



**Internship Report on**  
**“Risk Management and Corporate Strategy practices of NovoTel Ltd”**

**Submitted To:**

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## Letter of transmittal

April 19, 2017

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**Subject:** Submission of report on “Risk Management and Corporate Strategy practices of NovoTel Ltd”

Dear Sir,

It gives me enormous pleasure in preparing this internship report that was assigned to me in fulfillment of our course requirement. This report has been valuable to me as it assisted us to combine the practical experience to my theoretical knowledge in organizational risk management and corporate strategy.

I would like to mention that we are extremely grateful to you for your valuable assistance, extreme understanding effort and constant attention and when required in accomplishing the report.

I shall be very pleased to answer any query you think necessary as and when needed.

Sincerely,

**Jumanah Munawar**

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## **Acknowledgements**

First of all I give our heartfelt thanks to the Almighty for giving me the ability for preparing this report successfully.

I would like to thank my Assistant Manager, Shamim –Al- Mamun for giving me the opportunity to work with him during my report research. I have been able to compile and complete this report in a comprehensive manner due to the guidance, support and counseling that he has provided me with during this period. I have tried my best to implement his constructive suggestions while doing my report.

I acknowledge my heartiest gratefulness to all who have extended their hands of cooperation in preparing the report. I express my gratitude and acclaim, my indebtedness towards my relevant supervisor Hasan Maksud Chowdhury for his overall guidance, advice and support in encouraging our responsibilities consciously while creating this internship report.



## Executive Summary

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In light of Bangladesh's substantial economic growth, increasing tendency and client penetration rates, and the liberalization process is taking place in the telecommunication industry. Bangladesh Telecommunication Regulatory Commission (BTRC) is the regulatory authority for this sector, overseeing licensing and policy etc. Presently, it is one of the biggest sectors of Bangladesh. As a populous country, its huge market has attracted many foreign investors to invest in this sector. There are four levels of telecommunications practices exist in our telecommunication structure. These levels are; ANS-Access Network Service, ICX-Interconnection Exchange, IOS-IGW Operator Switch & IGW-International Gateways. ANS is mainly mobile operators and land line connection (or PSTN-Public Switch Telephonic Network) who facilities national communication. Apart from we have some international incoming and outgoing calls. In everyday on an avg. 60 million international calls are being terminated. This termination is done by licensed IGWs in Bangladesh. This operation is mainly executed by Voice over the Internet Protocol. ICX only make interconnection between ANS & IOS. Earlier we had only three licensed IGW (NovoTel Limited, Mir Telecom & Banglatrac Communication) as per BTRC approval in 2008. Recently BTRC has issued 19 more licenses for IGW operation.

NovoTel is one of the established IGW service providers. It started its operation in 2008. Presently NovoTel is conducting around 120 millions international calls in different destination around the world. NovoTel is mainly focuses on Middle-east, American countries, UK & European countries. This IGW operation is fully technology based and NovoTel always concern on upgraded or developed technology for strong infrastructure support to conduct quality service. That's why NovoTel has created a good image for quality international call service and this has been considered as core competencies.

In this IGW operation proper risk management is very essential, otherwise this will be difficult to sustain in competitive business scenario. NovoTel also manage their all business related risk efficiently & effectively. Apart from Novotel is practicing different business strategies to maintain its market position. NovoTel is conducting some related and unrelated business diversification. In case of related business diversification, recently it has got license for ITC (International Terrestrial Cable) & IIG (International Internet Gateway) operation. On the other hand, NovoTel has some other business concern like; NovoAir (Aviation service), Tusuka (Textile) etc. Additionally, NovoTel has developed business alliance with existing IGWs for international call (or volume) termination. This



business practices will help NovoTel to maintain market position in future business scenario. NOVOTEL must differentiate itself and capture market share - through innovation - within the telecom industry.

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# Chapter: 1 Company Overview

## *NovoTel at a glance*

NovoTel Limited is the licensed International Gateway (IGW) operator of Bangladesh Telecommunication Regulatory Commission (BTRC) to terminate international voice traffic to and from Bangladesh.

NovoTel began to unbundle its local and international interconnects in August 2008 with a highly skilled and reputed management team in the local & international business world and also with a young, energetic, professional, talented and reliable technical team. NovoTel started its journey with the mission to expand telecommunication infrastructures that ensure quality services to establish a long-term rewarding relationship with its partners by adding value.

With the continuous support and reliance of its carrier partners, NovoTel is now moving towards its gradual growth and remarkable market reputation. Within a short span of time, NovoTel has gained trust of its partners, along with many Tier1 and Tier2 carriers from every region of the world for its reliable and quality of service, continuous improvement and innovation. Presently NovoTel handles over 300 million minutes a month for Bangladesh alone.

## License

- The first IGW license in Bangladesh was awarded to NovoTel through an auction on 25<sup>th</sup> February, 2008.
- NovoTel started its operation from 24<sup>th</sup> August, 2008.
- NovoTel has already invested over Tk. 50 Crore (US\$ 7 million) for telecom infrastructure.
- NovoTel shares 51.75% Gross Revenue with the Government.
- Shared revenue over Tk. 84 Crore (US\$ 12 million) with Government and other stakeholders in Bangladesh. (*till May 2011*)
- Presently NovoTel caters over 200 million minutes a month for Bangladesh alone.



## ***Vision, Mission & Goals***

### **VISION**

To establish ourselves as the nation's BEST International Voice Carrier through seamless scalability that will enable our customers' success.

### **MISSION**

Expand telecommunication infrastructures that ensure quality services to establish a long-term rewarding relationship with our partners by adding value.

### **GOALS**

- ▲ Implementing right technology with scalability options.
- ▲ Maintaining high-redundancy zero-failover network.
- ▲ Setting up International Standard for Quality Services and create an industry benchmark.
- ▲ Creating win-win partnerships by bridging business models with technology.
- ▲ Continuous growth of the organization through real-time care for the customers, improvement in the services level, exploring new business opportunities.
- ▲ Improved communication within intra and inter departments for harmonious operation.
- ▲ Become one of the best Corporate Citizens.

## ***Technology***

To cater highest level of voice quality, NovoTel is connected via multiple STM-1 based TDM circuits with local operators in Bangladesh. For international connectivity multiple STM-1 links through SEA-ME-WE-4 submarine cable have been ensured using both IP (SIP & H.323) & TDM circuits, to maintain QoS commitment.

- NGN Class 4 architecture.
- Support for SIP, H.323 and TDM based interconnects with protocol & codec conversion facility.



- Billing system from INTEC - a world leader in Interconnect Billing.
- 24 x 7 NOC with skilled support personnel.
- Redundant transmission link using VSAT.
- Network security ensured against network anomalies and DoS attacks.
- All mission critical network elements including core, transmission & billing platform have been designed in 1+1 redundancy architecture.
- In house developed Carrier Management System (CMS).

#### Services

- ▲ IGW
- ▲ IOS
- ▲ IIG
- ▲ ITC
- ▲ ISP

#### TECHNOLOGY PARTNERS



NovoTel partners with the leading global and regional network equipment providers.

NovoTel partnered up with Ericsson for the installation of the International Gateway (IGW). NovoTel has chosen Ericsson's Marconi Optical Multi Service platform which are cost effective, scalable and flexible to meet the needs of the networks today and in the future.



NovoTel has already deployed the Billing Platform of INTECI - the most comprehensive and powerful settlement system of the world, handling every kind of traffic, from simple voice to the most advanced content and data services, in a single, highly integrated platform.

NovoTel is also partnered with GENBAND which is a leading global supplier of next-generation IP gateways, session border controllers and FMC security solutions.

**Network Connectivity (Annexure)**

**Network at a glance (Annexure)**

**Detailed network presence (Annexure)**

# Chapter: 2 The Project

## *Introduction*

The telecom sector in Bangladesh is rapidly emerging. Bangladesh Telecommunication Regulatory Commission (BTRC) is the regulatory authority for this sector, overseeing licensing and policy etc. In Bangladesh some calls are being terminated in nationally and some calls are being terminated internationally. In case of international call termination we need to go through of IGW service providers. Only licensed IGWs providers can terminate international call legally. This IGW or VoIP service providers are giving facility for international incoming and outgoing calls of Bangladesh. NovoTel is One of the establish IGW in Bangladesh. Now NovoTel is engaging in VoIP operation in different destination around the world. To execute this IGW operation smoothly, NovoTel is always concern with its different opportunities and engage in formulating competitive business strategies on regular basis to sustain in this business industry.

## *Objectives of the Study*

This report has been designed to accomplish two objectives;

Primary objectives:

- To understand the overall telecommunication structure of Bangladesh
- To get an overview of IGW operations in Bangladesh

Main Objectives:

- Different Risks Management and corporate strategy practices of NovoTel.

Significance of the Study: Risk management and strategy formulation play an important role for every business to sustain in long run. In case of telecommunication sector these two aspects in an essential consideration. Through considering this entire atmosphere I have selected the topic on “Risk management and corporate strategy practices of NovoTel Ltd”.

## ***Methodology of the study***

Report was conducted on the basis of secondary information. Information was collected from relevant research and development done by Billing department and other divisions of Novotel Ltd. The steps that are taken as follows:

- Identifying the required data category and relevant sources.
- Collecting the secondary data from the respective sources.
- Compiling the data and analyzing them by using necessary tools and software.
- Making conclusions and recommendations.

## ***Limitations of the Study***

Some limitations can be mentioned which may have to be faced during the preparation of the report, which are-

- Limitation of this report is the lack of organized data.
- The limited scope of primary data restricted the fulfillment of some additional enrichment of the findings.

# Chapter: 3

## ***Telecommunications in Bangladesh***

The telecommunication sector of Bangladesh began with small steps in 1989 with the issuance of a license to a private operator for the provision of *inter alia* cellular mobile services to compete with the previous monopoly provider of telecommunications services the Bangladesh Telegraph and Telephone Board (BTTB). Significant changes in the number of fixed and mobile services deployed in Bangladesh occurred in the late 1990s and the numbers of services in operation have subsequently grown exponentially in the past five years.

