

**Pre-feasibility Study** 

# ONLINE TEACHING

September 2023

The figures and financial projections are approximate due to fluctuations in exchange rates, energy costs, and fuel prices etc. Users are advised to focus on understanding essential elements such as production processes and capacities, space, machinery, human resources, and raw material etc. requirements. Project investment, operating costs, and revenues can change daily. For accurate financial calculations, utilize financial calculators on SMEDA's website and consult financial experts to stay current with market conditions

Small and Medium Enterprises Development Authority Ministry of Industries and Production Government of Pakistan

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## 1 DISCLAIMER

This information memorandum is to introduce the subject matter and provide a general idea and information on the said matter. Although, the material included in this document is based on data / information gathered from various reliable sources; however, it is based upon certain assumptions, which may differ from case to case. The information has been provided on, as is where is basis without any warranties or assertions as to the correctness or soundness thereof. Although, due care and diligence has been taken to compile this document, the contained information may vary due to any change in any of the concerned factors, and the actual results may differ substantially from the presented information. SMEDA, its employees or agents do not assume any liability for any financial or other loss resulting from this memorandum in consequence of undertaking this activity. The contained information does not preclude any further professional advice to be obtained by the user. The prospective user of this memorandum is encouraged to carry out additional diligence and gather any information which is necessary for making an informed decision, including taking professional advice from a qualified consultant / technical expert before taking any decision to act upon the information.

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## 2 EXECUTIVE SUMMARY

Online or virtual education is a form of education where students use their personal or home computers, laptops or mobile phones through internet, supported with advanced applications and instructional technologies.

This "Pre-feasibility Document" provides details for setting up "Online Teaching" business, which has a capacity to provide online education up to 640 students of secondary and intermediate classes at a time. The initial capacity utilization in "Year One" is estimated at 60%, with 5% increase annually. The project is expected to obtain a maximum capacity of 100% in the 9<sup>th</sup> year of operations.

The project is proposed to be ideally located in areas of metropolitan cities like Lahore, Karachi, Faisalabad and Peshawar. These areas are preferred for the proposed project due to the availability of professional tutors and necessary technical staff. Online teaching services can also be provided to students of rural areas where they face problems to attain physical classes due to lack of facilities including transportation and accommodation. The option is especially very relevant for rural female students who definitely prefer online education.

"Online Teaching" business will be set up in a rented building with area of 1,125 sq. ft. The project requires a total investment of PKR 6.76 million. This includes capital investment of PKR 6.22 million and working capital of PKR 0.54 million. This project is financed through 100% equity. The Net Present Value (NPV) of project is 25.99 million with an Internal Rate of Return (IRR) of 65% and a Payback period of 2.38 years. Further, this project is expected to generate Gross Annual Revenue of PKR 16.42 million during initial year of operations, with Gross Profit (GP) ratio ranging from 44% to 73% and Net Profit (NP) ratio ranging from 5% to 37% during the projection period of ten years. The proposed project will achieve its estimated breakeven point at capacity of 318 students with breakeven revenue of PKR 13.59 million during first year.

The proposed project may also be established using leveraged financing. At 50% financing at a cost of KIBOR+3%, the proposed business provides Net Present Value (NPV) of PKR 20.39 million, Internal Rate of Return (IRR) of 66% and Payback period of 2.24 years. Further, this project is expected to generate Net Profit (NP) ratio ranging from -1% to 37% during the projection period of ten years. The proposed project will achieve its estimated breakeven point at capacity of 379 students with annual breakeven revenue of PKR 16.22 million.

The proposed project will provide employment opportunities to 17 people including the owner, professional tutors and technical staff. High return on investment and steady growth of business is expected with the entrepreneur having some prior experience or education in the related field of business.

As evident from the above financial figures, the proposed project for online teaching shows reasonable profitability and is economically and financially viable. The legal



form of this project is proposed as "Sole proprietor". Further, the proposed project may also be established as "Single Member Company" or a "Partnership Concern".

## **3 INTRODUCTION TO SMEDA**

The Small and Medium Enterprises Development Authority (SMEDA) was established in October 1998 with an objective to provide fresh impetus to the economy through development of Small and Medium Enterprises (SMEs).

With a mission "to assist in employment generation and value addition to the national income, through development of the SME sector, by helping increase the number, scale and competitiveness of SMEs", SMEDA has carried out 'sectoral research' to identify policy, access to finance, business development services, strategic initiatives and institutional collaboration and networking initiatives.

Preparation and dissemination of prefeasibility studies in key areas of investment has been a successful hallmark of SME facilitation by SMEDA.

Concurrent to the prefeasibility studies, a broad spectrum of business development services is also offered to the SMEs by SMEDA. These services include identification of experts and consultants and delivery of need-based capacity building programs of different types in addition to business guidance through help desk services.

National Business Development Program for SMEs (NBDP) is a project of SMEDA, funded through Public Sector Development Program of Government of Pakistan.

The NBDP envisages provision of handholding support / business development services to SMEs to promote business startup, improvement of efficiencies in existing SME value chains to make them globally competitive and provide conducive business environment through evidence-based policy-assistance to the Government of Pakistan. The Project is objectively designed to support SMEDA's capacity of providing an effective handholding to SMEs. The proposed program aimed at facilitating around 314,000 SME beneficiaries over a period of five years.

## 4 PURPOSE OF THE DOCUMENT

The objective of the pre-feasibility study is primarily to facilitate potential entrepreneurs in project identification for investment. The project pre-feasibility may form the basis of an important investment decision and in order to serve this objective, the document/study covers various aspects of project concept development, start-up, and production, marketing, finance and business management.

The purpose of this document is to provide information to the potential investors about "Online Teaching" business. The document provides a general understanding of the business to facilitate potential investors in crucial and effective investment decisions.



The need to come up with pre-feasibility reports for undocumented or minimally documented sectors attains greater imminence as the research that precedes such reports reveal certain thumb rules; best practices developed by existing enterprises by trial and error, and certain norms that become a guiding source regarding various aspects of business setup and its successful management.

Apart from carefully studying the whole document one must consider critical aspects provided later on, which form the basis of any investment decision.

