

# A Study on Drivers and Barriers of Consumer Adoption Towards E-Commerce Offerings for Education

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## Abstract

**Background/Objectives:** Information Control Technology (ICT) keeps undergoing transformational changes. Thereby educational institutions leveraging the e-commerce offerings by various e-commerce companies and those developing in house online learning have to travel along an evolutionary path. For this transformation to be successful in the benefit of all stakeholders, it's important to understand the drivers and barriers as to why the learners and instructors adopt the e-learning or hybrid models. The study investigated the drivers and barriers that influence the adoption of various online offerings from e-commerce companies for the purpose of education. **Method/Analytics:** Simple random sampling has been applied for the research to collect the required sample. Data were gathered from about 100 respondents circulating a well-structured questionnaire. **Application/Improvements:** Although e-commerce has a proliferated growth with the explosive growth in ICT, there has not been sufficient research concerning the status of adoption and the factors influencing its adoption. This study provides valuable guidance to policy makers and providers of e-commerce in education in understanding the drivers/barriers of consumer adoption. **Findings:** Majority of the consumers are pushed towards adoption due to time saving aspect while lack of required technical skills stands out as major barrier.

**Keywords:** Barriers, Consumers, Drivers, E-Commerce, Instructors, Information Control Technology (ICT), Learners

## 1. Introduction

E-commerce pertains to any form of transaction where the providers and consumers interact electronically. E-commerce applications serve various fields like entertainment, financial services, education and other essential services<sup>1</sup>. Educational Institutions embrace the offerings that suit their organizational needs and enable them align towards their goal. Online learning has evolved rapidly as a market more than a mission. In this modern era of technology, consumer awareness towards various e-commerce offerings for education is achieved through various marketing approaches. There are institutions who drive hybrid (Online and traditional) model of education in thirst of space needs. Increased competitive environment puts institutions adopt online learning model or hybrid model as their survival strategy towards attracting increased enrollments from geographically dispersed learner population. From the learners' and

instructors' perspective, convenience and better work-life balance are viewed upon as the practical side of online learning<sup>2</sup>. On the other side, the readiness of stakeholders to embrace the offerings in terms of their ability to make use of multimedia technologies, it is imperative that the barriers are also understood<sup>3</sup>.

The primary objective of this research paper is to review the use of e-commerce offerings for Education and training purposes. Consumer's opinion about e-commerce offerings were elicited from the perspective of learners and instructors to figure out the significant drivers and barriers towards adoption.

### 1.1 Research Objectives

The objectives of the study reported in this article were to profile the perception of a group of respondents towards the drivers and barriers of consumer adoption of e-commerce offerings.

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## 1.2 E-Commerce Service Offerings for Education

Prior reviews have discussed the role of e-commerce companies in grabbing a pie in Educational sector. Service offerings for education include<sup>4-6</sup>:

- E-learning material
- E-books
- Certificate courses
- Online tests
- Professional certificate courses
- Training courses without any certification
- Test preparation tools
- Conducting assessments for certification
- Obtain student feedback through e-surveys to improve the courses offered online
- Coaching materials

## 1.3 Consumers of Online Education

Prospective consumers of e-commerce offerings are non-traditional students. As per the definition by National Center for Education Statistics, learners meeting one of the below criteria fall under category of non-traditional student<sup>7</sup>

- Older students seeking a second degree or those delayed college.
- Positioned abroad without any access to higher education.
- Serving in varied time zones that don't align with traditional course timings.
- Lifestyle is highly disposed to unexpected transfers to different states/countries.
- Living on a geography where there are no institutions of preference.
- Pursuit of lifelong learning by individuals.

## 1.4 Drivers of Online Education

From the perspective of all stakeholders (Learners, instructors, investors and government), all knowledge related e-commerce applications have become significant attractions for the reasons outlined below<sup>2,8-10</sup>

- Institutional goals to expand educational bandwidth attracting global talents.
- Increased competition pushes institutions to be on part with technological advancements.
- Demand for increased interactivity.
- Increased penetration of ICT.

- Stakeholders interest to be in pace with other web users.
- Work-life balance.
- Cost effective.
- Saves my time.

Additionally the promotions through social media capture the attention of all stakeholders involved—learners, instructors, management. So the marketing approach followed by learning e-commerce companies is that they offer customized learning modules to various educational institutions suiting their needs.

## 1.5 Barriers of Online Education

Creating an E-commerce system within campus warrants huge investment and maintenance is yet another cost involving factor. Considering the learner's and instructor's just leveraging the offerings by the organization either through in-house development or adoption by various e-commerce companies, security doesn't emerge out to be a major threat. Instructors look out for a free hand to customize the e-learning modules. Also there is a major expectation from learners and faculties that the institution arranges for training during the inception phase. There is a part of the population who feel a direct feedback from the instructor is much more effective than that shared online.

