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A case study on awareness, willingness and utilization of resources by students at HBCU

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ABSTRACT

Even though historically black colleges and universities (HBCUs) play a crucial role in ensuring higher education for black students, traditionally they are equipped with inferior technology, fewer resources, and lower budgets than other universities. Students at HBCUs should, therefore, try to optimize the use of these minimal resources in order to compete with others. In reality, however, this is not the case. Using a case study on the online student course registration system at an HBCU where only about 10% students use the online system available to them, this paper investigates the students' awareness and willingness to use available technology at HBCUs. A survey was conducted to determine the reasons for the inadequate use by students of the available resources, their awareness, and their depth of understanding of the resources. The paper also provides recommendations to maximize the use of available resources in order to improve overall efficiency and productivity at the university.

Keywords: *HBCU, awareness, willingness, technology, resources.*

INTRODUCTION

In the USA, HBCUs seldom have sufficient resources and infrastructure to support a high level of education or faculty and student research. The 103 HBCUs in the USA were founded in the mid-to-late 19th century "during a period of legal segregation to aid a population that lived under severe legal, economic, educational, political, and social restrictions" (Trent & Hill, 1994). To this day, HBCUs often have minimal resources and infrastructure to support research as well as higher education programs. To compete with other research-based and higher education institutions, the students at HBCUs should maximize their use of the minimal available resources and technology. However, this is not the case. Many students at HBCUs are neither aware of, nor are willing to use the available resources and technology; instead, they tend to rely on others to do the job.

In this study, the authors considered a case study on using the online course registration system at Southern University at New Orleans (SUNO) and analyzed the students' awareness and willingness on using the online course registration system. SUNO is an HBCU established in 1956 to primarily serve the educational and cultural needs of minorities in the Greater New Orleans metropolitan area. This study attempts to discover: i) if the students are aware of the system available for them at the university, ii) the reasons why many students do not use the available system/resources, and iii) to recommend ways to encourage the students to use the available system and increase its overall efficiency. SUNO uses Student Information Systems Plus (SIS Plus) software for course registration. SIS Plus is a software application for educational establishments to manage student data including course registration, student test and other scores, building student schedules, tracking student attendance, and managing many other student-related data needs in a school, college or university. While the software is available to students to register for their courses online, in reality only about ten percent of the students at the university actually use the system by themselves. At the beginning of each semester, students come to their advisors for help and advisors have to register the courses for their students. This

wastes time both for the students and the faculty. In addition, the staffs at registrar's office and information technology services also waste their time to set up a registration schedule and workstations and the process takes about 4-5 days to complete the course registration for all students in each semester.

This study surveys some students at SUNO and analyzes the data to discover a) the reason why most of the students do not use the system available to them, b) their awareness of the availability of the system, c) their knowledge of the system, and d) how much information or training they received from the university to use the available system. The study also recommends what should be done to make the system available to all students with information and proper training, and to encourage them to use the system and increase the overall efficiency of the resources and technology at the university, especially at HBCUs where most students are from minority groups, usually first generation college/university students, and do not have the family background for higher education.

LITERATURE REVIEW

HBCUs were established explicitly to provide education to the African Americans at a time when they were the only postsecondary option for most blacks. Since then HBCUs have become adept at promoting the college success of black students offering an environment that encourages student engagement, retention, and success (Laird, Bridges, Homes, Morelon, & Williams, 2004). Flowers (2002) and Outcalt & Skewes-Cox (2002) have shown positive student outcomes attending an HBCU. Allen (1987) shows that Black students who attend HBCUs have been found to be from lower socio economic backgrounds and are less prepared for college than Black students attending traditional majority institutions.

According to Snipes, Ellis, & Thomas (2006), a digital divide exists between people with access to technology and those without it. The research argues that HBCUs are significantly behind predominantly white colleges in computer technology and internet usage. The experience of the applicants is supported by the literature that is rife with both historical (Black Issues, 2003; Bruce, 2004) and contemporary (Owens, 2009), that demonstrates this digital divide that separates the "have nots" (HBCUs) from the "haves" (other majority institutions).