## 5 BRIEF DESCRIPTION OF PROJECT & SERVICES

Online tutoring is the process of teaching in an online, virtual, or networked, environment, in which teachers and learners participate from separate physical locations. These online classes can also be recorded which can be accessed later on from anywhere anytime. Online tutoring is practiced using many different approaches for distinct sets of users. The distinctions are in the content and the user interface, as well as in the tutoring styles and the tutor-training methodologies.

In Pakistan, the need of online learning is increasing rapidly from past few years because of its better convenience, efficiency, ease of use and functionality. Online teaching became highly popular due to COVID-19 pandemic. Today, almost every student has to engage in taking online classes on smart phones and laptops.

The document provides details for setting up an online teaching institute. A medium sized online teaching institute involves purchase of laptop or desktop computer, headphones and microphones, a (detachable) webcam, digital video recorder, Videoconferencing software, Microsoft Whiteboard (for writing) and Wi-Fi device for recording and uploading of video lectures. Moreover, learning management system (LMS) is also required for lectures and interaction of students with teachers.

The institute is proposed to be set up in a rented building having covered area of 1,125 sq. ft. The proposed business will create employment opportunities for 17 persons.

#### 5.1 Service Flow

A schematic to provide online teaching services is shown in Figure 1.





### Figure 1 Online Teaching Services Schematic

Brief description of the required IT equipment and the key activities carried out during the service delivery process is as follows:

#### • Digital Video Recorder (DVR).

A Digital Video Recorder (DVR) is an electronic device that records video in a digital format to a disk drive, USB flash drive, SD memory card, SSD<sup>1</sup> or other local or networked mass storage device. Personal computers are often connected to video capturing devices and used as DVRs. DVR is an essential device to record video of lectures.





<sup>&</sup>lt;sup>1</sup> USB (Universal Serial Bus), SD Card (Secure Digital Card), SSD (Solid State Device) are portable devices used to store data/ information.



#### • <u>Laptop or Desktop Computer</u>

Laptop or Desktop Computer facilitates students to meet at any location - whether it is a library, school room or a student's home - and access all the materials they may need, including classroom notes, journal articles, online research or software for creating videos.

# Online Teaching Tools

#### Figure 3: Laptop

#### <u>Microphones and Headphones</u>

Teachers need quality devices to deliver the lessons effectively in an online learning environment. Besides high-quality personal computers or laptops, teachers need high quality microphones to deliver clearly audible lectures. A cable-connected microphone is shown in Figure 4.

#### Figure 4: Microphone



Teachers are required to use a pair of headphones when they teach online to avoid distraction, and to hear student's queries and responses. A pair of headphones is shown in Figure 5.



#### Figure 5: Headphones



#### <u>Webcam/ Video Recorder</u>

Watching teacher in online teaching keeps the virtual experience closer to that of physical classes, for a camera is needed. Laptops have built in cameras but desktop computers need detachable cameras as shown in Figure 6.



#### Figure 6: Detachable webcam

Video recorder is use to record online lecture and in case of need, these lectures can be provided to those students who were absent on any particular lecture day. This is an added benefit of online teaching where no one can miss a lecture. The camera shown Figure 6 can also be used for recording.

#### <u>Video conferencing software</u>

Video conferencing can serve as a bridge between the tutor and students. Video conferencing makes a virtual classroom where teacher can teach the students



and they can learn from him/her in real time; while being physically in a different place but virtually being in the same class.



### Figure 7: Video conferencing software (e.g. Zoom)

#### Writing board

This is a device which functions like a writing pad. It would be very difficult to learn only from teacher's voice, but writing board makes it easy for both teachers and students to write what he/she says and to watch what he/she hears respectively. Figure 8 shows a writing board, used in online teaching. It is an alternative of white board or black board used in traditional schools.



#### Figure 8: Writing Microsoft Board

#### <u>Wi-Fi Device/ Router</u>

Wi-Fi device is a wireless network device allowing nearby digital devices to connect with the internet. These are used to link desktop and laptop computers to a wireless router to connect them to the Internet. This device will be used to connect to the internet for giving live lectures and uploading digitally recorded video lecture on the



Learning Management System (LMS) portal where student can take lectures by accessing the LMS any time anywhere. Figure 9 shows a Wi-Fi device.



Figure 9: Wi-Fi Device

#### <u>Learning management system.</u>

A learning management system (LMS) is a software application for the administration, documentation, tracking, reporting, automation and delivery of educational courses, training programs, or learning and development programs. An LMS delivers and manages all types of content including videos, courses, and documents. Lectures delivered from teacher and notes, along with the tests related to the subject, are uploaded on LMS. Students download all the related notes regarding lectures and upload the solution of tests. Any queries regarding lectures may also be asked through chat box and teacher responds to that comment/query; particularly to the student who has asked question or to general class. Figure 10 shows students, teachers and management, connected through an LMS.



#### Figure 10: Learning Management System



#### **5.2 Installed and Operational Capacities**

The maximum capacity of this project has been estimated at 640 students. It is assumed to reach at a service capacity of 60% in its first year of operations. The operational capacity will increase at the rate of 5% per annum. It is expected to achieve its maximum service capacity in 9<sup>th</sup> year of operations. Table 1 shows details of maximum and operational capacity during first year of operations.

Class	Batch per year (9 Months per Batch)	Section per Class	Students per Section	Total Students	Initial Capacity @ 60%
9 <sup>th</sup> Class	1	4	40	160	96
10 <sup>th</sup> Class	1	4	40	160	96
1 <sup>st</sup> Year Class	1	4	40	160	96
2 <sup>nd</sup> Year Class	1	4	40	160	96
TOTAL				640	384

#### Table 1: Installed and Operational Capacity

## 6 CRITICAL FACTORS

The following factors should be taken into account while making the investment decision:

- Arrangement of qualified and experienced teachers and technical staff
- Timely completion of the course
- Aptitude towards technology
- Student friendly teaching style
- Strict checks on quality standards
- Up-to-date knowledge of technological innovations & subject related teaching styles
- Uninterrupted Internet Connection
- Uninterrupted electricity supply

## 7 GEOGRAPHICAL POTENTIAL FOR INVESTMENT

Pakistan is being considered one of the emerging markets for online education due to COVID-19. The pandemic has changed the trend of education from physical learning towards online learning. Target customers for this platform will be the students from middle class to upper class and the students studying in academies to prepare themselves for education boards examinations. It is therefore suitable to establish online teaching institute in any major city like Lahore, Karachi, Multan, Islamabad, Peshawar, Quetta, Faisalabad, etc. where people can easily afford



internet connection without interruption. Locating the institute in these cities would provide advantage of being close to updated technological facilities and the students, which will help in getting consistent business.

