Chapter IV: Conclusions and Discussions

This chapter presents the findings and results from the preceding chapter in a summary. First the main conclusions from the quantitative study are summarized and later the findings are discussed. This chapter also discusses the implications and possible future research extensions of this thesis.

Results and Findings of Quantitative Study

Scenario 1 – Impersonal channel of Service delivery (Indirect Channel)

In Scenario 1, the following two questionnaires are tabulated. The sample size is 200 as mentioned earlier.

➢ The Patient Satisfaction Questionnaire is used for measuring the dependent variable “Patient Satisfaction”.

➢ The Questionnaire for Tele-Medicine Research (Indirect Channel) measures the independent variables pertaining to remote health care service.

Regression Model Summary for Scenario 1

The regression model for Scenario 1 is represented below. (Chapter III, page no 83)

\[
\text{Patient Satisfaction} = 67.41 - 7.297 \text{ (Disease Complexity)} + 5.461 \text{ (Experience level of doctor)}
\]
This equation that is obtained indicates that patient satisfaction will decrease with the proportionate decrease in the ‘Experience level of doctor’ and with an increase in the ‘complexity of the disease’.
Scenario 2 — Face-to-face Health care service delivery (Direct Channel)

In Scenario 2, the following two questionnaires are tabulated. The sample size is 200 as mentioned earlier.

➢ The Patient Satisfaction Questionnaire is used for measuring the dependent variable “Patient Satisfaction”.
➢ The Questionnaire for Face-to-Face Health care Research (Direct Channel) measures the independent variables pertaining to face-to-face health care service.

Regression Model Summary for Scenario 2

The regression model for Scenario 2 is represented below. (Chapter III, page no 92)

Patient Satisfaction = 15.184 + 4.099 (Reputation of doctor) + 5.79 (Speed of medical feedback through consultation) + 3.304 (Confidence that one will avail of health care provider in emergencies) − 2.216 (Time spent in waiting room) + 2.814 (Experience level of doctor) − 1.144 (Number of diagnostic procedures advised)

This equation that is obtained indicates that patient satisfaction will increase with the proportionate increase in the ‘Reputation of doctor’, ‘Speed of medical feedback through consultation’, ‘Confidence that one will avail service of health care provider in emergencies’, and ‘Experience level of doctor’. It also indicates that patient satisfaction will decrease with an increase in the ‘Time spent in waiting room’ and ‘Number of diagnostic procedures advised’.
**Scenario 3 — Low Complexity - Impersonal channel of Service delivery (Indirect Channel)**

In Scenario 3, the following two questionnaires are tabulated for only those patient respondents who have given a low rating to disease complexity that is 3 and below. (Low complexity cases)

- The *Patient Satisfaction Questionnaire* is used for measuring the dependent variable “Patient Satisfaction”.
- The *Questionnaire for Tele-Medicine Research (Indirect Channel)* measures the independent variables pertaining to remote health care service.

**Regression Model Summary for Scenario 3**

The regression model for Scenario 3 is represented below. (Chapter III, page no 102)

\[
\text{Patient Satisfaction} = 62.182 - 6.574 \times \text{(Disease Complexity)} + 1.865 \times \text{(Usefulness of Information provided through telemedicine)} + 4.821 \times \text{(Experience level of doctor)}
\]

This equation that is obtained indicates that patient satisfaction will increase with the proportionate increase in the ‘Experience level of doctor’, increase in the Usefulness of Information provided through telemedicine and with a decrease in the ‘complexity of the disease’.
Scenario 4 – Low complexity -Face-to-face Health care service delivery (Direct Channel)

In Scenario 4, the following two questionnaires are tabulated for only those patient respondents who have given a low rating to disease complexity that is 3 and below (Low complexity cases)

➢ The Patient Satisfaction Questionnaire is used for measuring the dependent variable “Patient Satisfaction”.

➢ The Questionnaire for Face-to-Face Health care Research (Direct Channel) measures the independent variables pertaining to face-to-face health care service.

Regression Model Summary for Scenario 4

The regression model for Scenario 4 is represented below. (Chapter III, page no 112)

Patient Satisfaction = 13.410 + 6.358 (Speed of medical feedback through consultation) + 5.082 (Reputation of doctor) + 2.994 (Confidence that one will avail of health care provider in emergencies)

This equation that is obtained indicates that patient satisfaction will increase with the proportionate increase in the ‘Speed of medical feedback through consultation’, ‘Reputation of doctor’ and ‘Confidence that one will avail service of health care provider in emergencies’.
Scenario 5 – High Complexity -Impersonal channel of Service delivery (Indirect Channel)

In Scenario 5, the following two questionnaires are tabulated for only those patient respondents who have given a high rating to disease complexity that is 4 and above. (High complexity cases)

➢ The Patient Satisfaction Questionnaire is used for measuring the dependent variable “Patient Satisfaction”.
➢ The Questionnaire for Tele-Medicine Research (Indirect Channel) measures the independent variables pertaining to remote health care service.

