).

2.2.2. Usefulness and Result

The usefulness perception is closely linked with the observable or measurable results. When tangible results are perceived, like higher productivity, quicker task performance, or decision making, the perceived usefulness of the system is also supported (DeLone and McLean, 2003) . Technologies that enhance the performance and engagement of students are ranked as more useful in the educational technology (Sun, Tsai, Finger, Chen, and Yeh, 2008).

Additionally, error reduction, efficiency in operations, and the decision support are some of the most common proxies which are utilized to assess the usefulness of the system in business information systems (Petter, DeLone, and McLean, 2008). There is a close correlation between perceived results and continued use of the system, which implies usefulness as a precursor and outcome of effective service provision.

2.2.3. Usefulness and Societal Development

At a macro scale, the utility of services, particularly the services of the state and services that come under the domain of computers, can lead to the development of society. This covers the areas of public health, education, civic and economic inclusion. The systems that facilitate the use by users, span the information gap, or facilitation of fair access to resources can be said to be socially useful and development-oriented (Schuppan, 2009).

In digital inclusion strategies, usefulness is very important in justifying investment in infrastructure and content. As an illustration, ICT projects with higher healthcare provision or enhanced citizen participation in underserved communities are viewed as having direct impacts on the development of the society (Bertot, Jaeger, and Grimes, 2010). Therefore, the utility of services extends further than the outcome of the individuals to facilitate the structural and community level of benefits.

2.3 QUALITY SERVICE IN ONLINE EDUCATION

Service quality in the sphere of the online education process has become an important factor that predetermines user satisfaction, interest, and grade. In contrast to the conventional classroom learning, online learning has been based on the extensive use of technology facilitated interactions, and the aspects of query management, speed of service provision, and time saving features have become vital in determining the overall experience of the learner(Lee, Yoon, and Lee, 2009) As online learning gains momentum, these aspects of quality service provision are critical in the design of effective and learner-centered platforms.

2.3.1. Query Handling and Learner Support

Best Query management in online education is a timely and proper answer to scholarly or technical questions of learners. Such aspect of good service is essential because students in online classes are

usually feeling isolated and need to be guided very properly and in time. Responsive communication between students, support staff and instructors is a significant factor as noted by Sun et al. (2008) on the quality of perceived services and satisfaction among the learners (Sun, Tsai, Finger, Chen, and Yeh, 2008).

Also, frustration can be reduced by having tools that allow query resolution e.g. live chat, forums, chatbots based on AI or email support, which facilitates an independent learning process. It is disclosed that perceptions of responsiveness of instructors and administrative personnel is a key factor in creating trust and motivation in students with online classes (Bolliger and Martindale, 2004).

2.3.2. Speed of Service Delivery in E-Learning Platforms

Speed, which can be defined as the timeliness of the delivery of educational services (e.g. the rate at which content is loaded, grading, providing feedback, support, etc.), has a strong impact on the perception of the learner concerning the efficiency of the institution. Delays in access to material or feedback in online learning situations can slow down and decrease satisfaction (Lee, Yoon, and Lee, 2009).

A seamless learning experience requires the fast system responsiveness and minimized wait times in administrative procedures (e.g. registration or issue resolution). The perceived quality and subsequent usage intention in e-learning systems is directly correlated with platform usability and immediate feedback (Al-Fraihat, Joy, Masa'deh, and Sinclair, 2020).

2.3.3. Time Saving as a Value Proposition in Online Learning

One of the most visible benefits facilitated by the online education platform is time saving. Asynchronous modules, flexible learning schedules and the ability to access recorded lectures enable the learner to manage their time effectively thus this is a major element of service quality. The e-learning systems that enable the learners to reduce the effort and maximize the study time are likely to report a greater level of satisfaction and engagement (Wu, Tennyson, and Hsia, 2010).

Furthermore, systems with less redundancy, automatic repetitive work (i.e. quizzes graded automatically), and easy navigation can make a person have an impression of quality, well-designed service. Such efficiency-related attributes are inherent in learner-based quality models (Ozkan and Koseler, 2009).

2.4 SATISFACTION IN ONLINE EDUCATION

Satisfaction is an essential principle in online education and it is an overall appraisal of the digital learning experience of the learners based on their perception and the real experience of the online learning (Oliver, 1997). Satisfaction, in a virtual learning environment, is both a key performance indicator and a predictor of learner retention and course completion as well as long term educational success. Therefore, it is significant in determining the quality and sustainability of the online education systems.