## 8 POTENTIAL TARGET CUSTOMERS / MARKETS

The COVID-19 has resulted in closing down schools all across the world. Globally, over 1.2 billion children were out of the classroom during the unfortunate pandemic situation. As a result, education has changed dramatically, with the distinctive rise of e-learning, whereby teaching is undertaken remotely and through digital platforms.

According to World Economic Forum, even before COVID-19, there was already high growth and adoption in education technology, with global EdTech investments reaching US\$18.66 billion in 2019 and the overall market for online education projected to reach \$350 Billion by 2025. Whether it is language apps, virtual tutoring, video conferencing tools, or online learning software, there has been a significant surge in usage since COVID-19<sup>2</sup>.

Students are moving from the traditional ways of physical learning to more advanced ways of online learning. Online education has completely changed the scenario. Target customers for the proposed project will be the students from secondary classes (class 9-10) to higher secondary classes (class 11-12). In addition to taking traditional classes, students of this bracket prefer to join tuition centers to improve their grades as marks of secondary classes and higher secondary classes carry a high weightage for admission in higher education in colleges and universities.

The proposed project will cater to these students to provide online teaching services. Currently there is a huge market of students waiting for more advanced teaching ways in the form of online classes as millions of students are enrolling in secondary and intermediate classes annually.

Pakistan's economic survey shows that the overall enrolment of students in higher secondary education witnessed an increase of 4.5 percent in 2020-21. The enrolment registered during 2020-21 was 2.32 million as compared to 2.22 million in 2019-20. For 2021-20, it is projected to reach at 2.53 million. **Error! Reference source not found.** shows enrollments in intermediate classes.

During the 2020-21, a total of 34.2 thousand secondary schools were functional, with a total number of 592.3 thousand teachers recorded in the country. An increase of 10 percent in secondary school enrolment is observed at the national level as the total enrolment increased to 4.4 million in 2020-21 against 4.0 million in 2019-20. However, it is estimated to further increase by 2.2 percent (i.e., from 4.4 million to 4.5 million) during 2021-22.

During 2020-21, 7.1 thousand higher secondary schools/inter colleges with 158.4 thousand teachers were functional at national level. The overall enrolment of students in higher secondary education witnessed an increase of 4.5 percent in





<sup>&</sup>lt;sup>2</sup> https://www.weforum.org/agenda/2020/04/coronavirus-education-global-covid19-online-digital-learning/

2020-21. The enrolment registered during 2020-21 was 2.32 million as compared to 2.22 million in 2019-20. For 2021-22, it is estimated to reach at 2.53 million.

For providing online teaching services, in addition to number of students, it is also important to know the patterns of technology usage. During recent years, the telecommunication system has shown a tremendous growth. As per Pakistan Telecommunication Authority (PTA), up to July 2023, there were 191 million mobile phone users and around 126 million broadband internet connection users in Pakistan. Figure 11 & 12 shows mobile phone and broadband users respectively from 2017-18 to 2021-22 in Pakistan.



#### Figure 11: Broadband Mobile-phone Users





#### Figure 12: Broadband Mobile-phone Users

The above graphs shows a substantial increase in mobile and broadband internet users from 2017-18 to 2021-22.

The increase in enrollments in schools and colleges coupled with the rise in broadband internet connections and mobile phones usage makes the investment in Online Teaching business an attractive proposition.

## 9 PROJECT COST SUMMARY

A detailed financial model has been developed to analyze the commercial viability of establishing online teaching institute. Various costs and revenue related assumptions, along with results of the analysis are outlined in this section.

The projected Income Statement, Cash Flow Statement and Balance Sheet are attached as Annexure.

Project is proposed to be financed through 100% equity. Total project cost of PKR is estimated as 6.76 million, which comprises of capital investment and working capital of PKR 6.22 million and PKR 0.54 million respectively.

#### 9.1 Initial Project Cost Estimates

The details of initial project cost calculated for the online teaching are shown in Table 2:

Table 2: Initial Project Cost					
Description	Cost	References			
Land	-	9.1.1			
Building / Infrastructure	464,375	9.1.2			
Office equipment	3,146,500	9.1.3			
Furniture & fixtures	1,390,000	0			
Office vehicles	158,000	9.1.5			
Books and other study material	180,000	9.1.6			
Learning Management System	350,000	9.1.7			
Pre-operating costs	233,936	9.1.8			
Security against building	300,000	9.1.9			
Total Capital Costs	6,222,811				
Total Working Capital	535,500	9.1.10			
Total Investment	6,758,311				

#### 9.1.1 Land

The online teaching institute will be established in a rented building to avoid the high cost of land. Suitable units for setting up a service providing like this can be easily found on rent. Therefore, no land cost has been added to the project cost. The required space breakup is shown in Table 3.

Table 3: Land Area						
Description No. of % Break-Up Area Sq. Ft. Rooms						
Executive Office	1	9%	100			
Staff Room	1	14%	160			
Virtual Classroom	4	43%	480			
Reception/Admin/Accounts	1	11%	120			



IT Room	1	9%	100
Washroom	2	7%	80
Kitchen	1	8%	85
Total		100%	1125

#### 9.1.2 Building

There will be no cost of building construction, as the proposed business will be started in a rented facility. However, there will be a renovation cost required to make the building usable for the business. The proposed project requires electricity load of 2 KW for which electricity connection under the commercial supply tariff A2 will be required. Building rent of PKR 100,000 per month has been included in the operating cost. Building renovation cost is shown in Table 4.

Table 4 Renovation Cost Details							
Cost Item	UOM	Total Liter / Area / Number	Cost/Unit/ Sq.feet	Total Cost			
Paint Cost	Ltr	113	550	61,875			
Labour Cost	Sq. Feet	11,250	10	112,500			
Wall Racks	Units	12	17,500	210,000			
Curtains	Units	12	5,000	60,000			
Blinds	Units	2	10,000	20,000			
TOTAL (PKR) 464,375							

#### 9.1.3 Office Equipment

Table 5 presents the office equipment requirement proposed for the unit.