**Calling Code:** +880 – SubCodes

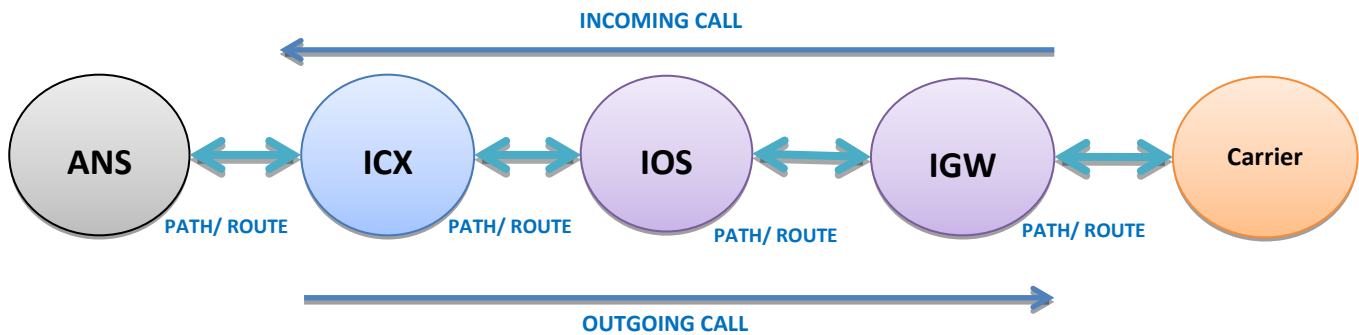
### Code System

- The area code has 1-4 digits.
- The Subscriber Number has 3-7 digits.
- The Trunk Prefix is "0".
- The international prefix is "00".
- The International code is "00880" or, "+880" (Bangladesh).

### ***Telecommunication Structure***

As defined in the National Telecommunications Policy 1998 and International Long Distance Telecommunications Services (ILDTS) Policy 2007, all mobile operators (ANS) is to interconnect through Interconnection Exchange (ICX) and all international calls to be handled by International Gateway (IGW) which is to be connected to the mobile and fixed operators through the ICXs. The Interconnection Exchange (ICX) will receive all calls from the mobile (ANS) and fixed operators whenever the call is made to other network and will pass it to the destination network if the call is local, and will pass to the IGWs through the IOS (IGW Operator Switch), if the call is international. ICX will also deliver calls received from IGWs where the call is destined.

Below illustrate the structure of interconnection between different interfaces.



Bangladesh Telecom Network Topology

## ***Different sectors of Telecommunication***

PSTN (Public Switched Telephone Network)

The PSTN or fixed operators in Bangladesh are:

- BTRC [Bangladesh Telecommunications Regulatory Commission] (*former BTTB*)
- Peoples Telecommunication and Information Services Ltd. – *Currently off air, License cancelled by BTRC*
- Ranks Telecom Ltd. – *Currently off air, license re-awarded*
- Tele Barta Ltd. – branded under the name Jubok phone – *Currently off air*
- Jalalabad Telecom Ltd. – branded under the name Bijoy Phone
- Onetel Communication Ltd.
- National Telecom Ltd. – *Currently off air, License cancelled by BTRC*
- Westec Ltd.
- Dhaka Telephone Co. Ltd. – *Currently off air, License cancelled by BTRC*
- Integrated Services Limited (ISL) – branded under the name Sheba Phone
- S.A Telecom System Ltd.
- Banglaphone Ltd.

### Mobile Phone Operators or ANS (Access Network Services)

There are 6 mobile phone operators in Bangladesh. These are:

1. Grameenphone Ltd.: Branded as **Grameenphone**
2. Orascom Telecom Bangladesh Ltd.: Branded as **Banglalink**
3. Axiata Bangladesh Ltd: Branded as **Robi**
4. Pacific Bangladesh Telephone Ltd.: Branded as **Citycell**
5. Teletalk Bangladesh Ltd.: Branded as **Teletalk**
6. Airtel Bangla Ltd. Branded as **Airtel** in process of merging with Robi.

### Long Distance Operators (as per ILDTS Policy 2007)

On February 25, 2008 the Bangladesh Telecommunications Regulatory Commission awarded licenses for 2 Interconnection Exchanges (ICX), 3 International Gateways (IGW), and one International Internet Gateway (IIG) to six firms through an open auction in February 2008. The incumbent BTRC got the same licenses too. And after then on April 12, 2012 the Bangladesh Telecommunications Regulatory Commission (BTRC) awarded licenses for 21 Interconnection Exchanges (ICX), 25 International Gateways (IGW), and 36 International Internet Gateway (IIG). In 2015, 7 IGW Operator Switch (IOS) licenses were granted and an additional layer was added to the voice protocol.

Here is the list of all operators:

### International Gateway (IGW) Operators

- 1 Asia Alliance Gateway Ltd
- BG Tel Limited
- Bangla Tel Ltd
- Bangla Trac Communications Ltd
- Bangladesh Int Gateway Ltd
- Cel Telecom Limited
- DBL Telecom Ltd
- DigiCon Telecommunication Ltd.
- First Communications Limited
- Global Voice Telecom Ltd.
- HRC Technologies Ltd
- Mir Telecom Limited
- Mos5 Tel Ltd.

- 14 Novotel Limited
- 15 Platinum Communications Ltd.
- 16 Ranks Telecom Ltd.
- 17 Roots Communication Limited
- 18 SM Communication Ltd.
- 19 Sigma Telecom Ltd.
- 20 Songbird Telecom Limited
- 21 Unique Infoway Limited
- 22 Venus Telecom Limited

#### Interconnection Exchange (ICX) operators

- 1 Agni Systems Limited
- 2 BTCL - ICX
- 3 Bangla ICX
- 4 Bangla Telecom
- 5 Bantel
- 6 CloudTel ICX
- 7 Cross World Telecom Limited
- 8 GAZI ICX
- 9 Getco Telecommunications Ltd.
- 10 IMAM Network
- 11 Integrated Services Limited
- 12 Jibondhara ICX
- 13 M & H Telecom
- 14 M M Communications Ltd
- 15 MicroTrade ICX
- 16 Mother Telecom
- 17 New Generation
- 18 Paradise Telecom
- 19 Purple Telecom
- 20 Ring Tech
- 21 S R Telecom Ltd
- 22 Softex Communication Ltd
- 23 Tele Exchange
- 24 Teleplus Newyork Limited
- 25 Vertex ICX
- 26 Voice Tel ICX





#### **IGW Operator Switch( IOS) Operator**

1. Bangla Trac Communications Ltd
2. Bangladesh Telecom Company Ltd
3. DigiCon Telecommunication Ltd.
4. Global Voice Telecom Ltd.
5. Mir Telecom Limited
6. NovoTel Limited
7. Roots Communication Ltd
8. Unique Infoway Limited

#### **International Internet Gateway (IIG) Operator**

1. Aamra Companies
2. ADN Telecom Ltd. Formally named Advanced Data Network System Ltd.
3. 1Asia Alliance Communication
4. Abir Telecommunication
5. Apple Communication
6. Bangla Phone Ltd
7. bdHUB
8. BD Link Communication Ltd
9. BSCCL
10. BTCL
11. Cybergate
12. Delta Infocom
13. Earth Telecommunication
14. Equitel Communications
15. Fiber @ Home
16. Global Fair Communications
17. Greenland Technologies
18. Intraglobe Communications
19. Level3 Carrier
20. Mango Teleservices
21. MaxNet Online
22. NovoCom
23. PeerEx Networks Limited
24. Radiant Communications Limited
25. REGO Communications



## Internet Protocol Telephony Service Provider (IPTSP) Operators

On August 18, 2009 the Bangladesh Telecommunications Regulatory Commission awarded licenses for IPTSP. IPTSP operators are regulated by the BTRC.

## Internet in Bangladesh

The first connectivity of internet was only in 1996. Though it was somewhat late, over the past few years the growth is rapid. The government's high internet tariff is impeding the growth of this sector. Recently the government is decided to reduce the tariff 50%.

**Internet Service Providers (ISPs):** As of 2005 more than 180 Internet Service Providers are operating in the country. ISP's are regulated by the Bangladesh telecommunication regulatory commission (BTRC).

"This increased internet penetration would resulted in 2.6 per cent contribution to the country's GDP by 2020 while creating 129 thousand more jobs by the same year" the research added.

## Broadband Internet Access

Though broadband internet access is available it charges high for high speed connection than other south Asian countries, though this is rapidly changing. Broadband internet and e-commerce in Bangladesh is slowly progressing. IMAX service is now available from some internet service providers. In Bangladesh **Broadband** is legally defined as 128/128 kbit/s, which is not in line with ITU. Therefore most of the Broadband internet services and also subscribers are using bandwidth that may not be considered a broadband in other countries and may not be broadband in international standards.

## International

There are 6 satellite earth stations. Talimabad, Betbunia are two of them. Some info shows that the number is now 7.

## Submarine cables

SEA-ME-WE 4 or South-East Asia – Middle East – Western Europe 4. The landing site is Cox's Bazar, Bangladesh. The second submarine cable SEA-ME-WE 5 deal has been signed and the landing site is at Kuakata, Patuakhali.

## Overview of the VoIP system

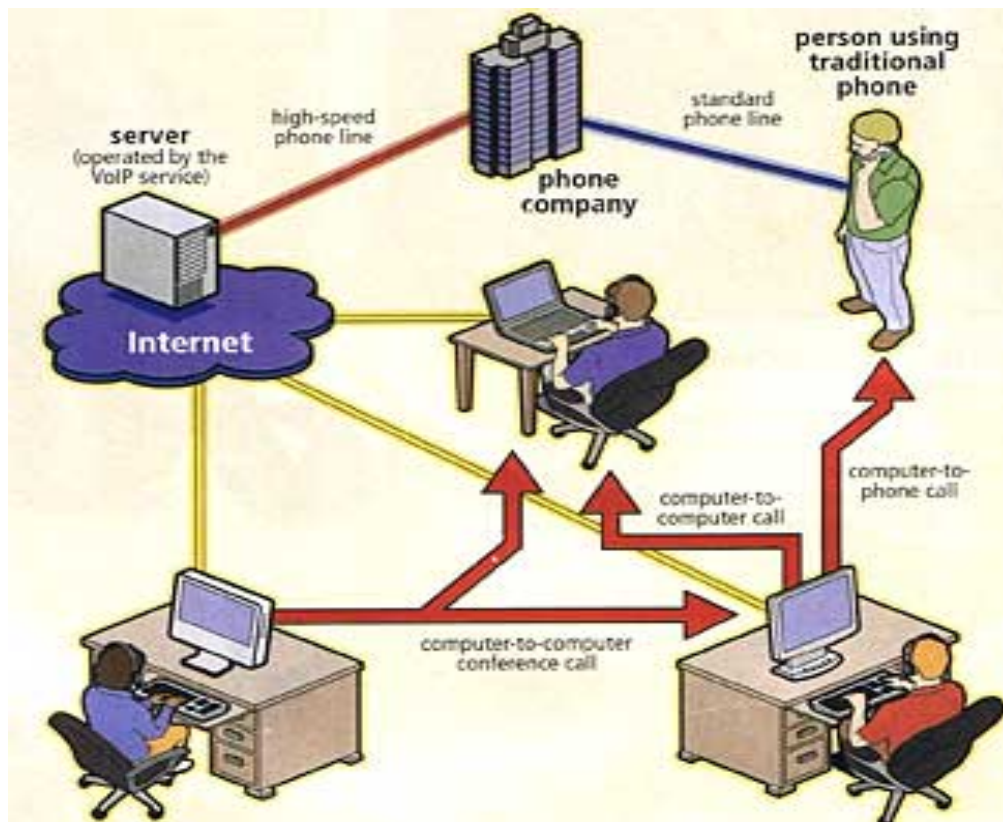
For over 130 years residential telephone communication has pretty much been done the same way, landlines using POTS (Plain Old Telephony Services). But now that's changing fast.

