Use of Technology in Business Higher Educational Institutions: The Case of India

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This paper reports a study of the issues, adoption and success of technology in business higher education in India in the context of exploding demand and the entry of foreign universities with local alliances or own campuses. The study employs a comprehensive multi- dimensional instrument and covers the adoption of educational administrative tools as well as technology in pedagogy itself. The study covers students and teaching faculty with close to 1000 respondents. An attempt is made to understand the impact of technology on the intersection between pedagogy, technology and management. Findings are relevant for faculty, educational administrators as well as students.

Introduction

The demand for international higher education worldwide will rise from 1.8 million students in 2000 to 7.2 million students by 2025 (UNESCO, 2006). Simultaneously domestic demand in India for higher education is also growing. The gross enrolment ratio in higher education is 10% which is half of that of China and well below the rate in other developing countries. About 50 foreign universities have expressed interest in setting up campuses in India and about 200 have 'twinning' arrangements in partnership with Indian universities. (Mitra, 2010) even though there are concerns about the implications of permitting the entry of foreign Universities into India.(Altbach, P.G, 2008) Nevertheless Indian higher education is increasingly getting interconnected and the challenges of managing in such an environment will have to be faced. Such interconnection will perforce involve the adoption of technology that foreign universities already employ both in the management of the teaching-learning process as well as in pedagogy itself.

Indian universities have traditionally not been able to move away from the models inherited from colonial times.(Altbach, 2008; Gilbert, 1972; Singh, 1974) Many scholars have discussed what needs to done to revitalise higher education in India. There are three predominant ideologies of education termed the transmission, interpretation and autonomy ideologies. These three ideologies are deployed to different extents depending on the level of education; whether UG, PG or research. (Balakrishnan, 2003) See Fig 1 below:

Figure 1 Model of Education - Ideology Application to Institutions of Higher Education

	Transmission	*Interpretation*	*Autonomy*

UG	High	Medium	Low
PG	Medium	High	Medium
Research	Low	High	High

However most Indian universities predominantly practice the transmission methodology, which calls for minimal technology infusion, at both UG & PG levels and to a large extent even to research (Gilbert, 1972; Singh, 1974; Bloom, 1961; Pulparambil, 1991) An institution's position on the ideology spectrum also determines its stance on information processing, whether enactive, ikonic or symbolic (Balakrishnan, 2003) which in turn determines its technology adoption policy.

'Technology' in the higher education context can be broadly classified into Information Technology (IT) products and services and domain specific artefacts such as models in medical and engineering colleges. IT products and services can themselves be broadly classified into two categories – the first the collection of educational administrative tools such as learning management systems which can be open source such as Moodle or proprietary such as the TCS ION or the IBM suite. The second category is to do with pedagogy itself, and at the entry level consists of hardware such as LCD projectors and presentation software such as PowerPoint. The more advanced level encompasses the Web 2.0 or social networking technologies. One study (Hemmi, Bayne & Land, 2008) showed that these technologies have significant potential as new collaborative tools and challenging environments for formal learning.
Web 2.0 technologies when employed in an educational context often exhibit a tendency for endless recrafting involving amendment, truncation, revision and addition. Textual material is a product of speed and fast time whereas cloistered academy has required slow time, reflection and reference to authority and the authoritative. There is a natural tendency for both teachers and learners to rein in the challenging effects of these new media formations. Despite the fact that Web 2.0 is a relatively new phenomenon and more so its application to higher education and despite the large variety of products and services that characterise it, there have been some comprehensive studies that contribute greatly to our understanding of the use of technology in business higher education. Hsiu-Ting Hung and Steve Chi-Yin Yuen (2010) explored how social networking technology can be used to supplement face-to-face courses as a means of enhancing students' sense of community. They based their study on Lave and Wenger's (1991) situated learning theory which formulated the concept of community of practice, (CoP), which provides the minimal meaningful context for learning to take place. A CoP is a framework of social participation, and people generally are involved in a number of CoPs, whether at home, school, work, or other social settings.