#### Table 5: Office Equipment

		•••	
Cost Item	No.	Unit Cost (PKR)	Total Cost (PKR)
Air Conditioners	8	200,000	1,600,000
Laptop / Computers	15	85,000	1,275,000
Water Cooler / Dispenser	1	41,000	41,000
Wifi / Internet Connection	2	25,000	50,000
Security System (4 Cams, 1 DVR)			25,000
Ceiling Fans	9	7,500	67,500
Digital Video Recorder (DVR)	4	12,000	48,000



Printer	1	40,000	40,000
TOTAL (PKR)			3,146,500

#### 9.1.4 Furniture and Fixture

Table 6 gives details of the furniture and fixture required for the project.

Cost Item	No.	Unit Cost (PKR)	Total Cost (PKR)	
Office Tables	6	30,000	180,000	
Reception Counter	1	40,000	40,000	
Executive Table	13	50,000	650,000	
Executive Chairs	13	25,000	325,000	
Office Chairs	5	15,000	75,000	
Sofa Sets	2	50,000	100,000	
Table for Guests	1	20,000	20,000	
TOTAL (PKR)			1,390,000	

#### **Table 6: Furniture and Fixtures**

#### 9.1.5 Vehicle Requirement

Details of vehicles required for the project is given in Table 7.

#### **Table 7: Vehicle Requirement**

Cost Item	No.	Unit Cost (PKR)	Total Cost (PKR)
Motorcycle	1	158,000	158,000
TOTAL (PKR)			158,000

#### 9.1.6 Books and Other Study Material

Details of Books and Other Materials required for the project is given in Table 8.

#### **Table 8: Books and Other Materials**

Description	Quantity / Area	Cost / Rate	Amount / Other
Text Books	120	500	60,000
Reference Books	120	1000	120,000
Total			180,000



#### 9.1.7 Learning Management System

Details of Learning Management System required for the project is given in Table 9.

ſ	Description	Quantity / Area	Cost / Rate	Amount / Other
LMS		1	350,000	350,000
Total				350,000

Table	9: L	earning	Management	Svstem
IUNIO		_ourning	management	<b>Oyotoili</b>

An LMS (learning management system) is a software or web-based technology used to plan, implement and assess learning processes. It is used in online practices and has of two elements: a server that performs the base functionality and a user interface that is operated by instructors, students and administrators.

#### 9.1.8 Pre-Operating Cost

Detail of pre operating cost of the project is given in Table 10.

Cost Item	Basis	No.	Hiring Months Before Year 0	Unit Cost (PKR)	Cost (PKR)
Admin Expenses	Months	2	1	155,000	155,000
Electricity Expenses	Months	1		78,936	78,936
TOTAL (PKR)					233,936

#### Table 10: Pre-Operating Cost



#### 9.1.9 Security against Building

Detail of security against rented building is given in Table 11.

#### Table 11: Security against Building

Cost item	Unit	No.	Unit Cost (PKR)	Total Cost (PKR)
Security against Building	Months	3	100,000	300,000
Total				300,000

#### 9.1.10 Working Capital Requirement

Details of working capital required for the project is given in Table 12.

#### **Table 12: Working Capital Requirement**

Description	Amount (PKR)
Consumables Inventory	35,500
Cash	500,000
Total	535,500

Consumables include computer accessories. i.e. mouse, keyboard, webcam, cables etc.

#### 9.2 Breakeven Analysis

Table 13 shows calculation of break-even analysis.

#### Table 13: Break-Even Analysis

Description	Amount First Year (PKR)	Ratios
Sales	16,416,000	100%
Variable Cost	10,384,232	63%
Contribution	6,031,768	37%
Fixed Cost	4,992,880	30%
Contribution Margin		33%
Breakeven Revenue (PKR)	13,588,572	
No. of students at Breakeven	318	
Breakeven as % of Total Capacity	17%	



#### 9.3 Revenue Generation

Based on 60% capacity utilization, sales revenue during the first year of operations is shown in Table 14.

Table 14. Revenue Generation					
Classes	Per Student Fees (PKR)	Students/Class	Revenue (PKR)		
9 <sup>th</sup> Class	36,000	96	3,456,000		
10 <sup>th</sup> Class	40,500	96	3,888,000		
1 <sup>st</sup> Year Class	45,000	96	4,320,000		
2 <sup>nd</sup> Year Class	49,500	96	4,752,000		
Total		384	16,416,000		

#### Table 14: Revenue Generation

#### 9.4 Variable Cost Estimate

Variable costs of the project have been provided in Table 15.

#### Table 15: Variable Cost Estimate

Description of Cost	Amount (PKR)
Staff salaries	8,520,000
Software updation Expenses	35,000
Utilities	663,062
Travelling expense	114,000
Office vehicles running expense	114,000
Communications expense (phone, fax, mail, internet, etc.)	228,000
Office expenses (stationery, entertainment, janitorial services, etc.)	426,000
Total	10,100,062

#### **Table 16: Teaching Staff Salaries**

Staff	Number	Salary per Month	Total Monthly Salary	Total Annual Salary (PKR)	
Coordinator (A)	1	50,000	50,000	600,000	
Secondary staff					
Math, Physics	2	50,000	100,000	1,200,000	
Chemistry, Biology	2	50,000	100,000	1,200,000	



English	1	50,000	50,000	600,000
Computer	1	50,000	50,000	600,000
Subtotal (B)	6		300,000	3,600,000
Intermediate Staff				
Math, Physics	2	60,000	120,000	1,440,000
Chemistry, Biology	2	60,000	120,000	1,440,000
English	1	60,000	60,000	720,000
Computer	1	60,000	60,000	720,000
Subtotal (C)	6		360,000	4,320,000
Grand Total (A+B+C)	13		660,000	8,520,000

Explanation: Salary of teachers vary with experience of teacher. We have assumed salaries of teachers having around five-six years of experience.

#### 9.5 Fixed Cost Estimate

Table 17 shows the estimated fixed cost of the project.