There are three ways to talk over the Internet and both use the term VoIP because they both use the Internet. ITSP and VoIP telecoms can also be considered in the same category since they both use your broadband and can use your existing phone.

- **VoIP Software** like Skype which require you to use your computer for outgoing and incoming calls.
- **VoIP Telecoms** like Verizon, Comcast, etc., you can use your existing telephone.
- **ITSP** also called Internet telephony service provider (ITSP) like Vonage, Broad Voice, etc., use your broadband service and your existing phone.

All VoIP types use software that converts your voice to a digital signal then sends it over the Internet as packets of data the same way that email and IM (Instant Messaging) and the Web works. The software then converts the digital signal back to your voice on the other end.

### VoIP Software

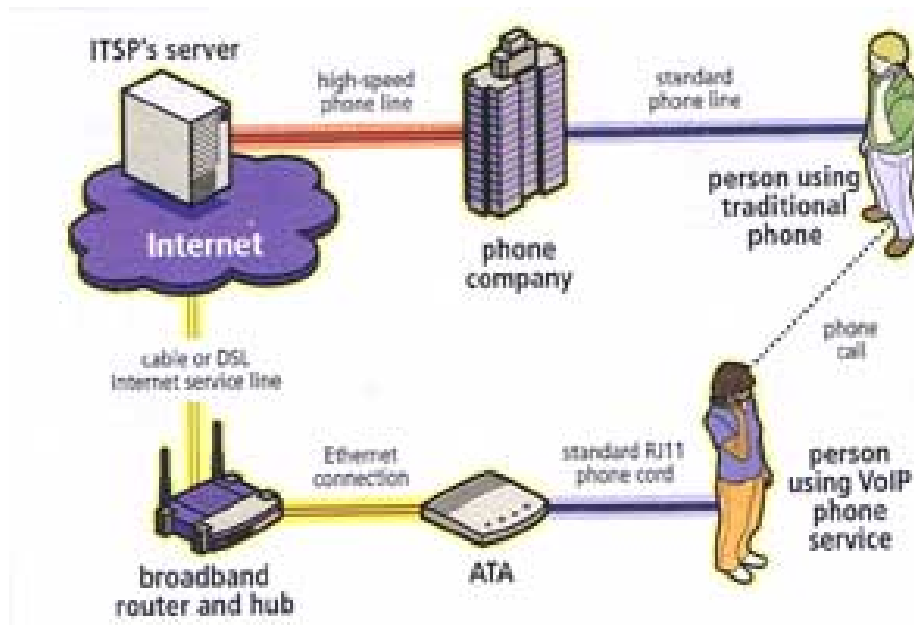


VoIP Software requires you to use your computer to place and receive calls. Skype Software started by offering free computer-to-computer service for users of their software. To talk computer-to-computer (free) you need computers with Skype software and headsets.

Skype now offers computer-to-phone service for a fee. To talk computer-to-phone (fee) you need a computer with Skype software and a headset or a special phone.

If you're going to be using VoIP software make sure you get software that is compatible with both PC/Windows and Mac/OS X.

### VoIP Telecoms & ITSP Internet Telephone Service Providers



When you subscribe to an ITSP such as Packet8, Vonage, or Broad Voice, you receive an analog telephone adapter (ATA), either through the mail or with the service bundle purchased at an electronics retailer. This ATA connects to your broadband router and your telephone, acting as a go-between and performing the signal translation that allows your analog telephone to communicate with the ITSP through your broadband connection service.

Telecom, cable, Internet companies, and independent operators have all jumped on the Voice over Internet Protocol (VoIP) bandwagon as a way to increase business on existing

equipment offering VoIP long distance phone service much cheaper than traditional service. They want you to switch from your old landline phone to their VoIP service. Companies like Verizon and Comcast offer a standard phone-to-phone type VoIP service so you won't need to invest in another (VoIP) phone. When you pick up your new Internet-connected phone, you'll hear a standard dial tone. You dial phone numbers the same old way, and your phone will ring as usual when you receive a call.

Telecom companies use the public Internet to transmit your call to the main phone switching system. With Comcast your call is transmitted over their broadband network to the main phone switching system. Comcast claims their network would be more secure. It's a pretty seamless switch from your current phone service especially if you use the big companies. Many people have already switched from landlines to using VoIP because of the lower price.

To use VoIP you'll need broadband access (DSL, Cable), an adapter provided by the VoIP service provider, and a computer and a headset or a VoIP phone plugged into your computer.



## VoIP Issues

Two issues with VoIP are

- **Quality and**
- **Customer service**

## ***Recent telecommunication scenario***

Presently there are 22 licenses for international gateways (IGW), 26 interconnection exchanges (ICX), 7 IGW Operator Switches (IOS) and 25 international internet gateways (IIG). IOS and IGWs deal with overseas call transfers, while ICXs offer interconnectivity services to telecom operators. IIGs supply bandwidth to internet service providers. Bangladesh's telecom market is too small for so many players and the larger IGWs dominate the business. To sustain all the IGWs and ensure no illegal VoIP calls were being channeled, the IOS layer was introduced between the ICX and IGW layers. A forum has been established as the regulatory and monitoring body called the IOF – IOS Operator Forum. All telecom operators have to connect with the IOS license holders, and around 6 crore international call minutes are distributed a day among the IGWs. The ANS, ICX, IGWs and IOS need to send their data to the IOF and the data are cross checked to ensure all entities are sharing revenue transparently with the government. The IGWs and IOS need to terminate a minimum amount of calls to stay in business. All the revenue generated is collected by the IOF in a Resource Sharing Pool (RSP). The revenue is then distributed as percentage among all the players. The 22 IGWs get equal share and the IOS get 1.9 times more revenue than the IGWs. Hence the 7 major companies who have both the IGW and IOS licenses dominate the market.

For IOSs in Bangladesh, the incoming rate has been fixed for all Carriers. In case of outgoing calls the rate varies according to destination. According to the Revenue Sharing rules of BTRC, IGW and IOSs have to pay 40% of their total revenue to BTRC. But due to the RSP system, the companies are now faced with a new issue of reduced cash flow. To tackle this new problem, some companies have started offering international carriers lower rates than set by BTRC to increase their call volume and in result their cash flow. The cost of restructuring the telecom sector and adding the IOS layer has also been high. Talks of annulment of this layer and reverting to the old structure are continuing, but that will also be cost consuming. How BTRC solves these new issues is now the real question.

# Chapter: 4

## *Theoretical Aspects of Risk Management*

Risk management is the systematic process of planning for, identifying, analyzing, responding to, and monitoring project risks. It involves processes, tools, and techniques that will help the project manager maximize the probability and results of positive events and minimize the probability and consequences of adverse events as indicated and appropriate within the context of risk to the overall project objectives of cost, time, scope and quality. Risk management is most effective when first performed early in the life of the project and is a continuing responsibility throughout the project's life cycle.

### General Risk Management Process:

1. Establishing Context
2. Risk Identification & Analysis
3. Risk Evaluation
4. Risk Treatment
5. Risk Monitoring & Review
6. Techniques to assist managers with Risk Management

There is a well-known Six Risk management processes, most of the business are following this model more or less:

1. Risk Management Planning
2. Risk Identification

### *Considerations:*

- ▲ Threats
- ▲ Opportunities
- ▲ Triggers

### *Further Considerations:*

- ▲ Residual risks
- ▲ Secondary risks
- ▲ Risk interaction

3. Qualitative Risk Analysis
4. Quantitative Risk Analysis
5. Risk Response Planning

*Strategies for Negative Risks or Threats include:*

- ▲ Avoid
- ▲ Transfer
- ▲ Mitigate

*Strategies for Positive Risks or Opportunities include:*

- ▲ Exploit
- ▲ Share
- ▲ Enhance

Strategy for both Threats and Opportunities:

Acceptance

There are two types of acceptance strategy:

- ▲ Active acceptance

Contingency Plan

- ▲ Passive acceptance

Workaround

## **6. Risk Monitoring and Control**

Risk monitoring and control keeps track of the identified risks, residual risks, and new risks. It also monitors the execution of planned strategies on the identified risks and evaluates their effectiveness. Risk monitoring and control continues for the life of the project. The list of project risks changes as the project matures, new risks develop, or anticipated risks disappear.

Risk control involves:

- ▲ Choosing alternative response strategies
- ▲ Implementing a contingency plan
- ▲ Taking corrective actions
- ▲ Re-planning the project, as applicable



## ***NovoTel Risk Management Plan***

Risk management has been considered as a central part of the organization's strategic management. It is the process by which NovoTel methodically addresses the risks attached to the activities with the goal of achieving sustained benefit within each activity and across the portfolio of all activities.

The focus of good risk management is the identification and response to these. The objective of a good Risk Management Plan is to add maximum sustainable value to all the activities of the organization. It assembles the understanding of the potential upside and downside of all those factors which can affect the organization. It increases the probability of success, and reduces both the probability of failure and the uncertainty of achieving the organization's overall objectives.