The digital divide remains a significant concern in the United States, with race/ethnicity, income level, and education contributing to inequalities with the use of computers and access to the internet (Laird at al., 2004). According to Jackson, Ervin, Gardner, & Schmitt (2001), students of different groups benefit in different ways from technology facilitated instruction, with minority students from lower socio-economic backgrounds more likely to have experienced drill and practice, while white students from higher socio-economic backgrounds more likely to benefit from technologies that help build, and require the use of, higher order thinking skills.

Minorities have been found to be less likely to be technologically literate; for example, when using the internet, African Americans and Hispanics have been shown to be less likely to search for news, and/or conduct informational searches (United States Department of Commerce, 2002). Sax, Ceja, & Teranishi (2001) conducted a nationwide survey of college freshmen and found that the level of technological preparedness varied significantly by race, class, and academic background. The study also found that racial differences with technology also persisted despite such key variables as parents' level of education and income as well as high-school type and concluded that the technological disparities are a hindrance to students' academic success. A study conducted by Buzzetto-More & Sweat-Guy (2006) found marginal correlations between parents' level of education and technological ownership and readiness.

Some people are also technophobic, and avoid computers or technology. Gupta (2001) describes "technophobia" as fear or intense dislike for technology. It invokes a wide range of negative emotions, such as anxiety, incompetence, fear, stress and nervousness. The study goes on to describe the symptoms of technophobia as: fear of computers and related technologies, resistance to automating processes, unwillingness to change from one system to another or one software to another, highly critical of any technology changes or implementations, passive resistance to new technology initiatives, unwilling to attend training classes, slow to learn new technologies, providing excuses for not attending training sessions, relentlessly arguing the lack of need for technologies, and pleading "the old way is the best way!", convincing colleagues that "I have made it this far without technology. Why now?". Rosen, Sears, & Weil (1987) suggest that there are three types of technophobes: (a) Anxious Technophobes – these subjects exhibit the classic signs of anxiety which includes sweating, increased heart beat and headaches; (b) Cognitive Technophobes – do not display any outward manifestations of their anxiety but internally they harbor negative attitudes towards technology; and (c) Uncomfortable users – exhibit only slight anxiety about technology and may use some negative statements towards it. Gupta (2001) and Puetz (2000) offer some solutions to aid in overcoming apprehension towards technology including placing end users in appropriate learning groups after assessing their attitudes, learning technology from skilled persons who can explain it without jargon, holding seminars and workshops on technophobia, and creating a friendly learning environment.

RESEARCH METHODS

A survey was conducted among the students at SUNO through some MIS classes asking the questions about how much they are aware of SIS Plus (the online course registration system), and more specifically how much information and knowledge they have about SIS Plus, how frequently they use the system, how willing they are to use the system if they are being given enough information about the system, and why they do not use it even if they know the system is available for them.

Information and knowledge on "SIS Plus"

A1. I am aware that I can use "SIS Plus" to register for my course online by myself

1-Strongly Disagree 2-Disagree 3-Neutral 4-Agree 5-Strongly Agree

A2. I am aware that "SIS Plus" manual is available if I need help on using "SIS Plus" for online course registration

1-Strongly Disagree 2-Disagree 3-Neutral 4-Agree 5-Strongly Agree

A3. I have enough knowledge on how to use "SIS Plus" for my course registration online

Figure 1*: Survey Questions – Information and Knowledge on SIS Plus*

Figure 1 displays the survey questions for students' awareness and knowledge about the system. For this part of the survey the question numbers were used as A1, A2, and so on. The prefix "A" in the question numbers is to identify that these questions are regarding AWARNESS and knowledge of students on the system.

Figure 2 displays the survey questions about using of the system by the students. Questions numbers were used as U1, U2, and so on. The prefix "U" in the question numbers is to identify that these questions are regarding USE of the system by the students.