#### Table 17: Fixed Cost Estimate

Description of Cost	Amount (PKR)
Management Staff Salaries	1,920,000
Administration benefits expense	108,000
Building rental expense	810,000
Promotional expense	146,880
Depreciation expense	538,570
Amortization	75,827
Total	3,599,277

#### Table 18: Fixed Cost - Management Staff Salaries

Posts	Number of Labor	Monthly Salary (PKR)	Annual Salary (PKR)
IT Incharge	1	75,000	900,000
Admin/ Accounts Officer	1	45,000	540,000
Security Guards	1	35,000	420,000





Office Boy	1	35,000	420,000
Total			2,280,000

#### 9.6 Financial Feasibility Analysis

The financial feasibility analysis provides the information regarding projected IRR, NPV and payback period of the study, which is shown in Table 19.

#### Table 19: Financial Feasibility Analysis

Description	Project
IRR	65%
NPV (PKR)	25,988,607
Payback Period (years)	2.28
Projection Years	10
Discount rate used for NPV	20%

#### 9.7 Financial Feasibility Analysis with 50% Debt

The financial feasibility analysis provides the information regarding projected IRR, NPV and payback period of the study on the basis of Debt: Equity Model (50:50), which is shown in Table 20.

#### Table 20: Financial Feasibility Analysis with 50% Debt

Description	Equity	Project
IRR	81%	66%
NPV (PKR)	25,747,241	20,386,364
Payback Period (years)	2.13	2.24
Projection Years	10	10
Discount rate used for NPV	20%	16%



#### 9.8 Human Resource Requirement

For the 1<sup>st</sup> year of operations, the project shall require the workforce at a salary cost shown in Table 21.

	•								
Staff	Number	Salary per Month (PKR)	Total Monthly Salary (PKR)	Total Annual Salary (PKR)					
Coordinator	1	50,000	50,000	600,000					
Tutors- Secondary classes	6	50,000	300,000	3,600,000					
Tutors- Intermediate Classes	6	60,000	360,000	4,320,000					
IT Incharge	1	75,000	75,000	900,000					
Admin/ Accounts Officer	1	45,000	45,000	540,000					
Security	1	35,000	35,000	420,000					
Office Boy	1	35,000	35,000	420,000					
Total			900,000	10,800,000					

#### Table 21: Human Resource Requirement

## **10 CONTACT DETAILS**

Contact details of some suppliers of the relevant accessories and equipment are provided in Table 22.

Cost Item	Contact Number	E-mail	Web Address
COMSATS Internet Services – Lahore	0332 4877773	<u>info@lhr.comsats.net</u> . <u>pk</u>	www.comsats.net. pk/lahore.html
PC Technologies - Islamabad	0321-4388424	pctechnologies81@h otmail.com	www.techguys.pk/
SY Office Automation - Quetta	030 88885115	<u>infosy@sy.com.pk</u>	<u>http://www.sy.com.</u> pk
National Software Developers - Peshawar	092915603399	1	https://www.nsdev elopers.com

#### **Table 22: Contact Details of Suppliers**



U	Connect	Gilait
	Conneou	Oligit

05811 455061

info@uconnect.pk

https://uconnect.pk

# 11 USEFUL WEB LINKS

#### Table 23: Useful Web Links

Organization	Link
Small and Medium Enterprises Development Authority (SMEDA)	www.smeda.org.pk
National Business Development Program	www.nbdp.org.pk
Government of Pakistan	www.pakistan.gov.pk
Ministry of Information Technology and Telecommunication	https://moitt.gov.pk
Government of Punjab	www.punjab.gov.pk
Government of Sindh	https://sindh.gov.pk
Government of Balochistan	https://balochistan.gov.pk
Government of Khyber Pakhtunkhwa	http://kp.gov.pk
Government of Gilgit Baltistan	https://gilgitbaltistan.gov.p
Government of Azad Jammu & Kashmir	https://ajk.gov.pk
Digital Education Portal	https://etaleem.gov.pk
Pakistan Telecommunication Company Limited	https://ptcl.com.pk/
Brain Telecommunication Limited	https://www.brain.net.pk/
Storm Fiber	https://www.stormfiber.co m/
FintechX (IT Solutions)	https://fintechsol.biz/
Online Teaching solutions	https://www.netop.com/
Software purchasing website	https://www.getapp.com

## 12 DISTANCE LEARNING SOLUTIONS

A general list of smart phone applications and platforms is provided below to guide teachers, management and students to get knowledge about the mechanism of distance learning solutions.

The list of educational applications, platforms and resources below has been compiled by UNESCO to help parents, teachers, schools and school administrators



during periods of school closure. The complete list can be accessed at <u>https://en.unesco.org/covid19/educationresponse/solutions</u>.

#### Digital learning management systems

- i. CenturyTech Personal learning pathways with micro-lessons to address gaps in knowledge, challenge students and promote long-term memory retention.
- ii. ClassDojo Connects teachers with students and parents to build classroom communities.
- iii. Edmodo Tools and resources to manage classrooms and engage students remotely, offering a variety of languages.
- iv. Edraak Arabic language online education with resources for school learners and teachers.
- v. EkStep Open learning platform with a collection of learning resources to support literacy and numeracy.
- vi. Google Classroom Helps classes connect remotely, communicate and stayorganized.
- vii. Moodle Community-driven and globally-supported open learning platform.
- viii. Paper Airplanes Matches individuals with personal tutors for 12-16 week sessions conducted via video conferencing platforms, available in English and Turkish.
- ix. Schoology Tools to support instruction, learning, grading, collaboration and assessment.
- x. Seesaw Enables the creation of collaborative and sharable digital learning portfolios and learning resources.
- xi. Skooler Tools to turn Microsoft Office software into an education platform.

#### Systems built for use on basic mobile phones

- i. Cell-Ed Learner-centered, skills-based learning platform with offline options.
- ii. Eneza Education Revision and learning materials for basic feature phones.
- iii. Funzi Mobile learning service that supports teaching and training for large groups.
- iv. KaiOS Software that gives smartphone capabilities to inexpensive mobile phones and helps open portals to learning opportunities.
- v. Ustad Mobile Access and share educational content offline.



#### Systems with strong offline functionality

- i. Kolibri Learning application to support universal education, available in more than 20 languages.
- ii. Rumie Education tools and content to enable lifelong learning for underserved communities.
- iii. Ustad Mobile Access and share educational content offline.

