

BUSINESS PROPOSAL: GEORGETOWN CAMPUS PORTAL

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By

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Abstract

This paper explores the extent of a web portal opportunity for Georgetown University and defines what should be included within the portal. Business model alternatives and marketing strategies for this local portal web site will also be examined. A review of the literature examines the current higher education market, the definition characteristics of portals in general and campus portals specifically. Several campus portal structures and products are analyzed to understand how Georgetown campus portal might be positioned within the marketplace. To analyze student online needs, a study of current Georgetown students was conducted using a paper-based survey. The study samples student needs and documents their expectations regarding online campus communication, services and activities, use of current on-line communities and the gaps between the two. The results of this research provide the foundation for decision-making regarding the need for a portal, feasible economic model, and its possible structure and implementation strategy.

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INTRODUCTION

Within the past several years, students increasingly use the Internet for communication with others on and off campus. According to Merrill Lynch's The Knowledge Lab (2000), the number of college students using the Internet is expected to reach 13.5 million by 2002, up to from 62 percent in 1998. Over 90 percent of all college students access the Internet with 50 percent accessing the web daily. Students average almost 19 hours per week on the Internet spending 85 percent of that time on academic pursuits. Listservs, chat rooms and web pages are common ways for students to communicate with other students and instructors. Instructors and university groups are also using the Internet to communicate with students. Nearly 40 percent of all college classes are using Internet resources as part of the syllabus in 1999, compared with 25 percent in 1997 and 15 percent in 1996. Approximately 50 percent of college courses use email. Based on these facts, it is easy to conclude that colleges and universities are the most wired communities on the web, and college students represent the single largest online demographic, constituting 24 percent of the total number of adult Internet users.

With the growth of Internet use and technology advances, the expectations of students, faculty and other campus community members are increasing and complex. Colleges and universities are under pressure to respond to the changing needs of their students, yet at the same time striving to keep costs down. Many

private companies have seized upon this opportunity by providing colleges and universities with robust Internet solutions called campus portals. Several of them (e.g., Student Online (<http://www.studentonline.com>), Campus Pipeline (<http://www.campuspipeline.com>) and Blackboard Inc. (<http://www.blackboard.com>) have made substantial inroads in the higher education market. There are companies which create online courses, build administrative infrastructure, grab the e-commerce opportunity and/or provide portals to related to academic and college life styles. Some of these portal companies are leveraging existing infrastructure and adding functionality to serve the needs of both students and the institutions, providing a virtual location where students, faculty and administrators can collaborate and share information.

Some universities have developed their own portals in-house. UCLA is one of these early adopters of campus portals with the introduction of MyUCLA (<http://my.ucla.edu/>). MyUCLA provides a variety of dynamic and customized services that range from academic course management to users' personal life. MyUW (<http://myuw.washington.edu/>) and MyUB (<http://www.buffalo.edu/aboutmyub/>) are also good examples of in-house developed campus portals. These campus portals provide a variety of services that include personalization and customization that is integrated with university systems for academic records, chat, email links, campus news, sports, virtual counseling and

even weather forecasts. The major contribution of these campus portals is that they provide one-stop access for campus members to read customized information and communicate with other campus members.

Considering these trends, the current electronic situation at Georgetown University appears to be in the middle of this trend. Georgetown has contracted with Blackboard Inc. for online classroom environments and course management. Also Georgetown University provides students with the personalized service called Student Access, which offers features such as online registration, class and grade information, biographical information and employment opportunities. At first glance, the range of services Georgetown University provides appears very similar to those of other colleges and universities which are thought to be the leaders in higher education portals. However, at Georgetown these services are decentralized. There is no single portal entrance. Users may experience difficulty in finding needed information and services quickly. In addition, there is no place for students to communicate each other about their campus life.

Given this situation regarding the online campus environment at Georgetown University, one possible response could be to develop a campus portal to aggregate the online services and provide customized information to all campus members. A purposefully structured, dynamic and individualized web system may

significantly improve communication and interaction to help current students feel more connected each other and to Georgetown University.

This paper explores the extent of a web portal opportunity for Georgetown University and defines what should be included within the portal. Business model alternatives and marketing strategies for this local portal web site are also examined. This includes examining how users can be attracted to the web site, how users can be engaged to create critical mass, and how the web site can be sustained. The research questions that this study seeks to answer are: (1) Is there an opportunity for building a local university portal web site (often called a Campus Portal) that can enhance students access to local campus and non-campus services and their ability to communicate with each other? (2) Can the contents for such a local university portal web site be clearly identified? (3) If such a web site could be developed, what are the options for a feasible economic model? (4) What is a strategy for developing such a web site? (5) How would such a web site be launched and supported to attain a self-sustaining critical mass?

To expand upon this business opportunity, this paper documents elements of business plan to support this campus portal opportunity. First, a review of the literature examines the current higher education market, the definition and characteristics of portals in general and campus portals specifically. Several campus

portal structures and products are analyzed to understand how Georgetown campus portal might be positioned within the marketplace.

To analyze student online needs, a study of current Georgetown students was conducted using a paper-based survey. The study samples student needs and documents their expectations regarding online campus communication, services and activities, use of current on-line communities and the gaps between the two. The results of this research provide the foundation for decision-making regarding the need for a portal, its possible structure and implementation strategy. Lastly, an economic model is proposed for achieving portal implementation.

CHAPTER I

REVIEW OF RELATED LITERATURE

Introduction

The purpose of this chapter is to review the literature pertinent to the major variables of the study as based on the research questions. This chapter is divided by three sections. The first section reviews the literature on the growing use of the Internet by general population, various organizations and college students in particular. The second section focuses on the current situation in the online education market. It examines the types of online education, their growth and the

direction of that growth. It points to the need for campus portals that enhance student access. The last section summarizes key points in the literature and poses issues.

Growing Use of the Internet

1. General Population Growth

According to ActivMedia (1999), the commercial Internet has grown at a phenomenal rate, beginning as “a structured magazine metaphor” and growing into a “vibrant, interactive communications platform” (Executive Summary, p. 1). In its latest report, ActivMedia (2000) notes that the Internet now encompasses a global population of 304 million people as compared to 171 million one year ago because access has become increasingly more available. “As barriers to entry disintegrate and the means to access rises, the web is increasingly accessible to the mainstream” (p. 17).

In late 1998, approximately 26 percent of Americans had Internet access. Today, more than half of the population has access. Users log on from work, from school, from home and from other locations. Today’s usage rate is almost double that of 1998 (Felson, 2001). According to Business Wire, the number of Internet hosts worldwide has reached 100 million (Internet Hosts, 2001). In a global context,

those using just one server – America Online (AOL) – have now surpassed the five million member milestone (AOL Membership, 2001) and has grown by 45 percent in the past year.

2. Growing Use by Students and Faculty

Detailed statistics exist with respect to the use of the Internet by students. The more pertinent market opportunity information is structured by students, by faculty and by administrators. Key numbers are summarized below (The Knowledge Web, 2000, p. 8).

By Students:

- In 2002, 2.2 million students are expected to enroll in distributed courses, up from 710,000 in 1998.
- More than 50 percent of US college students will have Internet access from their dorm rooms in 1999 and virtually all will have access from some campus location.
- Over 90 percent of college students access the Internet, with 50 percent accessing the web daily.
- The college online market is expected to reach 13.5 million by 2002, up from 3.2 million in 1995.
- Students average almost 19 hours per week in their use of the Internet – spending 85 percent of that time on academic pursuits.

- 40 percent of students who use the Internet have their own World Wide Web home page, up from 36 percent last year.

By Faculty:

- Nearly 40 percent of all college classes are using Internet resources as part of the syllabus in 1999, compared with 25 percent in 1997 and 15 percent in 1996.
- Over 25 percent of all college courses have a web page, compared to 22.5 percent in 1998 and 9.2 percent in 1996.
- Nearly 20 percent of college faculty maintain a personal web page, not linked to any specific class or course.
- Approximately 50 percent of college courses use e-mail, up from just 8 percent in 1994.

Trends in Online Education Market

In recent years there has been an increasing awareness of the significance of conducting business as well as education on the Internet (Dertouzos, 1997; Katakana & Robinson, 1999). It appears that the Internet, especially through its ability to deliver educational content, will rewrite the rules of the education system. Internet technology has proven to have the fastest new technology adoption rate in history. The new medium is quickly becoming fundamental for educational pursuits now and in the future (Kalakota & Robinson, 1999). Today, hundreds of thousands of

Internet web sites exist. They offer a wide array of services and products. As noted by Mitchell (2000), “The vast amount of information found on the web is daunting not only to Internet shoppers but to e-businesses as well. With so many sites available e-businesses struggle to attract customers” (p. 1). The same may be said of higher educational institutions.

Statistics regarding U.S. colleges with distance learning programs are available. Tamara (2000) reported that in 1999, 72 percent of colleges had distance learning programs, up from 48 percent the previous year. Only 15 colleges offered distance accredited degrees in 1998. That figure rose to 34 percent by the end of 1999. As stated earlier, almost all students now have Internet access from some campus location or another and that students spend average almost 19 hours per week on the Internet. Perhaps this is due to the fact that almost half of all college classes are using Internet resources, have a web page presence and use e-mail. Approximately 84 percent of four-year colleges are expected to offer distance learning courses by the year 2002 (The Knowledge Web, 2000, p. 10).

Several trends were also noted in the same report with respect to their impact on shaping the higher education online learning market (The Knowledge Web, 2000). These trends relate to demographics, the Internet itself, globalization, branding, consolidation, and outsourcing. With respect to the impact of the Internet,

the report suggested that the web would democratize education, reduce education costs, increase geographic accessibility and improve the quality of education in the long run.

Among the above trends, however, the one most important to the present study is related to consolidation. According to The Knowledge Web (2000, p. 169), “In response to the high demand for online learning, companies are providing individuals with a single destination for all their lifelong learning needs. Internet consolidation can aggregate communicates and act as a link to a variety of services, content and information.”

The rise of campus portals emerged from this trend. Various educational groups who use portals for a wide variety of customized purposes and services are beginning to consolidate. For example, iTurf acquired a leading college portal, OnTap.com, late in 1999 from the owners of MarketSource, a large marketing services company serving college and high school students (iTurf Completes Acquisition, 1999). The purpose was to enhance its community and content services and to provide incremental network traffic. It also enhanced iTurf’s network as a gateway for advertisers targeting college markets. This online destination targets on young people ages 10 – 24. Community and content services include interactive magazines, chat rooms, posting boards, personal homepages, e-mail and online

shopping. GreekCentral.com became PowerStudents.com's newest affiliate in 1999 (GreekCentral Signs On, 1999), and CollegeClub.com acquired Collegestudent.com to create what is now known as a "mega" portal (CollegeClub.com Acquires Collegestudent.com, 1999). At that time, it was reported that the college market is comprised of over 16 million students who spend an average of 8.2 hours online every week (CollegeClub.com, 1999).

By the year 2000, partnerships with college focused portals were increasing at a phenomenal rate. For example, CampusEngine.com, a firm that helps campus newspapers establish Internet portal sites, partnered with 72 campus newspapers serving a total of 1.5 million students located in campuses in 29 states. The Business Wire reported, "More than a third of the campus newspapers serving the 100 largest campuses in the country are partnering with CampusEngine.com. (CampusEngine.com Tops 1.5 Million Students, 2000).

