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New Emerging technologies in PTCL

This case was written by Nayyab Fatima, Afshan Shakil (Superior University). This information collected, is reflected and to be used after a brief discussion on it during class sessions rather than to illustrate other effective or unsuitable factors to discuss the new and emerging technologies which PTCL (Pakistan telecommunication Ltd.) is launching soon to facilitate to their distinguished customers. This case was made possible with the collaboration of Miss Nayyab Fatima who is the reflected person in this case.

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New Emerging technologies in PTCL

A meeting held in 2016 about the new launches and innovation in the PTCL at Lahore. The discussion will be start by the launch of fiber optic cable in Punjab due to some bad weather conditions like rain or excessive heat. The old wires were not proved much efficient and profitable with high speed internet. So the starter had been taken from the Punjab and get the whole to provide the fastest internet. 70-80% of fiber cable work was already being done in Islamabad and northern areas of Pakistan. This year we have to complete it in Lahore. But what were the consequences faced to the company by end users? What are the types of fiber optic cable and which type is more beneficial and gave much of productivity ? How much time will be required to complete this plan perhaps, it could be complete or not in much period?

The ¹PTCL Firm:

PTCL biggest company of Pakistan & The organization regulated by apply strategy for telephonic facility throughout the corporation. It was quiet pillar of telecommunication framework toward the appearance of other telecommunication agencies. The partnership oversees and works around 2000 phone trades the nation. Spine authority like ²GSM, ³HSPA+, ⁴CDMA, ⁵LTE, broadband web, ⁶IPTV, and discount are an expanding part of its business.

PTCL in a Net Shell:

In 1947 (see Annexure 1) This has been develop to extend the modernized digital reforms & telecom related new emerging technologies till this day. In 1961 was regarded by the establishment of Pakistan Telegraph and Telephone Department (T&T). The telecommunication services were usually given by the Etisalat The telecommunication services were usually given by the Etisalat through the UAE, since 1976. Five hundred (500) top corporations in the world on the behalf of market share & investment or capital in all of the financial times of the world. It got the sixth (6th) position in the ranking as per as the basis of huge economy of the Middle East. During market growth to go after a more fast, efficient and reliable source of all the developing

¹ PTCL The first and biggest incorporated Information Communication Technology (ICT) organization in Pakistan is PTCL (Pakistan Telecommunication Company Limited is).

² GSM global system mobile

³ HSPA The third-generation (3G) mobile broadband communications technology is HSPA (high speed packet access).

⁴ CDMA Code-division multiple access is a channel admittance method used by diverse radio communication technologies.

⁵ LTE Long Term Evolution

⁶ IPTV internet protocol Television

chances fixed in as Etisalat will be operational excellence in 14 major countries of the world i.e UAE, Afghanistan, Pakistan, Saudi Arabia etc. Pakistan telecommunication (PTA) got the authorization and control over the management from the Pakistan Telephone (PTC) department privatize . Private sector government encouraged and awarded licenses for cellular services and data communication. This GOP allotted six Million vouchers⁷ for public share since 1994. All of those vouchers converted into PTCL share between 1996. Pakistan PTCL established in Pakistan at Dec 31, 1995. Company started its business on Jan 1st, 1996. PTCL recorded ⁸PSX, was spread out to embrace the telecombusiness recently sustain by the PTC.

PTCL sent off its versatile and data management and processing auxiliaries since 2001s carry out the name of Ufone and Pak-Net separately. Not the any brands to the upper spaces of the particular contests. Now a days, not with standing, Ufone had became larger portion compare to the overall industry in the specific area. Pak-Net had been successfully disintegrated throughout some undefined time frames. The post-imposing business model time coincide with In the 2003 year, Pakistan liberate in the telecom sector. At the national or international level, Absolute modernization or upgradation strategy to the to the telecom sectors contribution. Since 2005s, the 26% of the organization had been extended by the Pakistani establishment to the private sector for privatization. 300 members involved to offering system for the purpose privatization of PTCL.

At the start, a Government a enterprise, the shareholders of PTCL decreased to 62 percent. 12% of the overall population in 2006 increased privatization program under PM Shaukat Aziz. While indicated by monetary study to Pakistan Revenues from the telecom area arrived at an expected Rs 235.5 billion during the initial two-quarters FY 2017-2018. The business send-off of 3G and 4G Long Term Evolution (LTE) administrations opened new open doors for income age for versatile administrators. The broadband infiltration bounced from 3.7 million to 52 million. During the initial two fourth of the FY2017-18 telecom area contributed assessed Rs 78.62 billion to the public exchequer as far as expenses, administrative charges, starting and yearly permit charges, enactment charges, and different charges. Initially since 2019s, Etisalat has kept down \$800 Millions sums over a property.