2.4.1. Satisfaction and Feedback in Online Learning

In distance learning, the grapple of learner satisfaction revolves around the feedback mechanism. Good feedback makes the learner engaged, academically, and gives the learner a feeling that he or she is encouraged and appreciated. Timely and significant feedback enhances e-satisfaction, particularly asynchronous learning where students use the response of an instructor to determine their progress (Anderson and Srinivasan, 2003).

In addition, the significance of feedback loop in self-service educational technologies, whereby pupil feedback assists institutions in the process of modification of the content delivery and instructional

strategies (Bitner, Ostrom, and Meuter, 2002). Feedback, such as a grading rubric, peer reviews, or discussion forums in the learning management systems (LMS) also increases interaction between the students and instructor and builds the confidence of presence and trust and eventually increases satisfaction.

2.4.2. Satisfaction and Growth in Online Education

The rate of online learning platforms in terms of higher enrollments, participation, and user interactions is closely related to the level of satisfaction among the learners. Students who feel satisfied tend to re-enroll, complete their programs and refer others to the courses in a cyclic process of organic development (Bharuthram and Kies, 2013). IN this case of online education, this can be translated into longevity of use, course recommendation and institutional credibility.

Satisfaction affects performance indicators such as user retention and referral behavior directly (Homburg, Koschate, and Hoyer, 2006). Equally in online education, learner satisfaction is an important predictor of the desire to utilize an e-learning platform in the long run and the ability to remain stable (Bhattacherjee, 2001).

2.4.3. Satisfaction and Responsiveness in Digital Education

The responsiveness of support and communication is a key factor of contentment in online learning, which is determined by promptness and helpfulness. Responsiveness instills confidence and interest in learners whether it is grading students on time, responding to their questions, or providing instant technical assistance. According to SERVQUAL framework, responsiveness was also one of the five key dimensions of service quality which directly affect satisfaction (Parasuraman, Zeithaml, and Berry, 1988).

Responsiveness assumes an extra meaning in online education where the face-to-face interactions are minimal. It is also observed that digital services, responsiveness is a proxy variable of personal attention. In the case of students who work online, the perception of being supported among the students through quick and helpful responses to their questions by the instructors or support staff improves consumer satisfaction levels (Zeithaml, Berry, and Parasuraman, 1996).

3. Research Gaps

3.1. Limited Exploration of Geographical and Demographic Variations

While awareness of online education systems is growing, there is limited research on how demographic factors (age, income, education level) and geographical barriers specifically influence the adoption and perceived utility of online education.

3.2. Limited Understanding of Long-Term Societal Impact

More research is needed on the long-term impact of online education on societal development, particularly in terms of its role in nation-building and sustainable development. A more in-depth analysis of both positive and negative societal consequences is necessary.

3.3. Insufficient Examination of Parental Risk and Engagement

While some studies touch on parental concerns, there is a lack of comprehensive research on how parents' concerns about online education (e.g., socialization, academic engagement) affect their long-term support and involvement in the educational process.

3.4. Need for Deeper Insights into Institutional Support and Student Engagement

More research is needed to explore how institutions can provide better support to students in the

online education space, particularly in enhancing engagement and student retention. The quality of instructional content, technological infrastructure, and interaction with instructors need further investigation.

3.5. Gap in Evaluating the Effectiveness of Digital Marketing Strategies

While digital marketing plays a pivotal role in promoting online education, there is insufficient exploration into how different digital marketing strategies align with the diverse needs of potential learners. Further research is needed to assess which marketing tactics are most effective in building trust and raising awareness.

3.6. Understanding of Cultural and Psychological Factors

There is a gap in understanding how cultural and psychological factors affect both parental and student perceptions of online education. Research could investigate how cultural attitudes toward education influence adoption, engagement, and the perceived success of online learning platforms.

4. Objectives

4.1. To Evaluate the Awareness and Utility of Online Education Systems

Investigate how various demographic factors (age, geography, technology access) influence the awareness and perceived utility of online education. Assess how online education is viewed in terms of flexibility and accessibility, and how these perceptions impact student satisfaction.