Summers and Svinicki (2007) examined the relationship between students' perceptions of classroom community and mastery motivation in traditional classrooms that used different classroom interaction strategies. Their findings imply that as a psychological or affective state related to learning, students' sense of classroom community is interrelated with other elements involved in the classroom CoP. This thinking is also supported by empirical evidence in the context of e-learning.

Bangert (2009) surveyed 1173 higher education students enrolled in fully online and blended courses at a university in the USA. Results from the study were in line with Summers and Svinicki (2007) and much previous research (Garrison, Anderson, and Archer 2000; Shea 2006; Shea and Bidjerano 2008) that showed social, cognitive, and teaching elements are interrelated and necessary for nurturing the sense of classroom community experienced by students.

The current paper is based on interviews of students all doing a full-time masters' course in management and teaching faculty from the same institutions covering the use of both learning management systems as well as Web 2.0 tools. The survey sought both an assessment of the current state of practice as well as seeking an understanding of the evolution of the interface between pedagogy, technology and management.

In the next two sections we will consider first the structure of Indian business higher education and next the issues confronting it. An understanding of both is necessary when analyzing the challenges and opportunities of the use of technology in pedagogy. In the third section we will understand the extent of technology adoption in India in general and in the fourth consider the impact of technology and pedagogy on the objectives of usage of social networking sites (SNS) in business higher education in India.

Structure of Indian Business Higher Education

The Indian business higher education sector is structured in a four tier manner:

1. At the top are the thirteen Indian Institutes of Management (IIMs) which nominally are each governed by their respective societies and boards but in reality are for most strategic decisions required to accept the decisions of the Government of India (GoI) acting through the Ministry of Human Resource Development. The older IIMs especially the ones at Ahmedabad, Bangalore and Calcutta are able to resist governmental pressures to some degree as they have an enviable reputation but not so with the more recently established ones. Nevertheless the IIMs each have almost total autonomy in certain purely academic issues such as programme structure, content and pedagogy. The flagship programme of the IIMs is the two year mandatorily residential Post Graduate Programme in Management culminating in the Post Graduate Diploma in Management (PGDM) which the GoI has declared through executive fiat as equivalent to a masters degree in management. Apart from this, most IIMs offer a Fellow Programme in Management which culminates in the candidate being declared as a Fellow of the particular IIM. The FPM programme is legally equivalent to a Phd. All the IIMs together now have an intake of 2883 students for the PGDM program (http://www.pagalguy.com/news/iims-offer-2883-seats-2013-2015-few-increase-fees-a-8797704) with about 214,000 candidates seeking admission (http://www.indianexpress.com/news/cat-2012-nearly-2.14-lakh-vie-for-3500-seats/1015590/). The IIMs possess the best management faculty among Indian B-Schools, compare favourably with the best international B-Schools, have the best educational infrastructure and command the largest resources. IIM graduates take

the cream of private sector and international job placements.

2. The next tier is constituted by 2500 autonomous colleges/institutions that are approved by the All-India Council of Technical Education (AICTE) offering a two- year PGDM programme. These programmes are also legally equivalent to an MBA. The AICTE is a GoI regulatory body. Most of these institutions have been set up by private entrepreneurs who could be individuals, societies or trusts with private funding. Some of the trusts/societies claim to belong to minority communities / have religious affiliations which give them certain privileges. While a few of these institutions are residential, most operate on a non-residential basis. As the IIMs are considered the role model to emulate, most of these institutions structure their programmes, pedagogy and course content based on IIM practices while simultaneously trying to differentiate themselves in minor ways.
A small number of these institutions are considered to be of high quality, some of them reaching the quality levels of the newer IIMs while the vast majority are of poor quality.