However, the company keep its best platform in the country like as the huge working operational infrastructure condition given to other telecommunications companies of the country. The organization settle exist situated over Islamabad the capital city of Pakistan. PTCL in Pakistan had strength of employees to the 30,089. The biggest code multiple division access (CDMA)

⁷ Voucher is bond which have certain ' Monetary value'

⁸ PSX Pakistan Stock Exchange Limited

provider to the Pakistan by the 0.8m Rupees reliable or variable customers. As everyone knows about PTCL they captured the market with a huge market share. They have recent revenue is 138 billion. PTCL country's biggest landline network with the biggest portion of the market in Broadband services administrations. PTCL likewise a brand offer remote broadband web gadgets⁹EVO and Char-JI to their citizen. The PTCL had begun distributed storage through which customers could efficiently get to their security purposes. The Company offers the most recent computerized administrations in Pakistan. Telecom offices and worldwide telephone utilities and offices all through Pakistan. The Company had been authorized to offer such types of assistance in regions To Azad Kashmir (Pakistan Occupied Kashmir) & fifth province Gilgit. The organization take over workplaces in urban communities like Lahore, Karachi, Gujranwala, Multan and Faisalabad. PTCL had confronted some failure in her income in the new couple of years. This shows that the industry got outstanding development and PTCL also. Recently, PTCL is adopting new market oriented Technology to become the telecommunication through out the Pakistan.

Annexure#1¹⁰ Historical Background of Pakistan Telecommunication Limited (PTCL)

1947	<i>Posts and Telegraph Department rooted</i>
1962	<i>Pakistan Telegraph and Telephone department established</i>
1990-1991	<i>Pakistan Telecom Corporation ALIS: 850,000 waiting list: Enlargement program of 900,000 lines initiated (500,00 lines by private sector participation 400,000 lines PTC/GOVERNMENT own resources).</i>
1995	<i>About 5% assets of PTC transferred to PTA, FBA & NTC</i>
1996	<i>PTCL formed and listed on all stock exchange of Pakistan</i>
1998	<i>Mobile and internet subsidiaries established</i>
2000	<i>Telecom policy finalized</i>
2003	<i>deregulation policy announced Telecom</i>
2006	<i>Etisalat take over's the PTCL.</i>

Source: Company Documents

⁹ EVO Emergency vehicles online

¹⁰ PTA: The regulatory body pledged for monitoring the telecommunication business in Pakistan is PTA (Pakistan Telecommunication Authority).

NTC: They responsible for providing telecommunication services to diverse departments of government and armed forces is National Telecommunication Corporation (NTC).

FAB: Frequency Allocation Board had been assigned the responsibility of allocating television and radio broadcasting operators, private and public wireless operators etc.

ALIS: Access Lines in Service

Products/services offerings:

Wireline Broadband

Voice

Wireless - (CharJi)

Smart TV & Content

Landline

Appendix #1 Product & services

Products and services	Nature and determine of delight to conduct responsibility
Internet, Broadband, IPTV	The organization identify profit & then these services provider to actual uses of the customer devices.
Devices	The Company identifies capital whenever device controlled directly by their customer's. That actually emerging through the shrinking imitation by the action of users got the handling of the network.
Appliance charges	Installation Products & services are offered by the customer's services fulfilment were not far from the company's performance obligations (PO). The cost paid for the fitting the network is identifies through out the whole life of customer.
Combined services	Total income identifies if those Facilities given to the users. As part of the contract, hardware provided, the Company identify far PO just at that time when the consumer can get advantages by getting sale more than capital or investment.
Employment or Wholesale	Income from the Carrier & whole-sale has been allowing if facilities will be given at long term.
International revenue	International returns represents income by the international roaming or operators of network, for the answered issues derived outside country. It is also acknowledged easily when the facilities provided to the users.

Source: Annual Report 2020

Success pillars (values):

Everyone treated by us with a admired, integrity & honorably. We are intensive in serving or

helping our customers with huge level of their satisfaction. As well as, our achievement is our's customers satisfaction and durability. We work with collaboration with each other and everyone's contribution has a worth for us. Well in collaboration together we will be indestructible. We accepted the change and make our own destiny by our energetic attitude and acceptance of sharing new ideas.