Eliminating risk to zero level is not possible. That is why the goal of this risk management plan is to manage the risks associated with pursuing opportunities that deliver NovoTel's business objectives in such a way that it can minimize the adverse effect. Planned policy requires the establishment and maintenance of a systematic process to identify, assess against criteria which are relevant to each business area or project, and respond appropriately to each risk. NovoTel is under process to establish other Policies in different area to provide a framework for managing specific risks which arise from business direction and strategic environment.

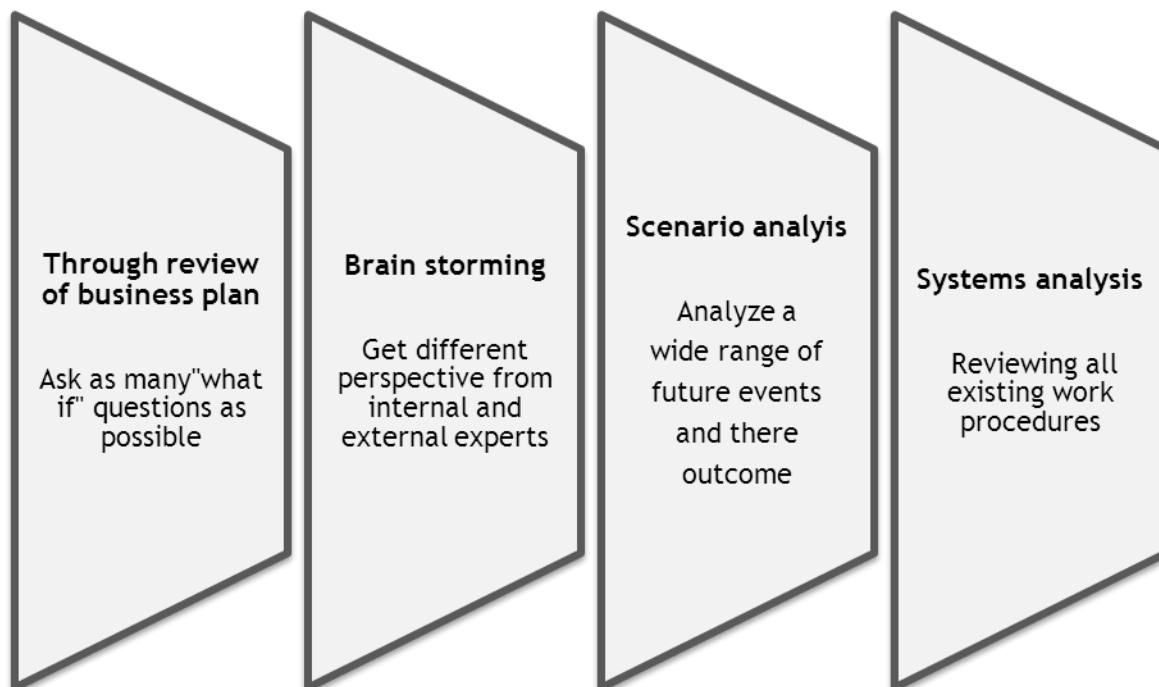
Gaining a clear understanding of the risks associated with a particular plan or decision should not be associated with negativity. On the contrary, effectively managing the risks reduces uncertainty and increases the likelihood of successful outcomes. This Policy supports:

- NovoTel Values by empowering it's people to face reality through robust risk identification and assessment processes, and by promoting a risk-aware culture that encourages honesty in reporting and responding to risk.
- Individual accountability through increased understanding of risk, assigning of risk ownership, and avoidance of misplaced blame for adverse outcomes where decisions have involved explicit disclosure and acceptance of risk.

This risk management plan documents the processes, tools and procedures that will be used to manage and control those events that could have a negative impact on this project.

## 1. Risk Identification Process

Every business faces risks that could present threats to its success. Risk is defined as the probability of an event and its consequences. Risk is the potential that a chosen action or activity (including the choice of inaction) will lead to a loss (an undesirable outcome). Almost any human endeavor carries some risk, but some are much more risky than others. To NovoTel, risk is the 'effect of uncertainty on objectives'. Uncertainties include events (which may or not happen) and uncertainties caused by a lack of information or ambiguity. NovoTel believes that being proactive to identify risks can help to avoid more than 90% of the loss that can occur. NovoTel ways of identifying risks are as follows:



## 2. Identified Risks

A risk is any event that could prevent the project from progressing as planned, or from successful completion. Risks can be identified from a number of different sources. Some may be quite obvious and will be identified prior to project kickoff. Others will be identified during the project lifecycle and a risk can be identified by anyone associated with the project. Some risk will be inherent to the project itself, while others will be the result of external influences that are completely outside the control of the project team. NovoTel team has overall responsibility for managing risks. Risk awareness requires that every project team member be aware of what constitutes a risk to the project, and being sensitive to specific events or factors that could potentially impact the project in a positive or negative way. Risk can be categorized as following:



### **a. Strategic Risk**

Strategic risks are those which can create obstacles to move a business entity towards its goals. Generally these types of risks are longer term. Common strategic risks of NovoTel IIG operations are:

#### **i) Management and Administrative Risks**

Telecom especially data network based business is completely technology dependant and these technologies are fast growing. NovoTel management, with the guidance of BTRC, will have to take prompt decisions to adapt with the new and most appropriate technologies which may come up in future. Risks may incur if the management fails to take the right decision at right times.

The owners of the organization will have to be properly synchronized while taking critical decisions quickly. The management might have to take decisions regarding merging or acquisition for strengthening and even amplifying business scopes.

Security of the premises and business confidentiality is of utmost importance. Risks may incur if there is any security hole in any of the POPs or locations for physical security leakage.

#### **ii) Failure to Maximize Customer Value**

Risks may arise in this regard if NovoTel's network plan and services fails to provide customers the desired satisfaction in terms of quality of service and price offering. Customers may lose trust if NovoTel fails to keep their promises frequently which can result in reduced market share.

#### **iii) Market Risk**

NovoTel is not the market pioneer. This entity will definitely face competition with the existing and newly licensed competitors. Again the market can change anytime which can introduce new challenges. NovoTel's market share can be heavily affected in changed scenario.

#### **iv) Risks with Supply Chain**

An organization's performance and service greatly depends on its supply chain management. If the relationship with any of this layer of the supply chain (ICX, ANS, internet service providers, ILDC service providers, NTTN, equipment vendors) is disturbed, NovoTel operation can be greatly affected.

Real time experience says that good supply chain management always helps to enhance service, mostly in emergency situations.

#### **b) Financial Risks**

Financial risks are associated with the business' financial structure and systems and the transactions that the business makes.

##### **i) Credit Risk**

NovoTel customers are ICX, ANS operator & other international telecom service providers. Telecom market structure involves huge cash flow in and out of the organization with competitive profit margin. Failure of payment of one party can jeopardize the cash flow of NovoTel. NovoTel will keep promises to its suppliers and BTRC for timely payment. So discontinuity/delay of payment from client-end is a great risk for healthy business cash flow.

##### **ii) Capital Risk**

Implementation and operation of an organization like IGW involves huge investment and pre- analysis for fund arrangement. NovoTel will also take required precautions to minimize all the known risks and arrange additional fund if contingency plans need to be taken. Still there are a lot of unknown risks which might require emergency fund and create capital problem.

##### **iii) Increased Interest Rate**

Besides owners' equity NovoTel have to arrange loan. Increased interest rate on loan is a potential threat for NovoTel business as this will increase the investment value.

iv) Change in Foreign Exchange Rate

IGW business is involved with a lot of foreign parties. The local partners will be paying NovoTel in BDT while NovoTel will be paying the foreign parties in USD. So change in foreign currency exchange rate can greatly affect the business of NovoTel.

v) Ineffective Infrastructure Investment

To cope up with the progressing technology and market demand, NovoTel will have to analyze, foresight and take decisions regarding network expansion or investments proactively. Any wrong assumption can result in wastage of investment and create capital problem.

**c) Operational Risk**

Operational risks are associated with the business' operational and administrative procedures. These include:

i) System Failure

NovoTel has planned its network considering redundancy at each level to avoid any single point of failure. Still telecom system behavior is not always predictable and 100% fault tolerant. System failure or malfunctioning in different areas like network, accounting, revenue assuring or IT is always a risk for a business like IGW.

ii) Inappropriate Business Practice

Customer satisfaction and service depends upon the front line employee's skills and behavior. Lack of skill or negligence due to lack of employee motivation can directly affect the business of NovoTel.

iii) Technical Operation Risk

Most of the technical operation always need up gradation. Almost all of them include multiple check points and are subject to error. NovoTel will provide 24/7 technical

support and engineers will be working on shifts. Any sort of miscommunication can also increase the risk of operational fault.

#### iv) Stake Holders Behavioral Change

Smooth operation of IGW requires extreme coordination from all the stakeholders like vendors, customers, suppliers, other service providers and even employees. On emergency situation they might have to work overtime to serve the customers better. Any sort non cooperative or rigid behavior of any one layer can disturb the overall service.

#### v) HR Allocation and Management

Human resource can put the operation in risk under the following circumstances:

- If right people are not recruited
- If right resource is not allocated in the right place with the right responsibility and authority
- If employees are suffering from lack of motivation

#### vi) Internal Fraud

Every employee will have access to some confidential and business sensitive information to their own extent. It is their responsibility to maintain the secrecy of the organization from their level. If any employee leaks some important information to the competitors due to lack of motivation or personal gain, it can put NovoTel business in threat.

#### vii) External Fraud (WAN Security Threat)

WAN Security Threat is a vital risk for network to ensure seamless uptime and proper use of network resources. A security hole in the network can make the overall network exposed to external parties. Recovery from this sort of incident would be time consuming for an important entity like International Internet Gateway. Following are the areas of WAN security threat:

- Systems Configuration

Often, available access control mechanisms, default configuration values remain present can make the system vulnerable.

- Out of Date Software

Prior to discovery, there is no way for an organization to be aware of the existence of the problem.

- Insecure Network Design

Vulnerability may exist in network design itself if the network topology is fundamentally insecure, the design of the network neglects security concerns or the configuration of the applications implemented on the network is inadequate.

#### d) **Compliance Risk**

##### i) Change in Regulatory Policy

NovoTel has primarily fulfilled all the regulatory compliances mentioned in the guideline. However if there is any change in regulatory policy NovoTel will adapt to the changes accordingly. To make this adoption business risk may incur.

##### ii) Uncertain Number of License

The guide line on IGW services does not define the specific number of license for this operation. This is a potential risk for business case development. Issuing higher number of licenses by BTRC can reduce the IGW market share for NovoTel.