Campus Portal

1. Evolution of Web Portal

Before exploring campus portals, it is helpful to define what a portal is and how they have developed. Michael Looney and Peter Lyman describe a portal as "an epicenter of the web experience, a 'home base,' a place to return to when you get

lost, a place to keep your information, a place from which to communicate with others, a security blanket or a safety net and a trusty guide to all things web” (Portals in Higher Education, 2000). Portal web sites became recognized by 1998, although forms existed before then, such as AOL, for example (Krantz, 1998). A portal is a “supersite” that is capable of providing a wide variety of services, such as free e-mail, online shopping, links to other sites, news, search engine capability, chat rooms and discussion groups among others. Web portals are, in other words, doorways to a wide array of customized, timely information – all on one convenient Internet web page. Portal successes evolved from search engines such as Yahoo!, Excite and Lycos. No portal is complete without search engine capabilities. Examples such as MyYahoo! and MyExcite allow users to customize their starting web page to include personal areas of concern such as news headlines, weather reports, market quotes and sports scores. Once an individual or group registers, the page can be quickly customized. Content can be added, edited, deleted or rearranged with just a few clicks of the computer’s mouse. E-mail can be established as well as online address books.

There are a number of advantages to establishing a web portal. One authoritative report lists the more important advantages: (Web Portal Definitions and Features, 2001, p. 1):

- Customization and personalization - Upon logon, the portal "view" displays user selected information and information about user at that time (real-time).
- Accessible from any computer - not based on cookies.
- Advanced search engines - entire Internet, entire site, entire page or channel, for example.
- Single sign-on - web-based information from inside and outside the college.
- Channels - Window-like areas that contain many links that are related to one-another, personalized and are "subscribeable."
- Links - Many links use "cameos", i.e., data windows with a small but important sample of needed link information.

2. Growth of Web Portal

Technology industry analysts of the Meta Group predict that by 2002, 70 percent of the "Global 2000" companies will have formulated portal strategies. Further, they estimate that by 2003, 60 percent of Fortune 500 companies will manage their own corporate portals to aid in decision-making, improve workflow and facilitate business-to-business electronic commerce integration. "What these companies understand," Fanelli observed, "is that deploying a portal is an intelligent way to align business and technology strategies to more effectively compete in the Net Economy."

As explained by Turner (1999), portal web sites are experiencing continually growing popularity. 89 percent of the estimated 58 million people using the web in the United States use some type of portal. The reason for this growth is that portals such as MyYahoo! and MyExcite actually improve upon AOL's popular "welcome" page. "At MyYahoo!... you can customize your start page to include stock quotes, sports scores, news headlines, links to your favorite web sites and even movie times at your local theaters" (p. 181).

Government agencies as well as business portals are also becoming increasingly popular. Feldman (2000) reported on a new portal web site created by the Federal government in 2000. At this portal a user can estimate Social Security benefits, file taxes, search for unclaimed pension funds, apply for student loans, renew passports, buy savings bonds and Treasury bills, apply for patents and trademarks, and secure reservations at national park campgrounds.

Business to business portals are experiencing tremendous growth as well. These are usually designed to attract small companies and offer a number of advantages. They solve the problem of reaching the right audience. Because Internet users are self-selecting, the concept behind the business portal is to build small applications, direct marketing and advertising attention to small companies. These

portals are aware of the fact that small businesses do not have large funds at their disposal, yet need numerous services. Business portals deliver high-level software and services over the Internet. Intuit, a large company, focuses part of its attention on small business portal applications. Quicken was moved onto the Internet as quicken.com, a Yahoo! style portal web site that provides such consumer services as bills, banking, loan and mortgage applications. It has since added some business services such as standard forms and package-tracking services. Bcentral.com is another example of a well-conceived business portal that takes a broad approach to the needs of small businesses. It offers a variety of services to small businesses from email service, online credit card processing and online business card to finance and management services.

Today a wide variety of Internet web sites offer portals that can be customized and individualized for an individual or student group. Companies offering search engine services such as Lycos, Yahoo!, AT&T's Excite, Disney's Go and NBC's Snap are just a few of the largest that provide this capability to any individual or group. Michael Looney and Peter Lyman (Portals in Higher Education, 2000) divided three different types of web portal as follows:

Consumer portal: It is the most common type of web portal. AOL and Yahoo! are the two most popular consumer portals. These portals are often similar

because publishers of generic consumer information license the same information services to many web sites. The key issue with this type of portal is differentiating one's portal from the competition. The most popular solution is creating "MyPortal" to allow the user to design his or her own customized portal page. The value of these types of sites is that viewers can select and organize the content to some extent. They can select specialized information within a general category. MyWU (<http://myuw.washington.edu>), MyUB (<http://www.buffalo.edu/aboutmyub>) and MyUCLA (<http://my.ucla.edu>) are good examples of this type of portal in higher education.

Community portal: This is a portal where information is aggregated, edited, and organized around specific topics. One example of a community portal for higher education is College Club (<http://www.collegeclub.com>), which targets undergraduate students. Like other portals for higher education, College Club makes profits by selling student demographics to advertisers, offering banner ad space and products and collecting a "bounty" when a student signs up for services.

Vertical portal: This portal model is similar to a community portal but is mostly dedicated to more specific industry, demographic or product category. Vertical portals provide information and resources such as research, news, discussion, online tools and many other services for a particular industry. They are

one of the fastest growing types of Internet portals. Among higher education service companies, Blackboard (<http://www.blackboard.com>) is good example for it has integrated course management services into a portal concept.

3. Evolution of Campus Portal

In David Eisler's article "Campus Portals" (Syllabus Magazine, September, 2000), he describes the campus portal as a "logical and reasonable next step in the evolution of the campus web presence because it provides a gateway to information, points of access for constituent groups and community/learning hubs." Campus portals are an evolutionary form of traditional static campus homepages. Campus portals provide an interactive and comprehensive interface for accessing university resources and communications among academic community members. According to the report of the Information and Communications Technology Initiative (ICT) at Eastern Michigan University (2000), there are three generations of campus web sites. The first generation is designed to present information about the institution, targets external populations such as prospective students or parents, but most of all, is basically static. The second generation is more dynamic because it delivers some search capabilities and categories for current students, including some information from campus applications such as online registrations and catalogues. However, the primary audiences for this generation of portal, like the first one, is not college or university community members but other people who want information about the

college or university. In contrast, third generation campus web sites, in other words, true campus portals offer personalized and customized interfaces and communications for students, faculty, alumni as well as outsiders.

4. Benefits of Campus Portal

There are many benefits from these third generation campus portals. Current students can check such items as current class schedules including classroom location and time, assignments and grades, degree progress and library records. In addition to these academic services, students can chat with friends and faculty, participate in club activities, obtain information about restaurants or shops on and off campus, exchange housing and used goods with each other and read news about campus issues and sports through a single interface. Faculty can distribute and collect assignments, post class announcements and submit grades electronically. Prospective students can apply for admission or financial aid, get advised by counselors, participate in orientation and register for classes through a single interface from a campus portal. In fact, most of these services are not new concepts and are provided by many campuses today, but certainly not through the convenience of a single interface. The significant benefit of a campus portal is that it is a one-access solution of total service for college and university members. It provides access to information already available on the Internet, but also it provides access to internal information previously available only through a campus Intranet.

This access, combining the function of both Internet resources and Intranet-based data in an interface that the user can configure to his or her personal preferences to create a strong, powerful and valuable learning tool (Eisler, 2000).

5. Implementation Issues in Campus Portal

Campus portals are a hot issue for many college and university administrators as this technology is evolving. However, there are many competitive pressures on administrators to adopt a portal for their college or university before they are entirely comfortable with it. The most significant pressure is whether or not to develop their own campus portal system or purchase an existing vendor developed product. Technological and financial constraints make creating a campus portal a challenging process. It is not easy, nor is it simple. Many colleges and universities struggle with directions and strategies to offer the appropriate level of campus portal service. Building or buying campus portal carries many burdens. To build from scratch can be costly, requiring skilled people for development, maintenance and training. This approach also requires extensive cooperation among departments. However, to purchase a vendor product makes the university dependent on the vendor. The vendor may require privacy, standards, and advertising policies that conflict with university guidelines. In addition, the product may not have the features that are optimal for the university student and faculty population.

Some universities have developed their own portals. Good examples, as discussed earlier, are MyUB (University of Buffalo, <http://www.buffalo.edu/aboutmyub/>), MyUCLA (University of California at Los Angeles, <http://my.ucla.edu/>) and MyUW (University of Washington, <http://myuw.washington.edu/>). These campus portals provide a variety of services in terms of personalization and customization, integrated with university systems. For example, MyUB (figure 1) provides personalized academic records, email links, campus news, sports and even weather report. One interesting section in MyUB is that it operates an opinion poll that captures students' thoughts for campus planning. To stimulate student participation, this site offers "Campus Cash," which can be used to make campus life easier. Campus Cash can be used to purchase meal tickets or parking permits. MyUCLA (figure 2) also provides access to academic records, traffic and weather information and campus online newspapers. It is currently working on providing an auction and chat rooms. MyUW (figure 3) uses a more text-based approach and effectively uses tabs that allow users to move from one information grouping to the next. All three provide guest access or a sample student session to exercise the functionality.




[HELP](#)
[FEEDBACK](#)
[LOGOFF](#)

your portal to the **UB web**

Search:

MyInfo

UBToday

UBGuide

More tabs

April 14, 2001

Virtual Thought: Clemens Hall is named for Mark Twain, renowned writer and Buffalo resident in the late 1800's. - [from the Archives](#) | [More thoughts...](#)

Welcome MyUB Guest to the Student Guest Account

My Profile

Victor E. Bull
 Semester: Spring 2001
 Approved Major: MATHEMATICS
 Degree Expected: B.A.
 Concentration: COMPUTING &
 APPLIED MATHEMATICS
 Approved Minor: MG-MGMT
 SCI&SYS

[Questions about your major?](#)

My Courses

Spring 2001 | [Printable Schedule](#)

- * [AST300 FAR](#), University Honors Seminar, R, 1600-1700 [\[UBlearns\]](#)
- * [CSE241](#), Digital Systems, M W F, 1000-1050
- * [CSE241 R 1](#), Digital Systems, W, 0900-0950
- * [CSE250 B](#), Algorithms & Data Struc, M W F, 1500-1550
- * [CSE250 B 1](#), Algorithms & Data Struc, T, 1100-1150
- * [MTH418](#), Surv Partial Differ Equa, T R, 1230-1350
- * [MTH418 A](#), Surv Partial Differ Equa, M, 1100-1150
- * [UGC112 B](#), World Civilization 2, M W, 1400-1450
- * [UGC112 B 1](#), World Civilization 2, M, 0900-0950

Summer 2001 | [Printable Schedule](#)

- * [CSE305 LB](#), Programming Languages, MTWRF, 0915-1000
- * [CSE305 LB1](#), Programming Languages, MTWRF, 1001-1025
- * [MFC132 JAL](#), Java Script, ARR, ARR -ARR [\[UBlearns\]](#)
- * [MFC146 JAL](#), Introduction To C++, ARR, ARR -ARR [\[UBlearns\]](#)
- * [MFC149 JAL](#), Visual Basic, ARR, ARR -ARR [\[UBlearns\]](#)

My Academic Records & Tools

- * [Register online \(SOAR\)](#)
- * [The alternative to online registration \(BIRD\)](#)
- * [Check when you can register](#)
- * [My degree needs report \(DARS\)](#)

[Courses](#)
[WebMail](#)
[Notices](#)
[Services](#)
[Calendar](#)
[Logout](#)



UCLA Football

Set

INFOSEEK SEARCH:

[UCLA Directory](#)
[Update Your MyUCLA Roles](#)

Bruin, Josie

Undeclared-Life Science

Class of '99

Help

[About MyUCLA](#)
[About the IEI](#)
[Computer Labs On Campus](#)
[Frequently Asked Questions](#)
[Feedback](#)
[DPR FAQs](#)

My Internet Services

[Appointments](#)
[College Honors](#)
[Course Planner](#)
[E-Cards](#)
[Forums](#) ☐
[GPA Calculator](#)
[PAQ](#)
[Personal Links](#)
[Print](#)

Looking for the **course planner**? It is now located on the left-hand side of this page, in the [My Internet Services](#) section of MyUCLA.

My Study List

Schedule of Classes

NEW!

Information updated from official university records every two hours.

Wait Listed Courses are denoted with (Wait List).