Logistics of PTCL:

PTCL aims to upgrade & assist the long term growth to ensure significant return on shareholders investment & to preserve the market leadership. The strategy business plan & road map was developed to address evolving market dynamics and to meet the business objectives of the company. For effective strategy execution & growth, additional initiatives on product development, regulatory affairs & technology were undertaken to upgrade the returns on company's assets. They use promotions, packages, and other market competitive advantage strategies which attract more customers towards them. PTCL uses brand image strategy because they are the only whom they have the authority to provide internet connection and telephonic connections nationwide. PTCL has no competitor in public sector internet connection but fortunately or unfortunately they have some competitors in private sectors but they have limited and restricted access of it. With this merger, the PTCL get entry into the private cellular market with full authority from ¹¹PTA. Due to some restrictions from the government in past tenure, they didn't initiate this merger but now they had a lot of positive effects in terms of their connectivity.

PTCL grouped along with Starz Play by Cinemax, an enrollment-based ongoing component that contains first-in-class Hollywood substance, engaging PTCL clients to conveniently pay their Starz to have participation as an effect of their month to month bill. This fuse clears out the need of using a credit or actually take a look at cards. PTCL assented to a course of action with Media logic, be a member of TV Audience Measurement (TAM) data, They are enormous advancement since 2020s and new essential Cloud Program and ICT is a combined outcome to intense arrangements method, fabulous record and relationship the board. Focus in on adding new clients in extended business verticals helped with further developing a client base and thing ingress toward current parcels. PTCL, using the active area and gigantic association with cloud Center working with organizations, engaging forefront, Data Centers is Certified in Rated-3. Those provider of quick organization plans, shipped off cloud organizations with inventive commitments using adventure steps. Pctl the most significance company of telecommunication,

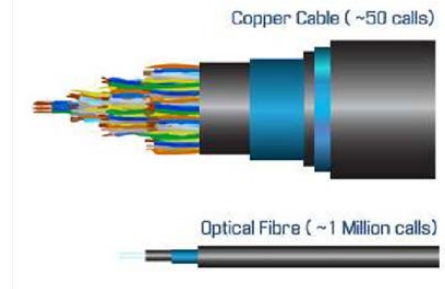
¹¹ PTA (Pakistan Telecommunication Authority)

which directed in the country attained 2¹²ISO authentications in regarding to the equality for the organization 'Establishment likewise administration¹³[IaaS] offerings. PTCL went into composing exertion simultaneousness with M/S DETASAD to format the primary cloud business focus.

Bootstrapping:

Today, PTCL had ICT and Cloud clients over various industry fragments i.e. monetary, medical care, and FMCG. Furnished with driving innovation arrangements, company is the favored ICT arrangement supplier for corporative clients till this day. PTCL figured out how to get an all-in-one resource bargain from the main bank for Data Center facilitating, registering, stockpiling, systems administration and MSSP on an oversight administrations model.

Being simply the public transporter, PTCL is situated to be the motor behind the Digital Pakistan drive. Going ahead, 2021s, company is collaborating to their clients in the all department & area to empower & speed up advanced change ventures. Cooperating with industry-driving innovation and administration accomplices, our methodology is to work with our corporate clients with hearty arrangements assisting them with addressing their ICT challenges.



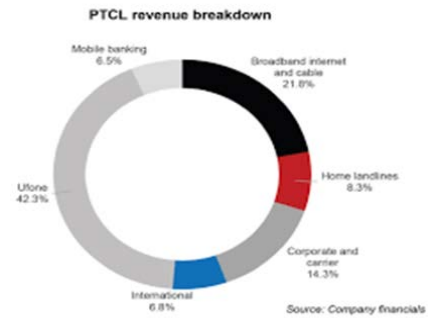
Upgraded Technologies:

Which will provide unbelievable speed to customers with negligible delay PTCL uses the copper wires for better connectivity during bad weather conditions but now they are upgrading on flash fiber technology which is much faster than recent technology. They also use **MTR (Mean time to Resolve)** for rapid action on it. In 2016 PTCL launch the fiber technology. PTCL provided high speed internet with the modernized fiber optic cable services and by utilizing the GPON also introduced the cheapest packages through-out the remote areas of the country. Not only providing to fiber to home facility but also start back hauling the networks of mobile networks. From 10G to now it's upgraded to 200G based system. Which will be based of 5G technology. Fiber technology also have the ability to upgrade it to 1000G systems. Which will provide unbelievable speed to customers with negligible delay. Company has

