FACULTY ADOPTION OF THE CAMPUS INTRANET SYSTEM FOR POSTING GRADES: A DIFFUSION STUDY

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Middle Tennessee State University has adopted a campus Intranet system designed to streamline many of the administrative functions normally handled through droves of paperwork. The system is called WebMT. Among the features offered to students by the system are: registration, drop/add, withdrawal, course listings and search options, class schedule viewing, degree audit, registration confirmation, grade inquiry, and transcript viewing.

While the system was designed primarily for students, many of whom live 30 miles or more from campus, the Office of Information Technology (OIT) added functions for faculty as well, including: viewing class rosters, student class schedules, and—the subject of this paper—posting grades. While this function is being examined from the faculty perspective in the current study, this practice of posting grades electronically also benefits students, who promptly have access to their final grades.

Selected faculty members were allowed to post grades during the testing phase of the system in the summer of 1998. Once this phase was completed, faculty members were notified via e-mail that the system was ready for operation for the fall semester. No formal training was offered, but personnel in the OIT office were available to answer questions.

OIT prefers that faculty use WebMT, especially for posting grades, because the program is automatic, less labor intensive, reduces potential for errors, and reduces paper usage. Before WebMT was introduced, and often even still today, faculty members transcribe grades via bubble sheets—a labor-intensive process for all parties. Faculty members then submit the grades to the records office, which performs a "headcount" of all records, checks for correctness, and passes the sheets to OIT, which then scans the sheets. Due to errors, many of these sheets must be returned to the records office, which gives them back to faculty to correct. Some common errors include turning in incomplete sheets, completing sheets in ink rather than #2 pencil, or making accidental markings, such as assigning an "A" for a Pass/Fail course. WebMT, on the other hand, contains a system of checks and balances to prevent these types of errors.

This paper assesses who has or has not adopted the technology and why. The study applies diffusion theory to compare characteristics of adopters and non-adopters at this stage of the diffusion process. A survey was administered to the faculty on campus via e-mail with a follow-up hard copy delivered to non-respondents. Survey A was sent to the 26% who use the system. Survey B was sent to the remaining 514 faculty members who do not use WebMT. Respondents were asked from which source they had first heard of the system, what other technologies the faculty member had adopted, ease of use, attitude toward

technology, distance from campus to residence, and concerns for security and reliability.

Although the system has been in place since 1998, only 26% of faculty used WebMT at the time of the study. Of those who do not use the system, 79% had at least heard of WebMT, which is the first step in the innovation-diffusion process. In diffusion theory, the awareness stage provides information that the innovation exists. Once a potential adopter is aware of the innovation, he or she seeks information and goes through an innovation-decision process: to adopt or not adopt.

Faculty members, both users and non-users, were asked how they had heard of WebMT. Most users were made aware through sources other than peers and supervisors. The OIT newsletter was cited as the most common response for users; for non-users, an e-mail sent out to faculty regarding grade filing. E-mail and peer information also ranked moderately high among users (see table 1).

Table 1 "How did you hear about WebMT?"*

ANSWER		USERS	NONUSERS	TOTAL
OIT Newsletter	Count	133	21	154
	%	53%	14%	38%
E-mail from Records	Count	99	123	222
	%	39%	79%	55%
Informal/Friend	Count	92	9	101
	%	37%	6%	25%
Flyer/Announcement	Count	61	54	115
	%	24%	35%	28%
MTSU Employee	Count	24	3	27
	%	10%	2%	7%
Formal/Superior	Count	18	23	41
	%	7%	15%	10%
Student	Count	5	8	13
	%	2%	5%	3%

* Multiple responses allowed.

WEBMT AND TECHNOLOGY USE AND ATTITUDES

The next stage in the diffusion process is to gain an understanding of the innovation and evaluate the relative advantage of adoption. Faculty members who are non-users reported having general knowledge of WebMT, but were not aware of its functions. Non-users tended to ask more "how do I…?" questions on the comment part of the survey. To address this knowledge gap, the OIT has inserted a "tips" feature onto the WebMT faculty site, allowing faculty to quickly view various functions with "how to" instructions.

WebMT users reported a higher gratification (than perceived gratification from non-users) from entering data remotely and having it processed immediately. A moderately strong relationship (.60, $p<.01$) was found between Internet (and e-mail) use and WebMT use, indicating that faculty who use other

computer technologies such as e-mail and the Internet are more likely to use WebMT. There was also a relationship between ratings on an eight-item technology attitude scale (Cronbach's α=.74) and use of the system. The average score in the scale for users was 34.36, compared to a score of 31.47 for non users (t=6.43, p<.01). This suggests that the higher one's attitude toward technology, the more likely one is to use WebMT. Eighty-three percent of users of WebMT rated ease of use, or perceived ease of use to be very easy or somewhat easy, compared to 40% of non-users. Many non-users (44%) were also skeptical of security of transmitting grades online.

USE OF WEBMT AND DEMOGRAPHICS

Significant relationships between use of the system and some geographic characteristics were found. While there were no significant differences found with regard to demographic characteristics of age, gender, academic rank and years of service, differences were found for residential distance from campus and college. WebMT users on average live farther from campus than non-users. This is consistent with the popularity of telecommuting in workplace technology studies. The rate of WebMT usage is higher among faculty members in the colleges of Business, Liberal Arts, and Mass Communication, while the colleges of Basic and Applied Sciences, Education and Developmental Studies showed a lower propensity for WebMT use (p<.01).

CONCLUSIONS

According to users, the WebMT system is gratifying and easy to use. Traditional demographic factors associated with adoption were found to be insignificant, perhaps because the adoption is being studied in a workplace setting, and the technology is equally available to all faculty members. Faculty members who use other technologies are more inclined to early adoption. Respondents who score higher on the technology attitude scale are more likely to adopt the grade-posting system.

This study shows that psychographic characteristics of technology attitudes and perception are stronger predictors of adoption than traditional demographic characteristics. There were no significant distinctions between users and non-users with respect to age, gender, academic rank, or years in service.

Efforts by the Office of Information Technology to inform the faculty about the system have been partially effective—people are aware of the system, but not necessarily aware of its functions and capabilities. Perhaps the traditional opinion leader tenet of diffusion theory will hold true: that the group of non-users will become informed by the opinion leaders and start to adopt the technology in the near future. This is certainly suggested by the fact that over one-third of users learned of the system from a friend or peer.

Adapted from: Keltner, K. (2000). *Diffusion of innovation applied to an organizational intranet* (Masters thesis, Middle Tennessee State University, 2000).