Regression Model Summary for Scenario 5

The regression model for Scenario 5 is represented below. (Chapter III, page no 119)

Patient Satisfaction = 127.814 – 13.161 (Disease Complexity) – 2.372 (Education level of patient)

This equation that is obtained means that patient satisfaction will increase with the proportionate decrease in the ‘complexity of the disease’ and with a decrease in the ‘Education level of patient’.
Scenario 6—High complexity - Face-to-face Health care service delivery (Direct Channel)

In Scenario 6, the following two questionnaires are tabulated for only those patient respondents who have given a high rating to disease complexity that is 4 and above (High complexity cases)

➢ The Patient Satisfaction Questionnaire is used for measuring the dependent variable “Patient Satisfaction”.

➢ The Questionnaire for Face-to-Face Health care Research (Direct Channel) measures the independent variables pertaining to face-to-face health care service.

Regression Model Summary for Scenario 6

The regression model for Scenario 6 is represented below. (Chapter III, page no 128)

Patient Satisfaction = 10.802 + 6.287 (Speed of medical feedback through consultation) + 4.968 (Confidence that one will avail of health care provider in emergencies) − 4.216 (Time spent in waiting room) + 4.180 (Experience level of doctor) + 2.361 (Physical environment of health care centre)

This equation that is obtained means that patient satisfaction will increase with the proportionate increase in the ‘Speed of medical feedback through consultation’, ‘Confidence that one will avail of health care provider in emergencies’, ‘Experience level of doctor’ and ‘Physical environment of health care center’ and patient satisfaction will decrease with an increase in the ‘Time spent in waiting room’.

Tabulating the above Regression analysis results we get the following: Exhibit 4-1:

Regression Results

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### Exhibit 4-1: Regression Results

<table>
<thead>
<tr>
<th>Scenarios</th>
<th>Regression Model Summary</th>
</tr>
</thead>
</table>
| **Scenario 1 – Impersonal channel of Service delivery** (Indirect Channel) | Patient Satisfaction = 67.41  
- 7.297 (Disease Complexity)  
+ 5.461 (Experience level of doctor)  
[R Square Value = 0.538] |
| **Scenario 2 – Face-to-face Health care service delivery** (Direct Channel) | Patient Satisfaction = 15.184  
+ 4.099 (Reputation of doctor)  
+ 5.79 (Speed of medical feedback through consultation)  
+ 3.304 (Confidence that one will avail of health care provider in emergencies)  
- 2.216 (Time spent in waiting room)  
+ 2.814 (Experience level of doctor)  
- 1.144 (Number of diagnostic procedures advised)  
[R Square Value = 0.701] |
| **Scenario 3 – Low Complexity - Impersonal channel of Service delivery** (Indirect Channel) | Patient Satisfaction = 62.182  
- 6.574 (Disease Complexity)  
+ 1.865 (Usefulness of Information provided through telemedicine)  
+ 4.821 (Experience level of doctor)  
[R Square Value = 0.350] |
| **Scenario 4 – Low complexity - Face-to-face Health care service delivery** (Direct Channel) | Patient Satisfaction = 13.410  
+ 6.358 (Speed of medical feedback through consultation)  
+ 5.082 (Reputation of doctor)  
+ 2.994 (Confidence that one will avail of health care provider in emergencies)  
[R Square Value = 0.664] |
| **Scenario 5 – High Complexity - Impersonal channel of Service delivery** (Indirect Channel) | Patient Satisfaction = 127.814  
- 13.161 (Disease Complexity)  
- 2.372 (Education level of patient)  
[R Square Value = 0.439] |
| **Scenario 6 – High complexity - Face-to-face Health care service delivery** (Direct Channel) | Patient Satisfaction = 10.802  
+ 6.287 (Speed of medical feedback through consultation)  
+ 4.968 (Confidence that one will avail of health care provider in emergencies)  
- 4.216 (Time spent in waiting room)  
+ 4.180 (Experience level of doctor)  
+ 2.361 (Physical environment of health care centre)  
[R Square Value = 0.568] |
From the regression models of the four scenarios, the following findings have emerged.

[I] The relationship between complexity and satisfaction is negative when the channel of delivery is indirect.

[II] There is no relationship between complexity and satisfaction when the channel of delivery is face-to-face (direct).

[III] Complexity is moderating the relationship between predictor variables and satisfaction within face-to-face channel.

[IV] Predictor variables of satisfaction vary between channels.

[V] The significance of the relationship between Experience level of doctor and satisfaction varies between channels.

[VI] The relationship between Usefulness of Information and satisfaction is moderated by complexity when the channel is indirect.

[VII] The relationship between Education level of patient and satisfaction is moderated by complexity when the channel is indirect.

[VIII] The variables “Speed of medical feedback” and “Confidence that health care provider will be available in emergencies” predict satisfaction in both high and low complexity situations in direct channel.
Discussion of Findings of Quantitative Study

The findings which have emerged from the regression models of the six scenarios are discussed below.

[I] The relationship between complexity and satisfaction is negative in high involvement services when the channel of delivery is indirect.