¹² ISO (International Organization for standardization)

¹³ IaaS (Infrastructure as a standardized)

established the fiber optical access for the fastest speed of the internet in the areas of urban and rural in the Pakistan. It also improved and updated the technology from the copper to the fiber. With the speed of approximately 60000 km/s, fiber optic length provided the speed to the route in all over the country. When we talked about the always demanding cellular companies, PTCL has own it's unique place in this field also. Fiber Optic Network Cables can also be utilized by all the CMOs.



New technology beneficial for Nation-wide fiber demand. The easily installation process. Saved in ¹⁴OPEX/CAPEX and Totally Managed Services with team work.

PTCL is resolved to lay out fiber cable availability to ensure the developing necessity of demand, information, in Pakistan to the immature regions. Thus in the since 2020, PTCL with the plan into diminish the computerized partition in its nation gained its agreement toward convey optical fiber. in a partnership with Huawei, PTCL introduced first time 10gb capable system for the users To access internet & connected globally more easier in Pakistan by Using (XGS-PON). This made the company the first major internet providing and telecommunications company not in sub-continent but also in Middle East & Asia.

In the long lasting Partnership with Huawei, the PTCL hosted the XGS-GPON more successfully than ever & utilized it in Islamabad, korangi Karachi, and other areas of Pakistan. There company provides the network speed of 100GB of Uplink and 100GB of downloading speed to it's clients with utilizing server of XGs-Gpon technology. This technology will be further used in every corner of Pakistan with optical fiber cable. Pctl's technology helps to improved

Annexure#2

the efficiency and productivity of the network operators by using modernize tools and technology. The customer's loyalty to the company depends on it's continuous speed of internet at very fast level. Telecommunication company has been involved in the providing Quick-(ODN) solution to the network operators at a significant amount of time period. 30% of the shortage of time period in the selected period given to the customers for their errors in utilizing the (FTTH). The increments in the speed of the internet by the PTCL is exemplary for all the competitive companies or industries after privatization. Sometime, on the Eve of presence of all upper managerial staff a meeting held in which, SAAD MUZZAFFAR WARRAICH group Chief information and technology (IT- Chief) talking like as per as, "PTCL has achieved

¹⁴ OPEX/CAPEX (Capital expenditures (CAPEX) long-term expenses in the time operating expenses in organization (OPEX) are a company's day-to-day expenses).

another milestone by introducing first XGS-PON services in Pakistan. We continue to invest in new technologies and solutions to modernize our network, further expanding our services and bandwidth availability over fixed line. We are providing fixed line services on both copper and fiber, along with wireless services through our Charji. Deploying this solution in Pakistan will enhance the overall customer experience, thus enabling our customers to enjoy hi-speed internet and higher bandwidth.” Eve, Mark-Mung, CEO, Huawei Pakistan announced, “We are excited to introduce XGS-PON technology in Pakistan through PTCL that will allow their customers to experience best-in-class internet services. This technology will serve fiber-based broadband services to residential homes and businesses at speeds up to 10Gbps. These hi-speeds will enable PTCL to be the primary internet connection provider to millions of customers across Pakistan.”

Due to corona(covid-19) pandemic issue the economy of all the developing countries will be targeted by the losses & inflation or unemployment. But Pakistan telecommunication company through the marketing, advertisements, social advertising and using other strategies to ensure their customer's satisfaction & also had a huge contribution in this situation. The inspiration for the workers, motivational awards specially to the lower staff who could directly deal with the end users and also more infected by the Corona these were the “Martyrs or Heroes of PTCL.” To catch market amazing open doors, PTCL going ahead will zero in on building hierarchical ability in ICT mode blend & administrations, along these lines empowering Banking/financial issues, Cloud services, Data Warehouses or Centers & afterwards, provide the secure environment.

PTCL is focused on laying out Fiber optic cable networks to fulfil the need or requirements developing necessity of the complaints, information, & visualization in Country including immature regions. Henceforth PTCL in the year 2020, PTCL with the agenda of, mean to diminish the advanced gap in the nation got the agreement to send Fiber optic cable, FTTH hubs, & to create & keep an organization to interface the most deserving & desirable areas of the country By the USF (universal service fund).