#### Massive Open Online Course (MOOC) Platforms

- i. Alison Online courses from experts, available in English, French, Spanish, Italian and Portuguese
- ii. Canvas Network Course catalogue accessible for free for teachers in order to support lifelong learning and professional development.
- iii. Coursera Online courses taught by instructors from well-recognized universities and companies.
- iv. European Schoolnet Academy Free online professional development courses for teachers in English, French, Italian and other European languages.
- v. EdX Online courses from leading educational institutions.
- vi. Future Learn Online courses to help learners study, build professional skills and connect with experts.
- vii. TED-Ed Earth School Online lessons about nature made available continuously during a 5-week period between Earth Day (April 22nd) and World Environment Day (June 5th).
- viii. Udemy English, Spanish and Portuguese language courses on ICT skills and programming.
- ix. XuetangX Online courses provided by a collection of universities on different subjects in Chinese and English.

#### Self-directed learning content

- i. ABRA Selection of 33 game-like activities in English and in French to promote reading comprehension and writing skills of early readers.
- ii. British Council English language learning resources, including games, reading, writing and listening exercises.
- iii. Byju's Learning application with large repositories of educational content tailored for different grades and learning levels.



- iv. Code It Helps children learn basic programming concepts through online courses, live webinars and other kid-friendly material. Available in English and German.
- v. Code.org Wide range of coding resources categorized by subject for K12 students offered for free by a non-profit.
- vi. Code Week List of online resources to teach and learn computer coding, available in all EU languages.
- vii. Discovery Education Free educational resources and lessons about viruses and outbreaks for different grade levels.
- viii. Duolingo Application to support language learning. Supports numerous base and target languages.
- ix. Edraak A variety of resources for K-12 education in Arabic, targeting students, parents and teachers.
- x. Facebook Get Digital Lesson plans, conversation starters, activities, videos and other resources for students to stay connected
- xi. Feed the Monster Android application in multiple languages to help teach children the fundamentals of reading, available in 48 languages.
- xii. History of Africa A nine-part BBC documentary series on the history of Africa based on UNESCO's General History of Africa book collection.
- xiii. Khan Academy Free online lessons and practice in math, sciences and humanities, as well as free tools for parents and teachers to track student progress. Available in 40+ languages, and aligned to national curriculum for over 10 countries.
- xiv. KitKit School Tablet-based learning suite with a comprehensive curriculum spanning early childhood through early primary levels.
- xv. LabXchange Curated and user-created digital learning content delivered on an online platform that enables educational and research experiences.
- xvi. Madrasa Resources and online lessons for STEM subjects in Arabic
- xvii. Mindspark Adaptive online tutoring system that helps students practice and learn mathematics.
- xviii. Mosoteach Chinese language application hosting cloud classes.
- xix. Music Crab Mobile application accessible for music education.
- xx. OneCourse Child-focused application to deliver reading, writing and numeracy education.
- xxi. Profuturo Resources in different subject areas for students in English, Spanish, French and Portuguese.



- xxii. Polyup Learning content to build math and gaining computational thinking skills for students in primary and early secondary school.
- xxiii. Quizlet Learning flashcards and games to support learning in multiple subjects, available in 15 languages.
- xxiv. SDG Academy Library A searchable library of more than 1,200 educational videos on sustainable development and related topics.
- xxv. Siyavula Mathematics and physical sciences education aligned with South African curriculum.
- xxvi. Smart History Art history site with resources created by historians and academic contributors.
- xxvii. YouTube Huge repository of educational videos and learning channels.

#### Mobile reading applications

- i. Global Digital Library Digital storybooks and other reading materials easily accessible from mobile phones or computers. Available in 43 languages.
- ii. Interactive Learning Program Mobile app in Arabic to advance reading, writing and numeracy skills created by the United Nations Relief and Works Agency.
- iii. Reads Digital stories with illustrations in multiple languages.
- iv. Room to Read Resources to develop the literacy skills of children and youth with specialized content to support girls.
- v. StoryWeaver Digital repository of multilingual stories for children.
- vi. Worldreader Digital books and stories accessible from mobile devices and functionality to support reading instruction. Available in 52 languages.

#### Collaboration platforms that support live-video communication

- i. Dingtalk Communication platform that supports video conferencing, task and calendar management, attendance tracking and instant messaging.
- ii. Lark Collaboration suite of interconnected tools, including chat, calendar, creation and cloud storage, in Japanese, Korean, Italian and English
- iii. Hangouts Meet Video calls integrated with other Google's G-Suite tools.
- iv. Teams Chat, meet, call and collaboration features integrated with Microsoft Office software.
- v. Skype Video and audio calls with talk, chat and collaboration features.



- vi. WeChat Work Messaging, content sharing and video/audio-conferencing tool with the possibility of including max. 300 participants, available in English and Chinese.
- vii. WhatsApp Video and audio calls, messaging and content sharing mobile application.
- viii. Zoom Cloud platform for video and audio conferencing, collaboration, chat and webinars.

#### Tools for teachers to create of digital learning content

- i. Thinglink Tools to create interactive images, videos and other multimedia resources.
- ii. Buncee Supports the creation and sharing visual representations of learning content, including media-rich lessons, reports, newsletters and presentations.
- iii. EdPuzzle Video lesson creation software.
- iv. EduCaixa Courses in Spanish language to help teachers develop the skills and competencies of learners in areas such as communication, entrepreneurship, STEM and big data.
- v. Kaltura Video management and creation tools with integration options for various learning management systems.
- vi. Nearpod Software to create lessons with informative and interactive assessment activities.
- vii. Pear Deck Facilitates the design of engaging instructional content with various integration features.
- viii. Squigl Content creation platform that transforms speech or text into animated videos.
- ix. Trello A visual collaboration tool used by teachers and professors for easier coursework planning, faculty collaboration, and classroom organization.

#### External repositories of distance learning solutions

- i. Brookings A catalogue of nearly 3,000 learning innovations. Not all of them are distance learning solutions, but many of them offer digital education content.
- ii. Common Sense Education Tips and tools to support school closures and transitions to online and at-home learning.
- iii. Commonweath of Learning List of resources for policymakers, school and college administrators, teachers, parents and learners that will assist with student learning during the closure of educational institutions.