Indirect channel
Patient
Satisfaction = 67.41
- 7.297 (Disease Complexity)
+ 5.461 (Experience level of doctor)

Indirect channel - low complexity
Patient
Satisfaction = 62.182
- 6.574 (Disease Complexity)
+ 1.865 (Usefulness of information provided through telemedicine)
+ 4.821 (Experience level of doctor)

Indirect channel - high complexity
Patient
Satisfaction = 127.814
- 13.161 (Disease Complexity)
- 2.372 (Education level of patient)

Service characteristics that customers find impossible to evaluate confidently even after purchase and consumption are known as credence attributes because the customer is forced
to trust that certain benefits have been delivered, even though it may be difficult to document them. An example would be, patients can’t usually evaluate how well, the doctors have treated them. (Zeithaml, 1981)

Services that are high in experience or credence attributes, have a higher element of perceived risk. These services are difficult to evaluate. Risk perceptions reflect customer’s judgment of the probability of a negative outcome. First time users are likely to face greater uncertainty.

In surveying consumers, Spake et al. found that respondents associated an increased comfort level with reduced perceived risk. (Spake et al, 2003). Logically, perceived degree of risk increases with an increase in the level of complexity of the disease.

*Perceived risk is defined as the uncertainty that consumers face when they cannot foresee the consequences of their purchase decision.* (Schiffman et al, 2006) This definition highlights two relevant dimensions of perceived risk: uncertainty and consequences.

The degree of risk that consumers perceive and their own tolerance for risk taking are factors that influence their purchase strategies. Consumers are influenced by risks that they perceive, whether or not such risks actually exist. Risk that is not perceived – no matter how real or how dangerous – will not influence consumer behavior. (Schiffman et al, 2006)
The major types of risks that consumers perceive when making decisions include functional risk, physical risk, financial risk, social risk, psychological risk and time risk. In health care, physical risk is primary as health care is a high involvement service. Physical risk is risk to self and others the service may pose. (Schiffman et al, 2006)

When the consumer tries to avail of healthcare service, through indirect channel, he is aware of the conscious choice he has made to choose the indirect channel over the alternative direct channel. Thus the consumer who is suffering from a complex disease has a perception of risk associated with the choice of channel chosen in his conscious or subconscious mind. Hence, the consumer availing of healthcare service through indirect channel is always posed with a question as to whether he would have got better health care service in a direct channel.

Thomas Cooper, an expert on mass communication, indicated that trust is a critical component of communication. Trust in many cultures involves either touch or direct vision, something that is not achieved with technology, which is the case in the indirect channel. (Zeithaml et al, 2000) Communication between consumer and service provider in the case of indirect channel is based on technological factors, which may not be the realm of trust that exists in a direct channel.

Thus from the above we see, that service delivery channel impacts consumer satisfaction. Higher disease complexity leads to lesser satisfaction in health care services, which are high involvement services, when indirect channel is used for service delivery.
There is no relationship between complexity and satisfaction when the channel of delivery is face-to-face (direct) in high involvement services.

Disease Complexity does not predict consumer satisfaction in health care services, which are high involvement services, when direct channel is used for service delivery.

Reputation of doctor, Speed of Medical feedback through consultation, Confidence that one can avail services of health care provider in emergencies, and Experience level of doctor are variables which score over disease complexity, when it comes to Patient satisfaction in direct channel. Since the above variables are positively correlated to Patient Satisfaction, one can say that direct channel enables the above variables to provide the trust necessary in communication (Thomas Cooper) (Zeithaml et al, 2000), leading to lesser or no impact of disease complexity on Patient Satisfaction.
[III] Complexity moderates the relationship between predictor variables and satisfaction within face-to-face (direct) channel in high involvement services.

While we see from previous finding [II] that complexity does not predict satisfaction, from finding [III] we see that complexity moderates the relationship between predictor variables and satisfaction within face-to-face channel in high involvement services.

<table>
<thead>
<tr>
<th>Scenario 2 – Face-to-face Health care service delivery (Direct Channel)</th>
<th>Patient Satisfaction = 15.184</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>+ 4.099 (Reputation of doctor)</td>
</tr>
<tr>
<td></td>
<td>+ 5.79 (Speed of medical feedback through consultation)</td>
</tr>
<tr>
<td></td>
<td>+ 3.304 (Confidence that one will avail of health care provider in emergencies)</td>
</tr>
<tr>
<td></td>
<td>− 2.216 (Time spent in waiting room)</td>
</tr>
<tr>
<td></td>
<td>+ 2.814 (Experience level of doctor)</td>
</tr>
<tr>
<td></td>
<td>− 1.144 (Number of diagnostic procedures advised)</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Scenario 4 – Low complexity - Face-to-face Health care service delivery (Direct Channel)</th>
<th>Patient Satisfaction = 13.410</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>+ 6.358 (Speed of medical feedback through consultation)</td>
</tr>
<tr>
<td></td>
<td>+ 5.082 (Reputation of doctor)</td>
</tr>
<tr>
<td></td>
<td>+ 2.994 (Confidence that one will avail of health care provider in emergencies)</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Scenario 6 – High complexity - Face-to-face Health care service delivery (Direct Channel)</th>
<th>Patient Satisfaction = 10.802</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>+ 6.287 (Speed of medical feedback through consultation)</td>
</tr>
<tr>
<td></td>
<td>+ 4.968 (Confidence that one will avail of health care provider in emergencies)</td>
</tr>
<tr>
<td></td>
<td>− 4.216 (Time spent in waiting room)</td>
</tr>
<tr>
<td></td>
<td>+ 4.180 (Experience level of doctor)</td>
</tr>
<tr>
<td></td>
<td>+ 2.361 (Physical environment of health care centre)</td>
</tr>
</tbody>
</table>
Apart from the two variables i.e., ‘Speed of medical feedback’ and ‘Confidence that health care provider will be available in emergencies’ complexity moderates the relationship between predictor variables and satisfaction.