PTCL's incomes, produced through activities during the year, were for the most part utilized for capital use towards network update, extension, a mix of center organization, and arrangement of Optical fiber cable. At the unity level or Upper level, money streams had been additionally utilized in the full advantage of UFONE's the area organization overhaul & branch network development to the U-Bank.

Annexure #3: Revenue Analysis

PTCL Group (consolidated)			
<i>Rs (mn)</i>	1QCY21	1QCY20	Chg
Revenue	33,960	31,825	6.71%
Cost of services	(24,633)	(23,965)	2.79%
Gross profit	9,327	7,860	18.66%
Administrative & general expenses	(4,397)	(4,256)	3.32%
Selling & marketing expenses	(1,925)	(1,860)	3.49%
Impairment loss on trade debts, etc.	(631)	(1,138)	-44.57%
Operating profit	2,373	606	291.65%
Other income	3,011	2,151	39.94%
Finance costs	(3,121)	(3,279)	-4.83%
Profit / (loss) before taxation	2,263	(521)	534.02%
Provision for income tax	(657)	115	672.11%
Profit / (loss) for the period	1,607	(407)	495.06%

Source: PSX announcement

If the cost of services of each year will be excluded from the Total Revenue of Ptel, Then we got the Gross Profit of 2021 To 2020. The Total expenses of the company in different department i.e. administrative, general expenses, sale department, marketing department as well as debts of the company. In addition to summarize these expenses of 2020 & 2021. So, perhaps the operative profit of the company is rise or fall between these two years concluded easily. As per as, paying income or salaries or different staff member those are connected financially with the company and the cost of land, rent of a building or other taxes will be paid off. Collectively if one can want to subtracted these expenses before tax or after tax, profit will be got as per fair earnings and their way is up and down in these year.

Human Resource management

PTCL introduced an Artificial Intelligence-based progressed colleague (Chat-Bot) Lina introduced on the places of the work to make sure some kind of fun during work & entrancing as well as further develop efficiency and amplexness by giving the normal information, mechanical assemblies/gadgets, and other workplace workplaces on a tick. Another development toward digitalization was the farewell of the electronic cooperation of the chief's structure to regulate interest through geo tagging. Understanding the probability of laborer withdrawal on account of remote working, a speedy move was made to ensure practical and nonstop correspondence across all laborer levels. Remarkable HR re-discharge establishing in targeting at the prosperity & security measures, instinctive abilities, beat outlines, & delegate responsibility works out. Likewise, using submitted IVR organization, different missions As Corona (Covid-19) security care measures conferred to all specialists. The top organization's responsibility with all agents was moreover by graphically secured withdraw effective &

novel. Likewise, a prominent program introduced to the senior by RAABTA program, the opportunity a well known chance to be interacting with exchanges & framework correspondence opening of Human Resources. In the year 2020, To support and heading to the isolation level for the Business manager, a number of exchanges had been formed approximately sixty four (64).

STRENGTH

PTCL had been largest framework all through the country & afterward, PTCL have the monopoly of telecom industry & it's based in the country. Through-out the world PTCL provide the cheapest & efficient broadband and internet. PTCL had been Had the biggest & huge infrastructure and in working operations of the network. In past serving, current Significant Market Player (SMP) and ICT (Information & Communication Technologies) section. If we talk about human resources PTCL have good HR Strength of consumers and potential employees PTCL have in a huge number or amount. Data center is also another strength of PTCL. A huge arm in the company's capital value or investment is Etisalat. Therefore, PTCL has increased in it's position and become more significant & valuable strategically & financially. PTCL embraced a huge number of line approximately over 2 million. The largest WLL,HTTP & HTTPS and 1134 stations of base managed by PTCL in 720 cities and continuously updating in their capacity. 94% share of the telecom market as per as fixed line or land line segment owned by the PTCL.

WEAKNESS

The company has very low performance in it's customer handling and satisfaction which is counted in its major flaws. This is the main reason by which the customers have less loyalty to the company and company lacks Strength of loyal customer. The diverse and differentiated unique to values & culture of the company didn't the improved the service of the employee.

To major issues have significant role in the company are low productivity & over employment. HR department of the PTCL cannot improved their standards (as per as international standards) which have their base of employees satisfaction & appraisal in their salaries .A huge amount of resources in the form of qualifications & finance department had been wasted by PTCL. Certainly, their twelve (12) years of advertisement & promotional services will be stopped & also employees could not get any benefit or appraisal in the form of social and financial basis of their qualifications and experience. They have complaint management system established in their company, but they can't satisfied their consumers by

using or utilizing major resources.

