VISION 2020:
TECHNOLOGY @ IIM BANGALORE

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Abstract

This article explores the current gaps in the use of technology at IIMB in both academics and administration. It analyses different formats for offering courses in the digital format, and the pros and cons associated with each. A detailed plan for incorporating key current and future technological trends into the educational system at IIMB follows.

Introduction

Technology is advancing at a rapid pace, leading to a vast range of opportunities in the education sector. While there are many advantages associated with the growth of technology in the education sector such as student learning and better learning processes, there are also a number of limitations such as obsolescence of technology and the costs associated with it.

To deal with this situation, one has to analyze upcoming digital trends and plan the procurement and usage of Information Technology (IT) accordingly. This article outlines the creation of such a digital vision for the Indian Institute of Management Bangalore (IIMB) in order to bring it to the forefront of technology in management education. We have identified some of the current challenges that technology change at IIMB entails. We have also developed an implementation plan for the digital vision of the institute through interviews, surveys, and a study of current literature.

Current Challenges with Technology Change at IIMB

There are two main issues that can crop up during the implementation of a digital vision, especially in a management institute such as IIMB. The first challenge is the implementation, roll out, and utilization of the Enterprise Resource Planning (ERP) software. At IIMB, the ERP Portal used is Sarvam, which runs on Sungard's Higher Education Banner Unified Digital System. However the functionalities implemented for student usage is very limited; according to a survey we conducted among IIMB students, only 56% of the respondents checked Sarvam at least once a month. Exhibit 1 below shows the frequency with which Sarvam and other campus related sites are accessed.

#	Website	Everyday	2-3 times a week	Once a week	2-3 times a month	Once a month	Very rarely	Total Responses	Mean
1	Spidi	43	47	13	4	0	4	111	1.95
2	TAMS	14	33	37	12	7	7	110	2.87
3	Sarvam	5	3	13	27	14	48	110	4.69
4	Library Database	0	8	15	20	8	59	110	4.86

Exhibit 1: Survey Question : How regularly do you access these websites?

The second issue is the attitude of the administrative staff with respect to technology and embracing change. According to Mr. Prem Kamble, ERP consultant at IIMB, there is a lot of opposition when it comes to implementing any new technology initiative, as employees fear that their jobs may be deemed redundant as a consequence of the change. So in order to bring about technology reform in education, the change must be driven from the top-down –preferably through senior professionals who have experience in managing IT in organizations.

Implementing the Digital Vision at IIMB

After an analysis of the current issues with technology, we have developed a 3-step implementation plan for the future, which is as follows.

1. Handling of Digital Course Content

We have listed the ways of recording and viewing content, and the benefits and areas of concern while accessing video content of lectures on a platform like Moodle below.

Recording and Viewing Course Content: Online video content can be recorded, stored and displayed in one of the three following ways:

i) Original Lecture Recordings: In this model, the lectures delivered by the professor to a live classroom are recorded to be streamed online for future reference. This places no additional demands on a professor's time and will be the same length as a regular class lecture. This model can be used as a substitute for actual classroom sessions. While this is good for students who have missed the class due to genuine reasons, it can also lead to lower class attendance rates, thus necessitating the need for a class attendance policy.

ii) Edited Lecture Recordings: In this model, the lectures delivered by the professor in a classroom setting are edited in order to focus on the key learning in each session. The extra editing effort can be done either by teaching assistants who can be paid for providing editing services, or by crowd-sourcing the videos to the student community and allowing the students to define which sections of the video are the most useful to them.

iii) Condensed Lecture Recordings: In this model, the professor delivers a set of lectures exclusively meant for an online audience. These video recordings will only capture the key concepts of the course.

Content Duration: This can range from a few minutes to the whole 90 minutes, i.e., the entire classroom lecture recorded as a single block. This decision should ideally be made by the course instructor. Duration of the videos is also dependant on how much time students would be willing to allocate for viewing them, after attending the classroom lecture. Our survey shows that 65% of students surveyed, spend 1 to 4 hours per course per week on reading the assigned material before and after classes.

Content Privacy: There will be several instances where the instructor may express his/her personal opinions on a particular topic or take a strong stand against a person or a company. Although this may be said within the classroom, the instructor may not be comfortable if it goes on record and is accessible for viewing by a larger audience. This can be avoided by editing the video content before uploading.

Content Access: The object of digital course access is two-fold: to allow students to access videos taught by all faculty (even from other sections) and to enable learning of subjects which are in demand by students but have limited seats. We propose taking a balanced view of the issue – allowing access to videos from other sections/electives but limiting the number of courses that a student can subscribe to in a term.