In the case of low complexity diseases, as there is no urgency, or anxiousness on part of the patient to meet the doctor, time spent in the waiting room does not feature as a predictor variable of satisfaction. Experience of the doctor also does not feature as a predictor variable of satisfaction as element of perceived risk i.e. uncertainty and consequence is less in the case of low complexity diseases. Number of diagnostics procedures advised does not predict satisfaction in case of low complexity diseases, since perception of risk is less in low complexity cases. Reputation of the doctor predicts satisfaction in case of low complexity diseases, as patients associate reputation of the doctor with his/her popularity since the disease is not complex and could be treated without the need for specialized diagnosis. Hence the popularity of the doctor becomes a major factor for choice of health care service provider in the case of low complexity cases.

In the case of high complexity diseases, as there is urgency, or anxiousness on part of the patient to meet the doctor, time spent in the waiting room features as a predictor variable of satisfaction. Experience of the doctor also features as a predictor variable of satisfaction as element of perceived risk i.e. uncertainty and consequence is more in the case of high complexity diseases. Physical environment of health care centre predicts satisfaction in case of high complexity diseases. The design of the physical environment plays a vital role in creating a particular identity and shaping the nature of the customer’s experience. The service environment and its accompanying atmosphere impact customer satisfaction.
Physical evidence is particularly important for communicating about credence and professionalism of the service delivery mechanism which imbues trust and confidence in the customer. This is more so in the case of high complexity disease situations in the direct channel.

[IV] *Predictor variables of consumer satisfaction vary between channels in high involvement services.*

A closer relationship exists when there is face-to-face interaction between customers and providers. Although the service itself remains important, value is added by people and social processes. Both the firm and the customer are prepared to invest resources (including time) to develop a mutually beneficial relationship. This investment may include time spent sharing and recording information.

Customers many times need a continuing dialog focused on an understanding of their needs. Customers are also motivated by continuity of contact, wanting to deal with a specific person on a regular basis. (Lovelock et al, 1992)

As service companies grow larger and make increasing use of technologies such as interactive Web sites and self-service equipment, maintaining meaningful relationships with customers becomes a significant marketing challenge.

From the research it is seen that
A] For direct channel, Patient Satisfaction is predicted by variables such as
   ➢ Reputation of doctor treating the patient
   ➢ Speed of medical feedback through consultation
   ➢ Confidence that one will avail service of health care provider in emergencies
   ➢ Time spent in waiting room
   ➢ Experience level of the doctor treating the patient
   ➢ Number of diagnostic procedures advised

B] For indirect channel, Patient Satisfaction is predicted by variables such as
   ➢ Disease Complexity
   ➢ Experience level of the doctor treating the patient through Telemedicine

C] For low complexity cases in the Direct channel, Patient Satisfaction is predicted by variables such as
   ➢ Speed of medical feedback through consultation
   ➢ Reputation of doctor treating the patient
   ➢ Confidence that one will avail of health care provider in emergencies

D] For low complexity cases in the Indirect channel, Patient Satisfaction is predicted by variables such as
   ➢ Disease Complexity
   ➢ Usefulness of Information provided through Telemedicine
   ➢ Experience level of the doctor treating the patient through Telemedicine

E] For high complexity cases in the Direct channel, Patient Satisfaction is predicted by variables such as
   ➢ Confidence that one will avail of health care provider in emergencies
   ➢ Speed of medical feedback through consultation
   ➢ Experience level of the doctor treating the patient
   ➢ Physical environment of health care center
   ➢ Time spent in waiting room

F] For high complexity cases in the Indirect channel, Patient Satisfaction is predicted by variables such as
   ➢ Disease Complexity
   ➢ Education level of the patient
The above indicates that service delivery channel impacts consumer satisfaction in health care service, as the predictors of satisfaction are different for different channels. This finding supports *The Mehrabian-Russell Stimulus-Response Model*, adopted from environmental psychology, which holds that the environment and its conscious and unconscious perception and interpretation influence how people feel in that environment. (Donovan and Rossiter, 1982); (Lovelock et al, 2004)

Hence in the health care context, the environment in the service delivery channel and the conscious and unconscious perception and interpretation of the consumers influence their satisfaction level and hence predictors of consumer satisfaction vary between channels of service delivery.
The significance of the relationship between Experience level of doctor and satisfaction varies between channels.

