'Work Assigned As to Bring Business To Company' on Byju's

A final project report submitted to

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SUBMITTED BY

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DECLARATION

I, **Sonalika Padhy**, student of Biju Patnaik Institute Of Information Technology & Management, undertake that the research work on my Project "**E-Learning**" has been done by me and nothing is fabricated in the project and I have not copied from any other source. This is the first hand information &I solemnly affirm that.

Signature of the student

(Sonalika Padhy)

ACKNOWLEDGEMENT

The Job opportunity I have with Think & Learn Pvt Ltd (BYJUS)is a great chance for learning and professional development. Therefore, I consider myself as a very lucky individual as I am provided with an opportunity to be a part of it.

I express my gratitude to **Mr. DIPANKAR DAS, MARKETING MANAGER, BYJU'S** for taking part in useful decision & giving necessary guidance which were extremely valuable for my study both theoretically and practically.

I would also like to extend my gratitude to **Dr. ANKITA AGARWAL** for their able guidance and support in completing my project.

I perceive this opportunity as a big milestone in my career development. I will strive to use gained skills and knowledge in the best possible way, and I will continue to work on their improvement, in order to attain desired career objectives.

Sincerely,

Sonalika Padhy

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Company Overview

History

BYJU'S - The Learning App is the popular brand name for Think and Learn Private Ltd., a Bengaluru-based Educational technology (edtech) and online tutoring company that has recently received large-scale attention from students across India and attracted investors from across the globe. It was founded in 2011 by Byju Raveendran at Bengaluru, Karnataka, India. BYJU'S was the first investment in Asia from the Chan Zuckerberg Initiative. It is currently India's best funded education startup and is considered to be one among the only few Indian consumer startups that has gone global, particularly with the 2017 acquisition of Tutor-Vista.

Today , BYJU's is India's largest education technology company, offering supplementary classes for children between grades 6 and 12. In addition, it also features preparatory modules for several Indian exams like CAT, JEE and IAS, and international exams like GMAT and GRE. Having handpicked the best teachers in the country, and copyrighted their novel techniques, the platform has set an unprecedented trend in Indian education. The big question is, how does it make money? Byju's is based on a freemium model, where its content can be consumed freely, without any charge. When students get hooked to the app, and begin using it to learn, parents tend to opt for an annual subscription, to sustain the knowledge consumption. Byju's go-to-market strategy has been lauded for its scalability, allowing the brand to easily expand in English-speaking markets outside India. Its marketing vehicles have included television, print and hoardings.

Profile

BYJU's is an India's largest Ed-tech (Learning) Company that is reinventing how students learn through its learning app (Byju's- The Learning App). It offers learning programs that are effective and engaging for students in class 6-12, and for competitive exams like CAT, IAS, and GRE GMAT. The app makes use of original content, watch-and-learn videos, rich animations and interactive simulations that, as opposed to rote memorization, make learning contextual and visual. Equally important, the app adapts to the unique learning style of each student, inviting them to explore different concepts and suggest a learning footprint for the student that can also address any gaps in learning. BYJU'S aims to inspire a lifelong love of learning.

In 2011, Byju's began designing core learning modules, an exercise that took nearly four years to complete. Raveendran knew that the method had to be engaging and interactive, and he made the tutorials rich in graphic content. He conceptualized an adaptive online learning software by using visualization techniques. He made sure that the video formats delved into the depths of a subject without making it boring. In recent years, Byju's has tweaked its content distribution strategy. The brand's stratagem has been largely focused on mobile mindshare. And in a country where smart-phone multiplication has been rapid, technology has been a massive catalyst for the brand's growth. The biggest trump card that Byju'sbrandishes is the fact that its model is personalized. Having established a foothold amongst more than 1,400 mobile users across India, the app draws usage patterns from individual students, assessing their learning behavior. By assimilating visual and concept themes in their app, Byju's cleverly augments engagement time.

Products and Services

Their flagship product is a smart-phone app named *BYJU'S-The Learning App* that has been available since August 2015. The App serves educational content mainly to school students from classes 4 to 12 (primary to higher secondary level education). The company trains students for competitive examinations in India such as IIT-JEE, NEET, CAT, IAS as well as for international examinations such as GRE and GMAT.

The main focus is on mathematics and science, where the concepts are visually explained and *in context* using modern digital animations] and moving illustrations, all embedded within short videos (15-20 minutes long). The app has received criticism for a few issues such as lack of depth in some areas, overly simplistic treatment of some basic topics, and lack of within-lecture student-teacher interaction. In spite of the adverse critical opinion and competition from other players (including Edtech startups and traditional education firms), the app has enjoyed tremendous popularity. BYJU'S reports to have about eight million users overall and about four lakh paid subscribers on an annual basis [8] and an annual retention rate of about 90%.

The Byju's platform is supported by three frameworks: Ruby on Rails, Selenium and Appium. A PostgreSQL database sits on top of the framework base, and is compounded by an Integrated Development Environment (IDE) called Unity3D.

Competitors

Byju's isn't alone in the Indian ed tech space. It has been followed by a host of new entrants, all hungry to claim their stake in the emerging sector.

- **Plastic Water Labs**, for instance, has a different take on learning. The brand intends to address the problem of poor comprehension in India's education sector, and is working on a Virtual Reality app that will place students in an immersive, multi-sensory learning environment that will enable spatial thinking. Lessons will be conducted through Android smartphones that can be toggled to a VR setting through Google cardboard. The offering will work on an annual subscription model.

- **Entri,** provides a plug-and-play platform on a cloud, for coaching institutes, teachers and students. The app tracks a student's performance, measuring strengths and weaknesses, and displays it in a format akin to Google Analytics. The app hosts a bank of 30,000 preparation questions, formulae and other material, and provides a forum for students to seek advice, clarifications and help from subject matter experts. The app charges Rs. 2,000 per annum per student.

- **KatalystEduserve,** has been founded to fully uncover a student's true potential. The company conducts credit-based education through an online course software, to channel a child's competencies in the right direction. Its customised offerings range between Rs. 100 and Rs. 6,000 and include an assortment of services such as academic comparison, personal counselling, parent and teach interaction and engagement of a personal trainer.

- **Vedantu ,** a live tutoring platform, is squaring in on students who don't have time to go for tutorials and coaching classes. When the brand launched, its primary goal was to create awareness about its category and not necessarily the brand per se. Live tutorials weren't a known concept, and parents needed to be educated about them. Other than radio spots, Vedantu's above-the-line strategies have primarily been online. Through social media advertising, search engine optimisation and collaborations with publishers such as Yahoo and Google, they have acquainted Indians with virtual classroom software. They claim that 8 out of 10 Bangalore residents now know what Vedantu provides.

- **Pinlearn** is a turnkey framework that allows you to set up an education technology platform in just a few days, and at about one-hundredth the launch cost. The platform is widely used by ed tech companies, and is a superior alternative to in-house development or other readymade technologies. Its spectrum of features coupled with its responsive design give you a premium experience, whether you're looking to start your own tutorial website, or an online teaching and learning marketplace.

EXECUTIVE SUMMARY

This report aims at illustrating and describing how e-learning can contribute in creating value and reducing overheads associated with the learning process through adopting and implementing e-learning systems and applications.

It is an obvious fact that e-learning plays a vital role in managing the education chain especially now that digitalization has become very common in the business market environment around the world. The main purpose of this report is to find out how e-learning can contribute in creating value, reducing cost and gaining more profit out of the learning process.

Since this report is meant to cover the available literature on e-learning only limited areas of the education are presented.

Also BYJU'S e-learning module and its application has been explained in this report which is an leading e-learning tool which is used by many students for learning needs and hence its details have been covered in this report.

OBJECTIVES OF THE STUDY

- The aim of this report is to study the background and benefits of e-learning.

- The background and popularity of e-learning, cost factors associated with it.

- Understanding the promotional strategies used by market leaders & identifying the strategy best suited for BYJU'S.

- Sales & Marketing of the existing products by studying consumer buying behavior.

- Learning about personalized approach of byju's app.

REVIEW OF LITERATURE

Bates and Poole (2003) and the OECD (2005) suggest that different types or forms of e-learning can be considered as a continuum, from no e-learning, i.e. no use of computers and/or the Internet for teaching and learning, through classroom aids, such as making classroom lecture Power point slides available to students through a course web site or learning management system, to laptop programs, where students are required to bring laptops to class and use them as part of a face-to-face class, to hybrid learning, where classroom time is reduced but not eliminated, with more time devoted to online learning, through to fully online learning, which is a form of distance education. This classification is somewhat similar to that of the Sloan Commission reports on the status of e-learning, which refer to web enhanced, web supplemented and web dependent to reflect increasing intensity.

Johndan Johnson-Eilola describes a specific computer-supported collaboration space: The Smart Board. According to Johnson-Eilola, a "Smart Board system provides a 72-inch, rear projection, touchscreen, intelligent whiteboard surface for work". In Datacloud, Johnson-Eilola asserts that "are attempting to understand how users move within information spaces, how users can exist within information spaces rather than merely gaze at them, and how information spaces must be shared with others rather than being private, lived within rather than simply visited" . He explains how the Smart Board system offers an information space that allows his students to engage in active collaboration. He makes three distinct claims regarding the functionality of the technology:

1) The Smart Board allows users to work with large amounts of information,
2) It offers an information space that invites active collaboration,
3) The work produced is often "dynamic and contingent"

Fischer et al. (2015) studied how proceedings of scientific conferences can be used for trend studies in the field of e-learning. They examined the abstracts of 427 scientific articles of leading German-speaking e-learning conferences GesellschaftfürMedien in der Wissenschaft and E-Learning-Fachtagungen der GesellschaftfürInformatik e. V. (GMW and DeLFI) – published from 2007 to 2013. The study was conducted at German-speaking conferences and, thus, reflects the situation in Germany, Switzerland and Austria. Fischer et al. (2015) made an important contribution to the diffusion of digital media in higher education. The researchers found that the detailed analysis of the frequency distribution over the seven years reflects the intensity of scientific discussion towards e-learning trends, and conclusions about the didactical or technical potentials of innovations can be introduced. Specifically, they found the development potential of learning management, mobile learning, virtual worlds, e-portfolio, social media and Massive Open Online Courses are crucial for elearning in German higher education.