3. The third tier is constituted by the Business Management departments of government and private universities as well as those of colleges affiliated to government owned universities. This tier offers an MBA degree as it is only government universities, 'deemed to be' universities and state (province) universities (privately funded and run but set up by a specific state law enacted by the state legislature) that can legally award a degree. Quality levels in these institutions are abysmally low. The third tier
also has the lowest fee levels.

4. The last tier is constituted by a set of privately owned and managed institutions that
operate entirely outside the regulatory framework and whose certifications therefore do not entitle the student to pursue doctoral work/government employment. While a few of them are of high quality, the bulk is run clearly as profit-maximizing ventures.

Table 1 provides summary statistics of India's business higher education sector.

Region	No of Institutions		Year	No of Inst	Annual Intake
	PGDM	MBA			
Central	21	372	06-07	1668	94704
Eastern	8	150	07-08	2388	121897
North-West	64	477	08-09	2972	149555
North	48	527	09-10	3222	179561
South Central	53	943	10-11	3393	277891
South-West	23	278	1-112	3495	362571
South	33	397	12-13	3944	385008
West	33	417	Engineering graduates in 12-13:		
Total	283	3561	1,761,976		

Source: AICTE Admissions Handbook 2013

Issues in Indian Higher Education

There are a number of issues that confront higher education in India and I enumerate the most serious of them below:

1. The overall education system in India whether at primary, secondary or tertiary (school, undergraduate or graduate) levels was inherited from the British when they were the colonists and which remains unchanged in terms of educational philosophy, governance structure and pedagogy. The system served the Colonialist objective of producing clerks. The focus of the education system was therefore on rote learning with little or no emphasis on analytical and syncretic thinking. This has not changed in any appreciable manner.

2. Present day outputs of the school and undergraduate levels are very poorly equipped in terms of analytical skills, creativity, communication ability (listening, speaking, reading, and writing, referred to as LSRW skills) and language ability both in English and their mother tongues. While school education is largely in vernacular languages, undergraduate education in the better quality institutions is in English.

3. Concomitantly there has also been a secular decline in quantitative and numerical skills. It is possible to graduate from school with bare minimum numerical ability and from undergraduates' courses with no mathematical input at all. As a result, high quality graduate management programs see a student cohort with an excess of 75% engineers as engineering is the one field where mathematical study is unavoidable and numerical ability is extensively tested in the MBA entrance examinations (equivalents of the Graduate Management Aptitude Test)

4. At the level of high school, high pass rates are considered politically necessary and so pass rates are artificially boosted by measures such as grace marks, excessively liberal marking etc. As a result the input into the undergraduate level is poorly equipped intellectually and has an exaggerated notion of their ability.

5. The education system from school upwards is primarily directed and managed by political and bureaucratic interests whose grounding in educational philosophy is suspect. The emphasis is on output rather than outcome. School and undergraduate institutions are run as rigid hierarchies and display high power distance. Extra-mural activities are discouraged as only classroom lectures are considered legitimate activities with the result that undergraduate students show very poor social intelligence/skills 6. Indian educational institutions generally have little or no interface with business/industry and research output is either irrelevant/inconsequential

Issues in Indian Business Higher Education

The challenges that business higher education faces arise from primarily two quarters: the first is the peculiar qualities of the input (students

coming in after an undergraduate program) and the governance structure of the academic institution itself. We will consider each of these.

Attributes of input into Business Higher Education Based on the author's face-to-face interviews, an analysis of input characteristics reveals the following features:

1.Over 95% of the 358,000 students who joined a graduate course in business in 2013 lacked both formal and even any kind of internship work experience.

2.Poor evaluation standards at the undergraduate level results in the incoming students having poor knowledge of the basic disciplines in which they have graduated.

3. Non-engineers have limited numerical skills and understanding of quantitative methods while all sections have difficulty in all forms of communication.

4. Application (of concepts to practical situations) skills is severely limited.

5. Critical thinking skills are limited.

6. Students are unwilling to engage in debate and discussion in class in the presence of the instructor and are afraid to challenge the instructor.