Bloom's Taxonomy Outcomes:

This case study fall in bloom taxonomy's Analyzing domain and Applying Domain. In analysis domain is consist recognizing trends of PTCL Technology. In second domain applying knowledge in this case study about fiber and GPON networking.

Conclusion:

As our above discussion about new ventures started by PTCL is having more impact in the market, especially after the merger with Ufone. Ufone is also a nationally renowned brand which every personal use even this cellular brand is a lot of famous in new generation due to its packages. PTCL's new technology which they named flash fiber which has the capacity to provide their customer's services. Back in 2019-20, they introduce **MTR** for rapid solutions for listed complaints. They claim because of this MTR's rapid solutions of complaints, they resolve listed and assign complaints in just 3 hrs. PTCL has its own brand image in the market they access Gilgit Balochistan now to connect people as high as 14000ft of its elevation. In future get the complete knowledge how the fiber and GPON good network or not? Their working in bad weather effective or not? PTCL is resolved to lay out optical fiber availability connect to the developing necessity of audio, information & video in Pakistan as well as immature regions. The questions listed are having important knowledge which we get after interviews from the Zonal office Lahore, Cantt. The focal personnel who entertain us is Miss Abeeha, Miss Amna and sir Ehtisham who were very kind and generous to answer us while listening to our queries about PTCL's new ventures, technologies, and areas which they have been concerned to approach as early as possible to provide flash fiber services over there. From this Research student will learn that authentic and important journey from the nationalization to privatization by upgrading modern tools and high speed technology.



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Lead to excellence with PTCL

Teaching notes:

These teaching notes are written by Nayyab Fatima, Afshan Shakil under the supervision of Dr. Muhammad Rafiq. This information collected, is reflected and to be used after a brief discussion on it during class sessions rather than to illustrate other effective or unsuitable factors to discuss the new and emerging technologies which PTCL (Pakistan telecommunication Ltd.) is launching soon to facilitate to their distinguished customers. This case was made possible with the collaboration of Miss Nayyab Fatima who is the reflected person in this case.



Case: Lead to excellence with PTCL

TEACHING NOTES

- **Case synopsis.**
- **Case objectives and target audience.**
- **Case usage.**
- **Methodology**
- **Analysis (Discussion question and Problem identification).**
- **Making it smarter or heavier:**
- **Time blocks and teaching aids:**

1. Case Synopsis:

Mr Ehtisham AM (Assistant Manager) of GPON in PTCL is the main character for this case discussion. This case shows the concerned person's focus and delegacy of gaining knowledge while asking or debating with the protagonist person of the selected organization. PTCL's strongly have the best position in the market of Pakistan as the most reliable and strong internet or broadband connection. The best thing is that the company maintained its position from a long time period ago. PTCL is the company which holds the market more than any other brand but the competition in the market is more stiffer due to the best provided customer services. PTCL entire work force strongly believe in increasing some importance of innovation which is evident from their diverse product portfolio another strength of PTCL lies in its efficient functioning of all department. We are discussing the problem contents, innovation and all the objections in the following study.

2. Case objectives and target audience:

This case will serve these primary objectives to its reader which are as follow:

- The PTCL enhances its customer satisfaction after having a good venture deal withUfone.
- PTCL and Ufone both have great databases and now they're offering great deals totheir business owing persons and students who are in universities.
- To acknowledge how a telecommunication industry has a revolutionary stance fortheir customers.
- To develop analytical factors of PTCL 's services which are important to enhance and attract more customers towards them.
- This case will be teaching to the students of project management, strategic management, introduction to business (especially in the business plan portion).

3. Case Usage:

This case will help to know about how PTCL worked before the alliance with Ufone and resolve the problem of customers satisfaction. This case study is more convenient to the students of Project management, Strategic management, Business plan and analysis, Introduction to business as well. This will absolutely help them for the betterment and informative to use in future while arranging a new product in any market-oriented brand. Nonetheless, it will use in entrepreneur courses as well because the management and leadership essence is absolutely in it.

4. Methodology:

This case study belongs to the Qualitative Research Method. We collect all the data and information by conducting interviews from the employees of PTCL.