ScholtzandKapeso (2014) and Almajali et al (2016), Shannak (2013) explored the factors of mobile learning (m-learning) approaches which can be used for enterprise resource planning (ERP) system. The technology acceptance model(TAM) was applied to assess the acceptance, usefulness and perceived ease of use of the m-learning. The researchers found that the m-learning system was correlated positively for perceived ease of use and perceived usefulness as such findingsconfirmed other studies which stressed the importance of the quality of course content in e-learning andm-learning projects.

Teo (2014) aimed to clarify the extent of teacher satisfaction of the application of e-learning programming persevere teachers. Teo (2014) investigated the key drivers of teachers' e-learning satisfaction. 387 participants in a postgraduate diplomain educationcompleted a survey questionnaire to measure 6 constructs (tutorquality, perceived usefulness, perceived ease of use, course delivery, facilitating conditions, and course satisfaction). By using structural equation modeling, data analysis showed that, apart from facilitating conditions, all other constructs were significantpredictors of e-learning satisfaction. Nevertheless, the facilitating conditions construct wasfound to be a significant mediator of perceived ease of use and satisfaction.

Ceobanu and Boncu (2014) investigated in a theoretical manner the challenges associated with the use of mobile technology in adult education. They argued that mobile learning (mLearning) can be placed at the connection of eLearning and mobile computing, which is differentiated bythe capability to access learning resources anywhere, anytime, through high capabilities of search, high interaction, highsupport for effective learning and ongoing assessment based on performance. Also, mLearning considered to be asan extension of eLearning, but characterized by its independence from a location in space and time. Furthermore, mLearning comprises the use of mobile technology in the service of the processes related to teaching andlearning. The mLearning can be considered as the point where mobile computing and eLearning meet to create alearning experience that can be commenced anytime and anywhere.

According to Judrups (2015), the development of knowledge management and e-learning unsurprisingly are developed for years as both disciplines deal with knowledge capture, sharing, application andgeneration; have vital technological components to enhance learning; andcontribute to building a continuous learning culture. Judrups (2015) found that knowledge management and e-learning naturally brings both disciplines closerand supports integration. Model analysisconfirmed several integration approaches. The more general approach is to base integration on commonground, which is identified as learning. Nevertheless, these approaches are not implemented in productionenvironment and require necessary technical specification and application support.

RESEARCH METHODOLOGY

RESEARCH

This research will accomplish chiefly through qualitative approach that is based on the secondary information.

Qualitative research includes the reviewing and analysis of the articles, research papers and other published information in order to gain a deeper understanding of the prevailing scenario. These methods will help to understand the opinion and views regarding e-procurement.

DATA COLLECTION

The research study will be accomplished through analysis of secondary information available in the published form, which includes data from textbook, journals, management reports seminar papers etc. The electronic data and results of surveys conducted will also important data sources for the report.

To gather all the information that my report need, I will find related information by accessing reference books business magazines and journals & Web sources.

INTRODUCTION

E-learning

E-learning is an education via the Internet, network, or standalone computer. E-learning is basically the network- enabled convey of skills and knowledge. E-learning refers to using electronic applications and processes to learn. E-learning includes all forms of electronically supported learning and teaching.

The information and communication systems, whether networked learning or not, serve as specific media to implement the learning process. This often involves both out-of-classroom and in-classroom educational experiences via technology, even as advances continue in regard to devices and curriculum. E-learning is the computer and network-enabled transfer of skills and knowledge. E-learning applications and processes include Web-based learning, computer-based learning, virtual education opportunities and digital collaboration. Content is delivered via the Internet, intranet/extranet, audio or video tape, satellite TV, and CD-ROM. That is to say E-learning systems contain both Learning Management System and Course management system. It can be self-pace or instructor-led and includes media in the form of text, image, animation, streaming video and audio.

It is commonly thought that new technologies can make a big difference in education. In young ages especially, children can use the huge interactivity of new media, and develop their skills, knowledge, and perception of the world, under their parents' monitoring, of course. Many proponents of e-learning believe that everyone must be equipped with basic knowledge in technology, as well as use it as a medium to reach a particular goal and aim.

In the 20th century, we have moved from the Industrial Age through the Information Age and now to the Knowledge Age. Knowledge and its efficient management constitute the key to success and survival for organizations in the highly dynamic and competitive world of today. Efficient acquisition, storage, transfer, retrieval, application, and visualization of knowledge often distinguish successful organizations from the unsuccessful ones. The ability to obtain, assimilate, and apply the right knowledge effectively will become a key skill in the next century. Learning is the key to achieving our full potential. Our survival in the 21first century as individuals, organizations, and nations will 2 depend upon our capacity to learn and the application of what we learn to our daily lives.

E-learning has the potential to transform how and when employees learn. Learning will become more integrated with work and will use shorter, more modular, just-in-time delivery systems. By leveraging workplace technologies, e-learning is bridging the gap between learning and work. Workers can integrate learning into work more effectively because they use the same tools and technology for learning as they use for work. Both employers and employees recognize that e-learning will diminish the narrowing gap between work and home, and between work and learning. E-learning is an option to any organization looking to improve the skills and capacity.

The evolution of e-learning

The growth of e-learning is more of a dynamic process as it is affected by many factors such as the subject matters, the knowledge level of the audience and the environment around the audience. The users also play an important role in how they want to learn as all users do not have same approach to learn. A major factor that affects the elearning process is the amount of information that the user wants to receive. The users must decide for themselves which information is important for them at a moment of time and how much they can process. These all factors have vastly affected the way elearning has developed from the early times to the present.

During the early 1980's when computers were scarcely available instructors-led training (ILT) was the only way of learning things from or about computers. Computers were only available for official use, and if staffs wanted to learn from computers they had to use the office hours. Using the office hours to train led to major slowdown in the official work and was rather counterproductive for the offices.

Then arrived the era of multimedia advancements from around 1985 to 1995 Windows3.1, Macintosh, CD ROMs and PowerPoint started making their marks. Then to make training portable and visually engaging, instructors started using CD ROMs to deliver instructions. As the instruction could be easily transported using a CD and could be delivered repeatedly even without the presence of any instructor, this era represented a major upgrade from instructor led training. This also resulted in major cost savings and was more productive compared to an instructor led training method. The major downside of this training method was the lack of the instructor's interactions and dynamic presentations, which left the audience wanting more.

During the mid 1990's when the World Wide Web (www) started evolving, instructors started exploring the possibilities of using the new technology to deliver instruction in more efficient and cost effective ways. This period saw the growth of email, web browsers, HTML, media players, low definition audio/video files and basic Java applications. With the growth of these technologies the way in which instruction was delivered was also evolved. Instructors and students started communicating via emails and the use of audio/video files in delivering instruction starting to emerge.

The major downfall was the size of the instruction files. The larger files could not be delivered via the web and it was also highly costly to use the web during this period of time. To deliver via storage devices was also not possible because the floppy discs were the storage commonly used storage devices used then and had a really low storage capacity Then in the early 20th century the world started seeing a major growth in the field of computers and webs. People started moving from the age of CD ROMs to USB and low bandwidth web to the high bandwidth web. Faster and portable computers were replacing slower and bigger computers. The Java/IP network applications, high definition audio/video files started surfacing.

All these changes started to change the way people learn. The instructors started to have real-time conversation with students on the web and bigger files were easily transferred via USB or were easily accessible via 4 the web. When slowly smart-phones and hand-held devices with the Internet started gaining popularity, it completely changed the way people looked for information. The term e-learning also started to gain attention.

With the growing popularity of hand-held devices the effectiveness e-learning has grown even further. With use of the Internet in hand held-devices people like to access instructions or information with just a single click. Today the e-learning process has come a long way from the instructor-led training era to a hand-held era.

Types of e-learning

The learning process achieved by using digitally delivered content or interaction is e-learning. Mainly e-learning focuses on the use of computers whether remotely or in a classroom to deliver content to students. With the advancement in technology and the use of the World Wide Web the learning process is not only limited between a teacher and student. Learning can be achieved through reading blogs, participating in online forums, threaded email discussions, social media or through online training platforms such as the code academy.

It is very common for people to use a search engine such as Google to look for information ranging from what to eat to what to wear in a particular day. People consult different blogs or online tutorials to learn about products or particular ways of doing tasks. These all are e-learning processes. Depending on the use of the source or the delivery medium, e-learning can be of different kinds:

• Purely online: no face-to-face meetings

• Blended learning: distance learning or a combination of online and face-to-face

• Synchronous: instructor led online courses

• Asynchronous: self-placed learning methods placed on the internet, network or storage devices

• Instructor-led group: distance learning where students may be from different geographical locations and learn from a single teacher

• Self-study: learning by visiting blogs, tutorials or informative websites

• Self-study with subject matter expert: learning by regularly visiting some experts blogs or up-to-date sites

• Web based: learning purely by looking up on the Internet with the use of search engines or social media groups such as Facebook

• Computer based: learning by accessing study materials from different storage devices like CD ROM or USB in the computer

• Video/audio tape: learning by accessing multimedia files through YouTube or any other video/audio sharing websites.