The beta coefficient for Experience level of doctor is 5.461 for indirect channel

Patient
Satisfaction = 67.41
  - 7.297 (Disease Complexity)
  + 5.461 (Experience level of doctor)

The beta coefficient for Experience level of doctor is 2.814 for direct channel

Patient
Satisfaction = 15.184
  + 4.099 (Reputation of doctor)
  + 5.79 (Speed of medical feedback through consultation)
  + 3.304 (Confidence that one will avail of health care provider in emergencies)
  - 2.216 (Time spent in waiting room)
  + 2.814 (Experience level of doctor)
  - 1.144 (Number of diagnostic procedures advised)

In the case of indirect channel, the dependence on Experience of the doctor is much higher than in the case of direct channel. In indirect channel, the doctor is unknown to the patient, hence a more experienced doctor would result in higher levels of satisfaction. Whereas in case of direct channel, as the doctor is sitting right in front of the patient, and there is a face-to-face interaction between consumer (patient) and provider (doctor), though experience of the doctor is a predictor of satisfaction, the strength of the dependence on this variable is much less.
The relationship between usefulness of information and satisfaction is moderated by complexity when the channel is indirect in high involvement services.

**Indirect channel**

Patient

\[
\text{Satisfaction} = 67.41 - 7.297 \text{ (Disease Complexity)} + 5.461 \text{ (Experience level of doctor)}
\]

**Indirect channel - low complexity**

Patient

\[
\text{Satisfaction} = 62.182 - 6.574 \text{ (Disease Complexity)} + 1.865 \text{ (Usefulness of Information provided through telemedicine)} + 4.821 \text{ (Experience level of doctor)}
\]

In low complexity scenario, the patient can make sense of the information provided to him by the service provider, due to the disease complexity being low, and hence the Usefulness of this Information impacts patient satisfaction positively.
The relationship between education level of patient and satisfaction is moderated by complexity when the channel is indirect in high involvement services.

**Indirect channel**

Patient
Satisfaction = 67.41
- 7.297 (Disease Complexity)
+ 5.461 (Experience level of doctor)

**Indirect channel - high complexity**

Patient
Satisfaction = 127.814
- 13.161 (Disease Complexity)
- 2.372 (Education level of patient)

In the high complexity scenario, we see that Education level of patient impacts patient satisfaction negatively. Level of faith in impersonal channel of service delivery in health care is higher amongst patients with lower levels of education, while patients with higher levels of education have less faith in health care delivered through impersonal channel. Educated people will be critical of the process of service delivery in the impersonal channel due to their inquiring nature instilled through the process of education.
[VIII] The variables 'Speed of medical feedback' and 'Confidence that health care provider will be available in emergencies' predict satisfaction in both high and low complexity situations in direct channel.

*Speed of medical feedback* predicts satisfaction in both high and low complexity situations. Since most services are prosumed (produced and consumed at the same time) they are set in real time and are delivered in real time. The physical presence of the customer is vital to this process and as such sensitivity to time becomes important. In general, today's customers are increasingly time sensitive, so that speed of service delivery, medical feedback in this case, is often seen as a key element in good service.

*Confidence that health care provider will be available in emergencies* predicts satisfaction in both high and low complexity situations. The faith that the health care service provider would be available during emergencies would be a relief for a person seeking health care service and hence confirmation of this faith would be one of the factors leading to satisfaction.

**Research Contribution to advancement of Theory**

The outcome of this research contributes to the existing body of knowledge on how channel (direct and indirect) impacts customer satisfaction in high involvement and complex services like health care services.
Conceptual Framework

Given the high involvement and complexity scenario in healthcare service, the following grid was conceptualized in the second chapter of the thesis.

Shown below is the 2 dimensional grid. One dimension is the degree of involvement with a service (or stakes) and the other dimension is the degree of complexity of the service (as perceived by the consumer). Exhibit 4-2: Involvement–Complexity grid

Exhibit 4-2: Involvement–Complexity grid

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This study deals with only the two high involvement quadrants, as healthcare is a high involvement and credence type service. (Zeithaml et al, 1996) Health care is a complex service involving a doctor dealing with the very “person” of the patient. (Parasuraman et al, 1985).

1. First Quadrant - High Involvement and High Complexity

This quadrant includes services like health care, which are high involvement services, where most high complexity disease treatments will belong.

2. Second Quadrant - High Involvement and Low Complexity

This quadrant includes again services like health care, which are high involvement services, where most low complexity disease treatments will belong.

Existing literature does not discuss or reveal any aspects of the above grid of which 2 quadrants (1st and 2nd Quadrant) are of significance to this study. Since the area (1st and 2nd Quadrant) has not been researched, the findings obtained in this research contribute to the services marketing literature.