Using "SIS Plus"

U1. Have you ever used "SIS Plus" for registering your courses online by yourself?
Yes No

U2. How many times per semester do you use "SIS Plus" for online course registration?
Once per semester More than once Always Never

U3. What do you prefer?
- Register courses online by yourself using "SIS Plus"
- Go to a faculty/advisor during registration period to register for your courses

***Figure 2**: Survey Questions – Using SIS Plus*

Students were also asked about status like which year they are in the school, what are their majors, and so on. One hundred students were surveyed through several MIS classes. Survey results are provided in the next section (Analysis and Discussion).

Limitations of Current Study

Most of the students surveyed during the data collection were from MIS classes and the authors understand that this might not represent the true population of the university. But the survey cohort was representative enough to predict some information that this study aims to show.

ANALYSIS AND DISCUSSION

In this section the results of data analysis are provided.

Figure 3 displays the percent of students per academic year who were being surveyed. As can be seen from the graph, two groups of students - senior (37%) and freshmen (27%) being surveyed were the majority followed by junior (19%) and sophomore (14%). 3% of the students did not disclose this information.

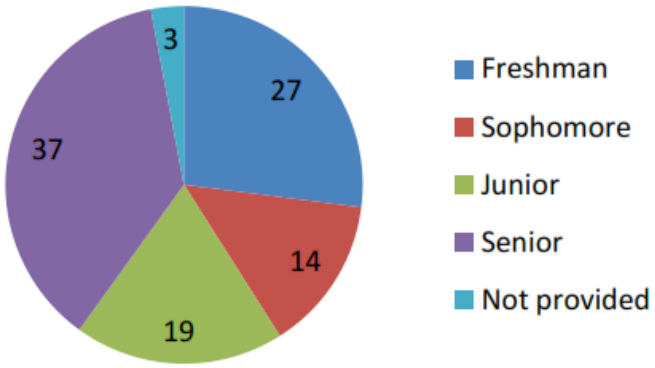

***Figure 3**: Student Status - Percent of students per academic year*

Figure 4 displays the percent of students per major. Students from various majors were being surveyed through MIS classes as many of the students at the university have to take some MIS courses to graduate. Students surveyed were selected from various majors. As can be seen from the graph, students with MIS major was highest in number (26%) followed by English (18%) and then Biology (15%).

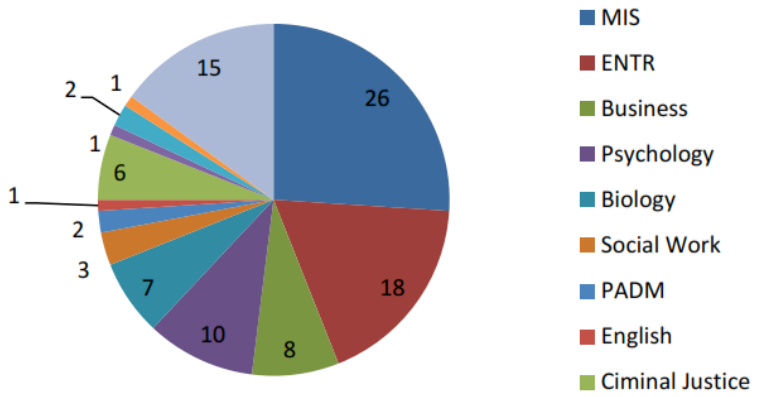

***Figure 4**: Student Major – Percent of students per major surveyed*

Figure 5 displays the information regarding question A1 which asked students whether they were aware that they can use “SIS Plus” to register for their courses online by themselves. As the graph shows, 32% of the students (17% strongly disagree and 15% disagree) were not aware of the available system at all and even though 54% of the students (25% strongly agree and 29% agree) are aware of the system, many of them really do not use the system as displayed by Figure 8 and Figure 9.