Depending on the use of technological advancement and interactive capabilities of the learning system, e-learning can be divided into three different types as shown in table

Table 1: Types of e-learning based on their interactive capabilities

Type 1	Type 2	Type 3
E-learning systems with low interactive capabilities, which mainly consist of texts or multimedia materials.	E-learning systems with moderate interactive capabilities.	E-learning systems with high interactive capabilities either with student to student or student to teacher or even both.
The examples of this type of systems mainly consist of power point presentations, learning from an e-book or learning from watching videos or audio podcasts.	The examples of this type of systems mainly consist of quizzes with feedback, interactive resources, reflective learning, and learning by using simulators or demonstrations.	The examples of this type of system mainly consists or modern blended e-learning systems such as virtual classrooms, video conferencing, streaming medias, different online group games, online blogs, Wikipedia or social media groups.

Advantages and disadvantages of e-learning

As the world is moving towards the digital age and more and more universities are trying to maximize the use of technology in education, one must consider both the advantages and disadvantages of doing so. Although the use of technology in the field of education has revolutionised the way we learn there are still some downsides of relying completely on technology to learn. E-learning systems are the storehouses of information, trainings and knowledge but at the same time they could be the storehouses of misinformation, poorly guided training or bad knowledge.

E-learning has many advantages.

With the combination of a well-organised e-learning system and a highly motivated student, one can achieve great success in a short period of time. Some of the major advantages of e-learning are listed below:

a) **Convenient for students**
   E-learning materials are self-placed and can be accessed any time the learner wants. They do not require the learner to be physically present in a classroom. Students can also download and save the learning materials for future purposes from the system.
b) **Lower cost**
   E-learning is usually a cost-efficient way of learning for most students as they can choose from a large range of courses and make the selection depending on their needs. It can also be cost-efficient for many universities because once the learning platforms are set up, they can be reused for many sessions.
c) **Up-to-date learning materials**
   The study materials in e-learning systems can be updated more frequently than in the classroom-based education systems. Once the study materials are placed in the system, they can be updated without changing the whole materials and the materials can be available and reused for longer times.
d) **Flexible way of learning**
   E-learning is a flexible way of learning for many students. Most of the study materials are stored for the students to access whenever they want. Students can also choose between an instructor-led and a self-learning system. In e-learning systems it is also possible for students to skip over the study materials they already know and choose the ones they want to learn.
e) **World-wide learning society**
   E-learning systems help in creating a worldwide learning society as anyone can access the study materials regardless of the geographical location. In the systems available now learners can also contribute to the study materials, which helps to keep the materials updated. 8

f) Scalable e-learning systems

The number of students in virtual classes or e-learning systems can be very few or really high without causing any significant difference in the total cost.

g) Higher degree of freedom for students

One may find it difficult at times to learn new ideas. E-learning systems provide the possibility for students to learn the same material repeatedly until they are satisfied.

h) Better retention

The video and audio materials used in e-learning make the whole learning process more fun. This will help students to remember the things they learn for a long period of time. E-learning materials can also be accessed whenever wanted, thus the repetition makes the retention easier.

Disadvantages of e-learning include:

a) Low motivation

Students with low motivation may not achieve the set goals most of the time, as there is noone to look over. Students are themselves responsible for the routine and organisation of the course, thus leading to laziness and low motivation at times. Lack of a fixed schedule and deadlines may lead to students dropping out of the course prematurely.

b) Technology-dependency

The study materials in e-learning are delivered using computer applications. For some people just to learn how to use those applications might take a long period of time. There are also other factors such as a poor Internet connection and machine malfunction, which may make the learning process tedious and time consuming.

c) Compatibility issues

As there are many learning systems available, sometimes the study materials prepared by using one system may not be compatible with another. For example mobile devices such as iPads block the flash videos from being played in their browsers. Access to websites may not be free in all places as some countries impose restrictions on the number of websites that can be accessed.

d) Reliability of the content

The content available on the Internet might not always be reliable. There are people who mislead the readers and feed wrong information. So the readers must be careful while searching for the information and check the reliability of the content before learning it.

e) Social isolation

Lack of a real classroom or classmates might not be good for all students. Students might feel socially isolated at times due to lack of real people around while learning.

f) Expenses management

In the long run e-learning is usually a cheaper option but still for the first time it might prove too expensive for some institutions. Buying new equipment like computers,

projectors or new software all at once might not always be easy for new or small institutions. Also the cost of developing training materials is high compared to the traditional methods.

g) Disadvantages for disabled students

While developing new study materials or study environments companies usually target at large user groups. They might not always think about disabled students such as visually impaired students as they might not gain from it as the development costs may be high. h) Not effective in all cases In some cases face-to-face study materials might be more effective than learning online as e-learning lacks two-way communication.

Table 2: The advantages and disadvantages of e-learning systems [8].

Advantages	Disadvantages
It reduces the need to travel longer distances or away from home to get the desired education.	It lacks face-to-face interactions that students in the normal classroom would get.
It is a convenient way of learning things as it can be accessed any time anywhere and on self-demand.	Lack of strict guidelines may demotivate students and lead to dropouts form the learning process prematurely.
It is a self-placed private learning system and is mostly flexible for learners.	It is sometimes difficult to measure the reliability of the placed learning systems.
It uses the media resources, thus making it easy for learners to understand.	Slow internet connections or server problems may make the learning process frustrating.
It is repeatable as the content is stored in storing devices and each time the learner accesses it, the same content can be repeated.	It may take some learning time just to understand the learning systems.
It is easier to track the progress of learners in the e-learning system.	Students may feel isolated due to lack of social interaction.
The content of learning materials is consistent for all users regardless of the location or time of accessing.	Real-time interactions may not be available at the time of need for students, which can be frustrating.

Cost benefits analysis of e-learning

We discussed the major advantages and disadvantages of e-learning in chapter 2, but the major question for any institution and company before implementing e-learning will always be if it will be cost-effective. For many multinational companies e-learning is a very effective method to impart knowledge and information to staff who are on different geographical locations. It can be a very beneficial means to improve employee performance. E-learning tools can be used to share knowledge and experience among the employees, which improves the performance of the workers and eventually improves performance of the whole organization. The bottom line is that if the company does not see long-term profits on their investment, they will not invest in implementing e-learning systems.

Before making any significant investment it is crucial for companies to calculate the cost-benefit for e-learning before implementing it in their organisation. The benefits of creating and administering the e-learning systems should outweigh the development cost associated with it in the long run. This chapter explains the cost formula associated with creating and implementing a new system in companies.

Cost analysis

Whether it is face-to-face learning or e-learning there are various kind of costs associated to it. So while choosing between the two, one should carefully understand the costs associated to it. For example, in face-to-face training the costs of an instructor travelling to train the learners depending on where the class is, in addition to the costs incurred in developing courses should be considered in the cost analysis. Instead in e-learning cost analysis, the cost associated with development of study materials has to be considered in case if the course is specially developed for one's own organization. If the company brought pre-prepared materials from somewhere, user license costs should be used. For each different costs factors there is a certain degree of variability associated with it. It can be dependent or independent of the number of students being trained. Basically there are three factors that affect the cost factors most.

- The number of students being trained
- The distance that has to be travelled
- The time period of the training

While doing the cost analysis in both cases we should consider all the fixed costs, variable costs and the cost associated with the total number of participants. Fixed costs are the development fees that remain always same regardless of the number of materials produced or the number of students trained. For example, the cost of buying PowerPoint from Microsoft and using it to create slides is a fixed cost as it can be used to produce as many slides we want. A variable cost

will change depending on the number of materials produced. For example, if we distribute the materials in paper form the cost of printing papers will depend on the number of papers we print.

While adopting e-learning the costs due to technological factors are the main cost factor to be considered. The cost of preparing the content digitally, maintaining the content and hosting the content for the first time might cost a big amount of money but companies must make long term plans for re-using those materials and limit the expenditure in the future. Some of the major costs due to technology include:

a) **Creating digital content**
   The content can be created by using the manpower within the company or bought from outside. While buying the content externally the companies must use an expert in the multimedia field in order to avoid any surprise during the training periods. This will also cost extra to the companies and generally is not required in face-to-face trainings. The companies can divide the cost of purchasing the content into annual installments depending on how often the training may be repeated. The number of students trained in any the training period does not affect this cost in any way.
b) **Maintaining the digital content**
   Once the content are created they can be used repeatedly but due to the changing nature of the technology some minor maintaining may be necessary from time to time. So any cost estimate should include the possible cost for updating the materials in the future.
c) **Hosting the content**
   The content can be stored and used whenever necessary or can be made available continuously by hosting in the server archives. The server can be the company's own or can be from an external web space supplier. It the content is hosted in the server then the annual cost of hosting it should be considered annually. The cost of hosting the content is not dependent on the number of students but may depend on other various factors like the size used to store the content. If the size of the content is large, a larger space is needed to store it and it will cost more.
d) **Learning Management System costs (LMS)**
   A learning management system (LMS) is a software application used to create, implement, document, track, report and deliver the digital learning materials or the e-learning materials. Buying an LMS is the most expensive cost factor while setting up a new e-learning system, thus it should be a long-term investment. If the company or university administration is planning to use the e-learning training for just once then it will make no sense to invest a lot of money in LMS. Since LMS is going be used over a period of time, this cost can also be divided into annual installments. The cost associated with LMS is not dependent on the number of students, their distances or the number of courses, either.

e) Hardware and software costs

If the hardware and software are not yet available in the company, the cost of buying them should be included in the cost estimate. But if they are already available, then we should not include them.

The cost factors from the technological point of view can be summarized as in table 3.