5. Case Analysis:

The essentially important portion of it is to maintain the customer's satisfaction with more competitive products which have the capacity to meet the customer's need and profitability of launched products. All this happens after getting market analysis even analysis of users' need. Although PTCL is a semi-government owned organization, unfortunately, they seem to face a lot of competitors which offer a good package with an uncapped internet connection which depends on the user where he/she wants to use it.

There are some concerns which are discussed below in different steps:

- If a new business or let us simply say the new entity comes in the business industry they've to patent their products and logo for their organization. So according to these stated words we can say that we've to patent the new product/service which the organization is newly offering to their customers and also enroll their new product in FBR to be legalized for selling in the market.
- As every entity and personnel know that we've got a new technology which has never been seen in the existing market and had a product of the renowned brand. But this technology has been adapted from the international market which has affected from day to day fluctuation in dollar prices while paying for it.
- PTCL has the advantage of brand value in the market so it is not making any incontinence to market its new product.
- A new product/service will make its value after a couple of months which enhances the customers' approach and builds trust in it.
- A new service named **GPON** gives you the experience of high-speed internet nationwide.
- Yes, economic factors are also affected because Pakistan and all other countries survive the pandemic situation. But before launching a new service; the PTCL did its **SWOT** analysis.
- As per having the competitive advantage from the market, PTCL will survive all situations from any other external factor.

Q1- PTCL is a well-known brand in Pakistan for providing internet connection and telephone service. How much has the market captured in terms of market share by the PTCL?

As everyone knows about PTCL they captured the market with a huge market share. They have recent revenue is 138 billion. But PTCL is enhancing its productivity by launching new technology which enhances its revenue from 138 billion to 145 billion. As monopoly of the telecommunication companies have taken a road services and infrastructure approach an imminent end and contributors settle to take front on front even bigger challenges and problems. After 2005s, Government of Pakistan has been sure to sell 26% of the privatization of the company. Three main major companies are take part in biddings for the privatization of PTCL. Etisalat, an Abu Dhabi Emirates based company have wanted the shares of PTCL with the larger margin. In summer on the month of JUNE 2005s, Etisalat won the 26% of the shares of the company with the management holding by the margin or revenue or subsidiary for US\$2.6 billion. Then in the Year 2019, Etisalat has moved back \$800 million dollars amount across property dispute with the Pakistani government.

Q2- How can PTCL will overcome the connectivity problem during bad weather?

PTCL uses the copper wires for better connectivity during bad weather conditions but now they are upgrading on flash fiber technology which is much faster than recent technology. They also use MTR (Mean time to Resolve) for rapid action on it. At usual times, a rainy day or a soft winter snowfall will not stop or effecting your internet. Sometimes, slow internet on stormy and windy days is caused by higher internet usage by the number of consumers than usual rather than the weather itself. We can assure that when the weather is bad, you don't want to go outside. In addition to contributing to power outages, rain can interfere with wireless internet connections in a phenomenon known as rain fade.

Liquid water has a broad absorption spectrum in microwave wavelengths (which is how microwave ovens work). Most satellite, fixed-wireless, Wi-Fi and 5G signals fall into these frequencies, which means that if there's rain or clouds between the transmitter and your receiver, some of the signal will be absorbed. Water droplets can also scatter the signal if the frequency of the signal and the size of the droplets match up in the right way.

Rain fade poses a considerable challenge for the deployment of new technologies like millimeter-wave 5G in tropical areas. Fortunately, new countermeasures are also being developed to mitigate these effects on wireless signals

Q3- What is the strategy to get maximum market share by the PTCL?

They use promotions, packages, and other market competitive advantage strategies which attract more customers towards them. The most biggest and largest company of telecommunication is PTCL in Pakistan. PTCL also maintains the position of most huge 0.8 million customers CDMA entrepreneur within country. Pakistan held by the PTCL as an internet and services source on other telecom worker & corporate customers of the Leading position country. These

services plays an important bit part in the extension of Pakistan. Pakistan has started to be modified & improving from copper to an optical network. PTCL has ordinary Optical Fiber admittance Network in the all biggest cities of Pakistan. We suggest that if they increase high market share they implement the high market share theory.

Q4- How can PTCL improve its packages as compared to its competitors?