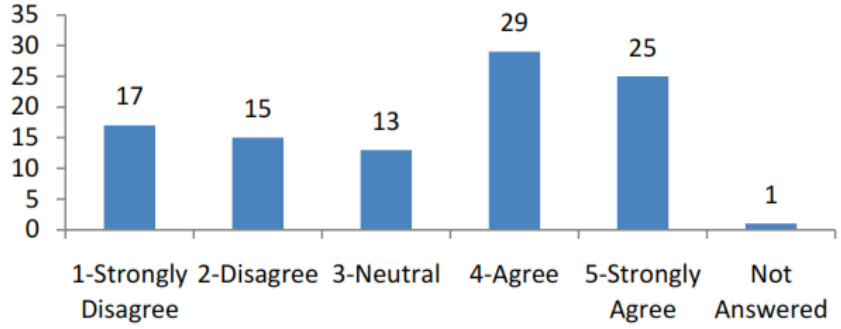

***Figure 5**: Responses for Question A1*

Figure 6 displays the information regarding question A2 which asked students whether they were aware that help or a manual about the system ("SIS Plus") is available for them. As can be seen from the graph, 38% of the students (19% strongly disagree and 19% disagree) were not aware of the help/manual on the available system and 44% of the students (13% strongly agree and 31% agree) were aware that help or a manual about the system is available if they need to use them.

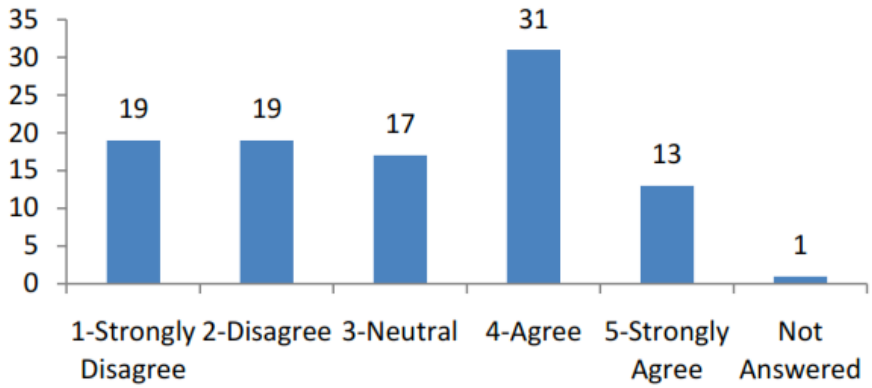

***Figure 6**: Responses for Question A2*

Figure 7 displays the information regarding question A3 which asked students whether they had enough knowledge to use the system. As can be seen from the graph, 40% of the students (19% strongly disagree and 21% disagree) do not have enough knowledge to use the system and 48% of the students (21% strongly agree and 27% agree) answered that they have enough knowledge to use the system.

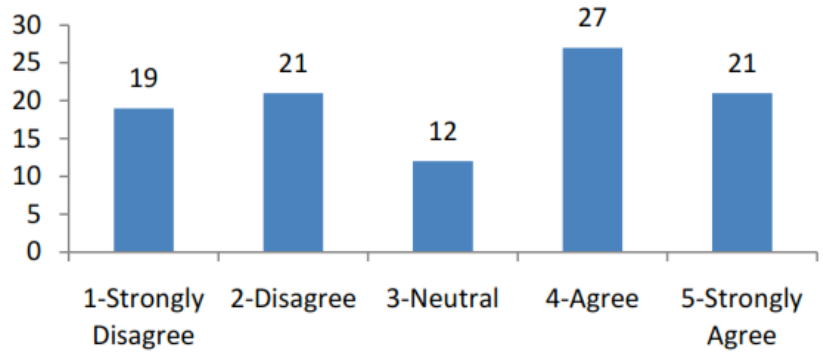

***Figure 7**: Responses for Question A3*

Figure 8 displays the information regarding question A4 which asked students whether they had been given training from the university to use the system. As can be seen from the graph, 70% of the students (39% strongly disagree and 31% disagree) said they were not given any training to use the system and only 22% of the students (12% strongly agree and 10% agree) said they were given the training.