My Courses for Term 015			
Course #	Course	Section	Grade
HUMAN EVOLUTION Textbooks my classmates			
111103200	ANTHRO 7	LEC 1	
Time: TR 9:30 A - 10:45 A Location: MOORE 100			
THERMODNMC&KINETCS Textbooks my classmates			



Figure 3. MyUW guest page

Some universities established partnerships with vendors to create campus portals. Many of vendors offer multiple levels of software and service to support personalization and customization. Campus Pipeline (<http://www.campus-pipeline.com/>) is a good example of this vendor support. Campus Pipeline provides integrated functionality with university data systems. The primary product of Campus Pipeline is an enterprise-wide information-based platform where students can register, enroll and pay online, as well as access information to campus events and outside resources. It offers two options for its customers. Universities can pay a licensing fee based on school size, ranging from \$72,000 for schools with up to 4,000 students to \$541,000 for schools with over 35,000 students (Feemster, 1999).

The second option is to get the software for free under a “sponsorship” plan. With this option, Campus Pipeline establishes the portal at no charge to the University, but places advertising banners on the web pages and sends e-commerce offers to students’ email accounts. All of the more than 400 schools that have signed up with Campus Pipeline so far have opted for the “sponsorship” plan. (Clark, 2001)

Another important issue is the kind of services and contents that should be included in a campus portal. Because every college and university has somewhat unique academic focus, student culture, rules, regulations and financial situations, the range of services and contents must be customized to each institution’s needs. In addition, issues such as how fully the portal system will be integrated with other campus information services and administrative processes, and who will control what the users can see and access must be considered. Many colleges and universities establish baseline requirements that vendors must deliver to meet the needs of the institution. There is a good example from Boston college University-wide Information Portal. Bernard W. Gleason (Boston College University-wide Information Portal-Concepts and Recommended course of Action, 2000) suggests minimal requirements that a campus portal should comply with:

- Provide access to all information and services through a single graphical interface.

- Support a single log-on to obtain authentication and authorization to all information resources and applications.
- Provide a framework where all elements of the university (academic, administrative and community) and all business applications can be integrated.
- Provide a convenient set of communications services which are web-based.
- Provide a one-stop place where all members of the university community can perform all business transactions.
- Provide the ability to present information and access to services on an individual basis in personalized manner.
- Provide each member of the community with the ability to customize the appearance, layout and information on an individual basis.
- Grant to the university full control and self-management of appearance and content.
- Be vendor independent (not locked into proprietary hardware and/or software).
- Be free of commercialization (no advertising or the sale of products unless university sponsored).
- Be flexible and be able to absorb new technology advances and new applications.
- Be available to all constituents 24 hours a day, 7 days a week.

Christine Geith and Collette Wagner (Preparing for Campus Portals, 2000)

illustrate some of the detailed elements that might be included in a campus portal:

- Calendars and to-do lists –schedules, hours of operation
- Discussion groups and chat
- Announcements and alerts
- Job openings, career opportunities
- Reports and documents
- Personal HR info – benefits, medical info
- Access to data warehouse
- Search
- E-mail and address book
- Collaboration – Intranet and Internet
- Applications –including access to legacy systems
- Work flow
- Course schedules, grades, GPAs, transcripts, etc., degree audit
- Residence hall menus
- News – campus and world
- Weather
- Maps and images

- Org charts
- Finance – stocks and investments, expenses, budget, credit union, bank accounts
- Access to online shopping and vendors
- Links – reference material, bookmarks
- IP telephony

Some of above elements such as calendars, course schedule, news and chat are now included in most of campus portals. Along with these basic elements, some elements differentiate one campus portal from another. As mentioned above, the opinion poll in MyUB (University of Buffalo, <http://www.buffalo.edu/aboutmyub/>) and traffic information in MyUCLA (University of California at Los Angeles, <http://my.ucla.edu/>) are good examples of institution detailed elements.

6. Campus Portal Vendors

There are many vendors who target the higher education market. Due to the low entry barrier and a fledgling market situation, many companies are going into this business while others fail because of financial and technological instabilities. All have different revenue models, target audiences and market strategies. Among them, three companies, Student Online, Campus Pipeline and Blackboard, can be classified as most successful cases of campus portal vendors. To help distinguish

viable business models from others, these three companies are discussed.

- Student Online:

Student Online (<http://www.studentonline.com>) provides academic and campus-related information, course management tools and message boards and other personalized services. Instead of banner advertisements, Student Online provides an advanced e-commerce platform as a revenue-generation source. Students can shop in a restricted shopping section in the web site where are a variety of web retailers are located or use Student Online's own buying service. This service matches the lowest price online while delivering a more substantial profit (Student Online overview, <http://www.studentonline.com/overview.htm>, 2000). Student Online shares a portion of the revenues with its school client. Further, Student Online also shares revenue on all sales of wireless hardware and monthly service fees for telecommunications services. Schools can partner with Student Online and wireless telecommunications providers to offer the hardware and software necessary to initiate a full-fledged wireless community. Students get significant hardware discounts and schools get a substantial new revenue stream. Recognizing the potential for web-based communication in higher education, Student Online creates a campus-specific web community site with personalized user accounts that integrates seamlessly into existing Enterprise Resources Planning (ERP) software such as course tools and includes an array of internet content, communication

modules and organizational tools. (Student Online Overview, <http://www.studentonline.com/overview.htm>, 2000) A recent non-exclusive partnership with Oracle to develop online stores for educational institutions may have hastened Student Online's attempts to develop capabilities for integration with back-end systems (Portals from the Higher Education Perspective, 2000).

- Campus Pipeline

Campus Pipeline (<http://www.campuspipeline.com>) is the best known and financed of the portal vendors. Through the alliance with Systems and Computer Technology Corporation (SCT) and partnerships with several other system integrating Companies, Campus Pipeline has provided enterprise-wide information-base platforms for over 500 schools. As the central point of access, the Campus Pipeline's web platform is the entry point from which all members of the campus community taps into abundant academic resources, administrative services, community information and the Internet. (Campus Pipeline, What we do, 2000) As mentioned above, the company offers two economic models for its customers – the licensing fee model and an e-commerce model. By selecting the e-commerce model, schools can avoid expensive licensing fee but must accept banner advertisements.

- Blackboard Inc.

While the above two vendors pursue total campus web system integration,

Blackboard (<http://www.blackboard.com>) can be described as a commercial version of learning portals designed to create communities of learners. At Blackboard, learning communities are organized by discipline and have separate sections for faculty and students. It provides a web course management tool and distance learning environment that brings together content management, communication, collaboration and assessment tools. The revenue model of Blackboard is based on a licensing fee and there are no advertisements. Blackboard licenses three levels of service: Level One: Course Manager, Level Two: Course & Portal Manager and Level Three: Advanced Course & Portal Manager. Colleges and universities can choose a version or begin with Level One and upgrade incrementally.

7. The Path of Campus Portal

Colleges and universities across the nation have recognized on improving their environments to ensure that it is as conducive as possible to learning because student performance significantly increases in such conditions. Clearly, initiating and maintaining campus portals can be a win-win situation for both schools and students. From a student perspective (as a consumer, that is) all services and facilities they need for e-learning on the Internet are available to them, as well as communication with various campus groups, individuals and campus locations. Forms can be completed, fees can be paid, class assignments can be accessed, and dialogue can occur between students, among student groups and between students

and professors. From the university's perspective, cost and time savings can result. Faculty can enter student grades and create electronic course materials. Forms can be filled out without clerical assistance. Also, by initiating a campus portal web site, the school can foster a community of learners. By creating a small community within the larger whole, the school can create a sense of place, loyalty and commitment among the student and faculty alike.

Although many testimonials were found that praised schools and educational organizations for creating college portals, there was little published information that evaluates campus portals, particularly those features that enhance student access to local services on and off campus and students' ability to communicate with each other. Yet it would seem more important than ever to evaluate the perceptions of the benefits of such portals. If students are not interested in these kinds of features and their potential benefits, then portal implementation may be wasted effort and expense. If they do perceive benefits to a campus portal, then it is important to understand the priorities of their interests and needs to ensure appropriate portal implementation.

Conclusion

This chapter reviewed the literature pertinent to the major variables of the proposed investigation. The function of portals is to bundle and customize many

services and resources in areas into a single URL location for easy access. Portals have become increasingly customized as developers gain understanding of user needs and advanced technologies become available to support automation of these needs. For the present, campus portals offer the promise of more customized information, easier access to resources and new ways to form communities of campus members.

Higher education institutions have also recognized the value and utility of the campus portals as well as the use of the Internet inside and outside of the classroom. The growth of the Internet has significantly influenced the evolution of the online education environment. More schools and more students are taking advantage of this service today than ever before. This creates the opportunity for campus “niche” portals. It is possible that it is now appropriate for students to have local university portal access. Yet no studies were found that empirically examined what should or should not be included in campus portals. To identify the specific needs of students at a particular university, a study of that target audience is required. Such a study can not only identify needed web site function and features, but it can also provide the requirements for portal design and implementation. The next chapter articulates the methodology employed to conduct a study to collect and analyze Georgetown student interests and needs for a campus portal.

CHAPTER II

METHODOLOGY

Introduction

Several research questions were posed in the initial chapter. Of greatest concern to the present study, however, was whether there was a web portal opportunity at Georgetown University and to define what should be included within such a portal. The purpose of this chapter is to present and discuss the research methodology employed to achieve the study objectives and to answer the research questions posed in the first two chapters. This chapter explains the study's research approach, the method used for gathering data, the sample population and form of data analysis, techniques and limitations of the research.

Research Approach

To collect data pertinent to the purpose and objectives of the study, a structured questionnaire was administered to a sample of Georgetown students. The questionnaire was developed based on past and current studies, reports and related material found in the literature.

A structured questionnaire was used for data collection because, according to statistical authorities, it is more versatile, economical and efficient when compared

to observation (Rea & Parker, 1997; Sproull, 1995). The survey method is a useful technique for producing meaningful data and answering research questions (Babbie, 1998; Gay, 1996). While qualitative methods are good for providing additional support, the collection and quantification of data from a survey is more effective because it is cost and time effective and easy to analyze collected data. Statistical authorities also recommend the inclusion of one or more open-ended questions in the survey to get even more useful information (Leedy, 1997).

Specifically, the approach developed for the study consisted of four distinctive and sequential steps. These are:

Step 1: A review of the literature, the secondary data of the study, was conducted relevant to the important study variables such as student populations, general Internet use, online services and web page use with respect to campus lifestyle, community services, and academic information. Those materials deemed most important and relevant to the research on growth of the Internet, online education and use of the Internet by students and faculty and web portals were included in the review.

Step 2: Critical elements and questions were identified from the literature and incorporated into a questionnaire. Survey items were then verified by pre-tests

with several students. Through the pre-test, some unnecessary questions were eliminated and some questions were revised to offer more examples.

Step 3: Questionnaires were distributed to Georgetown University students at the library and Leavy Center on March 27, 30 and April 2nd, from 6:00 to 8:00 p.m. Data were gathered from respondents who were studying at the second floor of Lauinger Library and sitting in the lounge of Leavy Center. A total of eighty students were asked to participate in the survey and 25 of them completed the survey questionnaire (approximately 31 percent). The survey was handed to almost everyone who was present at the time and places indicated. A random selection method was not used.

Step 4: The survey responses are summarized and analyzed. On the basis of the questionnaire data, the research questions are answered. From the summary of the study findings, conclusions are drawn and recommendations are made.

Method of Data Collection and Sample

A survey was specifically designed to collect data pertinent to student Internet use (see Appendix A). The survey questions were refined using a pre-test with five subjects. The content of items included in the questionnaire derived mainly from the literature on web portals. The instrument contained a total of 19 questions.

Questions solicited data about general Internet use, satisfaction with current online communication services at Georgetown University and what communication services students were interested in using. The last two items of the questionnaire collected demographic school year and gender information.