4.2. To Analyze the Societal Impact of Online Education

Examine the role of online education in democratizing access to education, bridging geographical and economic gaps, and fostering personalized learning experiences. Explore the potential societal drawbacks such as the digital divide and lack of face-to-face interaction.

4.3. To Understand the Role of Service Marketing in Online Education

Apply the service marketing triangle to explore the relationships between educational institutions, instructors, and students. Investigate how service quality and communication influence customer satisfaction, loyalty, and revenue generation in the online education sector.

4.4. To Assess Parental Risk and Distress in Online Education

Explore how parental involvement and perceptions of online education impact their support for the system. Analyze the stressors associated with online education for parents, such as concerns about quality, engagement, and socialization, and how these perceptions affect adoption.

4.5. To Investigate the Adoption of Online Education by Students and Parental Views on Knowledge Enhancement

Investigate the factors influencing students' adoption of online education, including technological readiness, personal preferences, and institutional support. Explore how parents perceive online education as a tool for enhancing their children’s education and its alignment with broader national educational goals.

4.6. To Evaluate the Role of Digital Marketing in Promoting Online Education

Assess the effectiveness of digital marketing strategies (social media, digital ads, peer recommendations) in raising awareness and fostering trust in online educational services. Explore how marketing content and its alignment with learner needs influence the success of online education platforms.

5. Research Methodology

The research design that will be used in this study is the primary data collection where the data has been collected using a structured survey. The questionnaire was well planned in order to get necessary data pertinent to the subject of the study. In order to have a variety of opinions, the questionnaire was administered to three important groups, namely, students, working people, and parents.

Convenience sampling was employed in the aspect of sampling method. This is a technique whereby the researcher picks the participants who are readily available or easily accessible to the researcher.

Although such methodology cannot ensure a completely representative sample of the whole population, it was adopted due to its utility and effectiveness in collecting data in a short time.

The research itself is descriptive research. The purpose of descriptive research is to restore a true picture or depiction of the nature or phenomena under research. The study, in this case, aims at describing the views, opinions, and behaviors of the targeted groups in respect to the research question.

Lastly, the study sample is composed of 208 subjects. This is a sufficient sample size that offers a large pool of data to assist in finding patterns or trends and make the results reliable.

Response received by respondents displayed below with the assistance of Table:

Table 1: Age Statistics

Age Group	**Respondents**
Less than 18	Nil
18-25	104
26-40	92
41-60	12
More than 60	Nil

The **majority (196 out of 208)** are between **18 and 40 years old**, representing a **young, adult** population. No respondents are below 18 or above 60, indicating a focus on the working-age or studying population.

Table 2: Gender Statistics

Gender	
Male	130
Female	78
Others	Nil

Most respondents are male (130), followed by female (78). No respondent identified as “Others.”

Table 3: Monthly Earning Statistics

Family Monthly Income	**No. of respondent**
Up to Rs 50,000	83
Rs 50001-100000	51
Rs 100001-200000	22
Rs 200001-300000	20

Rs 300001-400000	8
Rs 400001-500000	8
More than Rs 500000	16

Two hundred and eight families make less than 100000/month, with 64.4 percent (134 out of 208). The higher income groups will have fewer respondents meaning that the middle and the low-income groups will be the key players.

Many of the interviewees are in low to middle-income families (Rs 50,000 or less). Income levels are also higher with a smaller number of respondents.

Table 4: Marital Status Statistics

Marital Status	**No.**
Married	76
Single	124
Prefer Not to say	8
	208

Most of the respondents, 59.6 percent are single, probably the younger age bracket too.
36.5% are married.

Table 5: Numbers of Family Members Using Online Education Platform Statistics

Members Using Online Education Platform	**No.**
Up to 3	124
4-6	29
Above 6	10
Prefer Not to Say	45
	208

Majority (124) belong to households where 3 or less people utilize online education. 45 individuals did not want to disclose it which is quite high, and may indicate some reluctance or privacy issues.

Correlation Analysis

Table-6 corelation between online education and Societal development

		In the present scenario, online education pattern is useful for students.
In your opinion, does online education gives a positive impact on societal development?	Pearson Correlation	.592**
	Sig. (2-tailed)	.000
	N	208

The comparison shows that there is a slightly strong positive correlation between the view that on-line education is useful to students and the acceptance that it has a positive effect on societal development (r = 0.592). The given correlation is statistically significant at the level of 0.01 (p = 0.000), which means that the more people see online education as advantageous to a student, the higher the probability of them considering it as being a benefit to the society. This analysis used a sample of N = 208, which would have a strong support of the relationship observed.