- Institutional support
- Technical support
- Technical skills
- Increased cost of Cyber infrastructure (Broadband, head-set, software, hardware requirements etc.)
- Funding constraints for investors
- Broadband availability within and outside campus
- Concerns on evaluation effectiveness that is done online
- Concerns on feedback that is given online rather than face to face
- Physical health barriers such as eye strain, spine issue etc.
- Reluctance to accept change from traditional learning mode to online learning methods

## 2. Methods

### 2.1 Data Collection and Sample

This study involved a survey design involving a random

sample of 100 stakeholders which comprises of 16 full-time learners, 56 Part-time learners and 28 instructors. Learners' and instructor's perceptions were collected using a self-administered questionnaire. The respondents were provided with numerical grade to register their perception. A five-point scale was used to increase the sensitivity of the measure. For the purpose of this paper, only relevant data on drivers and barriers is reported here.

## 2.2 Data Analysis

Collected data were analyzed with software package SPSS. Statistical techniques like reliability analysis, was used to evaluate the quality of the questionnaire. Friedman test was used to test for differences between groups.

## 2.3 Research Methodology

### 2.3.1 Sample

The sample comprises of online consumers which includes full-time, part-time, distance education learners and instructors. The research design is descriptive in nature for the study. The sampling technique that is used for the study is simple random sampling. A group of respondents were selected through simple random to avoid any sort of bias in the research and then the questionnaire was circulated to them in the form of electronic survey for which response was collected. Web-based survey method was adopted as this study also focuses on web-experience of consumers.

### 2.3.2 Data Analysis and Interpretation

Statistical Package for Social Sciences (SPSS) software was used for analysis of the collected data. Reliability and internal consistency of each factor was measured by Cronbach's alpha test and the scores were calculated. As reported in Table1, the constructs' overall reliability score is 0.9867. This is above the minimum acceptable level of 0.8.

**Table 1.** Reliability statistics

Cronbach's alpha	No of items
0.9867	62

## 3. Results and Discussion

The results from the random sample show lack of

technical skills (ICT skills) stands out as major barrier thereby throwing up a desperate need for skilling the stakeholders in ICT. Secondly, the study revealed that there is reluctance among the consumers to move away from conventional mode of learning to online learning. Certainly the policy makers and e-commerce companies carry a responsibility on their shoulders in providing a just view on the benefits of online offerings for education. This will help enhancing the image of online learning thereby motivating the individuals who needs to be acculturated in to online mode of learning. The e-commerce companies could have to re-think on their promotional strategies. Reportedly, the consumers are not highly concerned on the increased cost of cyber infrastructure.

The study also touch based on the drivers and found that the learners and instructors gain significant time savings resorting to online learning methods. These data are presented in Tables 2 and 3.

**Table 2.** Friedman test summary for overall drivers of adoption

What do you think made you adopt online learning?	Mean Rank
My Institutional goals to expand educational band	3.27
Demand for increased interactivity	2.88
Increased penetration of ICT. I have to be in pace with other web users or will lag behind	3.32
Work-life balance	3.55
Cost effective	3.85
Saves my time	4.14

**Table 3.** Friedman test summary for overall barriers of adoption

What do you think are the barriers of online learning and other online assessment methods?	Mean Rank
Lack of Institutional support	5.47
Lack of technical support	5.86
Lack of technical skills	6.21
Increased cost of Cyber infrastructure (Broadband, head-set etc.)	4.98
Financial constraints	5.10
Availability of broadband	5.02
Concerns on evaluation effectiveness that is done online	5.53
Concerns on feedback that is given online rather than face to face	5.72
Physical health barriers such as eye strain, spine issue etc.	5.17
Reluctance to accept change	5.96

## 4. Conclusion

Conclusively, any e-commerce company delivering offerings for the educational sector should focus on upskilling the stakeholders on ICT skills so that an increased level of adoption is witnessed. Adequate promotion and marketing is warranted to drive the consumers towards online or hybrid learning models. Increased availability of broadband and cyber infrastructure is also necessitated which will convert the internet browsers into potential consumers.

Still there is a push towards adoption considering the time saved through online learning and other online offerings for academics. The part-time enrollees hail the better work-life balance aspect as a major driver towards their adoption. In sum, the article explained about all the e-commerce offerings for the purpose of academics detailing on the significant drivers and barriers towards adoption.

Due to the sampling limitations, certain factors concerning individual differences for example gender, graduation level, income level of working professionals etc. were deliberately left out in this study. An expanded future research can happen with the additional applicable factors.

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