Table 3: Cost factors-technology point of view [13,225]

Cost	Number of students	Distance	Course duration	Value compared to traditional training
Content development	Fixed	Fixed	Fixed	Exclusive (High)
Hosting content	Fixed	Fixed	Variable	Exclusive (Low)
Maintenance content	Fixed	Fixed	Variable	Exclusive (High)
Distribution content	Variable	Fixed	Fixed	Exclusive (Low)
LMS • Licence • Installation • Maintenance • Hosting	 Fixed Fixed Fixed/variable Fixed	 Fixed Fixed Fixed Fixed	 Fixed/variable Fixed Fixed/variable Variable	Exclusive (High)
Technological Infrastructure	Fixed/variable	Variable	Fixed	Exclusive (High)

Table 3 shows the cost factors while creating a new e-learning system from technology point of view and describes the costs if they are fixed or variable in relation to the number of students. As we can see most of the costs are high compared to face-to-face training but most of the cost factors can be used for a long term, thus being beneficial.

Apart from the technology costs there are also other costs involved in creating an elearning system such as administrative and staff costs. Some of such costs are listed below.

a) **Tutor's costs**
   While preparing some course materials, continuous supervision by professionals is necessary. Some of the materials require the presence of the training staff during the implementation. The cost for this factor depends on the number of students to be assisted during the training.
b) **Multimedia technology personnel and training costs**
   The role of the teacher is evolving day by day due to availability of the number of information sources. The day when the only means to acquire knowledge 15 was to sit in a class listening to a teacher's lecture are behind us. So it is necessary for teachers who use blended e-learning to have some level of multimedia technology training or have a staff who can improve the learning process. This factor is not always necessary if the teacher or trainers are already familiar with the e-learning system.
c) **Administration, management and consultancy costs**
   Like the face-to-face learning, e-learning also needs administration and management during the development and implementation phase. Also during the training it needs some sort of supervision. But since it is a new area for many organisations it may be necessary for the management to consult with professionals.

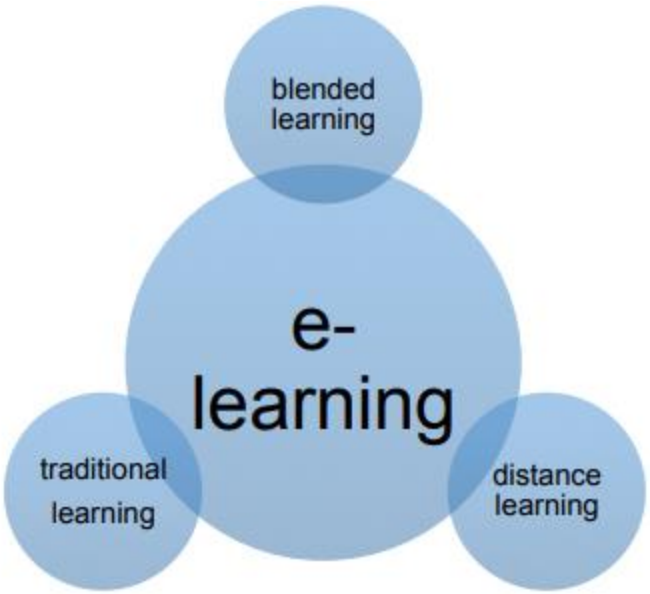
The cost of technology is considered the major cost factor while setting up a new e-learning system. But due to rapid growth in the field of technology the cost of web-based or computer-based systems is decreasing causing the decrease in cost for setting up or using e-learning systems. We can buy many tutorials in our application stores these days. So we can expect better quality of the system at the same price or the same system at lower price if this trend continues.

According to Forbes, which is a leading newspaper in the field of business the e-learning business is growing really fast and more new companies can enter the field. This trend will surely ignite competition between companies and we can expect the price of many online courses or cost factors to go down.

E-Learning systems

Architecture of e-learning systems

The main requirement of the developers while developing any e-learning system is that it should be easy to use and safe. Students should be able to choose their course, find the resources easily, track their progress and reach their final goal on time. In the learning system students should be able to communicate and help each other, in other words it should be social and engaging. While developing the learning system the designer should focus on creating a perfect mix of traditional and virtual learning methods to help the students engage more and reach their goals.



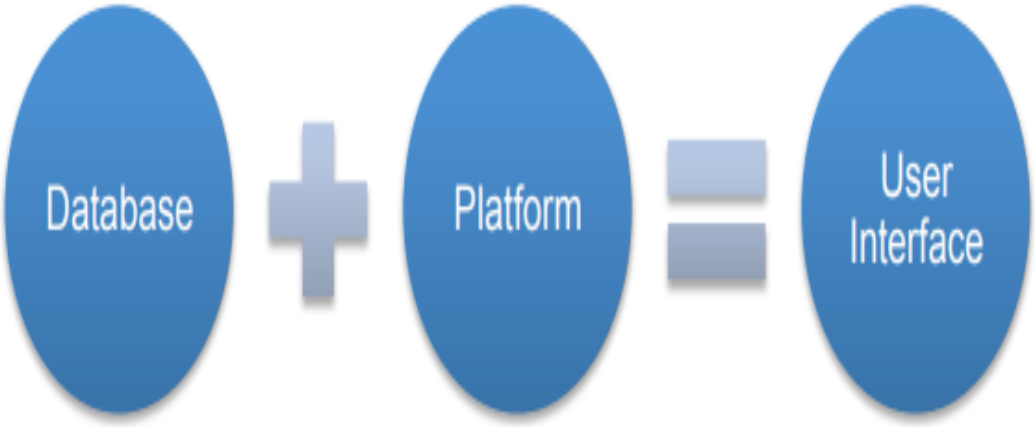
A perfect e-learning system is a mix of all the learning systems shown in figure 2. In theory the perfect e-learning system will allow students to learn from their home while having some real-time support and interaction with other students who are taking the same courses howeve,r it might be difficult to achieve in real cases.

The architecture of an e-learning system might be difficult to understand in technical term but it usually consists of three parts:

- User Interface
- Platform elearning blended learning distance learning traditional learning
- Database.

A database is the place where the digital learning materials are stored and a learning platform is the media from which the students access the learning materials. A user interface is what the student sees while accessing the platforms. The communication process between these three parts is very important for the whole system to work perfectly. For example, we can use MySQL to store the digital materials, use edX platform to access the materials and students can visit the edX platform using their web browser.

The connection between the three parts of the e-learning system is shown in figure 3



As we can see from the figure 3, the user interface is what the student sees while accessing the platform, which will have the access to the database.

The user interface is the means by which the student interacts with the system, including the input devices and the software. It allows user to input their command through input devices such as a mouse or touch screen and shows the effects of the user input. Applications and web browsers are some examples of the user interfaces.

A database is a structured set of information or data organized so that it can be accessed, managed and updated whenever necessary. In order to store, modify, extract Database Platform User Interface 25 and administer the database a management system, database management system (DBMS) is required. There are many database management systems available in the market like Oracle, Microsoft SQL Server, and MySQL

The e-learning platform is the system that provides the access to the databases of e-learning materials or the online courses. The platforms are generally web-based. It enables the user to access the study materials, take tests, and track their progress whenever or wherever they want.

There are many such platforms available in the market. Companies can either use such platforms or develop their own. Developing such platforms may be expensive, so companies generally use already available platforms. The platforms can be free (open source) or commercial. The commercial platforms will let the companies to modify them to fit the needs of the users. While choosing the platform it is necessary for the companies to understand what they want. It depends on a number of factors such as needs of students and technical skills of instructors

Learning Management System

It is a software application for the administration, documentation, tracking and reporting of training programmes, class room and on line events, e-learning programmes, and training content. It is designed to teach how e learning can be implemented and made effective using popular LMS Moodle. Moodle is a free and open source e learning software platform that means there is no cost or license fee for deployment. Moodle is designed to help educators create on line courses with a focus on interaction and collaborative construction of content

E-learning represents an innovative shift in the field of learning, providing rapid access to specific knowledge and information. It offers online instruction that can be delivered anytime and anywhere through a wide range of electronic learning solutions such as Web-based courseware, online discussion groups, live virtual classes, video and audio streaming, Web chat, online simulations, and virtual mentoring.

E-Learning enables organizations to transcend distance and other organizational gaps by providing a cohesive virtual learning environment. Companies must educate and train vendors, employees, partners, and clients to stay competitive, and eLearning can provide such just-in-time training in a cost-effective way.

Developing and deploying effective eLearning programs may require products and services supplied by a variety of vendors, leaving one to connect the dots. One way to start is to define the goals of the desired learning solution. Definition of the goals of an eLearning solution is driven by the following factors:

- **Perform task analysis**
  Determine the tasks to be taught, identify subtasks and other elements involved, and identify the knowledge, skills, and attitudes required to complete the tasks efficiently and effectively.
- **Perform training needs analysis**
  Identify the target audience for the training. Identify the shortfall in knowledge, skills, and attitudes of this audience and determine what the target learners need to know.
- **Review existing capabilities**
  Review existing methods and infrastructure for providing training or meeting learning needs.
- **Determine expectations**
  Identify concrete expectations and/or ROI requirements from the desired eLearning solution. The development of an eLearning strategy begins by setting goals. Without a true understanding of the goals of the eLearning strategy, it will be difficult, if not impossible, to be successful. Before implementing eLearning, organizations need to set common goals or objectives. Common goals and objectives include the following:
- **To reduce learning costs**
  As a small business owner, you know that online transactions cost a fraction as much those requiring paper or staff. It's the same with eLearning because there are no papers, no delays, and no travel expenses. To reduce the time required for effective learning Electronic learning is sometimes called "just-in-time" learning. Such learning enables employees to take what they have just learned from their computer screens and apply it to the tasks at hand.
- **To motivate employees**
  E-Learning is considered an effective way to keep up with new technology, to generate new ideas, and to keep your workforce fresh and inspired.
- **To improve flexibility of course delivery**
  Most smaller businesses don't have the staff to manage their training and development initiatives. E-Learning technologies can overcome these administrative restrictions.
- **To reduce the need for classroom training**
- **To track employee progress**
- **To track training effectiveness (or absorption)**
- **To link training with Knowledge Management**
- **To reduce time away from the job**
- **To improve job performance**
- **To support business objectives**
- **To make learning available anytime, anywhere**

BYJU'S E-LEARNING MODULE

With the advancement in technology, the education sector is advancing to a better phase. Technology has made education more accessible and affordable for its user. With the use of Electronic devices like Computers/Laptops and Mobile phones for the field of education, students find it easy to learn according to their own pace and ability. Students are driven more towards E-learning for their studies rather than traditional learning from books. With thousands of such learning application, play-store has added benefits to students with a high level of comfort. One such application which is particularly becoming popular nowadays is Byju's the Learning app.