Table-7 corelation between online education and customer want

		Do you feel that online education platform understand what customer wants?
Do you agree that you are able to express effectively to your online education service provider for effective service	Pearson Correlation	.775**
	Sig. (2-tailed)	.000
	N	208

The perception that online education platforms recognize customer needs and the capability to articulate the needs have a strong positive relationship. The correlation is statistically significant. The correlation coefficient of the perception that online education platforms know what their customers want and the belief that the customer can express their needs to the service provider effectively is = 0.775. This means that r is positive with a significant value implying that when a student feels that he/she is understood by his/her online education platform then a student is also most likely to feel confident to express his/her expectations and needs.

Table-8 corelation between online education and better service quality through materials

		Do you feel online education platform provides you better quality service and are able to meet the promised quality resources
Do you agree that you are able to express effectively to your online education service provider for effective service	Pearson Correlation	.837**
	Sig. (2-tailed)	.000
	N	208

The outcomes of the correlation process show that there is positive and strong correlation between the perceptions of the quality of the service offered by the online education platforms and the capability of the students to easily communicate with the service provider. Pearson correlation

coefficient is equal to 0.837 and it implies a high level of positive relationship between the two variables. It implies that as soon as students are convinced that the online education platform provides quality service and corresponds to the promised resources, they would be more confident and feel able to express their needs, concerns, or feedback in an effective manner. Moreover, the significance value (p = 0.000) is much less than the widely accepted level of 0.05, which means that this correlation is not random and is based on statistical significance and is not a coincidence. The 208 people make the sample size contribute to the credibility of the findings. Comprehensively, the statistics indicate that the higher the perceived quality of service offered by an online education provider, the higher is the chances of establishing effective communication with the service provider, which is critical in increasing user satisfaction and general experience in education.

BOOTSTRAPPING OF PLS-SEM MODEL

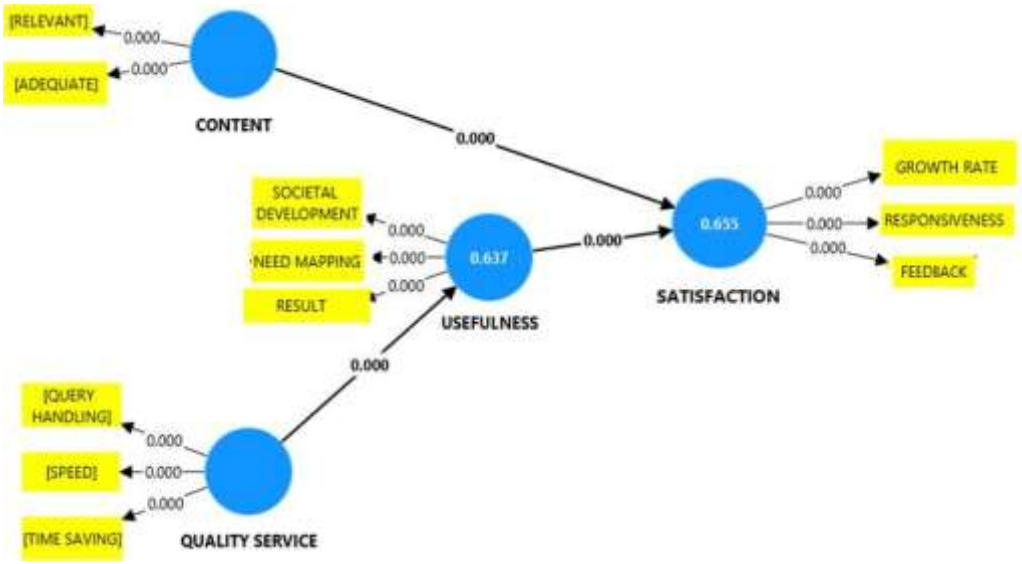

Figure-1 PLS-SEM Model

Table: 9- TOTAL EFFECT

	Original sample (O)	Sample mean (M)	Standard deviation (STDEV)	T statistics (|O/STDEV|)	P values
CONTENT -> SATISFACTION	0.658	0.660	0.053	12.456	0.000
QUALITY SERVICE -> USEFULNESS	0.798	0.803	0.029	27.335	0.000
USEFULNESS -> SATSFACTION	0.224	0.223	0.061	8.697	0.000

