

# Technology Majors Preferences for Business Communications

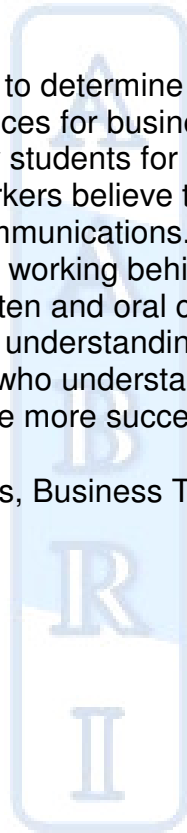
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## Abstract

The purpose of the study was to determine if there was any association between technology majors and their preferences for business communications tasks and tools. In the quest for preparing technology students for their future roles in the workplace, sometimes technologically savvy workers believe their future roles will have limited involvement in creating business communications. In today's workplace the "techies" can no longer think of themselves as working behind the scenes. Expectations are that all workers will be versed in both written and oral communications. This study provides information about technology majors understanding of their roles as business communicators. Technology majors who understand these roles will be more effective and productive, and as a result will be more successful in their career.

Keywords: Business Communications, Business Tasks, Technology Majors



## Introduction

Communication skills are vital to any profession. Yet, in this day and age, professional organizations, businesses, and corporation continue to struggle with recent college graduates who lack communication skills. A recent article, *The Best Places to Launch a Career* (Business Week, 2007) highlighted major companies in the U.S. for the “hothouse” generation to work. Deloitte & Touche was ranked as the number one employer; while Disney ranked as the seventh employer. Both companies indicated that communication skills were the most desirable trait among new employees. In a national survey of adult workers, 87% rated communication skills as “very important” in doing their jobs (Locker, 2007). Many companies now find themselves utilizing email in their day to day business functions as compared to traditional printed mail (Adler, 2005 p. 125). In one survey of over 1,000 adult workers, 87 percent of respondents rated communication skills as being “very important” for performing their jobs (Adler, 2005, p.6).

This sampling of literature indicates that for nearly 20+ years employers have been concerned with the lack of communication skills possessed by past or present college graduates. One particular group of college graduates who may have been able to get by solely on their technical skills and abilities were information technology majors. Research and report writing are common activities in business. They can be used to develop procedures, test products, explore markets, or gather opinions. The results of research may be reported orally or in writing, informally or formally, and to internal or external audiences (Krizan, Merrier, Logan, and Williams 2007). Simply possessing information technology is an insufficient condition for achieving the tangible outcomes in which shareholders are interested (Compeau, Haggerty & Tsai, 2007).

The business community has complained about the poor quality of college graduate’s communication skills, with information systems and computer science graduates are often criticized most severely. Poor communication skills were at the top of CIO’s lists of concerns about incoming recruits (Perelman, 2007, p. 41). Where in the curriculum can technology majors learn the necessary communication skills? The business communication curriculum is filled with a variety of topics that lead to improved communication skills. Business communication courses support many majors in the university. Little research has been conducted on the value of the content of business communication courses (i.e. tasks and tools) in relation to specific majors. Is it possible that preference for business communication tasks and tools could be based on a student’s major?

An appreciation and understanding of technology majors’ preferences for business communication tasks and tools in the workplace will aid current business educators in obtaining a barometer of the perceptions that technology majors hold concerning their future roles in business communications. Educators can use this information to clear up many of the common misperceptions “techies” may have in relation to these roles in the workplace. These facts or fallacies concerning business communications will better prepare technology majors for business. Research has revealed that people in the technology industry often feel that business communications will not be a part of their daily responsibility. Successful teachers know that students learn best when they view what they are learning as relevant. Teachers can create

learning environments that stimulate students' enthusiasm for learning if they can relate topics taught in school to career or life goals of students. If technology students become aware of their preferences for business communications and the importance in their future careers, they may gain a greater appreciation of these tools for use in their future. Could technology majors as a whole be more alike or dissimilar in their perceptions about business communications tasks and tools in the workplace? Could their preferences or indifferences for these tasks be based on their specific major? This research study focused on technology majors and their preferences for particular business communication tools and tasks. Other related factors were also considered.