##### iii) Technological Enhancement

Data network communication business is based on progressive technology. NovoTel will try to update its operation maintaining all the compliances defined by BTRC. But still there is scope of straying. This can put the whole business under risk.

#### e) **Environmental Risk**

##### i) Natural Disaster

NovoTel will finalize the location of the premises and POPs considering the natural factors. But the risk of natural disaster is beyond the control of the organization.





**ii) Political and Economic Instability**

The political and economic state of the country may influence the operational and business policy of NovoTel to a great extent.

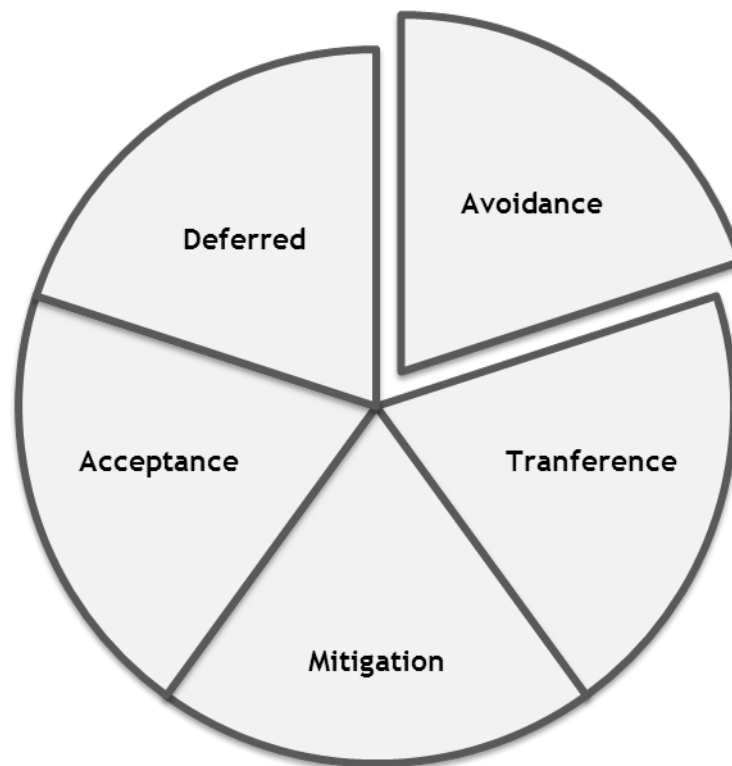
## ***NovoTel Risk Response Strategy & Plan***

Risk response strategy and plan is the practice of using processes, methods and tools for managing these risks. NovoTel risk management focuses on identifying what could go wrong, evaluating which risks should be dealt with and implementing strategies to deal with those risks. Businesses that have identified the risks will be better prepared and have a more cost-effective way of dealing with them. After identifying the risk NovoTel management will analyze, evaluate to identify the correct response.



## 1. Risk Response

For each identified risk, NovoTel has identified the response. The NovoTel team will need the best possible assessment of the risk and description of the response options in order to select the right response for each risk. The probability of the risk event and the impacts will be the basis for determining the degree to which the actions to mitigate the risk should be taken. One way of evaluating mitigation strategies is to multiply the risk cost times the probability of occurrence. The possible response options planned by NovoTel are:



### a) **Avoidance Plan**

Strategically NovoTel follows risk avoidance plan with highest priority for all its operations. NovoTel takes steps to reduce the probability and/or impact of a risk like-taking early action, close monitoring, more testing, etc. before approaching for service to customers and suppliers.



NovoTel always keeps in survey to ensure its market reputation, footprint etc. NovoTel engages it's highly professional technical team to visit overseas suppliers. But still to move forward with the business and technological advancement some risks may appear. In those cases the response is properly planned and other risk response methods have been adapted as and when required.

**b) Transference**

Risks which will be transferred to a third party fall into this category. NovoTel will transfer those risks which cannot be mitigated by NovoTel itself. Still NovoTel is closely tracking and guiding the activity of the third party time to time.

**c) Mitigation**

Risk mitigation is the second most vital risk response method which has been adapted by NovoTel. NovoTel aims to equip itself in such a way which will enable it to mitigate most of the risks which cannot be avoided on its own. NovoTel has recruited a highly skilled technical, research team, marketing and financial team to be able to reduce the risk impacts themselves. In risk transfer cases, a corresponding team from NovoTel will work closely with the customer, supplier or third party for faster solution.

**d) Acceptance**

There are some others risks which are accepted by NovoTel. Before choosing acceptance as a response NovoTel gives its concern deeply to analyze if mitigation method can be taken. In acceptance cases NovoTel accepts the cost, schedule, scope, and quality impacts if the risk event occurs and diverts the original operation to contingency operation.

**e) Deferred**

A determination of how to address this risk will be addressed at a later time by NovoTel.

## 2) Response Strategy and Plan for Identified Risks

### a) Strategic

Strategic risks are those which can create obstacles to move a business entity towards its goals. Generally these types of risks are longer term. Common strategic risks responses are:

#### i) Management and Administrative Risks (Avoidance & Mitigation)

NovoTel has comparatively flat organizational structure where all the employees and management can properly update with most of the operational activities as well as the progress of the technology. This mitigates the scopes of wrong business decisions regarding technological up gradation.

NovoTel has installed strict access policy to the system to ensure the security of the equipments and information. All the premises have been properly equipped with firefighting solutions, fire exits and access control system. Besides this all the critical points of all the premises have been under surveillance of CCTV camera. In case of any incident the management is able to backtrack by going through the tapes and take measures so that it does not happen again.

#### ii) Failure to Maximize Customer Value (Avoidance & Mitigation)

NovoTel has train its entire customer facing employees to enhance their skill of customer service delivery. NovoTel also runs regular survey on its customer satisfaction and dynamically upgrade the business process to improve the service. NovoTel also arrange regular training for its employees to enhance their skills for customer support.

#### iii) Market Risk (Acceptance)

NovoTel management and partners have adequate knowledge and experience in telecommunication market to foresight and compete in the existing and changed market scenario. NovoTel investors and shareholders have emergency fund management to

sustain loss with reduced market share in crisis situations. Management team reviews the marketing strategy time to time.

iv) Risks with Supply Chain (Mitigation)

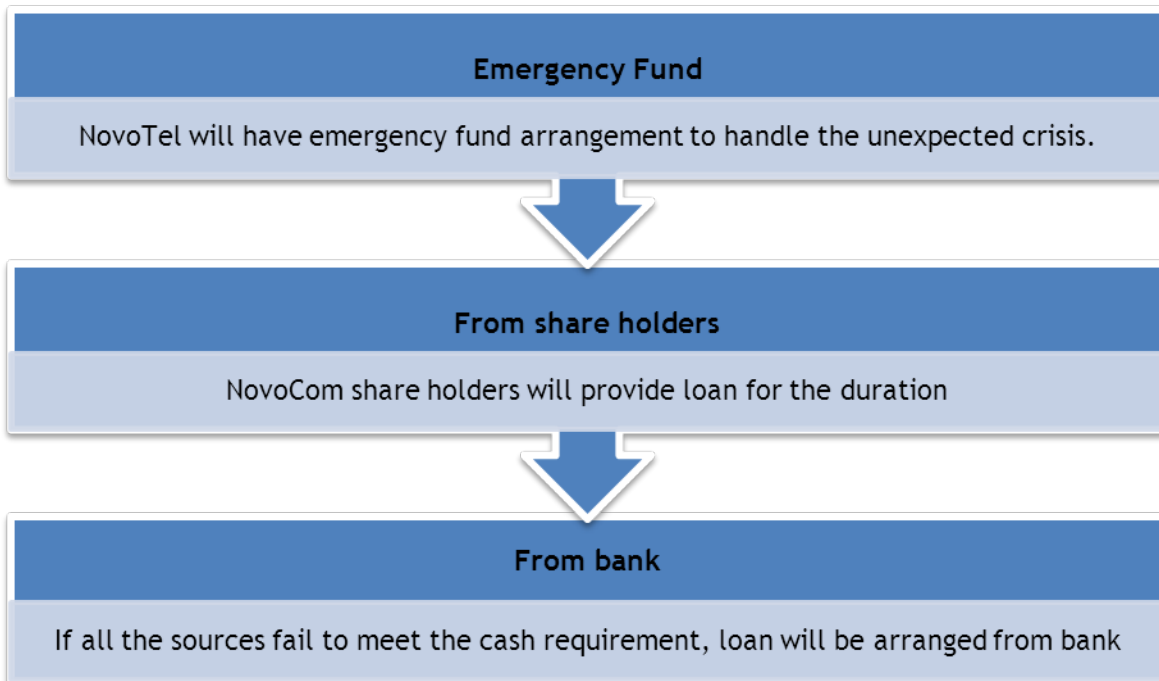
NovoTel understands and values the relationship with its stakeholders. NovoTel and its shareholders already have good relationship with all the layers of the supply chain (ICX, ANS, ILDC service providers, international customers & suppliers, NTTN, equipment vendors). In case of any degradation with the relationship the top management will be involved and they will put their maximum effort to rebuild the relationship.

b) **Financial Risks**

The objective of financial risks responses are to ensuring enough fund to cope up with any sort of financial risks.

i) Credit Risks (Mitigation)

To sustain the credit risks NovoTel will arrange cash from following sources:



ii) Capital Risks (Avoidance)

NovoTel has taken insurance for all critical and expensive assets. This will provide great safety and help to avoid capital risk.

iii) Increased Interest Rate (Acceptance)

NovoTel has premium corporate agreement with the banks. The banks always send advance acknowledgement to NovoTel regarding change in interest rate. This helps NovoTel to get prepared and readjust its business plan. If the rate is adjusted from central bank, NovoTel will accept and adapt with contingency plan.

iv) Change in Foreign Exchange Rate (Acceptance)

As all the customers are at national end (some are international) and almost all the suppliers are at international end, change in foreign exchange rate is a threat for NovoTel IGW business. Apart from, NovoTel always maintain forward contract with its respective bank and sometimes make deal for currency swap. In critical situation NovoTel will seek for BTRC guidance regarding the changed scenario.

v) Ineffective Infrastructure Investment (Avoidance)

NovoTel top management always ensures participation of operational key personnel and employees in network planning. This will mitigate the scopes of wrong business decisions regarding unnecessary infrastructure investment.