Why Byju's the Learning App

Byju's-The learning app was developed by one of the best technical teams in India. The app has teachers from IIT's and IIM's teaching students with the best technique in the form of video lectures, in-air projection technique and adaptive learning method. The application is available both on Android and IOS devices. The aim for this application is learning for all with its motto "Come fall in love with learning," This app makes learning an enjoyable activity rather than a boring lecture where students tend to sleep during lectures.

Let's have a look at its key features which maikByju's the best e-learning application in the industry:

(i) Visualization in action: It has been scientifically proven that our mind has high retention power to audio and video content in comparison to text written in a textbook. Also learning from video lectures helps us understand things in a better manner which is fast and efficient method. Topics like **Calculus** can be covered in 8-10 video lectures, where it takes almost 20 days or so by traditional learning from books.

(ii) Interactive Video lectures: Byju's app helps students with a various courses offered such as preparation for Science, Maths based on CBSE syllabus, UPSC, CAT etc with engaging video lessons from India's best teachers. The video has features like 3D animation, In-air projection technique which makes students fall in love with learning.

(iii) Adaptive learning: One of the most interesting features which makes it different from other applications is the Adaptive learning technique. Most students face conceptual problem in understanding the concepts, thus students can master the concepts through customized learning module which helps students learn at their own pace.

(iv) A Personalized learning tool: With personalized learning tool, we mean an application for an individual. This learning tool sets itself according to the student's performance. Students can have a full control over the video; watch it any number of times according to their own will. As in class, the teacher has to manage a bunch of 50-60 students, where teaching is on assumption that everyone gets the knowledge, this learning app creates an environment of learning things in an easy manner while sharing all the concepts at the level of student's perspective.

(v) Test series and performance evaluation: This application provides practice test series in a way that students can analyze their studies. This will improve their confidence. Also, it provides an analysis report for the students in order to check for their strong and weak areas which they must study to excel in their examination.

With Byju's application now students don't need to waste time in searching their syllabus or referring side books. This app covers the entire syllabus on which students can fully rely on. If the Byjus app review sounds good to be true, check out the application yourself and get a glimpse of their teaching methodology.

Business Module

Byju's offers Lenovo tablets with 8 GB memory and SD Card with Classroom Videos and Study Material to its students for use during the course. The tablets also allow online access to All India Test Series. The devices have standard features such as Wi-Fi while calling facilities are disabled by default. The tablets offer students the convenience of preparing for exams with Trainers, right at home. They can only be used to access study material and classes during the course, post which, they can be used as normal tablets.

Tablets and their use in education and teaching has been the subject of many studies in the past few years. Several studies have deducted that tablets used for learning purposes increase student engagement.

E-learning is becoming increasingly prominent in tertiary education, with universities increasing provision and more students signing up. But is it actually changing the way universities teach and students learn, or is it simply a case of students typing up their essays on computers and professors sending them course reading lists or work assignments by e-mail?

As the world is moving towards the digital age and more and more universities are trying to maximize the use of technology in education, one must consider both the advantages and disadvantages of doing so. Although the use of technology in the field of education has revolutionized the way we learn there are still some downsides of relying completely on technology to learn. **E-learning** systems are the storehouses of information, trainings and knowledge but at the same time they could be the storehouses of misinformation, poorly guided training or bad knowledge.

• **Business development strategies**

As a part of business development strategy various activities like Board center activity, public relations, would be conducted throughout Delhi/N.C.R in order to reach the target audience. Collection of information from all possible sources to understand the organization products, competitor offerings would be done. Promotional techniques used by them would be studied.

• **Profiling**

Collection of primary & secondary data, its analysis & profiling of the potential customers would be done by telecalling.

• **Ghost shopping**

In order to gain insights of the strategies of competitors a study would be conducted to gain knowledge about the business model of various competitors like T.IME,CL, I.M.S, Edumentor, etc. On its basis competitive promotional strategy for Smart Careers would be developed. Ghost calls would be made to understand the products of competitors and their unique selling point.

• **Relation building**

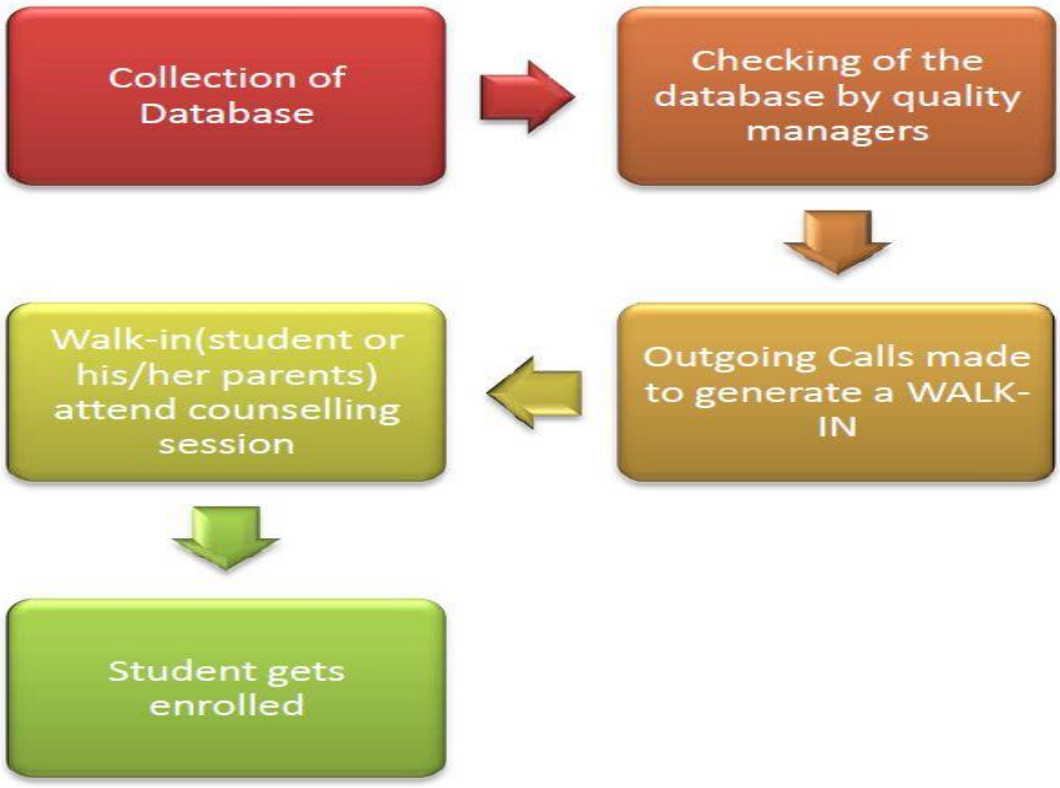
Interacting with school students and their parents in order to get an idea of what all they expect from an institute preparing for CAT,XAT,SNAP,IIFT,MHCET and GMAT entrance exam and also to brief them about various options one has after Graduation.

This will be done by:
a) Conducting counseling at all centers.
b) Counseling parents & students over phone by telecalling.
c) On the day of the university exams, interacting with the students, do short term counseling and give them brief knowledge of our product and services we offer.
d)Distribution of pamphlet in the college campus or in front of the gate.