## Research Questions

The following research questions were addressed:

- A. What preferences do technology majors' have in relation to the roles of business communication tasks and tools?
- B. Could the difference between these preferences be based on a specific information technology major such as Business Information Systems (BIS), Computer Information Systems (CIS), or Management Information Systems (MIS)?
- C. Do technology students, as they relate to preferred business communications tools and task, differ based on their majors?

## HYPOTHESIS

The following primary null hypothesis guided the study:

- H0. There will be no tested differences between technology majors and their preferences for business communication tasks and tools.
- H1 There will be tested differences between technology majors and their preferences for business communication tasks and tools.

For this study, technology majors were defined as students who are pursuing a degree in either Business Information Systems (BIS), Computer Information Systems (CIS) or Management Information Systems (MIS).

## Literature Review

Business communication tasks and tools: Business communication typically is associated with writing and reading as well as speaking and listening. Research on the opinions of executives towards college graduates reveals that communication skills consistently rank in the top competencies necessary for job success (Adler, 2005; Krizan, Merrier, Logan, and Williams, 2007), 2005; Ober, 2004; Bovee and Thills, 2007; Emanauel, 2005; Young, Marcel, Wondra 2006; Locker, 2007; and Alder and Elmhorst, 2005). This importance is not new to any business educator, but may be overlooked by technology educators and their respective majors. The importance of these skills are continuing to be of paramount importance as evidenced by the following:

Understanding how communication works in business and how employees communicate competently within an organization will help you participate

more effectively in every aspect of business. Good communication skills are crucial to your success in the organization (Ober, 2004, p. 3).

Dozens of studies support the fact that communication skills are essential in a number of areas (Emanuel, 2005, p. 154).

One study revealed that practitioners in Big Six accounting firms spent 80 percent of their work time communicating with others, individually and in groups (Elmhorst & Adler, 2005, p. 6).

Communication skills can increase productivity and efficiency. American Management Association research concludes that the higher one goes in an organization, the more they communicate (Pieraccini, 1998).

Pieraccini (1998) posed that there seems to be a correlation between one's ability to communicate and one's ability to succeed in the workplace. Towner stated that research carried out by the Chartered Institute of Personnel and Development (CIPD) provided further evidence that soft skills are gaining in importance across all industries (Towner, 2002). Current business or technology educators can not allow students to enter the work force without a knowledge of business communications. Regardless of the field or the career students choose, his/her chances of being hired by an organization are better if he/she possess strong communication skills. Failure to do so is only sets up students to fail in their future professional roles.

Technology majors and business communications: Prior literature has stated that often times Information Technology (IT) majors who possessed strong technical knowledge, expertise, and skill would be hired solely on the possession of these abilities. Other skills were not paramount in the decision to hire a technology graduate. "But the times they are a changing" as Towner stated. The principal judging criteria is still the candidate's experience and technical expertise, but the ability to work well in a team and communicate clearly is rapidly growing in importance (Towner, 2002). Numerous authors have expanded upon the need for not only technical skills but the possession of soft skills, mainly communication skills. The days of the IT worker who sits alone in their data center, office, or cubicle is relatively over as far as the social and work requirements of the organizations are concerned (Morrill, 2005). A statement as found in the June 11, 2001 issue of Information Week, sums up the need for preparation of IT majors and communication skills. Information technology employers were asked, "What are the top skills colleges and universities need to be teaching their IT students that they aren't now?" The top-ranked response was communication/people skills (Liebowitz, Agresti, & Djavanshir, 2006, p. 38).