7. Students overwhelmingly prefer the familiar lecture method to case analysis and are unwilling or unable to read more than a few pages a day in any language.

8. Knowledge of and interest in business and current affairs is low.

9. Except at the IIMs and the top tier private schools, the bulk of the graduate programs are non-residential; students of day programs spend between 3 to 4 hours daily in commuting and this limits the time available to them for home study and group preparation.

10. Finally, except at the IIMs and top tier private schools, students are poorly motivated to excel, the bulk of them in the AICTE and university schools are only chasing a degree rather than substantive learning.

Governance Structure of Graduate B-Schools. Each of the 9 IIMs is governed by its own Society whose members include prominent business persons, academics and government representatives. While there is no government interference in individual student admissions and the purely academic matters of programme structure, course content and pedagogy, governmental and political considerations influence overall strategy considerably.

The autonomous AICTE approved B-Schools have Boards of Governors as mandated by AICTE which are largely ineffective and composed largely of the promoter/promoting organisation's own nominees. Here again there is little interference in purely academic concerns but the institution is usually managed with profit maximization as the overriding consideration. Infrastructure and facilities planning therefore does not accord primacy to user considerations.

B-Schools/ management departments that are either part of government universities or colleges affiliated to such universities have elaborate bureaucratic structures where political considerations take primacy in all administrative aspects. While there is little interference in the purely academic issues of course content and pedagogy, decisions on these issues are taken by highly centralized bodies that are slow in decision-making. Consequently, course content in such programmes is usually out of date. Further universities have a centralized examination system where the examination papers are set and evaluated by a set of faculty different from the instructor in a blind process. The foremost objective for all instructors across all constituent colleges is to prepare students to pass the examinations. This severely constrains the space available for innovations in pedagogy. The rapid expansion of business education at the undergraduate and graduate levels between 2006 and 2013 has resulted in a sizable shortage of trained faculty. There are shortages of good faculty at all levels from the IIMs down to the university-affiliated colleges. On paper the second and third tier schools have a full complement of faculty but most of them are of very poor quality. They have little or no interface with business in the form of prior business work experience, consulting, research or participation in industry fora.

Objectives of Initial Phase of Business Higher Education. The top tier institutions comprising all the IIMs, about 30 of the autonomous AICTE schools and about a dozen universities affiliated colleges actively seek to undertake interventions with the incoming students to bring a highly diverse batch to a common level. Consequently, it has become common practice to conduct a special programme with a duration ranging from 2-6 weeks before the commencement of the regular programme. Going by names such as 'Preparatory Programme', 'Remedial Programme' or 'Induction programme' they generally seek to address deficiencies in oral/written communications skills and numerical ability and some form of introduction to case analysis occasionally with some form of team building /bonding exercises. These sessions are normally not mandatory for the full cohort and only a select few are required to attend. Evaluation is only for the purpose of feedback and does not impact further progress. The following are the usual objectives of the preparatory programmes:

1. Bring up all participants to a minimum skill level in oral and written communications as well as quantitative methods.

2. Build up social and collaboration skills through team building exercises and out-bound learning.

Regular sessions start immediately after the preparatory phase. Programmes that have regulatory approval are normally nominally two-year, with an 8 to 14 week summer internship programme in between. Usually all first year papers are mandatory seeking to build a base level management/business knowledge with the second year given over entirely to elective courses.

Objectives of Regular Phase of Business Higher Education. Apart from the standard academic objectives that B Schools follow world over, there are those related to pedagogy, peculiar to India which the top tier schools adopt:

1. Quality and relevance issues with undergraduate education necessitate efforts at unlearning what was previously taught. Specifically, most B Schools find that accounting as taught to commerce undergraduates makes them unable to understand the principles behind a management (as opposed to financial) accounting approach leading them to believe in the self-sufficiency of their knowledge. The second type of unlearning required is with humanities graduates who had previously been trained to be long-winded and verbose in written communication given their examination patterns.