Approximately eighty students were asked to participate in the survey. Of those studying at the second floor of the Lauinger library and sitting on the lounge of Leavy Center on March 27 and 30, from 6:00 to 8:00, a total of 25 (31%) completed the questionnaire.

Data Analysis

Because of the small sample size, descriptive analysis was used to analyze the data. Numbers of responses to individual survey questions were tallied. The data were compiled by percentage, then compared by gender and to the total group. Bar charts and tables are used to display the results. Several non-parametric Chi Square tests were run to see if there were significant differences between male and female responses to some of the question where percentage differences were great. To do this, random sampling was assumed, even though random selection of participants was not strictly adhered to.

Limitations of the Research

As indicated above, only 25 students completed and returned questionnaires. This small response rate limits generalization ability of the data to the larger population of Georgetown students, but does provides some basic insights into web portal initial design.

The conclusions of the study are enhanced by the information discovered in the documents, reports, and studies comprising the literature review. It is important to note that inherent limitations also exist in utilization of a questionnaire to provide evidence. But similar limitations inhibit the validation of findings of any study or research project, whatever the method (Bogdan & Biklen, 1998; Graziano & Raulin, 1993).

CHAPTER III

DATA ANALYSIS AND RESULTS

Introduction

The previous chapter explained the methodology employed in the study to collect and analyze student Internet usage and interests. This chapter is to present the survey analysis results. A detailed discussion of findings is the focus on the next

chapter.

Demographics of the Sample

A total of 25 out of 80 (31%) students completed surveys. Of the total sample, nine (36 percent) were female and sixteen (64 percent) were male. In total, the students were spread fairly evenly throughout the five grade levels. As shown in Table 1, more females were sophomores and graduate students as compared to males. Also, there were fewer Freshmen and Senior females in comparison to males.

General Interest

The first section of five items on the questionnaire collected data relative to perceptions of the general situation of students' Internet use at Georgetown University. Table 2 provides the results to items 1 - 4. More than 50 percent of total subjects said that they use the Internet for their study between 5 and 10 hours per week. Males spent slightly more hours per week on the Internet for study and for other campus life activities. Males visit slightly more online communities also. Of the group, six (or 38 percent) of males spend 5 - 10 hours per week for study as compared to three (or 33 percent) of females. A higher percentage of males indicated that they have become more connected with people "like me" since getting on the Internet. Specifically, 10 (or 62 percent of males) as compared to three (or 33 percent of females) responded to the choice of "more" with respect to effect of

Internet on people connections. However, the result of Chi square test indicated that there was no significant difference between males and females (Degrees of freedom: 2, Chi-square = 2.33, for significance at the .05 level, Chi-square should be greater than or equal to 5.99. The distribution is not significant. See Appendix B).

Table 1

Subject Year in School by Gender

<u>Class Level</u>	<u>Female</u>	<u>Male</u>	<u>Total</u>
Freshman	1(11) ^a	5(31)	6(24)
Sophomore	3(33)	1(6)	4(16)
Junior	1(11)	3(19)	4(16)
Senior	1(11)	4(25)	5(20)
Graduate	3(33)	3(19)	6(24)
Total	9(100)	17(100)	25(100)

^avalues in the cells represent n(%)

Table 2

Subject General Internet Use

Variable	<u>Female</u>	<u>Male</u>	<u>Total</u>	Variable	<u>Female</u>	<u>Male</u>	<u>Total</u>
Hours/Week for Study				Hour /week for Other Campus Life			
< 1	1(11) ^a	0(0)	1(4)	< 1	1(11)	1(6)	2(8)
1 – 5	4(45)	2(25)	8(32)	1 – 5	3(33)	6(38)	9(36)
5 - 10	3(33)	6(38)	9(36)	5 – 10	3(33)	2(13)	5(20)
10 - 20	1(11)	4(25)	5(20)	10 – 20	2(22)	5(31)	7(28)
21 – 40	0(0)	2(12)	2(8)	21 - 40	0(0)	2(12)	2(8)
> 40	0(0)	0(0)	0(0)	> 40	0(0)	0(0)	0(0)
# of Online Communities Visited				Effect of Internet on People Connections			
0	4(44)	6(37)	10(40)	More	3(33)	10(62)	13(52)
1 – 3	4(44)	7(44)	11(44)	Less	0(0)	0(0)	0(0)
4 – 6	1(11)	3(19)	4(16)	Equally	2(22)	3(19)	5(20)
				D K ^b	4(44)	3(19)	7(28)

^avalues in the cells represent n(%)^bDK = don't know

Figures 4.1 and 4.2 examine the relationship between feeling “more connected” and the topic areas of that connection. In total, the category most selected by both males and females pertained to the category of people in school. As indicated in the figure bars, about 70 percent of females and 68 percent of males made this selection. Both males and females evenly indicated that they have become more connected with people who share hobbies. A higher percentages of males indicated they have become more connected with people who share political and religious interests. Female respondents had become more connected with people who shared academic interests, people in school and family.

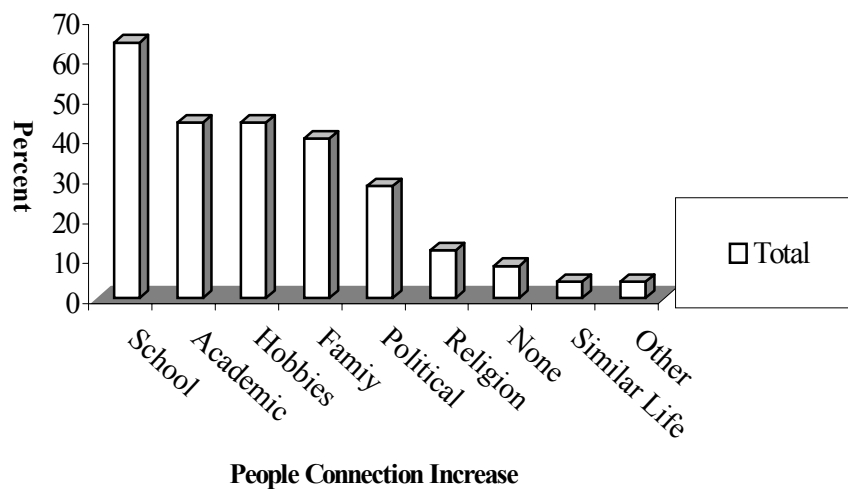


Figure 4.1 People Connection Increase

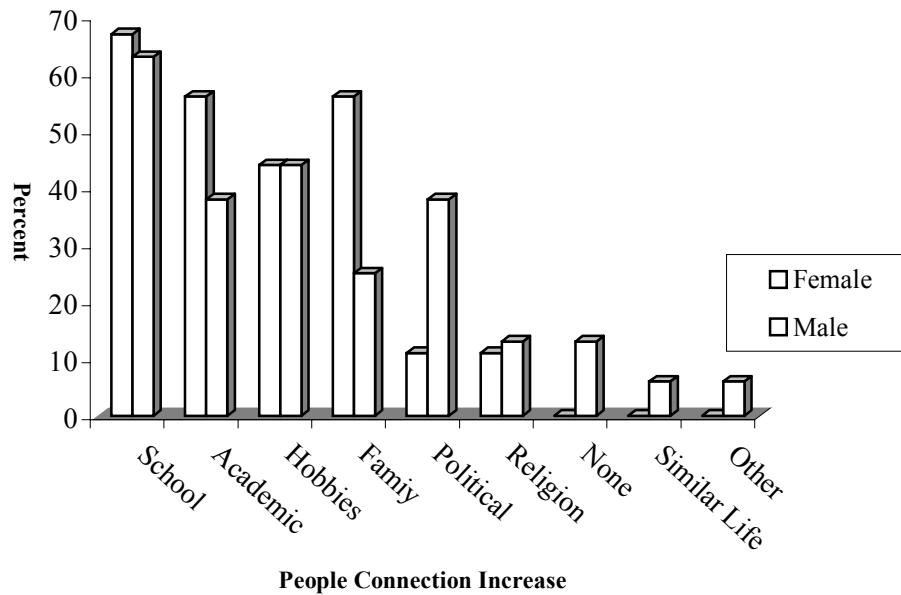


Figure 4.2 People Connection Increase

Satisfaction with Online Communication Services

Items 6 through 12 on the survey questionnaire pertained to satisfaction with current online communication services offered by Georgetown University or other private companies. Results of the analysis are presented in Table 3. As pertained to the Georgetown home page, 60 percent of the survey subjects - the majority of females and half of the males were satisfied. However, as indicated in the table, 20 percent of the survey subjects were dissatisfied. The reasons of dissatisfaction were:

- lack of interactive communication (3)
- not easy to find information (2)

- insufficient content (2)
- infrequent update (1)

With respect to Blackboard services, 44 percent of the survey subjects were satisfied with Blackboard services. However, while the majority of females were satisfied, majority of males indicated no opinion. Of interest was the fact that 44 percent of the survey subjects provided no opinion to this communication service. Those who indicated dissatisfaction (12 percent of the total group) identified the following reasons

- insufficient content (2 students)
- unable to access from library was a huge inconvenience

Similar findings resulted for the variable, Georgetown University online service. The majority of the survey subjects had no opinion or was dissatisfied. Those who voiced their dissatisfaction identified the following reasons:

- Insufficient content (4 students)
- Lack of interactive communication (4 students)
- Uneasy to find information (3 students)
- Lack of personalized service (2 students)
- Infrequent updates (1 student)

Again, similar findings resulted for Georgetown University student-to-student online communication. The majority of the survey subjects had no opinion or was dissatisfied. In fact, with respect to the variable of student-to-student communication, respondents were the most dissatisfied. One student who indicated dissatisfaction wrote the following comment: “I have found that most students communicate through this mode, and I have yet to latch on to things such as IM and what not because I prefer personal interaction. I think it is overused.”

Question 14 asked students to check vendor-originated campus portal sites that they have visited at least once from a list of seven. These included: Animalhouse.com, Collegeclub.com, Colleges.com, Jenzabar.com, StudentAdventage.com, Student.com, and others. The total population indicated they had not visited most of the sites listed with the following exceptions

- Colleges.com: 2 – monthly and 1 – less than once a month
- StudentAdventage.com: 1 – monthly and 2 – less than once a month
- Student.com: 3 – less than once a month
- Others (Yahoo!): 1 – daily

Table 3

Satisfaction Level with Current Online Communication Services

<u>Variable</u>	<u>Female</u>	<u>Male</u>	<u>Total</u>	<u>Variable</u>	<u>Female</u>	<u>Male</u>	<u>Total</u>
Home page				Blackboard			
Ex Sat	1(11) ^a	1(6)	2(8)	Ex Sat	0(0)	0(0)	0(0)
Satisfied	6(67)	7(44)	13(52)	Satisfied	5(56)	6(38)	11(44)
No Opin.	1(11)	4(25)	5(20)	No Opin.	3(33)	8(50)	11(44)
Disat	1(11)	4(25)	5(20)	Disat	1(11)	2(12)	3(12)
Ex Disat	0(0)	0(0)	0(0)	Ex Disat	0(0)	0(0)	0(0)
Online service				Student to Student Communication			
Ex Sat	0(0) ^a	0(0)	0(0)	Ex Sat	0(0)	0(0)	0(0)
Satisfied	4(44)	6(37)	10(40)	Satisfied	3(33)	3(19)	6(24)
No Opin.	3(33)	7(44)	10(40)	No Opin.	5(56)	5(31)	10(40)
Disat	2(22)	3(19)	5(20)	Disat	1(11)	8(50)	9(36)
Ex Disat	0(0)	2(12)	2(8)	Ex Disat	0(0)	2(12)	2 (8)

^avalues in the cells represent n(%)

Desired Services

The next category of responses focused on what services Georgetown students might want to have access to online. Question 15 asked what possible web site content students would use if available. In part of this question, respondents were given seven choices related to community services. Of these, “event/party board” and “club homepage” were the most frequently selected.