Table: 10-Loading

	Original sample (O)	Sample mean (M)	Standard deviation (STDEV)	T statistics (|O/STDEV|)	P values
FEEDBACK <- SATSFACTION	0.894	0.898	0.032	27.550	0.000
GROWTH RATE <- SATSFACTION	0.599	0.583	0.101	5.903	0.000
NEED MAPPING <- USEFULLNESS	0.851	0.853	0.017	50.477	0.000
RESPONSIVENESS <- SATSFACTION	0.594	0.576	0.109	5.473	0.000
RESULT <- USEFULLNESS	0.722	0.718	0.063	11.540	0.000
SOCIETAL DEVELOPMENT <- USEFULLNESS	0.854	0.851	0.037	23.233	0.000
[ADEQUATE] <- CONTENT	0.934	0.933	0.014	67.618	0.000
[QUERY HANDLING] <- QUALITY SERVICE	0.919	0.919	0.013	68.376	0.000
[RELEVANT] <- CONTENT	0.937	0.937	0.010	94.229	0.000
[SPEED] <- QUALITY SERVICE	0.920	0.919	0.014	67.920	0.000
[TIME SAVING] <- QUALITY SERVICE	0.928	0.927	0.012	78.780	0.000

HYPOTHESES & EXPLANATIONS BASED ON MODEL

H1: CONTENT has a significant positive effect on SATISFACTION.

Supported: Path coefficient = 0.658, T-statistic = 12.456, p = 0.001.

Rationalization: Contents that are well explained and relevant leads to a high level of satisfaction among the users. Large scores on [ADEQUATE] and [RELEVANT] (all more than 0.93) indicate that perceived adequacy and relevance of content have a profound effect on general satisfaction.

H2: QUALITY SERVICE has a significant positive effect on USEFULNESS.

Supported: Path coefficient = 0.798, T-statistic = 27.335, p = 0.001.

Successful service aspects such as speed, time saving, and query handling (all loadings above 0.91) rates play an important role in the perception of users that the system or service is useful. This is in line with the theory that quality interaction brings about the perceived value.

H3: USEFULNESS has a significant positive effect on SATISFACTION.

Hypothesized: Path coefficient = 0.224, T-statistic = 8.697, $p < 0.001$.

Reason: Perceived usefulness is not so powerful as content, but still makes a significant contribution to satisfaction. Satisfaction amongst the users tends to be more successful when they find the system useful (e.g. in decision-making or goal achievement).

H4: USEFULNESS significantly predicts NEED MAPPING, RESULT, and SOCIETAL DEVELOPMENT.

USEFULNESS → NEED MAPPING = 0.851
USEFULNESS → RESULT = 0.722
USEFULNESS = 0.854 SOCIETAL Development.
Perceived usefulness results in effective need mapping, concrete outcomes (results) and wider contributions to the society. These may be essential areas of impact of the intervention or tool under study. Alternate hypothesis accepted.

H5: Satisfaction significantly predicts feedback, growth rate, and responsiveness.

SATISFACTION → FEEDBACK = 0.894
SATISFACTION → GROWTH RATE = 0.599
RESPONSIVENESS = 0.594 Satisfaction.

The satisfaction levels among users are higher, feedback is improved, faster growth or development is perceived and they feel that the system is responsive to their needs. Alternate hypothesis of the significant prediction of feedback, growth rate, and responsiveness by Satisfaction accepted.