Current and past literature does not reveal anything about customer satisfaction and the factors that are related to it causatively in each of these quadrants. As there is no mention of such a classification, there exists a gap in literature and theory, which has been examined and every effort has been made to fill it by researching the impact of channel on consumer satisfaction in high involvement and complex situations when;
a] The service is delivered through impersonal channels and there is no face-to-face contact between provider and consumer; &

b] the service is delivered directly when there is face-to-face contact between provider and consumer.

The hypotheses and methodology to explore the above were outlined in the preceding chapter. The hypotheses were formulated based on the Stimulus-Response Model taken from environmental psychology, where the outcome variable was how satisfied the consumer was with the service experience.

*The Mehrabian-Russell Stimulus-Response Model*, adopted from environmental psychology, holds that the environment and its conscious and unconscious perception and interpretation influence how people feel in that environment. (Donovan and Rossiter, 1982) In environmental psychology, the typical outcome variable is approach or avoidance of an environment. In services marketing, one can add a long list of additional outcomes that a firm might want to manage, for eg: how satisfied people are with the service experience after they have left the environment. (Donovan and Rossiter, 1982); (Lovelock et al, 2004)
The contribution to the body of knowledge in Services Marketing in this research is through the following:

[I] Involvement–Complexity grid

[II] Analysis of Relationship between Service Delivery Channel, Complexity and Satisfaction

[III] Impact of Service Delivery Channel and Complexity on Consumer Satisfaction

All the three above are explained through the findings of the research enumerated below:

[I] The relationship between complexity and satisfaction is negative when the channel of delivery is indirect in high involvement services.

[II] There is no relationship between complexity and satisfaction when the channel of delivery is face-to-face (direct) in high involvement services.

[III] Complexity moderates the relationship between predictor variables and satisfaction within face-to-face (direct) channel in high involvement services.

[IV] Predictor variables of satisfaction vary between channels in high involvement services in both high and low complexity situations.
Managerial Implications of Study

A service organization must use the research findings in a meaningful way - to drive change or improvement in the way service is delivered.

Any business should try and achieve the full value potential of each customer relationship. In most companies, the gap between the companies current and full value potential performance is enormous. (Grant et al, 1995)

The managerial implications based on this thesis are indicated below according to each finding.

Understanding the customer relationship

A fundamental distinction exists between strategies intended to bring about a single transaction and those designed to create extended relationships with customers. (Coviello et al, 1995)
Research Finding [I]: The relationship between complexity and satisfaction is negative when the channel of delivery is indirect in high involvement services.

It is seen in this research study, that the relationship between complexity and satisfaction is negative when the channel of delivery is indirect in high involvement services.

<table>
<thead>
<tr>
<th>Indirect channel</th>
<th>Indirect channel</th>
<th>Indirect channel</th>
</tr>
</thead>
<tbody>
<tr>
<td>-(overall)</td>
<td>- low complexity</td>
<td>- high complexity</td>
</tr>
<tr>
<td>Patient</td>
<td>Patient</td>
<td>Patient</td>
</tr>
<tr>
<td>Satisfaction =</td>
<td>Satisfaction =</td>
<td>Satisfaction =</td>
</tr>
<tr>
<td>67.41</td>
<td>62.182</td>
<td>127.814</td>
</tr>
<tr>
<td>- 7.297 (Disease</td>
<td>- 6.574 (Disease</td>
<td>- 13.161 (Disease</td>
</tr>
<tr>
<td>Complexity)</td>
<td>Complexity)</td>
<td>Complexity)</td>
</tr>
<tr>
<td>+ 5.461 (Experience</td>
<td>+ 1.865 (Usefulness</td>
<td>- 2.372 (Education</td>
</tr>
<tr>
<td>level of doctor)</td>
<td>of Information</td>
<td>level of patient)</td>
</tr>
<tr>
<td></td>
<td>provided through</td>
<td></td>
</tr>
<tr>
<td></td>
<td>telemedicine)</td>
<td></td>
</tr>
<tr>
<td></td>
<td>+ 4.821 (Experience</td>
<td></td>
</tr>
<tr>
<td></td>
<td>level of doctor)</td>
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</tbody>
</table>

Disease complexity in indirect channel and the diagnostic expertise is linked through the usage of technology such as videoconferencing etc. These technologies become the backbone of the service delivery mechanism in health care services using indirect channel.