This information is provided in Figures 5.1 and 5.2, entitled “Web site Content - Community Services.” In total, the most desired service if it was available was event/party service. Club homepage and Georgetown news were also highly ranked by the subjects. The least desired service if it was available was online was counseling. No females and less than 18 percent of males made this selection. It is clear, however, that a higher percent of males than females indicated interest in all contents except chat rooms. For that selection, females’ responses were slightly higher.

Campus lifestyle selections (part b of question 15) results are provided in Figure 6.1 and 6.2. The majority of the survey subjects indicated that they would use most of the services.

A higher percentage of males indicated interest in goods exchange as well as local businesses. On the other hand, a higher percentage of females indicated interest in housing. It would appear that about the same percentage of both sexes indicated interest in job board.

Figure 6.1 and 6.2 also presents in graphic form the type of academic information that student respondents selected (part c of question 15). The majority of the survey subjects indicated that they would use course review if available. A higher percentage of males indicated interest in online courses and course reviews, whereas a higher percentage of females indicated interest in tutoring.

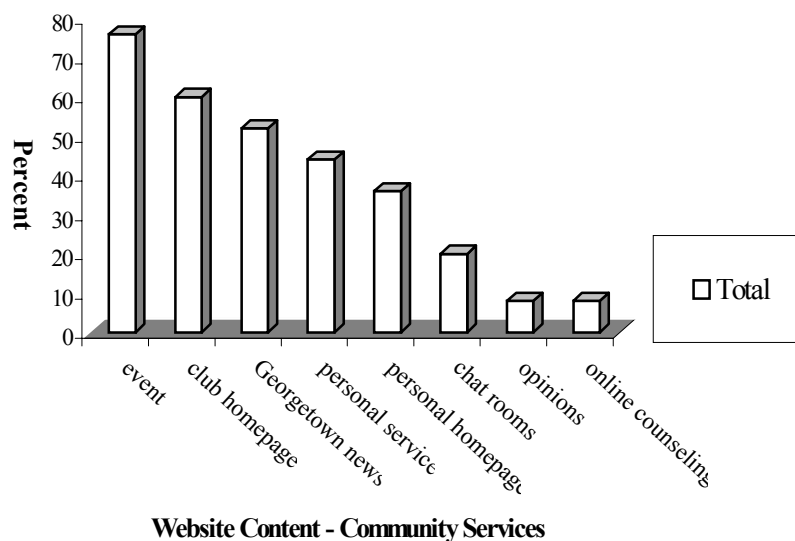


Figure 5.1 Web site Content - Community Services

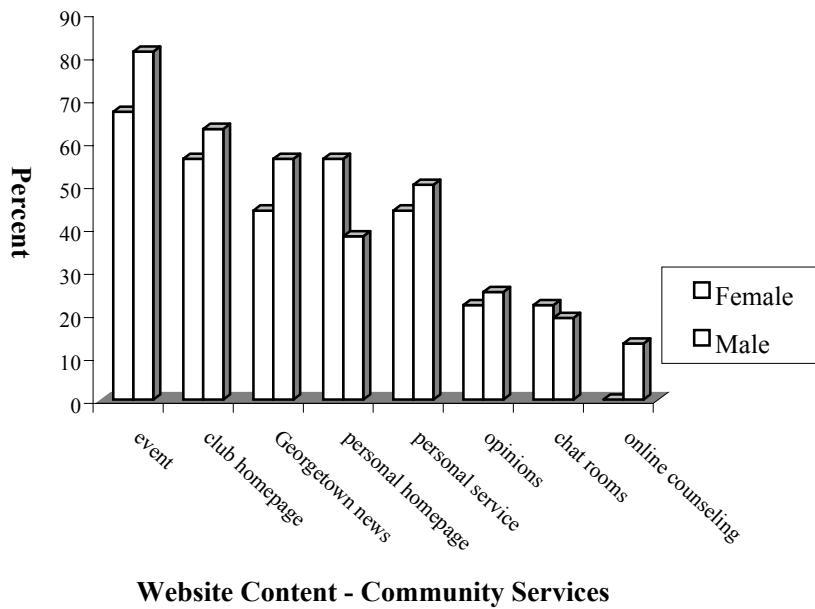


Figure 5.2 Web site Content - Community Services

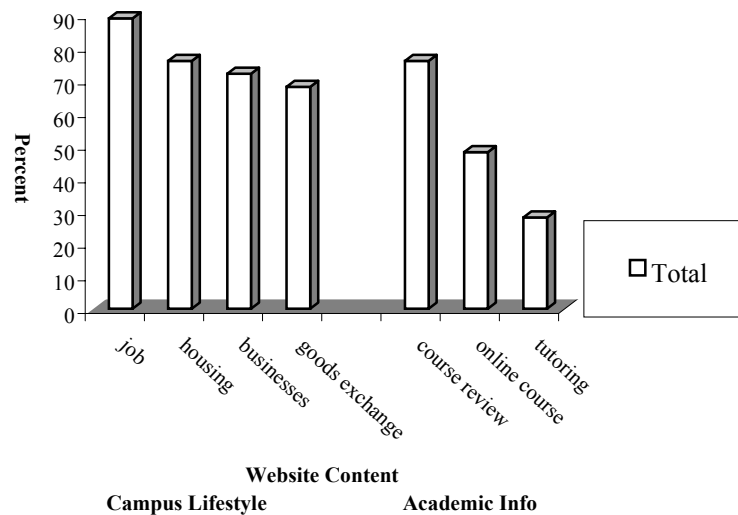


Figure 6.1 Web site Content: Campus Lifestyle and Academic Information

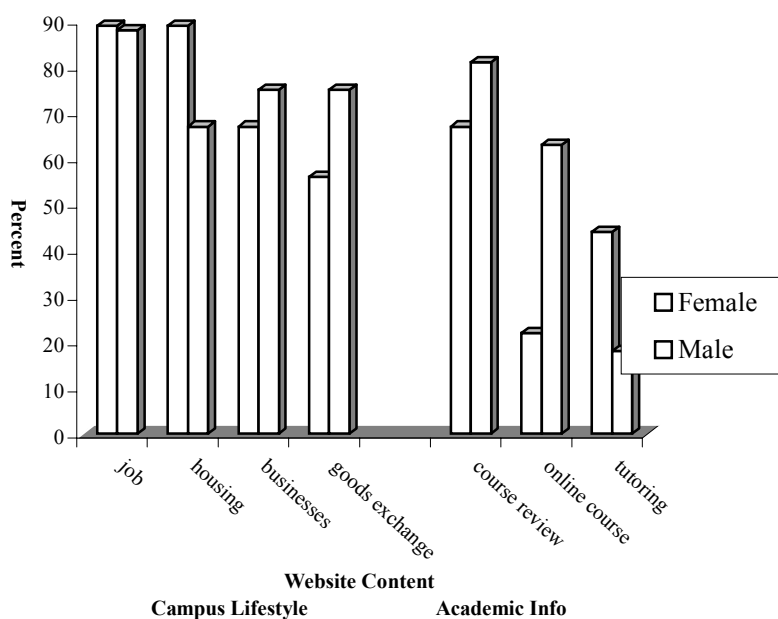


Figure 6.2 Web site Content: Campus Lifestyle and Academic Information

Use of web site contents was the concern of question 16. Three tables provide the analysis of community services, campus lifestyle and academic information. Regarding community services on Table 4, a large majority (more than 70%) of students (both sexes) indicated they would never use chat rooms, opinion/suggestion boards, or online counseling. The majority of both sexes said they would use event/party board, club homepage and Georgetown news. Of interest was the fact that a majority of females indicated that they would use personal homepage. About half of both sexes responded that they would use personalize services.

Table 4

Potential Community Service Content Use

<u>Variable</u>	<u>Female</u>	<u>Male</u>	<u>Total</u>	<u>Variable</u>	<u>Female</u>	<u>Male</u>	<u>Total</u>
<u>Chat Rooms</u>				<u>Opinion/suggestion board</u>			
Never	7(78) ^a	13(81)	20(80)	Never	7(78)	13(82)	20(80)
Daily	1(11)	1(6)	2(8)	Daily	0(0)	0(0)	0(0)
Weekly	1(11)	3(13)	3(12)	Weekly	2(22)	1(6)	3(12)
Monthly	0(0)	0(0)	0(0)	Monthly	0(0)	1(6)	1(4)
<1/month	0(0)	0(0)	0(0)	< 1/month	0(0)	1(6)	1(4)
<u>Event/party board</u>				<u>Personal homepage</u>			
Never	2(22)	3(19)	5(20)	Never	3(33)	10(62)	13(52)
Daily	0(0)	0(0)	0(0)	Daily	0(0)	0(0)	0(0)
Weekly	4(45)	9(56)	13(52)	Weekly	5(56)	3(19)	8(32)
Monthly	2(22)	4(25)	6(24)	Monthly	1(11)	3(19)	4(16)
<1/month	1(11)	0(0)	1(4)	< 1/month	0(0)	0(0)	0(0)

^avalues in the cells represent n(%)

Table 4 (continue)

Variable	<u>Female</u>	<u>Male</u>	<u>Total</u>	Variable	<u>Female</u>	<u>Male</u>	<u>Total</u>
<u>Club homepage</u>				<u>Georgetown news</u>			
Never	3(33)	6(38)	9(36)	Never	3(33)	7(44)	10(40)
Daily	0(0)	0(0)	0(0)	Daily	0(0)	0(0)	0(0)
Weekly	3(33)	5(31)	8(32)	Weekly	3(33)	5(31)	8(32)
Monthly	2(22)	5(31)	7(28)	Monthly	1(11)	4(25)	5(20)
<1/month	1(11)	0(0)	1(4)	< 1/month	2(22)	0(0)	2(8)
<u>Online counseling</u>				<u>Personalized services</u>			
Never	8(89) ^a	13(81)	21(84)	Never	4(44)	8(50)	12(48)
Daily	0(0)	0(0)	0(0)	Daily	2(22)	1(6)	3(12)
Weekly	0(0)	0(0)	0(0)	Weekly	0(0)	3(19)	3(12)
Monthly	0(0)	0(0)	0(0)	Monthly	2(22)	3(19)	5(20)
<1/month	1(11)	3(19)	4(16)	< 1/month	1(11)	1(6)	2(8)

^avalues in the cells represent n(%)

Table 5 presents campus lifestyle results. The majority (more than 70 percent) of both sexes indicated they would use the job board. The majority (around 60 percent) of both sexes also indicated that they would use used good exchange and

businesses near Georgetown University. Also, a large percentage of females and about half of the males indicated that they would use the housing board on occasion.

Table 5

Potential Campus Lifestyle Content Use

Variable	<u>Female</u>	<u>Male</u>	<u>Total</u>	Variable	<u>Female</u>	<u>Male</u>	<u>Total</u>
<u>Used goods exchange board</u>				<u>Housing board</u>			
Never	3(33) ^a	5(31)	8(32)	Never	1(11)	7(44)	8(32)
Daily	0(0)	0(0)	0(0)	Daily	0(0)	0(0)	0(0)
Weekly	1(11)	0(0)	1(4)	Weekly	2(22)	0(0)	2(8)
Monthly	3(33)	6(38)	9(36)	Monthly	1(11)	1(6)	2(8)
<1/month	2(22)	5(31)	7(28)	< 1/month	5(56)	8(50)	13(52)
<u>Job board</u>				<u>Businesses near GU</u>			
Never	2(22)	1(6)	3(12)	Never	3(33)	5(31)	8(32)
Daily	0(0)	0(0)	0(0)	Daily	2(22)	0(0)	2(8)
Weekly	1(11)	2(13)	3(12)	Weekly	0(0)	2(13)	2(8)
Monthly	3(33)	4(25)	7(28)	Monthly	2(22)	5(31)	7(28)
<1/month	3(33)	9(56)	12(48)	< 1/month	2(22)	4(25)	6(24)

^avalues in the cells represent n(%)

Table 6 presents the academic content results. A high percentage of females indicated that they would never use online course or tutoring. Only two females said that they would use the course review, only one male responded that they would use the tutoring board. However, the majority of males indicated that they would use the online course and course review facilities.