Content Streaming: Setting up an exclusive data centre might be very expensive and also uneconomical for an educational institution such as IIMB. With rapid development of cloud technologies, the hosting issue has an obvious solution in the cloud. Security can be addressed by choosing the right type of cloud platform for hosting, i.e., public cloud versus hybrid cloud versus private cloud. Cost versus security level is an inevitable trade-off in this regard.

Tracking Usage Metrics: Instructors would ideally want to keep track of statistics such as the number of views of their videos, drop-off rates at different points, activity spikes etc. The instructor could use these as inputs to modify the content accordingly and make it more engaging.

Course Types: Providing hosted video content as supplementary material would prove to be most useful for courses that are predominantly lecture based, rather than discussion or case based. This would include courses like Quantitative Methods, Financial Accounting and Economics etc. In other courses that follow a case-based pedagogy, a good part of the learning comes from instructor-led discussion in class. In such courses, the video content can be edited to cover only the concepts and omit case discussions.

Platform Features

In order to maximise the utility of video recordings of course content online, a number of platform features can be included such as discussion forums, Questions & Answers with the Professor (also known as Ask Me Anything or AMA,) and additional course content for alumni

Other Issues

There are a number of issues which need to be addressed before implementing an online course content solution, such as whether to maintain a minimum attendance policy, whether videos should be edited before putting them out in the public domain, and how to control the circulation of these videos.

2. Offering Courses Online for Credits

The underlying principles of Massive Online Open Courses (MOOCs) - making educational material easily accessible and bringing the school to you, are quite powerful in themselves. In our survey, we found that 67% of the student respondents said that they would be willing to take courses online by IIMB faculty for credits.

Reasons for offering courses online

Offering a course online has many inherent benefits for both professors as well as students. Given the hectic schedule that students invariably get enmeshed in, online courses offer a great deal of flexibility. As each week's lecture videos are uploaded, students can watch them at their own pace and convenience.

Online courses offer many advantages for course instructors as well. Once the lecture videos are uploaded, they can spend more time answering students' queries through an interactive platform. Since these videos can be carried forward to subsequent years with minimal editing, the instructor would get at least 30 hours more per subject per term, to focus on other activities such as research work.

However, online courses have their share of disadvantages too. They may not have the same level of commitment from students unless there is strong incentive to finish the course. High initial investment of time of the instructor and cost of recording and editing is involved. This model might not be practical where the course content changes dramatically from year to year.

Deciding which courses to offer online

Term after term, a few elective courses are always highly overbid. If such courses were offered on an online platform, interested students would not be deprived the opportunity to take that course. By studying bidding results data in each term for the last few years, the list of courses that are in high demand can be easily obtained.

By definition, a MOOC does not have a limit on the number of students who can take the course. Following this for online courses in IIMB as well will ensure that their purpose is not defeated.

Ensuring Course Completion and Grading

MOOCs offered by sites such as Coursera, Udacity etc. have very low completion rates, typically less than 10%[i]. This was reflected even through our survey, where we found that only 11% of students who had enrolled in any MOOC previously had partially completed the course. To make video lectures offered in IIMB engaging, the instructor can hold small pop quizzes within the lecture. By maintaining the offline components like quizzes, projects and assignments, the rigour and discipline needed to maintain the course can be maintained.

To best solve the issues related to grading, we propose a model wherein the online course grades is included in that term's Grade Point Average (GPA), but not in the overall Cumulative Grade Point Average (CGPA) of the student. In this manner, the student's GPA remains unaffected while he/she still enjoys all the benefits derived from an online course. The number of online courses that students can do as part of their degree program can be capped at an appropriate number in order to balance online and classroom lectures, but at the same time allow students to experience a new way of learning.

3. Introducing Lecture Series

In order to provide learning across a multitude of fields, eminent speakers from different disciplines should be invited to present lectures which are then recorded and showcased online, along the lines of the popular TED series. There are a number of reasons why establishing such a series would be a game-changer in the Indian education scenario:

•   It will help in building positive brand equity for IIMB through association with personalities who are experts at what they do and renowned all over the world

•   It will benefit all the stakeholders of the IIMB community

Two issues to be taken care of in setting up lecture series is controlling access and editing the content, which can be done either through student volunteers or crowd sourcing.

Conclusion

There is vast scope for using technology in different areas at IIMB to improve processes and their efficiency. It is not impossible to imagine a futuristic scene in a virtual classroom with augmented reality teaching aids, 3D printers, sensors to record class participation and students, both physical and remote, taking down notes on their tablets. By being quick to recognize and adapt to some of these fast growing trends, IIMB would be hailed as a pioneer in the management education space across the world.

Contributors

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