2. A major behavioural change that is sought to be achieved is student approach to discussion and class participation. While this is not an issue in the older IIMs, where the students are from the best undergraduate institutions of India and are highly competitive, the input into the newer IIMs and the second tier schools are very uncomfortable in challenging the faculty and engaging in debate.

3. The third objective of second-tier schools is for the students to acquire the skills to read large amounts of material on a regular basis. Most undergraduate courses require students to only memorise canned material as a result of which they are unaccustomed to wider reading. Students joining the top tier B Schools tend to be voracious readers.

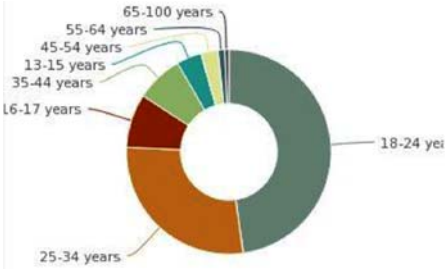
4. The fourth objective, continuing from the initial preparatory phase is to build social skills such as collaboration, team working and leadership skills.

5. The fifth major objective, also continuing from the preparatory phase is to build oral and written communication skills. We will now consider the Information Technology adoption scenario in India in the next section.

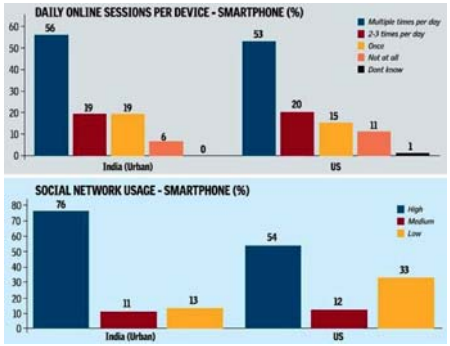
Technology Adoption in India

Socialbakers.com puts the number of monthly active users of Facebook at 64 million with 75% being in the 16-34 year age group and 45% in the 18-24 years bracket. This makes India the third largest market for Facebook even though it represents a penetration of the total population of only 5.5%. However, in terms of the proportion of population that is online, it amounts to 69%. Fig 2 below shows the age-wise distribution of Facebook users in India (March 2013).

India has nearly 950 million mobile connections with an average of 2.2 SIM cards per person (the global average being 1.85) translating to 432 million unique subscribers. By end 2013 the Internet population is expected to reach 180 million with usage growing to 16 hours per week from the current 13 hours. Mobile internet users are expected to grow to 100 million by end 2013.



A recent mobile survey conducted by IPSOS and Google reveals that Indian smartphone users are accessing the Internet more than their counterparts in the US. Fig 3 shows smartphone Internet access patterns.



According to the survey, 56 per cent of smartphone users in the country access the Internet multiple times a day, nearly 40 per cent surf the Net at least once a day and only 6 per cent never use their phone for connecting to the Web. In comparison, 11 per cent of smartphone users in the US never use their device to access the Net and 53 per cent use it to surf multiple times a day. Indians also score higher when it comes to accessing emails and SNS on their smart phones. According to survey, about 76 per cent of smartphone users in India access social networking sites on their devices compared to 54 per cent in the US. The survey reveals the usage of smartphone between the age group of 18- 29 is the highest in the country. While 36 per cent of all smartphone owners in India are in this age group, only 17 per cent are in the 30 to 49 age group. The survey reveals the usage of smartphone between the age group of 18- 29 is the highest in the country. In terms of usage, 77 per cent of smartphone owners listen to music, while 33 per cent use it for playing games and 32 per cent read newspapers or magazine.

The annual Indian smartphone market stood at 3 million units in the third quarter of 2011 up from 1.7 million units in the same period in 2010 with a total stock of 44 million users. The Google survey points out that 66 per cent of existing smart phone users believe they would access the Internet more through their handhelds in the future.