As technological alternatives are explored to create and deliver services, service providers are discovering that not all customers are equally receptive to new technologies. As consumers differ in their acceptance of technology-related goods and services, marketers have become interested in segmenting customers, based on their willingness and ability to use the latest technologies (Lovelock et al, 2004).
Parasuraman (Parasuraman, 2000) shows that certain personal characteristics are associated with customer readiness to accept new technologies. These attributes include innovativeness, a positive view of technology, and a belief that technology offers increased control, flexibility, and efficiency in people's lives. (Lovelock et al, 2004)

Factors that are negatively associated with the adoption of technology include distrust, a perceived lack of control, feelings of being overwhelmed by technology, and skepticism about whether the technology will perform satisfactory. Service providers must consider these factors before implementing new technologies that may negatively affect customers' evaluations of the service experience. (Lovelock et al, 2004)

In case of complex services like health care, the consumer perceives a higher risk when channel of delivery is indirect. To address this issue, health care service providers using indirect channel can use risk-reduction strategies such as the following

➤ *Provide Information about the Service* – Consumers seek information about the service through word of mouth communication (from friends and family and from other people whose opinions they value), from sales people and from general media. Hence the strategy is straightforward and logical because the more information the consumer has about the service, the more predictable the probable consequences and, thus, lower is the perceived risk.
Develop a Brand Image – When consumers have had no experience with a service, they tend to trust a well-known brand name. Consumers often think well-known brands are better and are worth buying for the implied assurance of quality, dependability, performance, and service. (Berry, 2000)

Thus Promotion and Education, which is one of the 7Ps of services marketing mix, can be used. No marketing program can succeed without effective communications. This component plays three vital roles: providing needed information and advice, persuading target customers of the merits of a specific product, and encouraging them to take action at specific times. (Booms et al, 1981)

Suggestions

Another approach could be a campaign to educate customers about ways to use and improve the service they currently receive. Giving customers progress updates as service is improved to address their needs and desires is sensible because it allows the company to get credit for iterative efforts in service delivery.

Benefits of Customers/ Firms relationships

Both parties in the customer/firm relationships can benefit from customer retention.

Benefits for Customers

Assuming they have a choice, customers will remain loyal to a firm when they receive greater value relative to what they expect from competing firms. Perceived value is the consumer’s overall assessment of the utility of a product based on perceptions of what is
received and what is given. Value represents a trade-off for the consumer between the “give” and “get” components. Consumers are more likely to stay in a relationship when the gets (quality, satisfaction, specific benefits) exceed the gives (monetary and non-monetary costs). (Gwinner et al, 1998) (Zeithaml et al, 2000)

➢ Confidence Benefits

These benefits comprise feelings of trust or confidence in the provider, along with a sense of reduced anxiety and comfort in knowing what to expect. Across all of the services studied, confidence benefits are the most important to customers. (Gwinner et al, 1998) This is especially true in health care.

Health care service providers using indirect channels need to develop and build confidence-building measures for the consumers in order to enable them to use and benefit from the services.

➢ Special treatment benefits

Special treatment includes such things as getting preferential treatment when one has established a relationship with the service provider.

Since the indirect channel uses the expertise of the health care provider located at a different geographical location the availability of the expertise would be at a premium. Health care service providers could use this aspect to increase their variety in service to enable them to have a better service portfolio added with a
wider profit portfolio. This would have an impact on the pricing, promotional, physical evidence and product/service strategies.

Research Finding [II]: There is no relationship between complexity and satisfaction when the channel of delivery is face-to-face (direct) &

Research Finding [III]: Complexity is moderating the relationship between predictor variables and satisfaction within face-to-face channel.

In a direct channel the presence of the service provider in a face-to-face situation is a strong factor for creating trust and faith resulting in patient satisfaction and hence complexity of the disease does not play a direct role in predicting patient satisfaction but moderates predictors of satisfaction. Hence the service provider needs to be aware of the following:

<table>
<thead>
<tr>
<th>Scenario 4 - Low complexity - Face-to-face Health care service delivery (Direct Channel)</th>
<th>Patient Satisfaction = 13.410</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>+ 6.358 (Speed of medical feedback through consultation)</td>
</tr>
<tr>
<td></td>
<td>+ 5.082 (Reputation of doctor)</td>
</tr>
<tr>
<td></td>
<td>+ 2.994 (Confidence that one will avail of health care provider in emergencies)</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Scenario 6- High complexity - Face-to-face Health care service delivery (Direct Channel)</th>
<th>Patient Satisfaction = 10.802</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>+ 6.287 (Speed of medical feedback through consultation)</td>
</tr>
<tr>
<td></td>
<td>+ 4.968 (Confidence that one will avail of health care provider in emergencies)</td>
</tr>
<tr>
<td>- 4.216 (Time spent in waiting room)</td>
<td></td>
</tr>
<tr>
<td>+ 4.180 (Experience level of doctor)</td>
<td></td>
</tr>
<tr>
<td>+ 2.361 (Physical environment of health care centre)</td>
<td></td>
</tr>
</tbody>
</table>
It is seen in high complexity situations in the direct channel, waiting time that is time spent in waiting room is negatively related to satisfaction. Hence:

➢ In consumer wait situations, intervening aspects such as music, entertainment such as television shows etc. can be used effectively to shorten the perceived waiting time and increase customer satisfaction. Music has been found to be effective in relaxing for consumers in wait situations. (Hui et al, 1997) Relaxing music proved effective in lowering stress levels in a hospital’s surgery waiting room. (Tansik et al, 1999) Pleasant music has been shown to enhance customer’s perception of and attitude toward service personnel. (Dube et al, 2001)

➢ Another aspect of managerial action would be from the view point of setting prices for various service delivery levels, for example, as patient satisfaction is inversely linked to time spent in waiting room, one can design differential pricing mechanisms based on time taken to serve the customer and prioritizing customers service based on differential prices.