- iv. Education Nation Nordic countries have opened up their learning solutions for the world for free, supporting teachers and learners during the school closures.
- v. EdSurge Community-driven list of edtech products, including many distance learning resources for students, teachers and schools, covering primary to post-secondary education levels.
- vi. European Commission Resources A collection of online platforms for teachers and educators, available in 23 EU languages.
- vii. GDL Radio: a collection of radio and audio instruction resources.
- viii. Global Business Coalition for Education List of e-learning platforms, information sharing platform and communication platforms.
- ix. Keep Learning Going Extensive collection free tools, strategies, tips and best practices for teaching online from a coalition of USA-based education organizations. Includes descriptions of over 600+ digital learning solutions.
- x. Koulu.me A collection of apps and pedagogical solutions curated by Finnish edtech companies to facilitate distance for pre-primary to upper secondary learners.
- xi. Organisation internationale de la Francophonie: Resources for primary and secondary school students and teachers for learning and teaching French.
- xii. Profuturo Resources: Spanish language resources in different subject areas for primary and secondary school students.
- xiii. UNEVOC Resources Tools, guides, MOOCS and other resources collected by UNESCO's International Centre for Technical and Vocational Education and Training for continued learning in the area of TVET.



## **13 ANNEXURES**

#### 13.1 Income Statement

Income Statement										
	Year 1	Year 2	Year 3	Year 4	Year 5	Year 6	Year 7	Year 8	Year 9	Year 10
Revenue	16,416,000	19,562,400	23,173,920	27,312,120	32,046,221	37,454,021	43,622,918	50,651,055	58,648,590	64,513,449
Cost of sales										
Utilities	663,062	712,792	766,251	823,720	885,499	951,912	1,023,305	1,100,053	1,182,557	1,271,249
Staff salaries	8,520,000	9,141,960	9,809,323	10,525,404	11,293,758	12,118,202	13,002,831	13,952,038	14,970,537	16,063,386
Total cost of sales	9,183,062	9,854,752	10,575,575	11,349,124	12,179,258	13,070,114	14,026,136	15,052,091	16,153,094	17,334,635
Gross Profit	7,232,938	9,707,648	12,598,345	15,962,996	19,866,963	24,383,906	29,596,782	35,598,964	42,495,496	47,178,814
General administration & selling expenses										
Staff Salaries	2,280,000	2,446,440	2,625,030	2,816,657	3,022,273	3,242,899	3,479,631	3,733,644	4,006,200	4,298,653
Administration benefits expense	108,000	115,884	124,344	133,421	143,160	153,611	164,825	176,857	189,767	203,620
Building rental expense	1,200,000	1,320,000	1,452,000	1,597,200	1,756,920	1,932,612	2,125,873	2,338,461	2,572,307	2,829,537
Software updation Expenses	35,000	38,500	42,350	46,585	51,244	56,368	62,005	68,205	75,026	82,528
Utilities	284,170	305,482	328,393	353,023	379,500	407,962	438,559	471,451	506,810	544,821
Travelling expense	114,000	122,322	131,252	140,833	151,114	162,145	173,982	186,682	200,310	214,933
Communications expense (phone, fax, mail, int	228,000	244,644	262,503	281,666	302,227	324,290	347,963	373,364	400,620	429,865
Office vehicles running expense	114,000	122,322	131,252	140,833	151,114	162,145	173,982	186,682	200,310	214,933
Office expenses (stationery, entertainment, jani	426,000	457,098	490,466	526,270	564,688	605,910	650,142	697,602	748,527	803,169
Promotional expense	492,480	443,232	398,909	359,018	323,116	290,805	261,724	235,552	211,996	190,797
Depreciation expense	795,613	795,613	795,613	795,613	811,835	811,835	577,110	1,322,156	1,344,226	1,344,226
Amortization of pre-operating costs	46,787	46,787	46,787	46,787	46,787	-	-	-	-	-
Amortization of LMS	70,000	70,000	70,000	70,000	70,000	102,853	102,853	102,853	102,853	102,853
Subtotal	6,194,049	6,528,324	6,898,898	7,307,905	7,773,977	8,253,434	8,558,647	9,893,509	10,558,952	11,259,934
Operating Income	1,038,888	3,179,324	5,699,448	8,655,091	12,092,986	16,130,472	21,038,135	25,705,455	31,936,545	35,918,880
Gain / (loss) on sale of office equipment	-	-	-	-	-	-	786,625	-	-	
Gain / (loss) on sale of office vehicles	-	-	-	-	-	-	39,500	-	-	
Earnings Before Interest & Taxes	1,038,888	3,179,324	5,699,448	8,655,091	12,092,986	16,130,472	21,864,260	25,705,455	31,936,545	35,918,880
Subtotal	-	-	-	-	-	-	-	-	-	-
Earnings Before Tax	1,038,888	3,179,324	5,699,448	8,655,091	12,092,986	16,130,472	21,864,260	25,705,455	31,936,545	35,918,880
Tax	205,200	518,797	1,359,806	2,394,281	3,597,545	5,010,665	7,017,491	8,361,909	10,542,790	11,936,608
NET PROFIT/(LOSS) AFTER TAX	833,688	2,660,527	4,339,641	6,260,809	8,495,441	11,119,807	14,846,769	17,343,546	21,393,754	23,982,272