The country's tablet PC market is expected to grow at 40 percent to 7.3 million units in 2015-16 from 0.95 million in 2011-12 and 1.6 million in 12-13, driven by government purchase and increasing affordability and desirability as lifestyle devices for the youth. From the data above it is evident that for higher educational institutions in India, student access to and familiarity with IT hardware and social networking sites is unlikely to be a constraint for an initiative to use SNS as a pedagogic tool.

Technology, Pedagogy and Objectives of SNS Usage in Business Higher Education in India

It has been shown elsewhere (Snyder, et al, 2007) that the most effective use of technology in universities occurs when educational and organisational objectives are in harmony; when technological innovations are dominated by corporatist objectives at the expense of pedagogical ones, the benefits are tenuous and tensions are evident. Pedagogical initiatives by discipline-based technology champions require central support if they are to be sustained. The optimal conditions for technology innovations in teaching and learning are disciplinary autonomy and capacity. We can see from our earlier discussion that these optimal conditions are present only in the IIMs and a few of the autonomous AICTE approved institutions. Two broad paradigms defining alternative conceptualisations of the use of technology in the context of pedagogy and organisation are the *e-constructivist* and the *e-corporate* paradigms. The first, which emerged directly out of the teaching and learning context, evolved independently of technology development. This process views learning as 'a process of socially based active co-construction of contextualised knowledge' (Salomom & Almog, 1998). Constructivism highlights the proactive, reflective, self-regulated learner, and seeks to develop the use of SNS so as to enhance these aspects of pedagogy. Here computer mediated communication is seen to augment the potential for collaboration; and the design and manipulation of web-based material are seen to leverage on student initiative, self-regulation and self-motivation (Laudrillard, 1993; Looi, 1998; Gunn, 1999; Lin et al., 1999).

The proviso of the self-regulated learner, student initiative and self-motivation are both the opportunity and the challenge in Indian business higher education. At the IIMs and the top- tier private B-Schools (T1), students are highly motivated and competitive, while student initiative, self-regulation and self-motivation are conspicuously absent elsewhere (T2). The usage of SNS in pedagogy in T1 can therefore exhibit a high degree of sophistication, while in T2, due to the lack of self-regulation, considerably more faculty monitoring and control is required. Therefore in T2, sophistication in the usage of SNS for purely academic objectives needs to be carefully calibrated over time if it were not to backfire. Further, the special characteristics of the T2 cohort described in the section *Attributes of*

input into Business Higher Education provide an opportunity to promote self-expression in a social threat-free environment and the decencies of debate in faculty mentored course SNS. A unique challenge in T2 schools is to use SNS to *evoke* interest in a course amongst a set of intrinsically dis- interested students and thus bring them into collaborative learning. The e-corporate paradigm is focused on the potential of information technology (IT), particularly online IT, to bring higher education to a larger student population, while reducing per capita costs, standardizing systems, creating saleable product and enhancing the competitiveness of the institution, corporation or academic unit. It gestures towards student-centredness, but it envisions the proactive student as consumer rather than as collaborator or critical reflector (Giroux, 2005) and the principal mode is transmission.
However, it would be a mistake to view these two paradigms as entirely disjoint sets. The IT components of the e-corporate paradigm in the T1 schools are seen and utilised as an administrative support system, with the components of the e-constructivist paradigm serving the substantive purpose of education. In T2 schools, the IT component of the e-corporate paradigm is seen as sufficient in itself, with this view strengthened by the regulatory authorities.