STRUCTURAL MODEL (INNER MODEL): PATH COEFFICIENTS

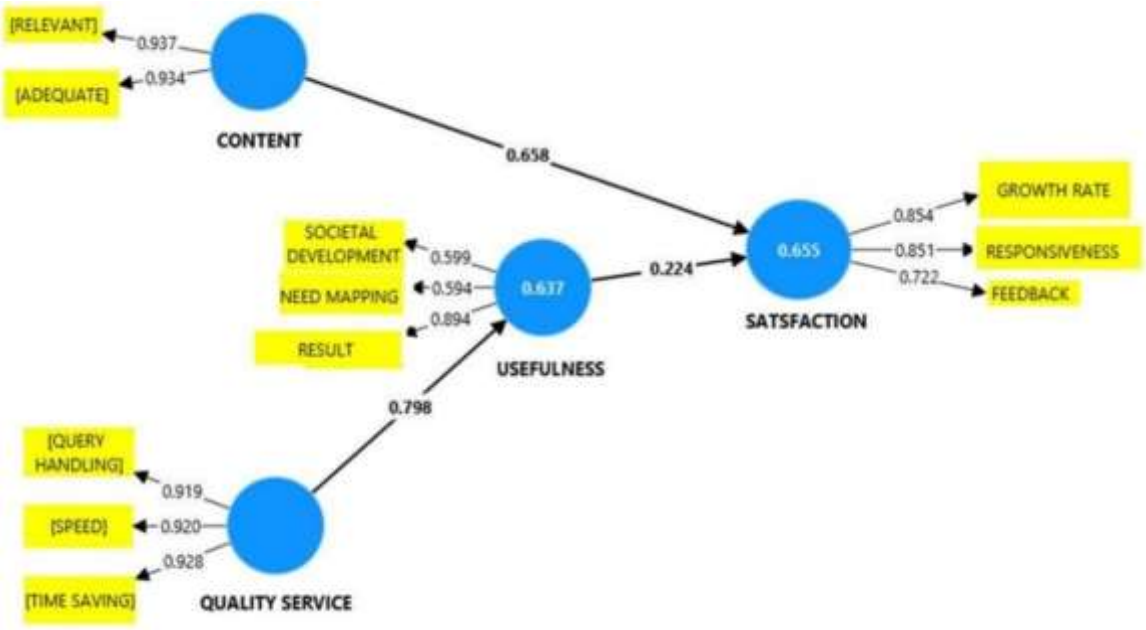

Figure- 2 Path Coefficient Model

This part assesses the hypothesized construct to construct (latent) relationships (between the constructs) as the effect of Content on Satisfaction, Or Quality Service on Usefulness. Path Coefficient (O): This is the intensity and direction of the relationship (range -1 to +1). T-statistic value of more than 1.96 indicates that the relationship is statistically significant at 95 percent level. The value of P-value below 0.05 proofs significance of the path.

Path 1: CONTENT → SATISFACTION

Path Coefficient = 0.658 that is Strong effect. T-statistic of path 1 is 12.456 which means highly significant. Finally, P-value = 0.000 which is very significant.

The high coefficient shows that the quality of the content and its relevance play a significant role in helping users to be satisfied. Practically, it would imply that a user is more likely to become satisfied with the overall experience when they find the content useful, relevant and well-structured. This helps to prove the research hypothesis that the quality of content is a significant factor in user satisfaction.

Path 2: QUALITY SERVICE → USEFULNESS

Path Coefficient = 0.798, which means Very strong. Path 2 T-statistic is 27.335 which is Extremely significant. In addition, the P-value equals 0.000, and it is very significant.

This is the best model relationship. It demonstrates that the impression of quality service (speed, responsiveness, assistance, etc) is a key factor in the perception of usefulness of the system. An efficient service will make the users feel that the service is effective in addressing their needs.

Path 3: USEFULNESS → SATISFACTION

In the case of path 3, Path Coefficient = 0.224 that is a Moderate relationship. Although the T-statistic of path 3= 8.697, which is Significant. Along-with, P-value is 0.000, which denotes powerful influence.

This indicates that the users who will feel that the system has been handy will have better chances of being satisfied, but the impact is not strong as opposed to the direct impact of content. It verifies the usefulness perceived to bring about satisfaction, and this is in support of Technology Acceptance Model (TAM).

MEASUREMENT MODEL (OUTER MODEL): LOADINGS

The model measures the quality of the observed indicators (survey items or variables) in that they capture their latent constructs. Loading (RELEVANT) 0.937, [SPEED] 0.920 and [RESULT] 0.722. Loadings greater than 0.70 are deemed to be strong → indicators are very reflective of their constructs.

The indicators are all loaded high hence an assurance that the measurement tools are valid and reliable.

These loadings are high, which proves that each item (e.g., RELEVANT, SPEED, RESULT) is a good measure of its latent variable (CONTENT, Quality SERVICE, Usefulness). This creates confidence on validity of your construct on the model.