c) **Operational Risk**

Operational risks are associated with the business' operational and administrative procedures. These include:

i) System Failure (Mitigation)

NovoTel has planned its network considering redundancy at each level to avoid any single point of failure. NovoTel technical team continuously audits the system and work in close



communication with the vendors to minimize the system failure. Nodes are being upgraded to the latest available version with close supervision of vendors to minimize the system failure risks.

ii) Inappropriate Business Practice (Avoidance)

NovoTel is providing structured training to all its front line employees (technical, customer care and marketing, finance team) to enhance their skills and organizational behavior. NovoTel also reviews the motivation level of its employees to get their best performance.

iii) Technical Operation Risk (Avoidance and Mitigation)

NovoTel maintains and continuously updates proper standard operational procedures (SOP) for all its major operations. Vendor escalation and inventory backup has been maintained in an organized way. NovoTel also ensures properly skilled technical personnel at responsible places and provide vendor training where necessary.

iv) Stake Holders Behavioral Change (Mitigation)

In case of any behavioral change of stakeholders due to changed market scenario or degradation with the relationship, the top management will be involved and the put their maximum effort to rebuild the relationship.

v) HR Allocation and Management (Avoidance & Mitigation)

NovoTel HR maintains strict policy for recruitment. Managers of each department will make sure that their teams are properly skilled, occupied with right responsibility and motivated. If still any scope of risk is identified in this area, HR department will take the lead to address it by resource reallocation.

vi) Technology Shift (Acceptance)

In case of technological shift NovoTel management has no option but to arrange new investment and adapt with the new technology.





vii) Internal Fraud (Avoidance & Mitigation)

NovoTel HR maintains strict NDA with all its employees and continuously follows up and also educates each of them about the value of the information. NovoTel will also try its best to keep its employees motivated. In extreme case NovoTel will go for legal action.

viii) External Fraud from WAN Security Leakage (Avoidance & Mitigation)

To find and fix these flaws in the network, NovoTel will deploy a Network Security and Vulnerability Audit tool “WAN Security Auditing” by SAS Group.

d) **Compliance and Regulatory Risk**

i) Change in Regulatory Policy (Acceptance)

NovoTel will adapt with the changed regulatory policies under the guidance of BTRC.

ii) Uncertain Number of License (Acceptance)

NovoTel will adapt the business case with the final number of licensees.

iii) Technological Enhancement (Avoidance & Mitigation)

NovoTel compliance monitoring team continuously monitors every operational process inside the organization. While adapting with new solutions if NovoTel accidentally stray from any compliance NovoTel management will act immediately to revise it. NovoTel will have a compliance checking mechanism inside the organization against every major operation.

e) **Environmental Risk**

i) Natural Disaster (Acceptance)

NovoTel will finalize the location of the premises and POPs considering the natural factors. Moreover NovoTel has planned its network considering site redundancy (two

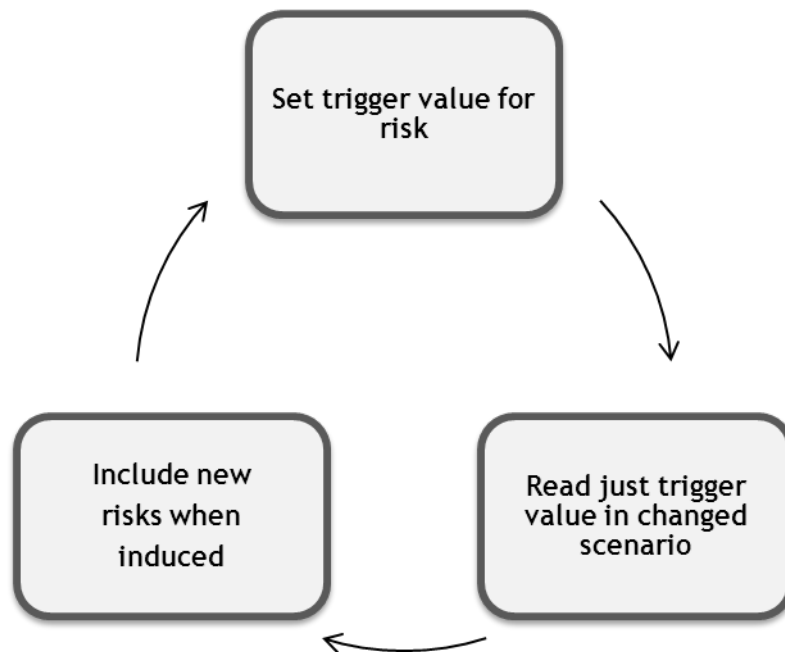
central POPs running in active-active mode). In case of any disaster while operating the IGW services, NovoTel redundant site will keep NovoTel up. Contingency team will take lead on this.

ii) Political and Economic Instability (Avoidance & Acceptance)

The political and economic state of the country may influence the operational policy of NovoTel to a great extent. NovoTel management will be updated with the political and economic status of country and will review the operational strategies.

### 3. Risk Tracking

NovoTel usually tracks each risk and triggers value to set for each one for quantitative analysis of status. NovoTel also analyzes the effect on the trigger values due to changed scenario (market or technology) and try to adjust the trigger value accordingly. NovoTel will also include new risk factors which will be induced with time.



NovoTel monitors above on three time frames:

- **Constant:** Many risks in operations monitors constantly or at least many times each day.
- **Periodic:** NovoTel periodically reviews the top risks list, looking for changes in the major elements. NovoTel does staff meetings, advisory board meetings, so on.
- **As-needed:** In some cases, someone may simply notice that part of a risk has changed or a new risk need to be included. This should still be tracked and recorded.

#### 4. Risk Reporting

NovoTel is conducting several risk status reporting. The reporting includes the following:

Routine Report	SOP
<ul style="list-style-type: none"> <li>• Will include the quantitative status of all the risks</li> <li>• Risks which are close to trigger value will be addressed in advance</li> </ul>	<ul style="list-style-type: none"> <li>• SOP will be maintained in an organized way</li> <li>• After trouble shooting and mitigation of a risk situation, the SOP will be updated when required</li> </ul>

NovoTel also maintain Risk Management Template for its proper risk response. (Annexure)

# Chapter: 5

## *Environmental Analysis of NovoTel*

### **Internal Analysis**

#### **Organizational Resources of NovoTel**

- Skilled human resources
- Sound & advanced Technology
- Highly experienced Leadership
- Strong technical team
- In house developed tools Like- Carrier management system, billing management system etc.
- Goodwill and reputation for providing quality services.
- Fully equity financing.

#### **Organizational Capabilities of NovoTel**

- Strong management team and leadership
- Developed technical infrastructure and distribution channel.
- NovoTel can terminate 20 million international calls per day through its efficient routing network.
- Effective planning and implementation in case of risk management & other aspects.

#### **Core Competencies of NovoTel**

- Critical expertise and know-how's in the telecom sector.
- Efficient and highly skilled human resource.
- Best technological resources.
- Strong routing and network planning for effective call termination.
- Doing business with world well-known foreign carriers.
- Effective financial & risk management team
- NovoTel has some other strong business portfolio like' textile, airlines, ITC & IIG service execution.

## Four Criteria of sustainable advantages

Unique resources, capabilities, and competencies are required for sustainable competitive advantage. By studying the internal environment, firms identify what they can do.

- Sustainability of a competitive advantage is a function of:
  - The rate of core competence obsolescence due to environmental changes.
  - The availability of substitutes for the core competence.
  - The difficulty competitors have in duplicating or imitating the core competence.

Valuable capabilities allow the firm to exploit opportunities or neutralize threats in its external environment. By effectively using capabilities to exploit opportunities, a firm creates value for customers.

- **Valuable Capabilities:** That helps a firm to neutralize threats or exploit opportunities.
- **Rare:** That is not possessed by many others
- **Costly to Imitate:** A unique and a valuable organizational culture or brand name that is hard to imitate by the competitors
- **Non-Substitutable:** There is no strategic equivalent.

## Four Criteria Test for NovoTel

Valuable	Rare	Costly to imitate	Non-Substitutable
Yes	No	Yes	No



**Moderate Competitive Advantage**



**Above Average Returns**



## SWOT Analysis

### Strengths

Novotel has been able to gain several strongholds into the telephony market because of the innovativeness of the services. This section will examine some of these strengths that Novotel Currently maintains over their competitors.

- Strong network coverage.
- Virtual Telephone Numbers.
- Rapid telecom network growth.
- Related-Unrelated business portfolio; IOS, IIG & ITC, NovoAir, Tusuka Textile.
- Leader in Bangladesh Telecom Market.
- Using tools- NovoTel are executing different useful tools for its smooth operations. Like- Carrier management system, Billing management system etc.
- Leadership Team-NovoTel has the benefit of having a truly visionary management team.
- Simplified Billing-The simplified billing procedures of Novotel are strength
- Standard Phone Interface

### Weaknesses

This section will examine the weaknesses that Novotel faces. These weaknesses aren't really specific to Novotel but rather more of an artifact of the VoIP technology.

### Regulatory Issue

This IGW operation is fully controlled by BTRC. In everyday around 60 million international calls have been terminated. Among this, 25% call has been terminated by BTRC and rest of the calls have been shared by existing IGWs. Apart from, BTRC has regulated the call percentage share between ICX and IGW. Although NovoTel has more capacity to transfer more international call, but it doesn't have enough option for increasing calls termination. IGW cannot transmit more than certain volume of international call as per BTRC regulation.

## Threats

Since BTRC has issued 7 Licenses for IOS, that has created competition in the market. This will as so affect the market position of NovoTel. Every day, around 60 million of international calls are made to and from Bangladesh, which were till now managed by 7 IGW operators. However, now with the changed scenario, the 60 million will get divided into many IGW operators, leaving each with very less share. This will pressurize IGW operators to optimize their investment and plan out different strategy for customer base. Looking at the optimized investment, new IGW operators will now target IP carriers. They will look forward to lock IP carriers with local & international support, also who can offer competitive prices. In this massive competition of IGW operators, the one who will roll-out its operations first, will surely have an edge over others in the Telecommunication sector. Also, building relationships with IP carriers will help new IGW operators in the long run.