Table 6

Potential Academic Information Content Use

Variable	<u>Female</u>	<u>Male</u>	<u>Total</u>	Variable	<u>Female</u>	<u>Male</u>	<u>Total</u>
<u>Online course/seminar</u>				<u>Course review</u>			
Never	6(67) ^a	6(38)	12(48)	Never	4(44)	4(25)	8(32)
Daily	0(0)	0(0)	0(0)	Daily	0(0)	0(0)	0(0)
Weekly	1(11)	2(12)	3(12)	Weekly	1(11)	0(0)	1(4)
Monthly	0(0)	1(6)	1(4)	Monthly	1(11)	1(6)	2(8)
<1/month	2(22)	7(44)	9(36)	< 1/month	3(33)	11(69)	14(56)

Table 6 (continue)

Variable	<u>Female</u>	<u>Male</u>	<u>Total</u>
<u>Tutoring board</u>			
Never	6(67)	15(94)	21(84)
Daily	0(0)	0(0)	0(0)
Weekly	2(22)	1(6)	3(12)
Monthly	0(0)	0(0)	0(0)
<1/month	1(11)	0(0)	1(4)

^avalues in the cells represent n(%)

Question 17 asked respondents to rate the affect that the use of advertisements in the web site would have on their respective usage. This was the last item pertaining to student perceptions. The final two as previously mentioned collected demographic information.

Table 7

Affect of Advertisements on Use of Web site

<u>Affect</u>	<u>Female</u>	<u>Male</u>	<u>Total</u>
Extremely Positive	0(0) ^a	0(0)	0(0)
Positive	2(22)	2(13)	4(16)
No affect	7(78)	11(68)	18(72)
Negative	0(0)	2(13)	2(8)
Extremely negative	0(0)	1(6)	1(4)

^avalues in the cells represent n(%)

Table 7 presents the data on advertisement effect on web site use. As indicated, no respondents selected the choices “extremely positive,” “negative,” or “extremely negative.” The majority (more than 72%) of both sexes indicated advertisements would have no affect on their web site use. The remainder stated there would be a positive affect.

Conclusion

The purpose of this chapter was to present the analysis in text and table form. A total of 25 subjects completed surveys. More than 50 percent of total subjects said that they use the Internet for their study between 5 and 10 hours per week. The

category most selected by the subjects pertained to the category of people in school. As pertained to the Georgetown home page, 60 percent of the survey subjects - the majority of females and half of the males were satisfied. 44 percent of the survey subjects were satisfied with Blackboard services. However, the majority of the survey subjects has no opinion or was dissatisfied with Georgetown University online service. Similar findings resulted for Georgetown University student-to-student online communication. In total, the most desired community service if it was available was event/party service. Club homepage and Georgetown news were also highly ranked by the subjects. The least desired service if it was available was online counseling. It is clear, however, that a higher percent of males than females indicated interest in all contents except chat rooms. For that selection, females' responses were slightly higher. The majority of the survey subjects indicated that they would use most of campus lifestyle services such as goods exchange, local business and housing. The majority of the subjects also indicated advertisements would have no affect on their web site use. The next chapter provides a detailed discussion of findings, followed by conclusions and recommendations.

CHAPTER IV

DISCUSSION AND RECOMMENDATIONS

Introduction

The purpose of this study was to explore the opportunity for a Georgetown University web portal and define what should be included within the portal if an opportunity exists. Business model alternatives and marketing strategies for this local portal web site were also examined. These strategies include approaches for attracting users to the web site for the first time, engaged repeatedly to create critical mass, and kept returning to build long-term web site sustainability. To expand upon this business opportunity, this thesis documented the elements of business plan required to support this campus portal opportunity.

This chapter combines the literature and primary research results into a unified whole, draws conclusions from the data analysis and literature review, identifies issues, and provides recommendations. Recommendations focus on future investigative studies of a similar nature, as well as areas of concern that arose from this study.

Answers to Research Questions and Discussion

Five questions were posed at the beginning of this study. All pertained to the subjects of university portal web sites. The questions and their answers are articulated below.

Question 1:

“Is there an opportunity for building a local university portal web site (often called a Campus Portal) that can enhance students’ access to local campus and non-campus services and their ability to communicate with each other? ”

The answer to this question is “yes.” Through the literature review and the student survey it was shown that there is - opportunity for building a local informational portal for university students - one that can access local services on and off campus and communicate with disparate databases. Georgetown University needs a better system than the one that is currently in place.

As explained by Gleason (2000), information portals such as the one established at the Boston University are applications that enable universities to bundle and interrelate internally and externally stored information. Georgetown University could use Boston University’s experience as guidelines to build its own portal web site such as those suggested by Gleason (2000) and others. These portals

provide all members of a university community - students and faculty alike - with a single gateway to access information. University portals go a step further than enterprise portals which combine raw information from unrelated sources and provide some personalized structure for viewing that information. According to Gleason (2000), "They integrate campus-specific information, which is stored in the campus electronic vaults (i.e., databases, file systems and existing application systems) with unstructured data (text) from on and off campus" (p. 1).

From the analysis in the previous chapter it became clear that many students were dissatisfied with the current communication services offered by the university. Students complained that there was insufficient content, it was not easy to find information and there was a lack of interactive communications. Almost one-fourth of the sample provided no opinion or commentary about the Blackboard services. Similar findings resulted for the Georgetown University online services. The majority of the sample had no opinion or was dissatisfied. One possible interpretation of the many neutral opinions concerns the academic distribution of Georgetown students. Since the majority of student demographic of Georgetown University is focused on law, business, medicine, international affair and other liberal arts, the interest or understanding of technology among these students might be less than that of the students in other universities. Another possible interpretation of the results is that the online services of Georgetown University do not fulfilled the

needs of the students. Considering that Georgetown University already offers most of the features of a campus portal, the results of the survey indicate that Georgetown students do not fully understand or are uncomfortable with using these online services. Some survey subjects identified reasons for their dissatisfaction such as insufficient content, lack of interactive communication, uneasy to find information. This indicates that Georgetown students may need a more information-rich, dynamic and integrated set of university online services than is currently provided.

To satisfy students' needs, the Georgetown portal must be easy to use and provide the tools needed to pull services together (such as courseware, e-mail, school flow applications, school forms, help areas, etc.). Doing this provides an opportunity for the school to establish a more current and viable system in terms of system integration and management. It not only would assist students, faculty, parents, and other concerned educators by providing customized and personalized contents and services, it also would improve communication among members of the university community by providing interactive communication channel. Eventually it would strengthen the competitiveness of Georgetown University with other liberal arts universities because of these improved IT capabilities.

Question 2:

“Can content for a local university portal web site be clearly identified?”

From the analysis and review of literature it is clear that the content for a local university portal web site to enhance student access and communication can be identified. Content should emulate that of Yahoo! style content categories with text-intensive, fast loading pages. As explained by LeGate (2000), “typical services offered by portal sites include a directory of web sites, a facility to search for other sites, news, weather information, e-mail, stock quotes, phone and map information, and often community forums.” A portal for Georgetown could include similar services, but related to the educational community.

It is important to note that student subjects did not wholly agree with the literature. It would seem that each university has its own unique community and thus would want different portal content. However, the analysis showed some agreement on major aspects of portals. For example, Georgetown University students least desired online counseling (16 percent), opinion/suggestion boards (20 percent), tutoring board (16 percent) and chat rooms (20 percent). Nevertheless, they agreed with the literature on such universally desired content as a job board (88 percent), event/party board (80 percent), club homepage (64 percent), used goods/exchange board (68 percent) and housing information (68 percent). Seventy-six percent of the survey subjects indicated that they would use an event/party board and 60 percent of the subjects indicated that they would use a club homepage at least once a month.

Course reviews (68 percent) also were indicated as desirable content.

Some universities have already developed their own portals - such as MyUB (University of Buffalo, <http://www.buffalo.edu/aboutmyub/>), MyUCLA (University of California at Los Angeles, <http://my.ucla.edu/>) and MyUW (University of Washington, <http://myuw.washington.edu/>). These campus portals provide a variety of services. MyUB provides personalized academic records, email links, campus news, sports and even weather report. “Campus Cash” is also offered. This means of payment can be used for campus life such as purchasing meal tickets or parking permits as a reward system. MyUCLA also provides academic records, traffic and weather information and campus online newspaper. It is currently working on providing an auction and chat rooms. MyUW uses tabs to allow users to move from one information grouping to the next. All three provide guest access or a sample student session to attract prospective students. Although the range of services and contents are different, these university portals have many common features such as course schedules, academic records, personal information services, e-mail and campus news.

The kind of the services and contents included in a campus portal is an important issue. Because colleges and universities have different academic histories and traditions, student cultures, regulations and financial situations, the range of

services and contents must be selected by each institution to meet its own needs. However, analysis of the data with the literature indicated that the characteristics of most campus portals in other colleges and universities are roughly similar. In addition, the analysis of the data indicated that the range of content and services that Georgetown University students want to have is not significantly different from those on other university campuses. There were services the Georgetown students did not want that are offered on campus portals, but no unique features were identified from the survey data. Therefore, it appears that a Georgetown campus portal would not be too different from that of other campus portals. It is important to remember, however, that the sample for this study was small making generalizations to the larger population of Georgetown University students difficult. Nor were other users queried on their needs (e.g., faculty, administrative staff, etc.). Further research based on a larger student sample which includes administrative work groups and faculty throughout the whole university is required to confirm and refine the results of this initial study. This involvement across the university should also build commitment and interest in a campus portal among the campus members.

Question 3:

“If a Georgetown campus portal web site could be developed, what are the options for a feasible economic model?”

On the basis of the data analysis and literature review, the present research study suggests that a Georgetown University campus web portal is feasible from a user perspective. However, there are decisions about potential users that must be considered.

As Stecher (2000) advises,

“While the needs of each particular institution run the full gamut, the question of whether or not to implement an enterprise portal solution is fast turning to addressing the specific needs of the institution. On the market today, schools can find a variety of service offerings, each holding a unique niche in the marketplace” (p. 1).

According to Stecher (2000), many higher education institutions are currently beginning to provide administrative information to users other than students and faculty. These individuals often include members of the community, alumni, and parents. For this reason some portals differ in content, interests, and information. They also differ with respect to the provision of various authorization levels. But to initiate a web portal for the university community, it is first recommended that the school initiate a “base” program - one that serves faculty and students and wholly meets their needs. Once such a system is successfully in place other avenues of usage can be explored.

The greatest barrier to establishing a portal is budgetary constraints. Costs must be contained and revenue generated for the portal to be economically viable to the university. To contain costs, some schools outsource the application. As mentioned above, many vendors such as Campus Pipeline and Blackboard seized this opportunity. The primary advantages of purchasing an application from vendors are cost and time effectiveness. According to Forrester Research, building a campus portal from scratch in the year of 2000 costs approximately \$6.3 million and takes on average, 4 years to implement (Stecher, 2000). It also reports that the average annual IT budget for higher education institutions in the United States is approximately \$3.15 million. In contrast, outsourcing is relatively inexpensive and the application can be quickly implemented. For example, the annual license fee of Blackboard (level 3) is \$50,000 with additional fees (\$200/hour) for professional services. Full data-level integration and implementation are estimated to take only 3-6 months.

However, purchasing products from vendors also has several limitations. First, there are the post implementation costs and labor for the universities to maintain IT facilities and services unless the vendor products include options for annual operational and maintenance IT support. Currently, no vendors provide such services. In the case of Georgetown University, IT services are fragmented based upon who owns the content of the various web sites and databases.