Table: 11- R SQUARE VALUE

	R-square	R-square adjusted	
USEFULLNESS	0.637	0.635	63.7% explained by QUALITY SERVICE
SATSFACTION	0.655	0.652	65.5% explained by CONTENT & USEFULNESS

This measure describes the degree of predictor ability to explain variation in dependent constructs. R 2 of 0.6 0.7 is regarded as significant. The model explicates a substantial amount of variance in both of the key outcomes, i.e. USEFULNESS and Satisfaction.

Table:12- RELIABILITY COMPONENT

	Cronbach's alpha	Composite reliability (rho_a)	Composite reliability (rho_c)	Average variance extracted (AVE)
CONTENT	0.857	0.858	0.933	0.875
QUALITY SERVICE	0.912	0.912	0.945	0.850
USEFULLNESS	0.634	0.846	0.745	0.504
SATSFACTION	0.751	0.803	0.852	0.658

Cronbach Alpha: 0.7 or higher: This is a good internal consistency.
Composite Reliability (CR): good is above 0.7.
AVE (Average Variance Extracted): AVE above 0.5 means that it has sufficient convergent validity.
Cronbach's Alpha is used to determine internal consistency. The value ≥ 0.70 is acceptable. The usefulness (0.634) is not too low and is yet quite acceptable when it comes to exploratory research. Model has good reliability and validity particularly to CONTENT and QUALITY SERVICE.

Table:13- Discriminant Validity

	CONTENT	QUALITY SERVICE	SATSFACTION	USEFUL TO STUDENTS
CONTENT				
QUALITY SERVICE	0.782			
USEFULNESS	0.554	0.743		
SATSFACTION	0.923	0.652	0.786	

Discriminant validity ensures that constructs are distinct and not measuring the same concept.

Table:14- Fornell-Larcker Criterion

	CONTENT	**QUALITY SERVICE**	**SATSFACTION**	**USEFUL TO STUDENTS**
CONTENT	0.935			
QUALITY SERVICE	-0.692	0.922		
USEFULNESS	-0.583	0.798	0.710	
SATSFACTION	0.789	-0.585	-0.608	0.811

Fornell- Larcker Criterion: AVE of the respective constructs should be greater than the correlation of a construct to any other construct. This requirement is met within the model.

There exists strong discriminant validity, which proves the separateness and uniqueness of such constructs as CONTENT, QUALITY SERVICE, etc. CONTENT and QUALITY SERVICE are strong predictors of Satisfaction and Usefulness, respectively. Satisfaction is positively influenced by USEFULNESS. The model accounts a good amount of variance in significant constructs. There are high measurement reliability and validity.

6. Findings

Distance Learning is perceived as helpful.

Most of the interviewees, especially the students and the young adults consider online education advantageous and relevant to the academic growth and learning flexibility.

The respondents are aware that online platforms are value-added in terms of convenience, time-saving mechanisms, and better access to resources of learning.

High Content Role in Satisfaction

Quality (adequacy and relevance) of the content was also a major positive predictor on the user satisfaction (Path Coefficient = 0.658, T = 12.456, p = 0.001).

The content variables [Adequate = 0.934, Relevant = 0.937] are high in factor loading which means that elaborate and customized learning content is the one that creates satisfaction among students.

Service Quality Drives Perceived Usefulness

The dimensions of service quality such as speed, query handling and time saving had a great impact on perceived usefulness (Path Coefficient = 0.798, T = 27.335, $p < 0.001$).

The fact that all service quality indicators have loading greater than 0.91 proves their central place in the analysis of user experience and usefulness.

Usefulness Increases Satisfaction and Societal Impact

In total satisfaction the perceived usefulness had a significant effect (Path Coefficient = 0.224, $p < 0.001$) which is not as large as content.

Usefulness was also positively related to the Need Mapping (0.851), Result (0.722) and Societal Development (0.854) and overall influences on personal learning.

High Correlation Between Communication and Service Perception

The correlation between the students in their trust in the quality of service and the capacity to generate feedback in an efficient way was quite high (r = 0.837).

Likewise, the students who stated that platforms have learned them were also in a better position to present their needs (r = 0.775).

Satisfaction Creates Favourable Behavioural Outcomes

Satisfaction was predictive enough: Engagement in feedback (0.894), Perceived improvement (0.599).

and Responsiveness (0.594)

This proves that satisfied customers would be more likely to stay active, as well as to leave valuable feedback and feel helped by the system.