## Opportunities

Though there is new scenario in VoIP operation and other IGW and IOS will share existing international call termination, but after an investment of Tk 50 crore to Tk 60 crore on equipment and Tk 15 crore in license fees, it won't be easy task for new companies to make profit. To earn from the business, the companies may adopt illegal channels, analysts said. It is suspected that half of all the international calls come to the country through illegal ways. They also said it will be tough for government agencies to monitor the calls. Tk 500 crore will be needed to buy equipment from abroad for the new internet gateways. Since NovoTel has learning curve advantages for involving this VoIP sector earlier, that's why it will create new opportunities to capture new licensed ICX and more foreign carriers. Apart from, recently NovoTel has got license for IIG & ITC operation, this will help to make more related business portfolio.

## External Analysis

### Porter's five forces Model

Porter's five forces analysis is a framework for industry analysis and business strategy development formed by Michael E. Porter of Harvard Business School in 1979. It draws upon industrial organization economics to derive five forces that determine the competitive intensity and therefore attractiveness of a market. Attractiveness in this context refers to the overall industry profitability. An "unattractive" industry is one in which the combination of these five forces acts to drive down overall profitability. A very unattractive industry would be one approaching "pure competition", in which available profits for all firms are driven to profit. Three of Porter's five forces refer to competition from external sources. The remainders are internal threats. Porter referred to these forces as the micro environment, to contrast it with the more general term macro environment. They consist of those forces close to a company that affect its ability to serve its customers and make a profit. A change in any of the forces normally requires a business unit to re-assess the marketplace given the overall change in industry information. The overall industry attractiveness does not imply that every firm in the industry will return the same profitability. Firms are able to apply their core competencies, business model or network to achieve a profit above the industry average. As an industry, profitability is low and yet individual companies, by applying unique business models, have been able to make a return in excess of the industry average.

Porter's five forces include - three forces from 'horizontal' competition: threat of substitute products, the threat of established rivals, and the threat of new entrants; and two forces from 'vertical' competition: the bargaining power of suppliers and the bargaining power of customers.



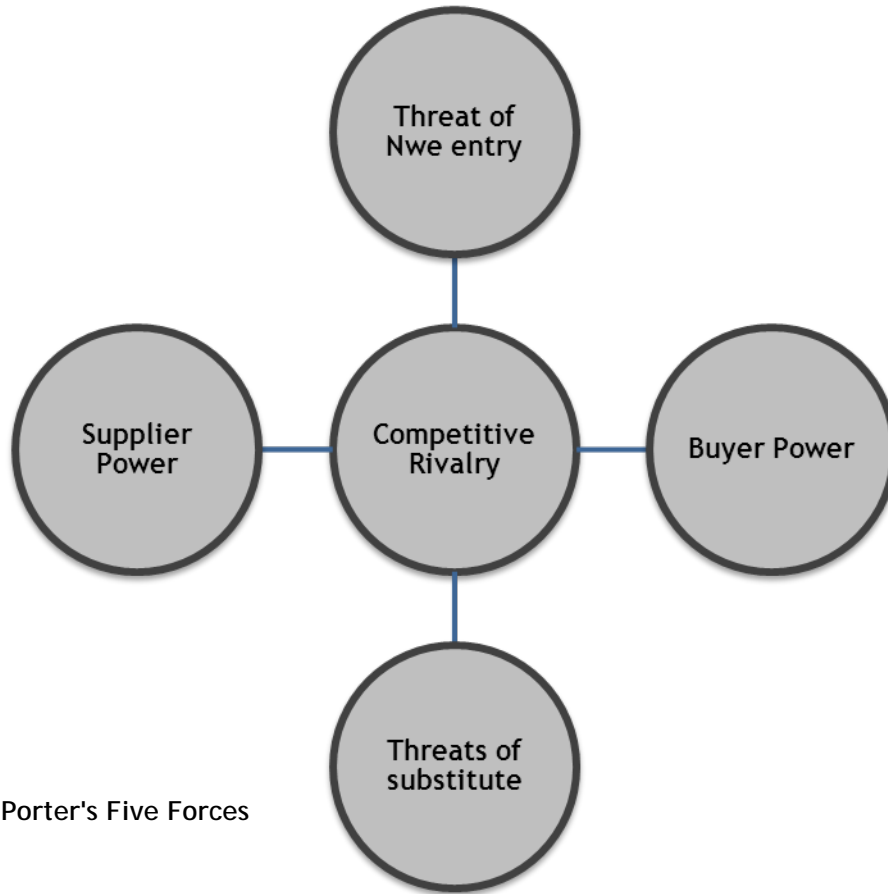


Figure 1 - Porter's Five Forces

This five forces analysis is just one part of the complete Porter strategic models. The other elements are the value chain and the generic strategies. Porter developed his Five Forces analysis in reaction to the then-popular SWOT analysis, which he found un-rigorous and *ad hoc*. Porter's five forces are based on the Structure-Conduct-Performance paradigm in industrial organizational economics. It has been applied to a diverse range of problems, from helping businesses become more profitable to helping governments stabilize industries.

## Porter's analysis on NovoTel

### Threats of potential new entrants

Threat from new entrances is an important consideration for any business industry. NovoTel and other IGW operates are also influenced by this force. It can be understand through considering following aspects:

- ▲ Entry barrier: In Bangladesh, VOIP service was highly restricted for a long time and this was fully controlled by BTRC. But recently, BTRC has changed the structure and rules. So, it will create new competition in telecommunication sectors.
- ▲ Service differentiation: Usually IGWs can not offer different line of service like mobile operator. On the other hand, all existing IGW's offered services are more or less same. So, it can be an entry barrier for new market players as well it will difficult for new entrance to attract existing market customers.
- ▲ Capital requirements: Huge amount of investment is required to set up an IGW operation. Since this IGW operation is fully technological based and it is required to arrangement expensive machinery & technical equipment. That's why, it isn't always an easy task to enter in this sector for any interested business players.
- ▲ Economies of scale: In telecommunication industry economies of scale is an essential issue. Existing players of IGW operators have been executing international call transmission for the last many years and for that reason they are availing economies of scale. Since, NovoTel came very earlier in this sector, so it is having additional economies of scale from others.
- ▲ Access to distribution channels: Existing IGW services providers have own line of distribution channel in different destination with many telecom service providers over the world as well as national customers (Like; IOS, ICX, ANS, IPTSP, PSTN). So it will be a tough job for new entrance to access to all distribution channels.
- ▲ Learning curve advantages: Learning curve is a major consideration measurement for telecommunication industry. Since NovoTel and other 2 players have been doing business for quite earlier, so they are availing learning curve advantages. But later licensed IGWs should spend few years to have learning curve advantages.

*Threats of potential new entrants for NovoTel: moderate*

### **Threat from Substitute Services**

In case of any business scenario, availability of substitutes creates additional competition. For IGWs in Bangladesh is that, there are various mobile apps like Viber, Facebook, IMO etc that offer voice and video calls for free. In many countries such apps are banned to boost their voice call business, but it is yet to happen in Bangladesh. Apart from, if any business presence has been found and they are executing in international call transmission that will be considered illegal VOIP practices.

*Threats from substitute products for NovoTel: High*

### **Bargaining power of customers (buyers)**

Although NovoTel has come in IGW operation quite earlier, but now we have 21 other IGWs operators in the market. So, customers have several options to choose any operators. To understand the NovoTel position in the market, we can focus on following areas:

- ▲ Buyer volume: In case of IGW service, buyer can be different international telecom service providers around the world and at the same time buyer can be national ICX, ANS & other related service providers. So the buyers of IGW service facilitators are good enough. However IGW operators always try to offer different service facilities to attract and retain its existing customers.
- ▲ Size of each order: Huge number of international calls has been transferring from Bangladesh to different countries and international calls are transferring in Bangladesh. Day by day this volume is increasing and buyers are trying to get connect with one of the IGWs, who offers competitive rate.
- ▲ Buyer concentration to firm concentration ratio: There are 22 market players and everyone is offering similar service but rate may differ from others, that's why buyers can choose any IGWs, who gives lower rate as well gives quality service.
- ▲ Degree of dependency upon existing channels of distribution: Since, NovoTel is providing better service with competitive rate, that's why existing customers

are not being interested to connect with other operators, because all are offering relatively similar services.

- ▲ Buyer switching & bargaining leverage: Since, all IGW operators are offering similar facilities, for that reason buyers are free to connect with any operators. All market players are trying to attract their customers through offering comparatively lower rate than others as well.
- ▲ Buyer information availability: Usually information of this IGW sector is available for its buyers or service facilities. In Bangladesh, ICX, ANS, PSTN and other related buyers are much concern about this IGW. Apart from, IGWs are offering their service through mail and having participation in different international program related to VOIP operation.
- ▲ Availability of existing substitutes services: There are no more exact or licensed substitute service exists in telecommunication sector related to this IGW operation. So buyers can not easy consider other service operators as IGW substitute.
- ▲ Buyer price sensitivity: In case of IGW service, usually buyers are always looking for comparatively lower rate in different destination from others before considering quality.
- ▲ Differential advantage (uniqueness) of industry services: NovoTel always try to maintain quality service in different destination around the world. But other market players are trying to emphasis such selected destination to connect the service.

*Threats of bargaining power of customers for NovoTel: moderate*

### **Bargaining power of suppliers**

IGW operation is the execution of international call termination of incoming and outgoing. So suppliers can be both national and international calling service operators.

Number of supplier:

- Volume:

The main suppliers of this IGW would be the international telecom operators. Apart from our national ICX, ANS, PSTN and other related telecom service provider can be the



supplier of international volume. Since, there are huge amount of international volume, NovoTel is offering lower rate for national telecom service providers, because ICX service providers were limited and trying to get involve in agreement with international telecom service providers, who offers lower rate but gives quality service for international call supply.

- Infrastructure & other services:

NovoTel partners with the leading global and regional network equipment providers. NovoTel partnered up with Ericsson for the installation of the International Gateway (IGW). NovoTel has chosen Ericsson's Marconi Optical Multi Service platform which are cost effective, scalable and flexible to meet the needs of the networks today and in the future. NovoTel has already deployed the Billing Platform of INTECI - the most comprehensive and powerful settlement system of the world, handling every kind of traffic, from simple voice to the most advanced content and data services, in a single, highly integrated platform. NovoTel is also partnered with GENBAND which is a leading global supplier of next-generation IP gateways, session border controllers and FMC security solutions.

So it is easily assume that, all this supportive brands are worldwide well-known. They will provide all required service at premium rate, because they always maintain quality service. Moreover, NovoTel can expect that, they won't have enough option to pursue these supportive brands.