Blackboard provides limited online classroom environments, but does not provide other services such as online registration, news, job board, and etc. Therefore, Blackboard is actually a courseware application rather than a campus portal. Second, colleges and universities should not be dependent on specific vendor because of privacy and local customization issues. Allowing a vendor to know details of the university is risky in terms of information control. In addition, there are limitations to the extent of customization that vendors can provide to their packaged systems for contents and services. Academic backgrounds, student cultures, regulations and financial situations may not be completely accommodated through the offered customization. Last, outsourcing may have a negative effect upon the university's brand image. If not well executed, a package solution (or for that matter a home built solution) could cause students and prospective students to question the university's IT capabilities. The review of literature shows that, while many top-level universities develop their own portals, many of mid-level and community colleges purchase the product from vendors. Each school must decide for itself as to which information technology functions and application software it wants to directly support on campus. This type of decision can be made as a result of a larger study similar to the one conducted in this project. As Stecher (2000) has explained, "Many schools want to minimize their technical support, IT costs, and worries about hardware obsolescence while at the same time offering enhanced

services through the web.” Again, this must be a decision of the Georgetown administration and such a choice should be based on results of a larger study. “In any case, portals will play a key role in integrating and seamlessly offering campus functions such as library services, distance learning, administrative applications, e-mail, collaborative applications, and courseware” (Stecher, 2000, p. 1).

According to Stecher (2000), some schools will allow advertising on their portal while others will not. Advertising is one possible revenue source for both building and purchasing alternatives. In the case of purchasing, advertising can be operated on national scale by the vendor making it is easy and inexpensive for the university. However, the university cannot control the advertisements. In the case of building one’s own portal, advertising can be controlled by the local level more effectively. In the case of Georgetown University, students who participated in the present survey indicated that advertisements would have no affect on them. Based on this result, allowing advertisements on Georgetown campus portal seems to be feasible solution for reducing costs.

Question 4:

“What is the strategy for developing Georgetown campus portal web site?”

Based on the review of literature and initial survey results, this study

suggests several strategies for developing Georgetown campus portal. According to Jordan (1998), basic Internet strategies are very similar to traditional ones and can apply to every organization, regardless of type - that is, to a business, government agency, non-profit organization or educational facility. In his view, there are five stages of e-commerce strategy. Each must be taken into consideration by the organization in question to realize developmental success. These can apply to development of a web site for Georgetown University as well. These are viewed as an evolutionary process and include:

1. *Web advertising*: As mentioned above, web advertising can be a key solution for revenue generation. In the case of a Georgetown campus portal, it is recommended that advertisements be limited to local and education-related advertisers to avoid excessive commercialization of the portal and facilitate relationships with establishments in the local community.
2. *Customer education*: The Georgetown campus portal should provide guest access to promote its contents and services. The guest access should include samples and explanations about the differences among the contents and services for students, faculty, administrators and alumni. This might be useful for prospective students and parents.

3. *Sales transactions*: The Georgetown campus portal should develop an online payment system using credit cards for students' registration and other fees. This strategy can be used also for retail transactions such as purchasing books from Georgetown bookstore and food delivery from the stores and restaurants near Georgetown University who advertise through the campus portal. The transaction fees provide Georgetown additional revenue. Developing cyber cash might also be considered. However, considering the relatively small size of Georgetown University, it may be regarded as unrealistic.
4. *Ongoing relationships*: The Georgetown campus portal should be designed in a "MyGeorgetown" style. It also should serve as an important publishing medium for the campus, sending some information to everyone but customizing other information to meet the needs of different segments of the community and allowing individuals to personalize their own portals.
5. *Fully customized goods and services*: The Georgetown campus portal should provide customized contents and services. A variety of services can be considered such as favorite e-mail links, a GPA calculator, class and exam schedules, registered clubs and board news.

In short, the strategy for a developing a successful university portal is to

treat it like a business. The fundamentals of e-business, regardless of the type of organization, are the same ones that have accounted for success or failure throughout time, according to Galvin (2001):

Are you selling? Are you growing? Are you making money? And how do you make a profit? By being customer-centric. The consumer has evolved from Web site tire kicker to passive purchaser to educated e-shopper to empowered e-business mover and shaker (p. 96).

The same strategy can be applied to the university. By being student-centric and recognizing that today's students are "educated and empowered shoppers," the web site will thrive. E-commerce, whether it involves the business firm or the university, involves a series of business procedures. These include marketing, negotiating, the actual buying process, delivery and customer service (Jordan, 1998). These components are the key parts of any successful e-commerce solution and build upon a company's business procedures. They could also build upon a university's portal procedures as well.

It is also important to point out that no one has yet reached a consensus on the best business model and business process to follow in today's volatile marketplace. Thus it is difficult to determine the best strategy to take in developing a

successful web site portal for Georgetown University. With the growth of the Internet use and the increasingly rapid advances in technology, student, faculty and other campus community members' expectations become even more complicated. Also, there is little consensus at this time as the Internet is redefining how universities conduct business now and in the future, as indicated in the literature review. For example, student service expectations have changed from the past. Originally, they looked for reliability and basic functionality. Today, they demand excellent support, quality education and personalized and customized services. Student expectations will continue to change and soon may include peer-to-peer relational education as well - a new type of Internet involvement that spans more than one institution and includes more sophisticated types of communication delivery services.

The best strategy at the present time for Georgetown is to first identify which online web portal model best supports the university's overall educational goals and meets the needs of most students. Business modeling, upon which Georgetown's decision should be based, is one of the popular methodologies to start business effectively. It is frequently confused with process modeling. The two are not the same, however. While process modeling seeks to define and visualize the process of moving goods or documents or some other entity through a company, business modeling is the most abstract and seeks to model higher-level business concepts.

These include ideologies such as company, agency, organization or educational institution's vision and purpose, together with business strategies and tactics (Gill, 1999).

At the present time the web business model has three common types: product sales, service sales, and information delivery (Dreisbach, 2000). Each type is based upon a different profit model, operational approach and unique consumer proposition. The product sales business model sells physical products online. Amazon.com is a classic example of this business model. In this case, revenue is generated from the sale of products. Amazon.com, in particular, realizes additional advantages from employing new Internet technology successfully. Advantages leverage supply networks, product marketing and pricing and inventory management.

A variation on the product sales business model is the online auction that provides a forum for buyers and sellers to buy and sell over the Internet. Priceline.com and ebay.com are good examples of the variation. To increase their customer base, these companies must keep current with user disclosures and user listing rules, among other processes. In this case, revenue is generated from variable or flat transaction fees or bid-ask spreads.

The services sales business model includes online brochures that describe a company's service and provide contact information, online malls that offer services from different vendors on one site, and service sites that bring an automated version of an offline service to the web (Dreisbach, 2000). In this case, revenue is generated from the sale of services.

For the third business model, the two most common approaches for delivering information are online publications and portals. Yahoo!, for example, is a gateway that directs Internet consumers to the best commerce sites or physical stores. The best means of generating revenues for this type of online resource aggregator is through advertising and tenancy contracts for supply-side subscriptions. What type of business model Georgetown campus portal should apply? There is insufficient data from this research to make a decision concerning the best model for Georgetown. More research is required.

Question 5:

“How would such a web site be launched and supported to attain a self-sustaining critical mass?”

The steps to launching and building the customer base for the campus portal must be considered carefully. It is recommended that a base portal program be

established first - one that focuses only on students and faculty. This should actually represent a pilot program. The pilot is a sort of test program that demonstrates many aspects of a completed Georgetown campus portal. Rapid prototyping and testing have become an accepted Internet development strategy. Many software companies and web entrepreneurs have utilized a system of alpha-beta product releases (Hanson, 2000). The pilot program for a Georgetown campus portal could apply this alpha-beta strategy. At the alpha stage, a limited number of students and faculty will be asked to participate in the pilot. To promote the pilot, direct email and advertising in Georgetown homepage and campus magazines should be executed. The main features of Georgetown campus portal will be determined through this stage. Once the pilot has been successfully launched and the portal enhanced based on the pilot results, a beta test based on whole population of Georgetown campus community can be performed. The goals of this test are reliability, compatibility, and fixing user interface problems. This testing can serve as a strong form of advertising and sampling (Hanson, 2000).

The various alumni funds are important financial sources of colleges and university. It is therefore recommended that alumni be the second target audience once the portal has been established and verified financially. Additional services for this audience will generate additional revenue. Online donation is one example of

these services. Again, the extension of web portal services to other groups should be carefully monitored for feasibility and profitability (or break-even on costs).

Recommendations

Specific recommendations have been formulated, as based on the findings and conclusions of the present investigation. These recommendations are presented in the following sections.

Recommendation 1

The study recommends that future research, in an effort to support the empirical findings of the present investigation, conduct follow-up studies, but on a broader scale with regard to sample size, diversity of the student sample group and the number of schools included in the population. A study of significantly more respondents from different Georgetown campus locations and different student groups would almost certainly yield greater insights and perhaps an even closer convergence with the findings of the present research. Such a study would serve to validate the findings of the present research and provide additional support for the growing need to improve communications services at the university level. It is now recognized in the business world that customer service is the key point of successful electronic business web sites. Customer focus has become, in fact, the watchword for web sites intent on improving their reputation for service and increasing market

share. The same holds true for university web sites. Student focus should become the watchword for web sites intent on remaining viable, improving their school image and increasing their market share. The best way to determine the specific needs of students at Georgetown would be to conduct more studies using a wider student base.

Recommendation 2

It is also recommended that the research of this project be replicated at intervals in the future in an effort to empirically detect changing trends in desired services. As technology changes, new services that were previously unavailable will now be possible. Existing services may fall out of favor and need replacing. Empirical identification of desired services are of critical importance for a cost effective campus portal. Such a study would assist school management in taking positive steps toward modifying the content of the portal to meet the new demand.

Recommendation 3

The following is a recommended list of content and feature guidelines for Georgetown University management to consider based upon literature and modified based upon the student survey results. A new campus portal for Georgetown University should provide:

- A quick experience, enough to bring the student or faculty member back and keep

them from going elsewhere for answers.

- Enough information to make intelligent informed school related decisions.
- Answers to questions, request processing, materials/ books/forms/etc. scheduling and shipping.
- Solutions to student problems twenty-four hours a day.
- Student peer-to-peer and faculty peer-to-peer relationship building, differentiating one group from the next and treating each one as a separate entity.
- Monitoring of students and faculty portal usage.
- User issue identification and feedback regarding classes/forms/services to provide feedback for the design of new classes/forms/services.
- Intelligent interactivity that involves many different levels and sublevels of inquiry as well as allow for back-and-forth dialogue and two-way communication.
- A self-service model that is complete and whole within itself, addressing all student and faculty concerns and needs. The model must include the ability to provide on-line answers and services, contain archives of commonly encountered problems, contain resolution guides, and provide electronic mail interaction all day and all night.

Recommendation 4

The final recommendation is directed to Georgetown University's management. The findings of this study and the implications of establishing a campus portal should be reviewed by them. In light of the trends, it appears that Georgetown University provides students and faculty web information and support in a fragmented manner that is not conducive to committed usage by either students or faculty. Georgetown has contracted with Blackboard Inc. for online classroom environment and course management. Also, Georgetown University provides a student personalized service called Student Access, which offers online registration, class and grade information, biographical information, employment opportunities, and other related services.

Is it time and is it more cost effective for Georgetown to take responsibility and ownership for its own web portal? If so, then management should determine whether the school should develop its own campus portal system or purchase an existing vendor product to provide services in a more integrated and customer focused manner. It was noted in the literature review that, regardless of choice, creating a campus portal is not an easy nor is it a simply process, particularly due to technological and financial limitations. If the choice is to build, the school must take into consideration costs associated with development, team cooperation among departments, maintenance and training. But if the choice is to purchase a system,

there would be costs associated with advertising, the purchase price customization and staff training. With either option there are other non-financial problems such as privacy issues the establishment of standards, and marketing of the portal.