#### 13.2 Balance Sheet

Balance Sheet											
	Year 0	Year 1	Year 2	Year 3	Year 4	Year 5	Year 6	Year 7	Year 8	Year 9	Year 10
Assets											
Current assets											
Cash & Bank	500,000	2,085,793	4,948,707	8,747,463	13,240,716	18,479,748	25,326,229	25,604,771	34,813,483	45,951,876	57,642,498
Consumables inventory	35,500	41,139	47,673	55,246	64,021	74,190	85,974	99,631	115,456	133,795	
Pre-paid building rent	-	110,000	121,000	133,100	146,410	161,051	177,156	194,872	214,359	235,795	-
Total Current Assets	535,500	2,540,932	5,479,647	9,364,955	13,956,927	19,308,437	26,282,953	26,707,105	36,081,280	47,407,550	58,837,192
Fixed assets											
I and	_	_	_	_	_	_	_	_	_	_	_
Building/Infrastructure	-	-	371 500	325.063	- 278 625	- 232 188	- 185 750	-	02 875	- 16 138	-
Euroiture & fixtures	1 300 000	1 181 500	973,000	525,005 764 500	556,000	232,188 347 500	139,000	2 382 216	2 024 883	1 667 551	1 310 219
Office vehicles	1,390,000	134 300	110,600	70 <del>4</del> ,500 86 900	63 200	39,500	15 800	2,382,210	2,024,885	225 314	1,310,219
Office equipment	3 146 500	2 674 525	2 202 550	1 730 575	1 258 600	786 625	314 650	5 392 548	4 583 666	3 774 784	2 965 901
Books and other study material	180,000	135,000	90,000	45 000	244 888	183,666	122 444	61 222	333 167	249 876	166 584
Security against building	300,000	300,000	300,000	300,000	300,000	300,000	300,000	300,000	300,000	300,000	300,000
Total Fixed Assets	5.638.875	4.843.263	4.047.650	3,252,038	2.701.313	1.889.479	1.077.644	8,597,176	7.608.187	6,263,962	4,919,736
	0,000,000	.,,	.,,	-,,	_,,	-,,	_,,,,,,,,,,	0,000,000	.,,	0,200,200	.,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,
Intangible assets											
Pre-operation costs	233,936	187,149	140,362	93,574	46,787	-	-	-	-	-	-
Learning Management System	350,000	280,000	210,000	140,000	70,000	514,265	411,412	308,559	205,706	102,853	-
Total Intangible Assets	583,936	467,149	350,362	233,574	116,787	514,265	411,412	308,559	205,706	102,853	-
TOTAL ASSETS	6,758,311	7,851,343	9,877,659	12,850,567	16,775,027	21,712,181	27,772,008	35,612,840	43,895,174	53,774,365	63,756,928
Liabilities & Shareholders' Equity											
Current liabilities											
Accounts payable		426,082	457,365	490,957	527,030	565,767	607,370	652,052	700,044	751,596	801,233
Total Current Liabilities	-	426,082	457,365	490,957	527,030	565,767	607,370	652,052	700,044	751,596	801,233
Other liabilities											
Total Long Term Liabilities		-	-				-	-	-		-
Total Long Term Enomites											
Shareholders' equity											
Paid-up capital	6,758,311	6,758,311	6,758,311	6,758,311	6,758,311	6,758,311	6,758,311	6,758,311	6,758,311	6,758,311	6,758,311
Retained earnings		666,951	2,661,982	5,601,299	9,489,686	14,388,102	20,406,327	28,202,477	36,436,819	46,264,458	56,197,384
Total Equity	6,758,311	7,425,262	9,420,293	12,359,610	16,247,997	21,146,413	27,164,638	34,960,788	43,195,130	53,022,769	62,955,695
TOTAL CAPITAL AND LIABILITIE	6,758,311	7,851,343	9,877,659	12,850,567	16,775,027	21,712,181	27,772,008	35,612,840	43,895,174	53,774,365	63,756,928



#### 13.3 Cash Flow Statement

Cash Flow Statement											
	Year 0	Year 1	Year 2	Year 3	Year 4	Year 5	Year 6	Year 7	Year 8	Year 9	Year 10
Operating activities											
Net profit		833,688	2,660,527	4,339,641	6,260,809	8,495,441	11,119,807	14,846,769	17,343,546	21,393,754	23,982,272
Add: depreciation expense		795,613	795,613	795,613	795,613	811,835	811,835	577,110	1,322,156	1,344,226	1,344,226
amortization of pre-operating costs		46,787	46,787	46,787	46,787	46,787	-	-	-	-	-
amortization of training costs		70,000	70,000	70,000	70,000	70,000	102,853	102,853	102,853	102,853	102,853
Equipment inventory	(35,500)	(5,639)	(6,534)	(7,572)	(8,775)	(10,169)	(11,784)	(13,656)	(15,825)	(18,339)	133,795
Raw material inventory	-	-	-	-	-	-	-	-	-	-	-
Pre-paid building rent	-	(110,000)	(11,000)	(12,100)	(13,310)	(14,641)	(16,105)	(17,716)	(19,487)	(21,436)	235,795
Accounts payable		426,082	31,284	33,592	36,072	38,738	41,602	44,682	47,992	51,552	49,637
Other liabilities		-	-	-	-	-	-	-	-	-	-
Cash provided by operations	(35,500)	1,752,531	3,528,409	5,199,081	7,110,563	9,350,322	11,948,063	15,425,803	18,651,084	22,704,507	25,739,969
Financing activities											
Issuance of shares	6,758,311	-	-	-	-	-	-	-	-	-	-
Purchase of (treasury) shares											
Cash provided by / (used for) financing ad	6,758,311	-	-	-	-	-	-	-	-	-	-
Investing activities											
Capital expenditure	(6,222,811)	-	-	-	(244,888)	(514,265)	-	(8,096,641)	(333,167)	-	-
Acquisitions											
Cash (used for) / provided by investing ac	(6,222,811)	-	-	-	(244,888)	(514,265)	-	(8,096,641)	(333,167)	-	-
NET CASH	500,000	1,752,531	3,528,409	5,199,081	6,865,675	8,836,057	11,948,063	7,329,162	18,317,917	22,704,507	25,739,969

## 14 KEY ASSUMPTIONS

#### 14.1 Operating Cost Assumptions

## **Table 24: Operating Cost Assumptions**

Description of Cost	Details
Building rent growth rate	10%
Furniture and Fixtures Depreciation	15%
Vehicle Depreciation	15%
Office Equipment Depreciation	15%
Inflation Growth Rate	10%
Wage Growth Rate	7.3%
Electricity Price Growth Rate	8.8%
Office Equipment Price Growth Rate	8%
Office Vehicle Price Growth Rate	10.7%

#### 14.2 Revenue Assumptions

#### **Table 25: Revenue Assumptions**

Description of Cost	Details
Sale Price Growth Rate	10%
Initial Year Capacity Utilization	60%
Capacity Growth Rate	5%
Maximum Capacity Utilization	100%

#### 14.3 Financial Assumptions

#### **Table 26: Financial Assumptions**

Description of Cost	Details
Project Life (Years)	10
Debt: Equity	0:100
Discount Rate	20%



## 14.4 Debt Related Assumptions

Description of Cost	Details
Project Life (Years)	10
Debt: Equity	50:50
Discount Rate	16%
Debt Tenure	5 years
Grace Period	1 Year
Interest Rate (KIBOR+3%)	28.16%



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