Likert Scale. One subtle way to collect data and to ascertain preferences for business communication topics is through the use of a Likert Scale. Babbie stated that when the researcher is interested in determining the extent to which respondents hold a particular attitude or perspective on a particular concept and they are able to summarize the attitude in a fairly brief statement, then the use of a Likert Scale is appropriate (Babbie, 1990). Sturges offers his support of using a Likert Scale in business communication research (Sturges, 1990):

Business communication theory incorporating attitudes and opinions of communication senders and receivers has been built on research gathered through techniques such as self-administered survey questionnaires or data-gatherer administered instruments using Likert Scales or semantic differential

scales for measurement (p. 17).

Technology Majors. Various academic institutions define MIS, BIS, and CIS in unique ways. The U.S. Bureau of Labor Statistics (2005) projects tremendous growth and high salaries for those seeking careers in computer-related industries and academic institutions such as James Madison University, Indiana University of Pennsylvania, Bloomsburg University, Moorehead State University, and the University of Whitewater, offer programs geared towards those who have an interest in the technology industry.

In reviewing universities offering undergraduate degrees in MIS it was found that students should expect to receive specialized training in both technical skills and business knowledge. Major curriculum components gathered from course descriptions, curriculum guides, and syllabi include database management, systems analysis, and the design and management of front-end / back end business applications.

In an effort to entice students and to broaden their program the Universities studied defined Computer Science programs as a CIS degree. In reviewing universities offering undergraduate degrees in Computer Science it was found that students should expect a fundamental education with sufficient understanding of basic principles and concepts in computer science to solve computational problems. Major curriculum components gathered from course descriptions, curriculum guides, and syllabi include programming, hardware support, and computer graphics.

In describing this major, universities vary in the names used to describe their program. Business Technology Support, Organizational/Office Systems, and End User Technology are just a few titles for this major. However, the course descriptions associated with this major are very similar. For the purpose of this paper this major will be titled BIS. In reviewing Universities offering undergraduate degrees in BIS, it was found that students should expect to fill roles as computing specialists, technology coordinators and trainers, and network administrators. Major curriculum components gathered from course descriptions, curriculum guides, and syllabi include telecommunications, Web design, and computer based applications.

## **Methodology**

This research study focused on technology majors and their preferences for business communication tasks and tools. Other related factors were also considered. The population sample for the study was five universities in the northeast who offer a degree in either BIS, CIS, and MIS. Students enrolled at these universities/colleges were the population for the study. Participation was voluntary. The informed consent form was used for students. Students in major classes from the various colleges/universities were the population. Faculty at those institutions offered to administer the survey. One research instrument was utilized for the collection of data in this study.

A Likert Scale was developed and juried to determine the preferred business communication tools and tasks in the workplace. Likert scaling is a method designed to measure people's attitudes (Nachmias & Nachmias, 1987). The data in this descriptive study was collected using survey procedures as described by Dillman (1978). This study followed a descriptive research design using survey methods with statistical treatments. The design was a cross-sectional survey. Babbie (1990, p. 65) stated that



the cross-sectional design is the most frequently used study design.

When employing survey research, one must be aware of the advantages and disadvantages of this type of research. When discussing the survey method offered, "...its major advantages are lower costs, relatively small biasing error, greater anonymity, and accessibility (Frankfort-Nachmias and Nachmias, 1996). Its disadvantages are a low response rate, opportunity for probing, and the lack of control over who fills out the questionnaire" (p. 248). In order to minimize the disadvantages of using the survey methods, "The Design Method" (TDM) suggested by Dillman (1978) was used as a guide. Dillman (1978) defined the TDM as consisting of two parts. The first [part] identifies each aspect of the survey process that may affect either the quality or quantity of response and to shape each of them in such a way that the best possible responses are obtained. The second [part] organizes the survey efforts so that the design intentions are carried out in complete detail (p. 12).

Using Dillman's TDM will help to minimize the problems of response quality and quantity. The data in this descriptive study was collected using survey procedures as described by Dillman (1978).