There has been much interest in supporting and overlapping concepts of CoP, such as community of learners, community of inquiry, learning community and community knowledge. The assumption is that engagement in social practice is the fundamental principle by which we learn and so become who we are (Wenger 1998, 45). Of particular relevance is the concept of 'sense of classroom community' (cf. Rovai 2001, 2002a, 2002b, 2003). According to Rovai (2001, 287), a classroom community is a specific type of psychological community based: (a) a setting in the world of education; (b) the primary purpose being learning; and (c) a community based on a fixed organizational tenure, that is, a set length of the course or program in which members are enrolled. This definition of a classroom community implies that every course in which students are enrolled can be considered a classroom community, be it good or bad. It also suggests that any participatory efforts that class members put into building and sustaining such a community can be grounded or situated in the framework of classroom CoP. If we accept this we see that the need for a discipline-based technology champion vanishes, all that is required is a course-based SNS champion. While structurally this is possible in T1 schools, even in those T2 schools that are examination driven (see section on *Governance Structure of Graduate B-Schools*), it is possible for individual faculty to introduce SNS based collaboration outside system boundaries.

In an empirical study by Hung & Yuen (2010) participants had an overwhelmingly positive response toward SNS as a supplement to their regular face-to-face courses. In addition to sporadic uses of social media for informal and professional learning the authors extend the educational value of social networking for learning to higher education contexts. SNSs open up the opportunity for class members to interact beyond the walls of the classroom, and such extended interaction can also lead to additional learning opportunities or enhance participation in the face-to-face classroom. They suggest that SNSs blur the boundaries of classroom community as conventionally conceived and are beneficial to students' perceived sense of classroom community. These considerations are especially valid in T2 schools where students are disadvantaged in many ways; not the least in terms of a functional attitude set as well as basic social/communication skills.

I conducted a quick study examining educational perceptions of students of my B-School about Facebook, a Web 2.0 tool. The attitudes of the students included in the study group were strikingly heterogeneous. In correlational examination, it was seen that those who spent much time on Facebook perceived Facebook as an educational tool. In other words, those who had previously considered Facebook as a social setting had positive attitudes towards educational use of Facebook. It was shown that most of the students actively participated in virtual environment during the study, unlike the traditional method. It was observed that learning was shaped by the students, as constructivist approach suggested, and even lesson materials were developed by the students. In this respect, Facebook might be suggested as an effective learning environment. If generalizable, this finding would be of interest both to T1 & T2 schools.

Fovet's study on educational use of Facebook examined cognitive, affective and psychomotor abilities of students on Facebook. It was found that when instructors who wanted to use Facebook in education were aware of the advantageous and disadvantageous aspects of technology-human interaction, Facebook provided rich lesson content; and effective learning in a virtual environment was possible because of advantages like interactive communication. The same study reported that usage of Facebook under no supervision could be dysfunctional In the present study, it was recorded that the students were under control and became more participant when the instructors acted as moderators on Facebook. In this sense, Facebook management must be under the supervision of instructors. In India, this would generally not be a challenge to T1 schools where many faculty are already on Facebook. However the opposite is true of faculty in T2 schools where attitudinal deficiencies and closed-group mentality preclude faculty familiarisation with Web 2.0 tools.

Bowers-Campbell's 2008 study of Facebook as a tool for improving academic motivation among university students enrolled in a developmental reading course is very relevant in the Indian context. Bowers-Campbell argued that using the features of Facebook may help students to better connect "with college reading expectations since it offers potential for battling low self-efficacy and poor self-regulation behaviors plaguing many developmental learning students" In order to address self-efficacy among students, "superlatives" or "virtual gifts" were suggested as a type of reward system to recognize the achievements of the students in the course. It was also recommended that Facebook can be used as a means to foster a sense of "connectedness" between the instructor and students in order to further increase self-efficacy even before the course started by having the students review the instructor's profile in an effort to familiarize themselves with the instructor. Facebook not only helps to facilitate a connection between the instructor and students, but it also offers a means for building peer support among students. This provides the student with an increased level of control and has the potential to create a "classroom of students who accept and support each other". Creating groups, "poking" class members, and providing photos and profiles are all under the control of the students, providing a sense of ownership and control over their learning environment. As suggested by Bowers-Campbell, "virtual class rosters and group meetings via Facebook might soothe anxieties by providing an online support group of learners who care about the students' success". In terms of self-regulation, it was argued that SNS technology provides a large measure of autonomy and may "reinforce self-regulated learning strategies". Specifically mentioned was the group feature of Facebook, which lends a great deal of control to the students in terms of defining their own learning goals.