It is seen that in the high complexity situations in the direct channel, Physical environment of health care centre is positively related to satisfaction.

➢ Physical surroundings are important in impacting customer satisfaction in service delivery situations. It is known that the design of the service environment can influence customer choices, expectations, satisfaction, and
other behaviours. (Bitner, 1992). A visibly appealing physical environment can be created for patients to enable manage customer satisfaction effectively. Greater importance to ambience is essential on the part of managers in high complexity health care situations for better customer satisfaction.

Research Finding [V]: The significance of the relationship between Experience level of doctor and satisfaction varies between channels.

In both direct and indirect channel Experience level of doctor is positively related to satisfaction.

➢ As far as possible, experienced doctors should be empanelled in case of indirect channel as well as in direct channel.
Research Finding [VI]: The relationship between Usefulness of Information and satisfaction is moderated by complexity when the channel is indirect.

In the indirect channel in case of low complexity the *Usefulness of Information* is positively related to satisfaction.

- For instance, patients tend to want as much information as possible from their physicians, even if this information is negative. Conversely, physicians may tend to avoid divulging full information to patients because of assumed negative consequences associated with the knowledge of such information, particularly in the case of cancer patients. Also, some studies suggest that physicians tend not to address any patient psychological needs and do not tend to give patients opportunities to discuss such needs, even when the patient's illness invites such discussions.

The provider should hence address all information needs, which patients seek from providers regarding their illness.
Research Finding [VII]: The relationship between Education level of patient and satisfaction is moderated by complexity when the channel is indirect.

It is seen that in the indirect channel in high complexity situations, “Education level of patient” is negatively related to satisfaction.

➢ As patients with higher levels of education tend to be relatively less satisfied in high complexity situations, a transparent and straightforward approach from the health care provider would help in mitigating the negative levels of satisfaction.

Research Finding [VIII]: The variables “Speed of medical feedback” and “Confidence that health care provider will be available in emergencies” predict satisfaction in both high and low complexity situations in direct channel.

It is seen that in the direct channel, “Confidence that health care provider will be available in emergencies” and “Speed of medical feedback through consultation” is positively related to satisfaction.

➢ A wider health care provider supply range in terms of a larger panel of health care providers is desirable to boost the confidence level of patients regarding availability of services of health care providers.
Since speed of medical feedback predicts satisfaction, managers involved in health care services need to be aware of the importance of streamlined procedures and systems that help provide quicker medical feedback to patients.

**Overall Benefits to Organizations arising out of satisfied customers**

The benefits to an organization for maintaining and developing a loyal customer base are numerous. They can be linked directly to the firm’s bottom line. (Zeithamal et al, 2000)

There will be an increase in customers and repeat customers, as consumers get to know a firm and are satisfied with the quality of its services relative to that of its competitors, they will tend to give more of their business to the firm. Costs will be lowered and there will be free advertising through word of mouth.

When a product is complex and difficult to evaluate, and there is risk involved in the decision to buy it, as is the case with many services, consumers most often look to others for advice on which provider to consider. (Matilla & Wirtz, 2002) In fact the greater the risk that customers perceive in purchasing a service, the more actively they will seek and rely on word of mouth to guide their decision making. (Bansal & Voyer, 2000)

Satisfied, loyal customers are likely to provide a firm with strong word of mouth endorsements. The importance of *word-of-mouth communication* in shaping expectations of service is well documented in literature. (Davis et al, 1981) Recommendations from other customers are generally viewed as more credible than are firm-initiated promotional
activities and can have a powerful influence on people's decisions to use (or avoid using) a service. (Bansal & Voyer, 2000) (Lovelock et al., 2004)

When services are delivered to people by people, they are difficult to standardize and their outcomes and processes may be inconsistent from provider to provider, from customer to customer and even from one time period to the next. This inherent heterogeneity is an advantage as well as a disadvantage. It is disadvantageous in the sense that service delivery is difficult to control and predict and the resulting differences in service delivery may cause customers to question a firm's reliability as far as service delivery is concerned. On the other hand, it is advantageous in the sense that it presents opportunities to the service provider to customize the service offerings as "real people" deliver them in "real time". There is opportunity for one-to-one customization of the service offering. Heterogeneity pursued in a purposeful manner can be turned into an effective customization strategy.

**Limitations of the Study**

This study has not been without limitations. The universal limitation of time has also been inherent during this research study. The degree and width of indirect channel has been a limitation which the researcher has tried to reduce to the best of her ability.
**Scope for Future Research**

The following is the scope for future research.

➢ Researching Involvement-Complexity grid

The impact of channel on consumer satisfaction in the 3rd and 4th quadrant of the Involvement-Complexity grid can be researched.

- Involvement-Complexity grid - Third Quadrant - Low Involvement and low Complexity
- Involvement-Complexity grid - Fourth Quadrant - Low Involvement and High Complexity