Each of the potential student participants received a survey packet containing the following items:

1. Informed Consent. Cover letter describing the study to the potential participant and outlined the procedures to be followed in completing the forms in the survey packet.
2. The survey with a section on demographics (brief questions asking for biographical and demographic information).

Data for scores from the Likert scale were hand-scored and calculated. Through the use of the Statistical Package for the Social Sciences for Windows (SPSS+ for Microcomputers), statistical tests were performed on the data from the scale. Descriptive and comparative analyses were made.

## Findings

The following tables were constructed from surveys sent to 448 participants who were asked to identify business documents and communications tasks or tools that will be used in the workplace. Of 448 participants 248 were usable responses which resulted in a response rate of 248 (55%). Students chose which tasks or tools they believed would be used daily, weekly, monthly, and never.

Business documents choices were:

- Letters
- Reports
- Memos
- Forms
- Instructions
- Contacts

Business communication tasks were:

- Meetings
- Speeches
- International Communication

- Customer Communication
- Client Communication
- Supplier Communication
- Employee Communication

Business communication tools were:

- E-Mail
- Fax
- Telephone
- Visual Aids
- Audio Communication
- Data Communication
- Video Communication
- Audio Telecommunication
- Data Telecommunication
- Video Telecommunication.

The following tables provide the data collected from technology majors and business communication documents, tasks, and tools.

Table 1

All Technology Majors: How frequently do you think you will initiate the following business documents and communications tasks or tools?

	Daily	Percent
Valid	E-mail	91.5%
	Telephone	89.9%
	Employee Communication	83.9%
	Client	68.5%

Table 2

CIS Majors: How frequently do you think you will initiate the following business documents and communications tasks or tools?

	Daily	Percent
Valid	E-mail	97.1%
	Telephone	95.6%
	Employee Communication	89.7%
	Client	61.8%

Table 3

MIS Majors: How frequently do you think you will initiate the following business documents and communications tasks or tools?

	Daily	Percent
Valid	E-mail	93.2%
	Telephone	89.2%
	Employee Communication	81.1%
	Customer	71.6%

Table 4

BIS Majors: How frequently do you think you will initiate the following business documents and communications tasks or tools?

	Daily	Percent
Valid	Employee Communication	88.2%
	E-mail	85.3%
	Telephone	85.3%
	Client	79.4%

## Discussion

From the findings, technology majors have an idea of the importance of the role that business communications documents, tasks and tools play in the workplace. To be extremely successful technology majors can no longer rely on their knowledge of IT. While IT roles in the past were not communication-centered, professionals who excel in this area are currently in the greatest demand and will continue to be as IT becomes more central to the organization (Perelman, 2007, p. 41). Table 1 provided the three most frequent responses to the business documents and communication task and/or tools that will be used daily in the workplace. This table indicates that all technology majors believed that e-mail, telephone, and employee communications would be used on a daily basis.

There is agreement among technology majors that email is a regular business communications tool. Literature has supported that these rankings are very indicative of what technology majors will face in the workplace. Elmhorst (2005) offered:

One study based on responses from over 1,000 employees at Fortune 1000 companies found that workers send and receive an average of 178 messages each day via telephone, e-mail, faxes, pagers, and face-to-face communication. Some experts have estimated that the average business executive spends 75 to 80 percent of the time communicating – about 45 minutes out of every hour (p .7)

Krizan (2005) stated:

One of the most common questions business professionals ask today is, “What’s your e-mail address?” Today, many individuals and organizations have found that they receive more e-mail than they do print mail (p. 125)

Elmhorst (2005) additionally declared:

Electronic mail (or e-mail) allows communicators to send and respond to one another’s written messages via computer. In the United States and Canada, e-mail has become the most used communication tool on the job; 97 percent of workers surveyed report using it daily or several times a week (p.29).