PTCL uses brand image strategy because they are the only whom they have the authority to provide internet connection and telephonic connections nationwide. PTCL has no competitor in public sector internet connection but fortunately or unfortunately they have some competitors in private sectors but they have limited and restricted access of it. It is a government-owned company providing high-speed internet across 2000 cities and towns in the country. It is famous for the high-speed internet and unlimited browsing data at the lowest possible rates. Now you can enjoy high-speed internet with unlimited data at the speed of 100 MBPS with PTCL fiber optic connectivity and easily downloading of ptcl bill. Now you can watch your favourite multimedia videos, download movies and TV shows with PTCL unlimited broadband package. It is a government-owned company providing high-speed internet across 2000 cities and towns in the country. It is famous for the high-speed internet and unlimited browsing data at the lowest possible rates. Now you can enjoy high-speed internet with unlimited data at the speed of 100 MBPS with PTCL fiber optic connectivity and easily downloading of ptcl bill. Now you can watch your favourite multimedia videos, download movies and TV shows with PTCL unlimited broadband package.

Q5- What are the good effect that PTCL gets after merging with Ufone?

With this merger, the PTCL get entry into the private cellular market with full authority from PTA. Due to some restrictions from the government in past tenure, they didn't initiate this merger but now they had a lot of positive effects in terms of their connectivity, Ufone has raised a bid of 2100 MHz in the from of 5 MHz group in NGMS auction of the year 2014 Perhaps increase in quantity & decrease in supply capability. Ufone reformed the steps to meet 3G offering speed on two frequency so, is has upgraded it system 3G to 4G. Ufone has planted 900 MHz network in Karachi Islamabad etc.

Pakistan Telecommunication authority had brought up 15MHz band width which will make the network and LTE services more improved and reliable in this year to 2021ufone own 1800 MHz in auction through bidding.

Q6- If PTCL is an old organization then why this organization will not be able to get 4g connectivity while the bidding process?

PTCL make an example by Telco's to ship off 3G,4g organization in under developing areas, using PTCL optical fiber impact in waterfront, sea belt interacting Karachi to Gwadar. By the advancement project in Gwadar, to the accompanying big organization place point, an healthy. example in cutoff and pay improvement is typical. PTCL is similarly stretching out its organization's responsibilities to convey the threat establishment necessities of its conveyor clients.

Q7- In how much time the PTCL covers all the remote areas of the country?

PTCL is resolved to lay out optical fiber availability to provide the developing necessity away from based on information, & visualized in Pakistan as well as immature regions. The year 2020s PTCL with the plan through diminish the computerized partition inside nation achieve the agreement to convey optical fiber, FTTH hubs and to create and keep up with organizations to interface areas of Pakistan underserved by Universal Service Fund (USF). In early 2014 ufone had participated in the auction of Pakistan Telecommunication authority this option is called NGMS. Ufone had bid 2100 MHz pair or group of 5 MHz and luckily, ufone had keep up band width. Perhaps increase in the sale of , in user and cloud network those network operator which lacked networking, so ufone meet their requirement.

6. Making it smarter or heavier:

This case study is the resource of smart learning which gives you a touch of new and emerging technologies which helps and increase in intelligence of student to prepare themselves according to the market requirement and needs of a company. which is essential and important to meet market demand. To make it heavier is the way to learn about analytical experiments and requirements of decision-making during pressure situations.

7. Time blocks and teaching aids:

Sr.	Description	Time
1.	Student motivation and mind preparation and process briefing.	05 minutes
2.	Revision/Background discussion	10 minutes
3.	Opening	05 minutes
4.	Core Issues	20 minutes
5.	Facts and opinions	20 minutes
6.	Conclusion	10 minutes
7.	Miscellaneous	15 minutes

8.	Wrap up	10 minutes
Total time		90 minutes

8. Requirements of the case:

White board.

Charts.

Board markers of 2 colors.

Multimedia.

Recording device

8. Additional reading materials/ Bibliography:

Students can gain further insight that can be helpful by reviewing followings books. They should study the different sections that can link to the topics being covered in the case study.

- <https://370&linkId=927>
- <https://ptcl.com.pk/Home/PageDetail?ItemId=568&lin>
- <https://ptclbill.info/blog/ptcl-broadband-packages/#:~:text=PTCL%20plans%20cannot%20be%20compared%20with%20other%20internet,especially%20when%20it%20comes%20to%20broadband%20internet%20packages.>
- For a detailed discussion of the relationship between market share and profitability, see Robert D. Buzzell, Bradley T. Gale, and Ralph G.M. Sultan, “Market Share—A Key to Profitability,” HBR January–February 1975, p. 97.