Strong Model Validity and Reliability

Correlation of Satisfaction (0.655) and Usefulness (0.637) will imply that the predictors will explain

a lot of variances.

The strength of the data and indicator used is confirmed by higher composite reliability and AVE of all constructs used in measurement model.

Demographic Trends in Adoption

Majority of the users were between 18-40 years of age and this indicates good adoption of online education among the youth and working populations.

Most of the respondents belonged to the lower- and middle-income families and this demonstrates the relevance of online education to both high and low economic statuses.

7. Marketing Implementation

The application of marketing in the online education environment should be executed with a complex strategy that involves the introduction of the service marketing triangle (institution–instructor–student), the application of digital interaction and the retention of content and service quality. Considering the empirical evidence and theory models applied in the research, the implementation plan is presented as follows:

7.1. Internal Marketing (Institution → Instructor)

Training & Empowerment: Faculty members should be trained in institutions on digital learning tools, responsive communication and pedagogical innovation. Online teaching competence needs to be improved by periodically introducing workshops and certification courses.

Motivation & Brand Alignment: The members of the faculty will have to become brand champions of the online platform. This is by involving them in strategy meetings and associating their performance rewards with student satisfaction indicators.

7.2. Interactive Marketing (Instructor ↔ Student)

Service Personalization: Teachers should approach students using individualized methods of communication such as feedback, adapting assignments, and meeting with students in one-on-one sessions.

Query Handling Protocols: Make response time of any academic or support question institutionalized 24 48 hours. Use chatbots that use AI to increase the availability of instructors.

Feedback Loops: Student feedback needs to be taken on a continuous basis after each module to bring the content, difficulty and teaching style back on course.

7.3. External Marketing (Institution → Student/Parent)

Digital Campaigns: Conduct intensive advertising on Google Ads, Facebook, Instagram, and LinkedIn with some benefits to be highlighted like saving time, flexibility of access, and quality content. Use A/B testing to test the effectiveness of messaging.

Content Marketing: Be able to build trust and credibility by publishing success stories, testimonials of students, and blogs of instructors on the institutions site and on the social media.

SEO & Visibility: Optimize course and landing pages of the websites using key words in order to appear on the top search result on online education.

7.4. Parental Engagement Programs

Orientation Sessions: Virtually orientate and conduct Q&A to parents and educate them on the importance of the platform, pedagogical approach, and monitoring capabilities.

Progress Reports: Email and mobile alerts of monthly academic and behavioral reports to parents to promote participating.

Support Forums: Special parental support forums should be created where any questions on curriculum, results and problems can be addressed immediately.

7.5. Monitoring of Service Quality

KPIs: Keep track and measure the KPIs like adequacy of content, promptness of delivery, turnaround time response to inquiries and student satisfaction by conducting regular surveys and analytic software.

Service Audits: Carry out a regular service audit by using some tools like SERVQUAL so as to test conformity to quality.

Adaptive Platform Enhancement: Enhance capabilities of platform (such as navigation, mobile optimization, bandwidth optimization, etc.) on the basis of performance metrics and feedback.

7.6. Student Retention & Loyalty Generation

Gamification & Rewards: Students are provided with gamified features such as badges, leaderboards and certificates, which can be used to engage them.

Referral Campaigns: Offer rewards to happy students to refer other students via referral programs.

Post-Course Engagement: Make available previous sessions, webinars and discussion forums to the alumni so that they remain engaged in the long term.

8. Conclusion

To sum up, the online education system has resulted in enormous transformations in the process of student learning and marketing of educational services. Parents, students, and the educationalinstitutions have an important relationship in the success of the systems. Although there are multiple advantages of online education to the development of society and revenue generation, the issues of parental risk and adoption of students cannot be overlooked. More studies are required on how service marketing approaches can serve the online education providers to enhance the results of students and society. Subsequently, online education platform can be subjected to a better response to online education in case it is able to sustain the quality of promised service in online education. Using the service marketing strategies like giving frequent feedback, making comparisons of teachers with other education related services and letting students to get personalized conversations with their mentors among others, one can achieve the aforementioned quality resources.

Declaration

All authors declare that they have no conflict of interest.

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