Mazer, Murphy, & Simonds, (2007) suggested that elements such as student motivation, affective learning, and class-room climate are affected by the level of instructor self-

disclosure via Facebook. Thus increased levels of motivation and affective learning, as well as a greater positive classroom climate, result from the student's perception that an instructor is high in self-disclosure.. The results indicated a statistically significant difference in each case, supporting the hypotheses that a higher level of self-disclosure on the part of the instructor resulted in higher levels of motivation and affective learning as well as a more positive classroom climate. The implication, therefore, is that the use of Facebook for educational purposes hinges on the approach taken by the instructor as well as the student's familiarity and use. In sum, it could be said that the degree to which the instructor is willing to utilize the features of Facebook will significantly impact the student's perception of the instructor, the course, and their own willingness to use these features as well. Ryan, Magro & Sharp (2011) explored educational and cultural adaptation through social networking sites. They found several common themes regarding how SNSs can aid the educational and cultural adaptation process. They are 1) enhancing knowledge exchange, 2) alleviating apprehension, and 3) enabling socialization and building community. Data from their study suggests that SNS groups can provide valuable outcomes that potentially aid in student educational and cultural adjustment. Specifically, they suggest:

Establish a Facebook Group with a Course-Related Identity The first task is to create a SNS group for the class. Naming the group with the year, semester, and course name can be done for easy recognition. Prior research suggests that posting a group picture on a SNS group can potentially lead to greater identification with the community (Ryan, 2010), thus adaptation can be aided.

Be Sensitive to Security and Privacy Issues One issue that has been discussed in literature is the appropriateness and degree of familiarity that teachers have with their students when they interact on SNSs. A Facebook group can be set up as an open, closed, or secret group. With a closed group, anyone can see the group description but not other content such as discussions or photos. In addition, administrators must approve new members. Secret groups provide the most privacy in that members must explicitly be invited to join.

Provide Tips to "Seed" Various Types of Knowledge Exchange Past research has found that "unguided communications" can lead to undesirable results (Heinze & Procter, 2006). Ryan et al found that seeding discussion through providing various type of knowledge in the "tips of the week" was useful.

Encourage Participation Students should be encouraged to participate in Facebook discussions, emphasizing that they can provide unique perspectives that may be useful to others. This can aid in socialization, community building, and becoming more comfortable in the academic and cultural environment. One recommendation is to require students to post something each week or to post a given number of times per semester. Previous research has found that students will not necessarily volunteer to communicate online unless there is some incentive in the form of a grade. In order for students not to feel intimidated about posting, a participation grade as opposed to assessing the length or the depth of postings may be appropriate.

Assess and Adjust Educational assessment is an ongoing process that aims to enhance effectiveness. Some have viewed assessment as a circular feedback loop that includes planning, executing, measuring, analyzing, and improving based on the data. As with other educational tools, assessments should be done of the value and methods by which SNS groups are incorporated into educational programs

Conclusions

We have seen that the use of technology, specifically Web 2.0 tools, in Indian business higher education is today quite limited in breadth and depth. Technology in the form of IT hardware is well diffused, however the dominant paradigm in technology adoption is e-corporate. We have seen that while both the popularity and usage of SNS is widespread among students in the higher education stream, the constraints to wider use of SNS as a pedagogical tool in business higher education lie within the structure of the Indian higher education system, the characteristics of the inputs to business higher education and the governance structure of business higher education system itself. There is neither a societal nor a technological barrier to greater integration of SNS with pedagogy.

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