To be cautioned, the astute technology major will need to select the appropriate tool when completing their daily tasks. Email is a way of life in corporate America. Technology majors should keep in mind the “email the guy down the hall effect.” Goleman (2007) defines this as the use of email increases in an organization the overall volume of other kinds of communications drops, particularly routine friendly greetings. This may lead to workers feeling somewhat disconnected from others in the workplace. Technology majors also indicated in Table 1 that the regular use of the telephone will be a routine part of their profession. In some instances a phone call or chat is more effective than an email message. The manner in which a



company's telephone is answered gives strong signals to the caller on the corporate character of that organization (Baldrige, 2003).

Tables 2 and 3 further showed that CIS and MIS shared the same common belief that e-mail, telephone, and employee communication were the three most common daily tasks to be used in the workplace. CIS and MIS students are geared more towards technology as compared to the people who run them. The MIS curriculum includes coverage of computer programming, database design and implementation, networks and data communications, systems analysis, systems implementation, managerial decision making, and managerial aspects of an organizational information systems. The CIS curriculum is more involved with the software and hardware behind the business rather than the actual people in the business operations. MIS students receive specialized training in both technical skills and business knowledge. CIS students receive a fundamental education with sufficient understanding of basic principles and concepts in computer science to solve computational problems. Given both of their backgrounds, they are well versed in mastering the business communications tasks and tools as illustrated in Table 2 and 3. They were in-sync in ranking email and phone, both tools of non personal business communications, as expected tools utilized in the workplace.

Table 4 shows that while BIS also had the same three tasks, employee communication was found to be the highest daily function. Given the nature of the major, BIS students have a tendency to be more extroverted in their roles with business communications. Analysis of tables 2, 3, and 4 show that regardless of the students major, a common belief of the daily business communications tasks or tools was present. Further analysis reveals that BIS majors viewed face-to-face communication as a daily component in the business arena. This can be explained as BIS tasks encompass functions such as working with people, training, and end-user support that are defined by their major. They will be performing roles as technology specialists, technology coordinators and trainers, and network administrators.

## **Summary**

MIS majors are expected to work in the fields of project planning, analysis, and design which all involve having a structured and organized approach and involve being task oriented. BIS majors must be flexible and open to new experiences as working directly with employees and groups invites new and unexpected experiences. CIS majors work in a more casual and open environment not associated directly with the business and people who operate the technology. From the findings, it is apparent that technology majors have ranked the appropriate business communication task/tools in the 21<sup>st</sup> century workplace. In addition, the rankings of these tasks, as suggested by literature, are indicative of their majors. As Perelmans (2007) survey highlights, IT is no longer an island. CIO's are demanding that their technology professionals have the interpersonal skills to work easily with others in the company. They ranked communication skills as the most important employee trait. The findings suggest that email and telephone are ranked as the most common tools technology majors use in the workplace. It is still important for these majors to understand that face-to-face communications, through oral and written business communications, are prerequisites to success in the workplace. Literature has suggested that the days of just having a

major in technology to achieve success are long gone. Cited authors have implied that having a major in technology alone, without competence in business communications; will surely not guarantee job success. The findings from this study demonstrate that technology majors understand the requirements of business communication tools (email and telephone) and understand that face to face communication (employee and customer communication) will be part of their roles in the ever changing workplace.

Recommendations for future research would include an analysis of why those business communication tasks, which are way of life in today's workplace (meetings, oral presentations, memos, letters, internet, intercultural communications), did not achieve higher importance. The same study should be replicated using various non-technology majors in the college of business (accounting, management, marketing, finance, etc) to see if any differences occur. Additional analysis is also suggested to determine if gender, race, or educational level makes a difference among technology majors ranking of communication tools/tasks.

The current and future marketplaces indicate that technology workers will be needed to fulfill large vacancies. The U.S. Department of Commerce has forecasted that technology positions will account for half of those employed in the workforce. Currently almost half of those employed in technology positions are employed by organizations that are not traditionally thought of as technology based companies such as supermarkets, financial institutions, and police forces. The U.S. Bureau of Labor Statistics has also shown that eighty percent of fastest growing careers are based in technology fields.

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