• **Direct Sales:**

Individual counseling of parents & students would be done to brief them about the product & services offered by the company & ultimately make the enrollments by convincing them about the products. This will benefit the company financially

Sales Flowchart :



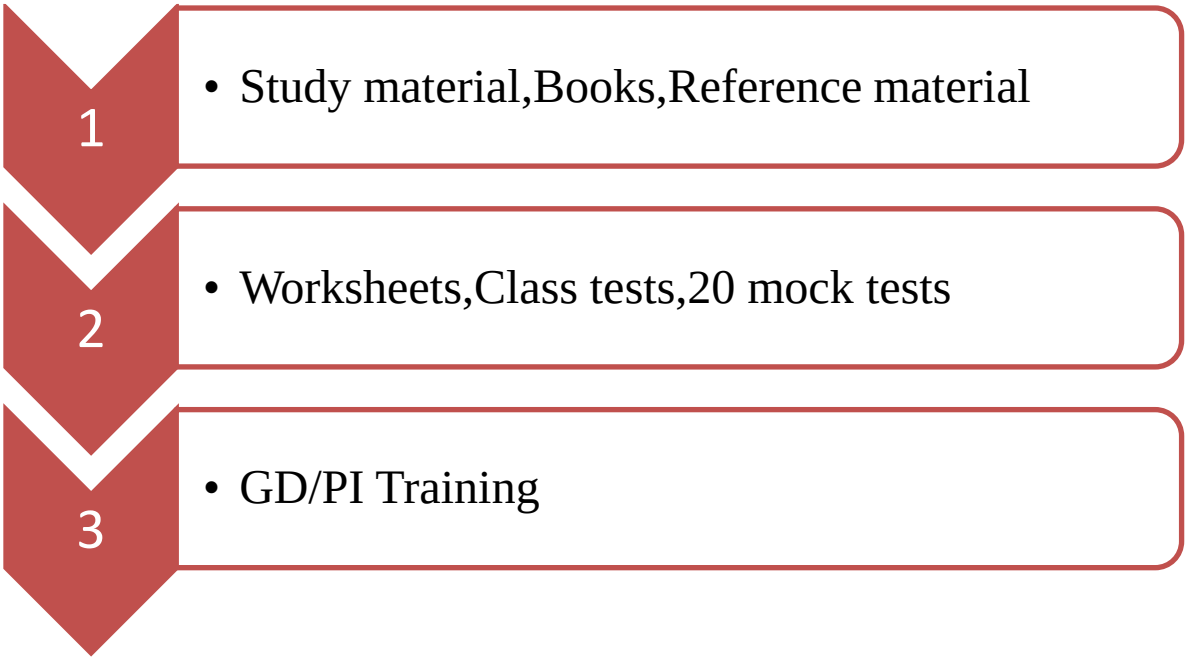
UNDERSTANDING THE PRODUCT AT BYJU'S

CLASSIFICATION:

The main business of Think& learn pvt ltd is of providing specialized coaching to students preparing for CAT,XAT,SNAP,IIFT,MHCET,GMAT and UPSC exams. The organization represents itself as a career development institute by mentoring young graduation pursuing students as well as passed out and office employees Its core competency lies in counseling & mentoring young students to choose the right career path for themselves.

Products:

Product features:

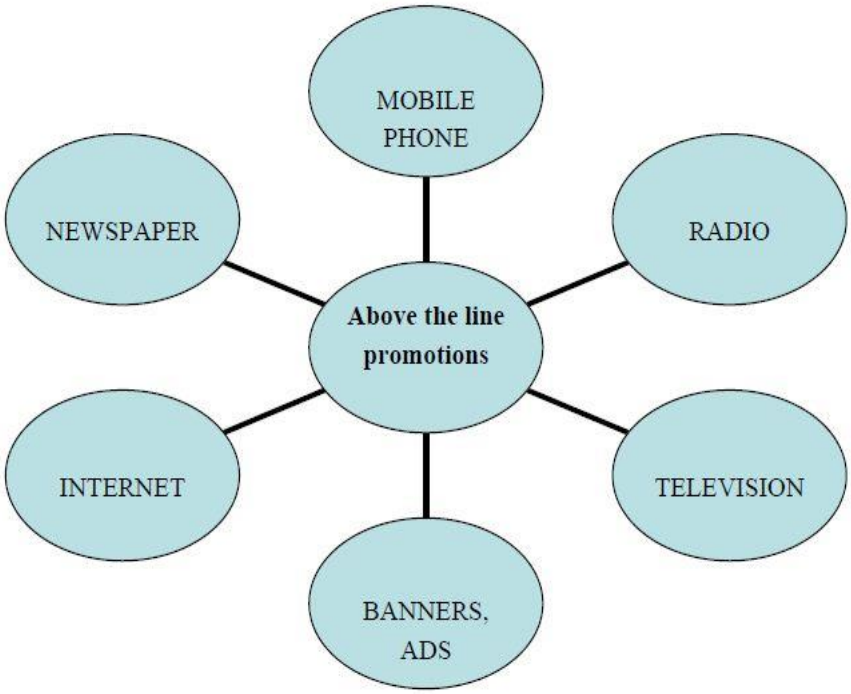


PROMOTIONAL STRATEGYFOR BYJU'S

There are basically two categories of sales promotion:

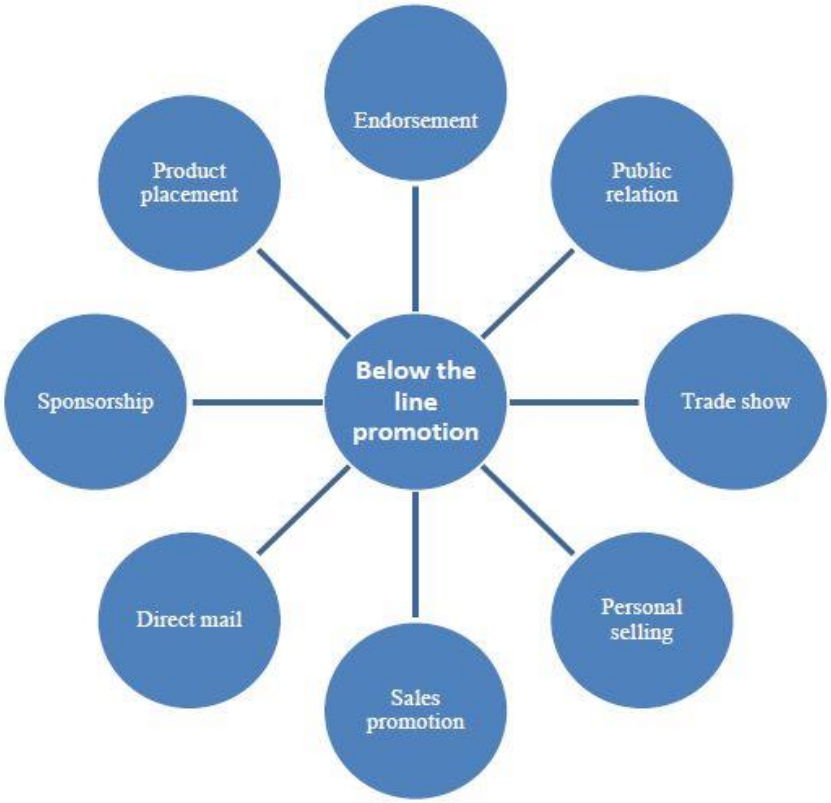
1. **Above the line sales promotion**

   Above the line is a type of advertising through media such as TV, cinema, radio, print, banners and search engines to promote brands. Major uses include television and radio advertising, web and Internet banner ads. This type of communication is conventional in nature and is considered impersonal to customers. It differs from Below the line advertising, which believes in unconventional brand-building strategies, such as direct mail and printed media (and usually involve no motion graphics).These strategies require huge amount of investments and are majorly Capital intensive.



2. **Below the line sales promotions**

   These are short-term incentives, largely aimed at consumers. With the increasing pressure on the marketing team to achieve communication objectives more efficiently in a limited budget, there has been a need to find out more effective and cost efficient ways to communicate with the target markets. This has led to a shift from the regular media based advertising. These strategies involve high level of ground work involving manpower and hence are more of Labor intensive.



Before starting promotions, sales forecast is done to decide the amount to be spent on the promotions based on the revenue expected from the product. Successful advertising depends on knowing the preferred methods and styles of communications of the target markets that has to be reached with the ads.

STEPS FOR DEVELOPING PROMOTIONAL STRATEGY

The steps involved in developing strategies for BYJU'S can be enumerated as:-

- **UNDERSTANDING COMPANY OBJECTIVE**

  Major objective of Think and learn for conducting promotions are:-

  - Understanding consumer buying behavior & their needs
  - Hit the target audience in cost effective manner
  - Create Brand Awareness for the company throughout India.
  - Create competitive advantage
  - Increase in the customer base
  - Positioning for company in the mind of target audience
  - Generating sales

SEGMENTING TARGETING POSITIONING OF THE ORGANIZATION

- **SEGMENTATION**

  Think and learn defines its segment on the basis of **Demographic Variables,** i.e. age, education and income. The management coaching is provided at graduate level, so students are required to be segmented on their age i.e.; 21-22 age group, their educational specialization i.e. Science, Commerce, and Arts etc. Income of family helps to segment the students and thus facilitates think and learn to plan its target audience more accurately.

- **TARGETTING**

  For any organization serving all the segments is not possible , so specific segments have to be targeted which can be most beneficial for the organization .Think and learn decides its target audience to be students of graduation or passed out. Apart from this, students with specific interest in civil services, engineering and medical etc. are also targeted .The parents of these students act as the Opinion leaders and Decision makers & at a later stage in the season as target audience too.

- **POSITIONING**

  It is the process by which marketers try to create an image or identity in the minds of their target market for its product, brand, or organization. Most of the competitors serve more than one segment, with no clear positioning of a specialist management coaching institute. Many players have positioning in terms of Quality-Prices model, others on basis of faculty and so on. And if we talk about CSAT I think there is no comparison than others.

ANALYZING COMPETITOR PROMOTIONAL STRATEGIES

After conducting S.T.P of the organization it is required to analyze the strategies used by competitors, considering both old and new players in the competition.

Strategies adopted by competitors are:

Most of the players are national level player enjoying high brand awareness in Delhi and NCR region. One or two players like Edumentor, Pratham and MBAGuru operate at local level & are growing at an alarming rate. They can be threat for the organization in the future. Being a major player of the industry it enjoys high financial resource back up and the study of their promotional strategies portray that they conduct Capital intensive promotions. Few of above the line marketing strategies used by the competitors are:

1. News paper(used throughout the season, with varying intensity and updated offerings with respect to change in market conditions)

2. Mobile ads (bulk SMS , to create buzz among the masses)

3. Telemarketing (most common tool used by any organization)

4. Internet (requires high investments , mainly used by old players)

5. Banner ads (used by both old & new players)

6. Television (used by I.M.S , tying up with local cable operators)

7. Radio ads (during start of the season)

ANALYZING COMPANY LIMITATIONS

Company's limitation has been:

Time Constraint: The first challenge which was there before devising the business development strategy was the time constraint. The target market i.e. the pursuing graduate student is busy with their examination in the month of may This the time when the promotional activity is at a full swing because after the completion of the examination, students opt for different institute for their entrance exam preparation. So the effective time of promotion is around two months in which we have to build the brand name and adopt different strategies to make a strong brand recall.