Georgetown University should consider a student-run Internet portal as a means of vesting interest by the student community. This operational approach could help ensure that university students have the information central to their everyday lives in a format that is attractive to students and trusted by students. Another recommendation relates to portal content. University management should consider the findings of the present study in determining what should be included in the university portal. According to the findings, the portal should offer the following:

- free e-mail accounts for students/faculty that can be accessed from anywhere;
- course and exam schedules
- online registration
- academic and administrative resources
- job board;
- housing board;
- event board;
- used goods/exchange board;

- club web pages;
- campus news
- advertising;
- course reviews.

Aggregating all kinds of online services into one access location and providing customized information to all campus members can result in a successful web site portal. By purposefully structuring this type of dynamic and personalized web system, there may be a better opportunity for student communication and interaction to help them feel more connected to each other and engender even more positive feelings of belonging to Georgetown University. This, in turn, will create an even greater interest in the school itself and generate additional revenue for the school. In other words, helping student communication and interaction affects the university's bottom line in the long run.

It is important to explain that advertisements should be included in the university portal as a way of generating revenue, in addition to providing advertisers with a new way to reach the Georgetown University student market. Also, faculty should be provided with the ability to customize their own web sites and manage their classes online. This would increase interaction between faculty and students. Eventually, Georgetown might consider including services for prospective students

as well as alumni. But before initiating the base portal, the university should establish a pilot program to test the new site, as noted previously.

CONCLUSION

This study has explored the extent of a campus portal opportunity for Georgetown University and defined what should be included within the portal. Business model alternatives and marketing strategies for this local portal web site were also examined. To expand upon this business opportunity, this thesis documented the elements of business plan to support this campus portal opportunity.

The web is transforming the environment of higher education at a rapid pace. Colleges and universities are forced to keep up with new technologies. Many of them have established network systems, Internet research projects and student web services, as well as plans for integrating technology into all aspects of campus life. Gerry McCartney, associate dean and chief information officer at the Wharton School at the University of Pennsylvania states that “Each University has the chance to decide what drives them, to define their entry point and to build a portal based on that.” It is the same with Georgetown University – one of the most traditional universities in the United States. The quality of web resource is one of tomorrow’s criteria to distinguish top higher education institution from others. Campus portals,

the most advanced type of web infrastructures in higher education institutions, can be used to engage and retain students for a lifetime of education. It is expected to play a key role in integrating and offering campus functions. Although developing campus portals is in the early stages of implementation, higher education institutions should proceed to research, design and support portal-based virtual university communities to extend traditional academic values and relationships into new market.

APPENDIX A: Questionnaire

Campus Portal Service Questionnaire

Sang Gyu Cho

The following questions are for my thesis about building new kinds of campus portal service for Georgetown University students. Please complete the following 19 questions by marking with an X where indicated or writing information where blanks are provided. The entire survey should require no more than 15 minutes of your time.

This section is to see the general situation of students' Internet use in Georgetown University.

1. How many hours per week do you use the Internet for study?

___ A. Less than 1 ___ B. 1 to 5 hours ___ C. 5 to 10 hours
___ D. 10 to 20 hours ___ E. 21 to 40 hours/week ___ F. Over 40
hours/week

2. How many hours per week do you use the Internet for other campus life (club, chatting, other fun stuff)?

___ A. Less than 1 ___ B. 1 to 5 hours ___ C. 5 to 10 hours
___ D. 10 to 20 hours ___ E. 21 to 40 hours/week ___ F. Over 40 hours/week

3. Currently, how many online communities (such as chat or news group, MUD, club, and etc.) do you visit regularly?

___ A. None ___ B. 1 to 3 ___ C. 4 to 6 ___ D. 7 to 10 ___ E. more 10

4. Complete the following sentence in the way that comes closest to your own views: 'Since getting on the Internet, I have ...'

___ A. ... become MORE connected with people like me.
___ B. ... become LESS connected with people like me.
___ C. ... become EQUALLY connected with people like me.
___ D. ... Don't know/No answer. ___

5. Which people have you become more connected with because of the Internet?
(Please check all that apply.)

___ A. None
___ B. People who share my political interests
___ C. People who share my hobbies/recreational activities
___ D. People who share my religion
___ E. People who share my academic interests
___ F. People in my school
___ G. People in my family
___ H. People in similar life situations (e.g. self-help groups, support groups)
___ I. Other groups ----- Please specify what:

This section is to see how you are satisfied with current online communication services offered by Georgetown University or other private companies.

6. How satisfied are you with the content of Georgetown homepage?

- ☐ A. Extremely satisfied
- ☐ B. Satisfied
- ☐ C. No opinion
- ☐ D. Dissatisfied
- ☐ E. Extremely dissatisfied

7. If you answered “dissatisfied” or “extremely dissatisfied” in the previous question, what makes you dissatisfied?

- ☐ A. uneasy to find information
 - ☐ B. Insufficient content
 - ☐ C. Infrequent update
 - ☐ D. Lack of personalized service
 - ☐ E. Lack of interactive communication (for example, student-to-student, student-to-faculty, or student-to-administer)
 - ☐ F. Poor design
 - ☐ G. Other reason.....Please explain:
-

8. How satisfied are you with Blackboard?

- ☐ A. Extremely satisfied
- ☐ B. Satisfied
- ☐ C. No opinion
- ☐ D. Dissatisfied
- ☐ E. Extremely dissatisfied

9. If you answered “dissatisfied” or “extremely dissatisfied” in the previous question, what makes you dissatisfied?

- ☐ A. uneasy to find information
 - ☐ B. Insufficient content
 - ☐ C. Infrequent update
 - ☐ D. Lack of personalized service
 - ☐ E. Lack of interactive communication (for example, student-to-student, student-to-faculty, or student-to-administer)
 - ☐ F. Poor design
 - ☐ G. Other reason.....Please explain:
-

10. In general, how satisfied are you with online service of Georgetown University?

- ☐ A. Extremely satisfied
- ☐ B. Satisfied
- ☐ C. No opinion
- ☐ D. Dissatisfied
- ☐ E. Extremely dissatisfied

11. If you answered “dissatisfied” or “extremely dissatisfied” in the previous question, what makes you dissatisfied?

- ☐ A. uneasy to find information
- ☐ B. Insufficient content
- ☐ C. Infrequent update
- ☐ D. Lack of personalized service
- ☐ E. Lack of interactive communication (for example, student-to-student, student-to-faculty, or student-to-administer)
- ☐ F. Poor design
- ☐ G. Other reason.....Please explain:

12. How satisfied are you with the level of online student-to-student communication in Georgetown University?

- ☐ A. Extremely satisfied
- ☐ B. Satisfied
- ☐ C. No opinion
- ☐ D. Dissatisfied
- ☐ E. Extremely dissatisfied

13. If you answered “dissatisfied” or “extremely dissatisfied” in the previous question, what makes you dissatisfied? Please explain:

14. Below is a list of websites targeted to college students. Please check those you have visited at least once. If you use them regularly, please indicate the frequency of use.

	Daily	Weekly	Monthly	Less than once a month	Never
Animalhouse.com					
Collegeclub.com					
Colleges.com					
Jenzabar.com					
StudentAdventage.com					
Student.com					
Others					

This section is to see what services Georgetown students might want to have.

15. The list below contains possible content that could be included on a website designed specially for Georgetown students. Please check any you would use if it was available to you.

A. Community services

- ☐ a. Chat rooms
- ☐ b. Opinion / suggestion board
- ☐ c. Event / party board
- ☐ d. Personal homepage
- ☐ e. Club homepage
- ☐ f. Georgetown news
- ☐ g. Online counseling
- ☐ h. Personalized services (such as buddy list, calendar, my club, and etc.)

B. Campus lifestyle

- ☐ i. Used goods (books, furniture, and other stuffs) exchange board
- ☐ j. Housing board
- ☐ k. Job board
- ☐ l. Restaurants and other stores near Georgetown

C. Academic information

- ☐ m. Online course/seminar
- ☐ n. Course review written by other Georgetown students
- ☐ o. Tutoring board

Please add any other content that you would use that is not listed above.

16. If you are using some of above contents, how often will you use them?

(Check only what you checked in previous question)

	Daily	Weekly	Monthly	Less than once a month
Chat rooms				
Opinion/suggestion board				
Event/party board				
Personal homepage				
Club homepage				
Georgetown news				
Online counseling				
Personalized services				
Used good exchange board				
Housing board				
Job board				
Restaurants and shops near GU				
Online course/seminar				
Course review				
Tutoring board				

17. If there are advertisements in this website, how it will affect your use of this website?

- ☐ A. Extremely positive
☐ B. Positive
☐ C. I would not be affected by them
☐ D. Negative
☐ E. Extremely negative

18. What is your year in school?

- ☐ A. Freshmen ☐ B. Sophomore ☐ C. Junior ☐ D. Senior ☐ E. Graduate student

19. What is your gender? ☐ A. Female ☐ B. Male

APPENDIX B: Chi Square Test Results

Effect of Internet on People Connections

	Female	Male	Total
More	3	10	13
Less	0	0	0
Equally	2	3	5
Don't Know	4	3	7
Total	9	16	25

```

>>>Degrees of freedom (df) = (rows - 1) x (columns - 1)
>>    df = (3-1) x (2-1) = 2
>>>Calculating expected frequencies for each cell ...

>>>Processing row 1, column 1 ...
>>    Observed value (O) = 3
>>    Expected value (E) = (row total x column total) / grand total
>>        E = (13 x 9) / 25 = 4.68
>>        Chi-square = (O - E)squared / E
>>        Chi-square = ((3 - 4.68) **2) / 4.68
>>        Chi-square = 0.603076923076923
>>>Total chi-square now = 0.603076923076923

>>>Processing row 1, column 2 ...
>>    Observed value (O) = 10
>>    Expected value (E) = (row total x column total) / grand total
>>        E = (13 x 16) / 25 = 8.32
>>        Chi-square = (O - E)squared / E
>>        Chi-square = ((10 - 8.32) **2) / 8.32
>>        Chi-square = 0.339230769230769
>>>Total chi-square now = 0.942307692307692

>>>Processing row 2, column 1 ...
>>    Observed value (O) = 2
>>    Expected value (E) = (row total x column total) / grand total
>>        E = (5 x 9) / 25 = 1.8
>>        Chi-square = (O - E)squared / E
>>        Chi-square = ((2 - 1.8) **2) / 1.8

```



```

>>          Chi-square = 0.0222222222222222
>>Total chi-square now = 0.964529914529914

>>Processing row 2, column 2 ...
>>    Observed value (O) = 3
>>    Expected value (E) = (row total x column total) / grand total
>>          E = (5 x 16) / 25 = 3.2
>>          Chi-square = (O - E)squared / E
>>          Chi-square = ((3 - 3.2) **2) / 3.2
>>          Chi-square = 0.0125
>>Total chi-square now = 0.977029914529914

>>Processing row 3, column 1 ...
>>    Observed value (O) = 4
>>    Expected value (E) = (row total x column total) / grand total
>>          E = (7 x 9) / 25 = 2.52
>>          Chi-square = (O - E)squared / E
>>          Chi-square = ((4 - 2.52) **2) / 2.52
>>          Chi-square = 0.869206349206349
>>Total chi-square now = 1.84623626373626

>>Processing row 3, column 2 ...
>>    Observed value (O) = 3
>>    Expected value (E) = (row total x column total) / grand total
>>          E = (7 x 16) / 25 = 4.48
>>          Chi-square = (O - E)squared / E
>>          Chi-square = ((3 - 4.48) **2) / 4.48
>>          Chi-square = 0.488928571428572

```

>>Total chi-square now = 2.33516483516484

>>Calculating probability (P) ...

>>Looking up critical values for chi at df = 2:

>> Sig levels: 0.20 0.10 0.05 0.025 0.01 0.001

>> Crit vals: 3.22 4.61 5.99 7.38 9.21 13.82

Degrees of freedom: 2

Chi-square = 2.33516483516484

For significance at the .05 level, chi-square should be greater than or equal to 5.99.

The distribution is not significant.

Probability is less than or equal to 1.

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