- Uniqueness of service:

NovoTel always try to maintain quality service for their customers. Since this IGW operation is fully technological based, that's why NovoTel need to set up superior infrastructure and they need quality supplier for this development. In this case supplier are limited like; Ericsson, INTECI & GENBAND and for this reason they can have more bargaining power with all IGW operators.

*Threats of bargaining power of supplier for NovoTel: High*

## **Intensity of competitive rivalry**

For most industries, the intensity of competitive rivalry is the major determinant of the competitiveness of the industry. Though NovoTel, Mir telecom & Banglatrac have entered this IGW operation very earlier, but recently some approved IGWs are coming in their operation. To understand the competition of NovoTel rivals, we need to focus on following aspects;

- ▲ No of competitors: In Bangladesh only 3 IGWs have been operating since 2008. But recently BTRC has approved other licenses and this has increased huge competition in telecommunication market for (60 million per day) international call transfer. Earlier market share was along with only 3 IGWs, but this time it will be divided in 22 IGWs.
- ▲ Competitor's position: Presently, the main competitors of NovoTel are Mir telecom and Banglatrac communication. Like NovoTel, Mir telecom is also in better position and offering quality & competitive price for existing market customers. Now a days Banglatrac is trying to capture more market for international call transmission. Apart from newly licensed IGWs will try to capture market share and that will be a tough job for NovoTel to maintain their existing market position.
- ▲ Service uniqueness: NovoTel always give concern for ensuring quality service in case of international call transmission. Apart from it focuses on different destination and countries of the world. But most of the cases NovoTel try to connect through some Indian telecom service providers and this reduces cost. On the other hand Mir telecom tries to get connected around the world through some middle-east telecom service providers. In this case Banglatrac is focusing on European countries.
- ▲ Sustainable competitive advantage through innovation: All the market players of IGW are always offering some new and updated service for their customers. They know, if they can offer new service, it will give them competitive advantages over its rivals.
- ▲ Level of promotion: In the part of service promotion NovoTel and other IGW operators are participating different international telecommunication fair and related conferences.
- ▲ Powerful competitive strategy: Mir telecom has no other related service like IGW and IOS operation. In case of Banglatrac, it has no other related operation. But recently NovoTel has got 2 licenses for IIG and ITC and these may help to have



more competitive advantages in telecommunication operations in future competition.

*Threats of competitors for NovoTel: moderate*

After above analysis, this can be said that, this International Gateways sector will be an attractive business prospects for NovoTel.

## **Corporate level Strategy Analysis of NovoTel**

Now a days Novotel is an established IGW operators in Bangladesh. To maintain its market position, it always gives more concern on corporate level strategy. Since 21 more IGW, 25 ICX are in their operation and these licensed companies create more competition in this telecommunication sector for international call transmission. That's why considering mass competition NovoTel is always executing such corporate level strategies;

### **Business Diversification**

NovoTel has such related and unrelated diversified businesses practices, which help NovoTel to capture more market position in different level of business.

#### **Related diversification:**

1. NovoIDD: NovoIDD concept is quite related to International call transmission through NovoTel operation. This NovoIDD is a platform, to connect the retail user across the world with their mother nation. It means NovoIDD is a retail platform, where retail subscribers can dial directly from internet phone anywhere wants to connect. Primary focus of NovoIDD is to connect Bangladeshi people who live abroad. Presently, there are two types of mechanism are available for NovoIDD users;

- Dialer connection: This is for retail users.
- Registered connection: This is for wholesale users.



2. NovoTel has recently established newly named NovoCom and it has got license for ITC & IIG operation. This will help NovoTel to maintain its business portfolio.

### **Unrelated Diversification:**

NovoTel has some other unrelated business diversification; some are following;

1. Tusuka:

Tusuka is the mother concern of NovoTel, NovoAir, NovoCom. Tusuka is in garment business since 1997, started as a buying house named "texel" focusing only the woven market. With the vision of specialized denim/jeans making, in 2001 Tusuka started its venture as jeans manufacturer with only 2 sewing lines and a small laundry to take the opportunity of globally growing demand of denim garment. After a year management found the necessity of a large world class in house laundry section to fulfill the vision. So from 2003 management started to expended the laundry and new sewing lines in its compound. Now Tusuka has the washing capacity of 45000pcs per day, with total 34 sewing lines specialized in denim garment making.

2. NovoAir:

Novo Air, a limited liability company registered and incorporated in Bangladesh. Novo Air spreads its wing in the emerging aviation market in Bangladesh and beyond. Our activities are diversified in passenger, air cargo transportation, travel and holiday services and high end aviation technology solution. We are thriving for excellence and in a vision to establish a flight school and expand to other hospitality sectors.

NovoAir belongs to a family of diversified business enterprise TUSUKA along with its sister concerns Novotel, Novo Holidays and Novotek.

### **Business Alliance**

NovoTel is practicing strategic alliance with other IGWs like; Mir Telecom and Banglatrac Communication. This alliance mainly focuses on international call transmission and all are exchanging international volume in such selective destination. Since more company have got incense for IGW operation, this is why strategic alliance will be very helpful for coming IGW operation for international call transmission to maintain existing market position. Apart from, NovoTel has mutually beneficiary agreement with BTRC and other





ICX & ANS operators. Moreover, NovoTel is the member of TIOB (Telecom Infrastructure Operators of Bangladesh) and NovoTel is participating different regulatory issue with ICX, IGW & IIG operators

## Chapter-6

### *Critical Evaluation*

Novotel's current marketing strategy is quite comprehensive. They recognize the high investment / low variable cost structure of their business and are going to great lengths to grow their market share through various marketing channels. They offer broadband telephone service directly through the wholesale partnerships. Novotel's Wholesale allows partners to leverage their existing brands to up-sell telephone service to current and future customers. Wholesalers use their own billing systems and customer care staff to support Novotel services as a component of a bundled offering or a stand-alone product.

Novotel is frantically trying to grow its market share by differentiating itself from other VoIP providers in what is becoming a near-commodity market. All their phone plans offer all of the advanced technical features including: Caller ID, Call forwarding, Call hunt, Call transfer, Call block, Area code selection, Number mobility, Bandwidth saver, Web-based account management, Voicemail retrieval and real-time inbound/outbound calling activity. Their marketing strategy has been to position themselves as the market leader within the VoIP market. Novotel is also trying to generate the potential market to the cost and technical benefits of VoIP technologies. Their own web site, [www.novotel-bd.com](http://www.novotel-bd.com) is also an excellent resource for learning more about exactly what VoIP is and how consumers can benefit from this emerging technology.

After a critical evaluation of Novotel's current marketing strategy, I felt that they were doing a lot of things right, and that is reflected in their current growth numbers. I would recommend a few minor adjustments to help them grow their market share, as well as the VoIP market at large.

- **MILITARY MARKETS** - This is a huge market with distinct needs that a VoIP provider would be uniquely qualified to satisfy. Novotel should strongly consider catering a plan specific to this relatively large and technically competent market segment.



- UNDER \$10 A MONTH PLAN - There is a certain market segment that responds to price alone. NovoTel should consider offering a plan with reduced minutes to set the hook for this market segment.
- NUMBER SELECTION – Novotel currently offers area code selection. Because business customers might find value in having a certain sequences of numbers that might spell something.
- ENVIRONMENTAL REGULATIONS – Novotel should continue their aggressive arguments that VoIP markets remain classified as data to maintain low rates in order to encourage its development and worldwide deployment.

# Chapter-7

## *Recommendations*

The following recommendations Novotel can muddle up for evaluating and implementing VoIP:

- Network expansion: NovoTel should concentrate on more market expansion as well as network coverage to provide better quality call termination.
- Enterprise resource planning: NovoTel has to ensure proper utilization of all resources, like; financial, corporate governance, supply chain management, existing sound network for having optimum cost benefit advantages.
- International standard: NovoTel also need to maintain international standard in case of call termination. Novotel has to ensure all required infrastructure presence for modern IGW and at the same time confirm quality service.
- Identify Business: Identify the business goals to increase productivity, improving service levels, increasing revenue and reducing expenses.
- Identify the Right Partners/Providers: Develop a checklist that evaluates service providers based on such factors as coverage, experience, product and service options, web-based tools for managing the service online, consultative approach, creativity, implementation expertise, and support.
- Designing the Solution: In general, there are four types of VoIP solutions available to businesses: IP-enabled Integrated Access, SIP Trunks, Managed IP PBX and Hosted IP PBX solutions. Choose a solution that meets present and future needs for conduit and cabling, external connections, and changes.
- Select a Proposal: Develop a proposal checklist that considers the service provider's depth of services, total cost of ownership, installation scheduling, financing options, performance penalties, training, cost, support, future growth and warranty.
- Install and Test: develop an installation and testing checklist to help ensure a smooth installation and minimize disruptions.
- Manage Service and Support: Make sure that our provider offers training for our employees and a backup plans in the event of service failures and outages.



- Consider Future Options: See if your provider has an evolutionary product path in place to ensure an easy transition to a more sophisticated or larger system as technology changes and your business grows.
- Technology: This IGW business is fully technology based, so NovoTel should always acquire with new and developed technology to ensure quality service for international call termination.
- Risk management: If NovoTel can efficiently response on different risk, it will create more business opportunities for them. As well as NovoTel should create developed and different cost effective risk management model for future response.
- ITC & IIG: NovoTel has got license for ITC & IIG operation and NovoTel should enhance these two operations as early as possible, so that NovoTel will be able to capture more business related to VoIP operation.
- New strategy: NovoTel has to give more concern on changing telecommunication market scenario and they need to develop & formulate market based corporate strategy to have competitive business advantages.
- Research & Development: Since this telecom business is service based business, that's why NovoTel has to give more importance on R&D for new service development related to IGW operation.

## ***Conclusion***

Novotel Limited, an emerging pool of telecommunication and business intellectuals is currently focused in implementing state of the art International Gateway (IGW). Novotel Limited has established itself as a model IGW operator, and it is helping in the gradual increase of the overall market size through seamless scalability as part of its cost-saving business strategy. Novotel is implementing leading industry standard IMS ready Soft Switches and proven transmission systems. NOVOTEL is a Voice over Internet Protocol (VoIP) provider. The company offers a replacement to the standard telephone industry for any person or small business with a broadband internet connection. NovoTel experience has shown that across the available vendor solutions the single factor that most consistently determines the success of a project is the caliber of engineer(s) implementing the VoIP solution.

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