H.R.: The next major constraint for the promotional campaign was the insufficient Human Resource availability as the majority of the people were inexperienced and had to be trained in the limited span of time.

TRADITIONAL METHODS: In the age of internet media and TV ads, company still follows the old traditional methods; this is one major drawback in the organization.

Methods suggested
Analyzing all the above factors , right mix of both above and below the line marketing strategies has to be used to generate positive leads .Few of the methods which can be introduced or continued further are :

Direct mail:
Mails were sent directly to the customers(students giving university examinations)highly customized, giving them tips regarding exams and information about form details of entrance exams with an immediate calling helpline to generate response.

Educational newspaper (booklet distribution)

Newspaper distribution in form of sample papers and informational booklets formed the basic and the most important promotional activity for the company. The distribution was done in the main promotional activities of the company:

Board Centre activity:-

The board center activity is one of the major business development and promotional activity .The activity was designed in such a way that maximum number of target audience can be covered in the limited span of time. we are supposed to cover maximum number of colleges in assigned zones(North zone in my case) which is the hub of students.The work schedule of the activity includes:

- Information newspaper & Booklet distribution to students and parents
- Database collection

The same activity is conducted by Edumentor too. But they are more focused on counseling of students during this phase but we have to focus on inviting customers to an educational seminar, where the can later counsel parents. This activity reflects good image of the organization to the masses.

Telemarketing: The use of telemarketing is on the rise as the response rate in comparison to other promotional tools is very high. This activity can carried throughout the operation phase. The dedicated quality managers managed to ensure that the data is real and not fake. The telecallers were planned to convert this data into the final sales enrolment.

Bank Centre Activity: Started by Edumentor, one of the most effective strategies of hitting the right customers at the right time. In this the organization tie – ups with major banks where forms of entrance exams are available. Customers are counseled on the spot.

Internet: One of the most effective tools used in the modern world. Blogs, paid ads, social networking sites are big hit and generates good no. of positive response from the customers.

Approaches toBYJU'S E-Learning Services

E-learning services have evolved since computers were first used in education. There is a trend to move towards blended learning services, where computer-based activities are integrated with practical or classroom-based situations.

Computer-based Learning

Computer-based learning, sometimes abbreviated to CBL, refers to the use of computers as a key component of the educational environment. While this can refer to the use of computers in a classroom, the term more broadly refers to a structured environment in which computers are used for teaching purposes. The concept is generally seen as being distinct from the use of computers in ways where learning is at least a peripheral element of the experience (e.g. computer games and web browsing).

Computer-Based Training

Computer-Based Trainings (CBTs) are self-paced learning activities accessible via a computer or handheld device. CBTs typically present content in a linear fashion, much like reading an online book or manual. For this reason they are often used to teach static processes, such as using software or completing mathematical equations. The term ComputerBased Training is often used interchangeably with Web-based training (WBT) with the primary difference being the delivery method. Where CBTs are typically delivered via CDROM, WBTs are delivered via the Internet using a web browser. Assessing learning in a CBT usually comes in the form of multiple-choice questions, or other assessments that can be easily scored by a computer such as drag-and-drop, radial button, simulation or other interactive means. Assessments are easily scored and recorded via online software, providing immediate end-user feedback and completion status. Users are often able to print completion records in the form of certificates.

CBTs provide learning stimulus beyond traditional learning methodology from textbook, manual, or classroom-based instruction. For example, CBTs offer user-friendly solutions for satisfying continuing education requirements. Instead of limiting students to attending courses or reading printing manuals, students are able to acquire knowledge and skills through methods that are much more conducive to individual learning preferences. For example, CBTs offer visual learning benefits through animation or video, not typically offered by any other means.
CBTs can be a good alternative to printed learning materials since rich media, including videos or animations, can easily be embedded to enhance the learning. Another advantage to CBTs are that they can be easily distributed to a wide audience at a relatively low cost once the initial development is completed.

However, CBTs pose some learning challenges as well. Typically the creation of effective CBTs requires enormous resources. The software for developing CBTs (such as Flash or Adobe Director) is often more complex than a subject matter expert or teacher is able

Computer-supported collaborative learning (CSCL)

Computer-supported collaborative learning (CSCL) is one of the most promising innovations to improve teaching and learning with the help of modern information and communication technology. Most recent developments in CSCL have been called E-Learning 2.0, but the concept of collaborative or group learning whereby instructional methods are designed to encourage or require students to work together on learning tasks has existed much longer. It is widely agreed to distinguish collaborative learning from the traditional 'direct transfer' model in which the instructor is assumed to be the distributor of knowledge and skills, which is often given the neologism E-Learning 1.0, even though this direct transfer method most accurately reflects Computer-Based Learning systems (CBL).

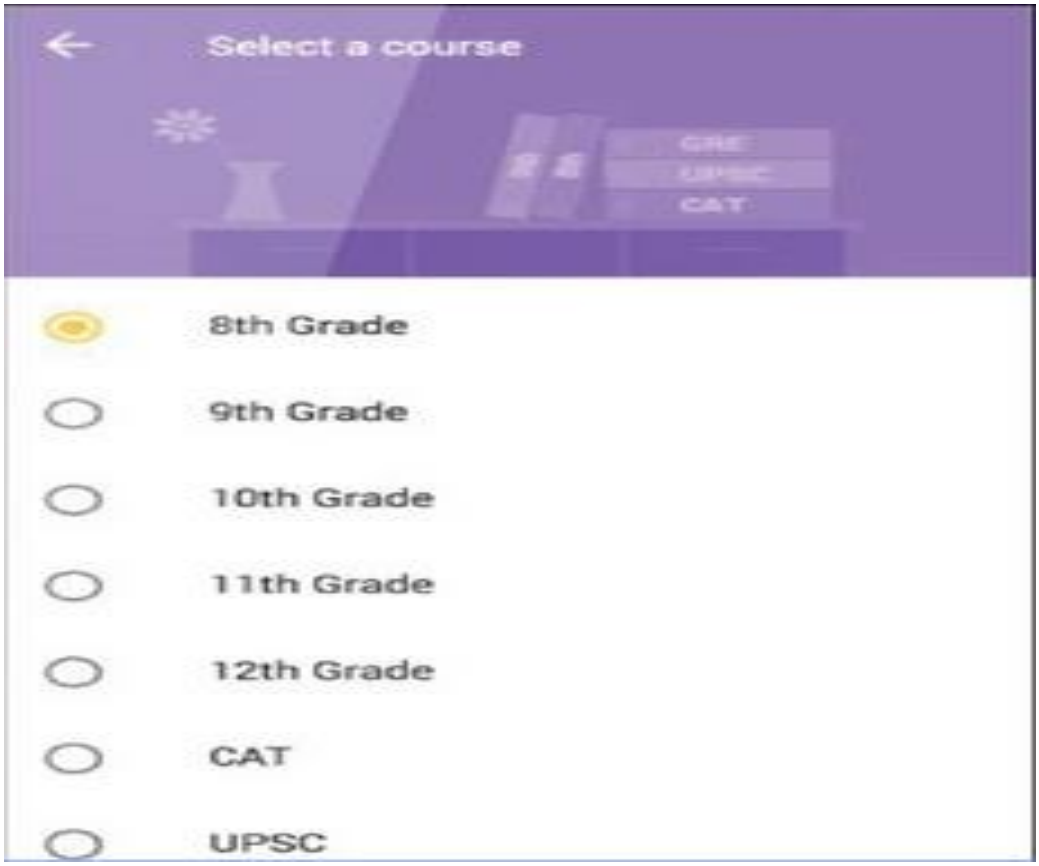
Technology-Enhanced Learning (TEL)

Technology enhanced learning (TEL) has the goal to provide socio-technical innovations (also improving efficiency and cost effectiveness) for e-learning practices, regarding individuals and organizations, independent of time, place and pace. The field of TEL therefore applies to the support of any learning activity through technology.

Features of 'Byjus – The Learning App'

1. <u>Complete coverage of the syllabus</u>

The lessons have been developed in such a way that the syllabus of all the boards including those at the state level, CBSE, and ICSE for the 7th, 8th, 9th, and 10th standards. They also include complete preparation for the AIPMT and the IIT-JEE examinations. To start learning, you can select any of the courses from the app.



3.Interactive video lessons

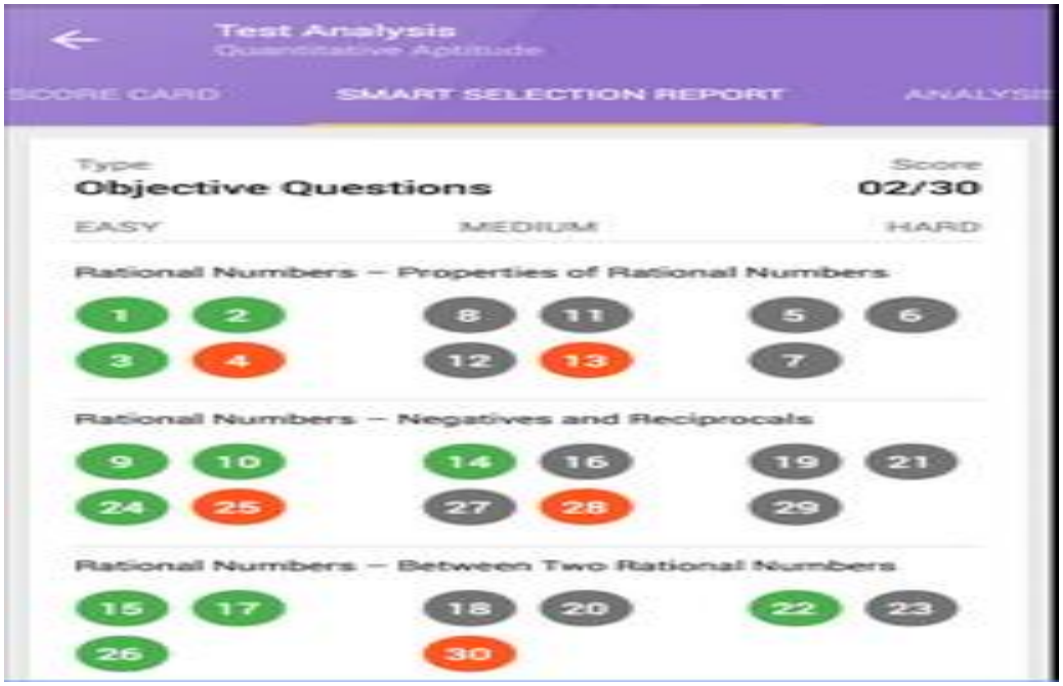
The video lessons have been designed such that even the concepts that are most complicated would be easily understood. There are modules that have been specially prepared on CBSE and ICSE sample question papers for students of classes 7 to 10 and also for students from classes 11 and 12 for preparing for the IIT JEE and AIPMT. The video lessons are not only of high quality but they are also interactive.

3.Chapterwise tests

The app features topic based and full length tests including AIPMT and IIT JEE mock tests. There are also practice tests based on the CBSE, ICSE, and other state board syllabuses. The tests have been arranged chapterwise. What's more, you can practice tests according to the difficulty level that is most suitable to you.

4.Complete analysis

You could easily get the complete analysis of your regular performance and track your progress by taking tests at regular intervals. It helps you to plan better for improving your future performance and take it to a different level altogether. In short, it makes you want to improve and learn all the time.



5.Adaptive learning

With the adaptive learning approach, you can learn your lessons such that it is most suitable for you. The lessons are tailor made to suit every student's needs. Not only is the teaching style adaptive, but also highly interactive. This makes Byju's app an effective interactive learning app.

A look at Byju's personalization engine

The backbone of Byju's personalization engine is the rich learning profile that is built for every student. Own analytics systems which capture millions of data points every day. This drives multiple decisions – such as from improving a feature to building highly contextual recommendations. The variety of student profiles also gives us an idea on what to improve or add to the overall content. It helps us change and modify the values of the parameters and properties associated with the various learning content.

The ed-tech company is credited for creating a new segment of self-paced learners and its personalized focus has delivered 90% retention year-on-year. Talking about creating personalized learning experience, this is further powered by deep knowledge graphs of over 50,000 concepts and relationships that have been created to design personal learning journeys — videos, questions, adaptive flows, quizzes, flashcards, correctional learning videos etc.

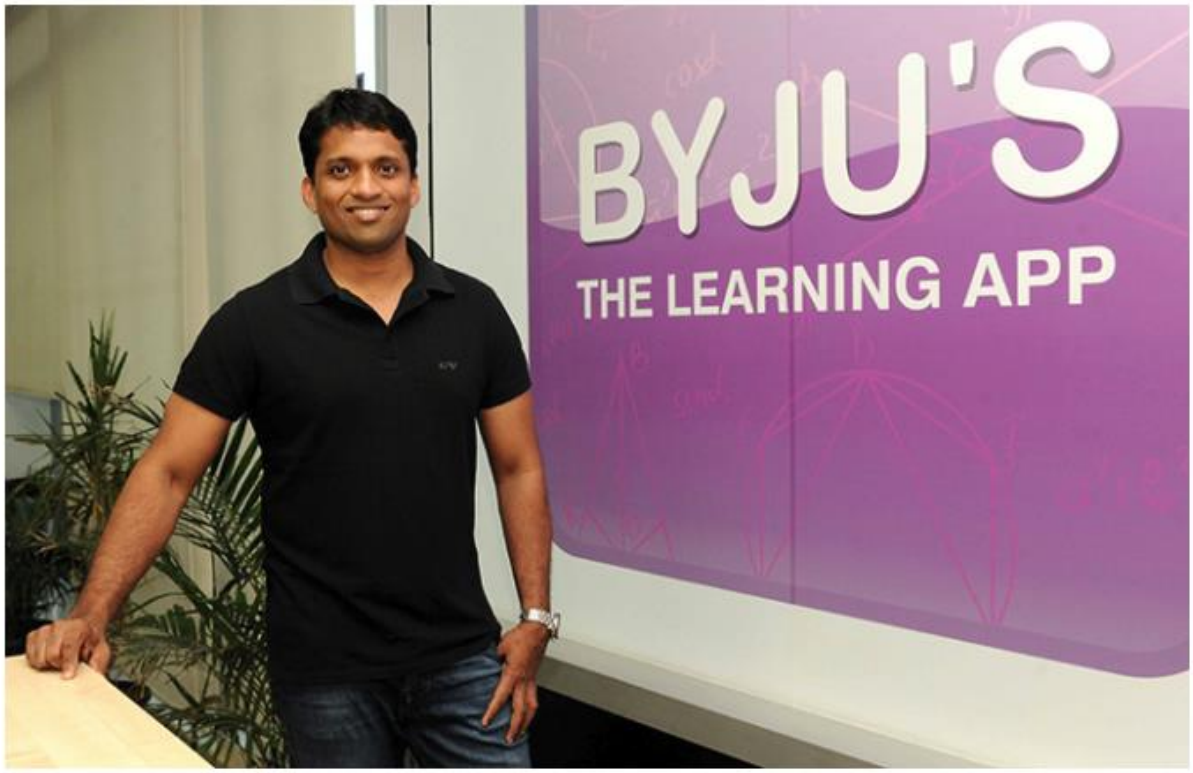
User Experience is at the heart of Byju's success

The ed-tech venture uses the app data as the primary data backed by information about logged in web usage to enhance the user experience better. The user's interactions with the websites, emails, etc are tracked in a separate system that is used for bettering marketing automation and behavior. And the actions that define the user's knowledge profile are based on interactions with content pieces,

- The content is tagged at the sub-micro concept level
- This helps the algorithms to create a smooth learning curve for the student so that they feel challenged yet motivated
- This app works in a way similar fashion like a personal tutor and addresses the student's learning gap in a more effective way backed by deep insights

Byju's built its success on the one-on-one personalized experience that appeals to students as they are guided throughout the learning process in an individualized manner. They don't allow learning gaps to fester.

Analytics driving better content creation



Byju Raveendran, founder and CEO of India's best-funded ed-tech start-up

The content creation process is highly influenced by the data analytics at work as a lot of data and insights is generated in house. Case in point – if a large percentage of students are making mistakes in a particular concept, Byju's add simpler videos, more content formats and easier questions to allow the system to create a smoother learning curve.

In this way, students end up learning the difficult aspects of the concept gradually without getting demotivated. The edtech venture also looks at specific learning content tagged to those concepts and constantly updates the parameters so that future learning paths for newer students are smoother. The effectiveness of all content modules and modes are also constantly analyzed for improvement.

Analysis and interpretation

Benefits

It is intended to enrich and complete the traditional face-to-face teaching and learning in control with highly interactive, self-learning tools, including hypertext, exercise bases, simulations, and virtual and remote laboratories. It also seen as a substitution for traditional face-to face teaching and learning, providing open distance learning in the context of continuing education. Successful e-Learning students share certain qualities and abilities.

They are

• **E-Learning requires motivation and self-discipline**. Successful e-Learning students are able to study independently and incorporate study time into their busy lives. Students should set aside regular study time. e-Learning requires a real commitment to keep up with the flow of the process and to finish within the required period of time.

• **Define your goals and plan for success**. Define your goals and objectives for your e-Learning experience. Understand the requirements and plan ahead so that you will know what's expected of you and how your performance will be evaluated.

• **e-Learning requires good reading and writing skills**. The ability to efficiently read and interpret instructions is a critical skill in e-Learning. Most activities and communications are also written, so it is important to be comfortable with your ability to express yourself through writing.

• **Incorporate work, life, and other educational experiences as part of the learning process**. e-Learning requires the student to make inferences based on experience as well as facts. Meaningful reflection and critical analysis of information are an essential part of the learning process. Look for opportunities to apply what you have learned in your life.

• **Be willing and able to commit adequate time to the e-Learning process**. eLearning is a convenient way to receive education and training, but it is not easier than the traditional educational process. In fact, it often requires more time and commitment.

• **Have access to the necessary equipment and create some personal space**. It is important that you have a place to study in a peaceful and focused manner.

To be a successful e-Learner you must believe that meaningful, high quality learning can take place without a traditional classroom. When properly designed and executed, e-Learning is a highly effective and rewarding learning environment.

Conclusion

One of the aims of this project was to study the benefits of e-learning. The theory part of this thesis briefly explained the what e-learning is, why e-learning is the future of learning process and why many companies are also gradually shifting towards online training from face-to-face training. The business of e-learning is fast growing and at the same time many universities are creating free online platforms to assist students everywhere. But due to changes of technology and gadgets used to access these platforms the development is sometimes pointed in the wrong direction. Although e-learning has existed for a while now there has always remained a question about its effectiveness. In terms of the quality of the whole learning process, the use of technology to assist the process might be better than totally depending on it.

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