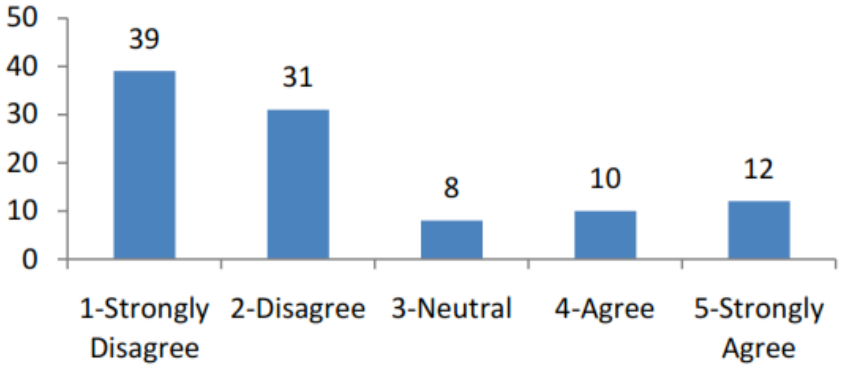

***Figure 8**: Responses for Question A4*

The findings illustrated in Figures 5-8 suggest that about half of the students who were surveyed were not aware of the system's availability and most of the students did not get proper training from the university to use it.

Figure 9 shows that 57% of the students never used "SIS Plus" for course registration. Figure 10 similarly indicates that most of the students do not use the system. Figure 11 suggests that 57% of the students prefer to register for courses online by themselves if they know how to use the system but many students (42%) still prefer to go to a faculty/advisor for course registration. This is a warning that authorities need to motivate the students to use the available system that will save time both for students and faculty/advisor. This issue is discussed in next section (Recommendations section).

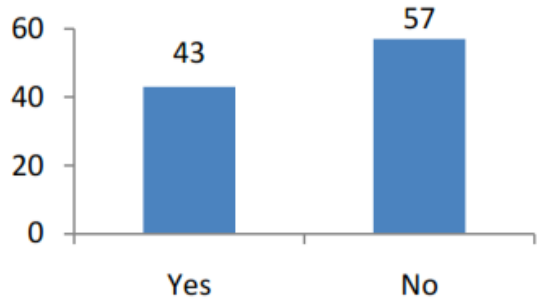

***Figure 9**: Responses for Question U1*

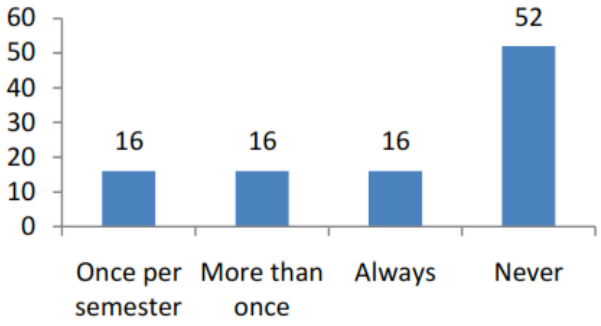

***Figure 10**: Responses for Question U2*

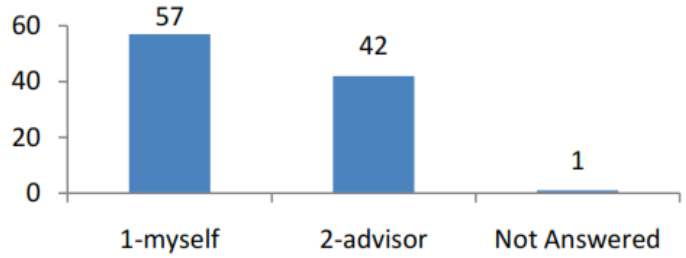

***Figure 11**: Responses for Question U3*

Figure 12 shows that when students go to a faculty/advisor for course registration, it takes much more time than registering online. As mentioned earlier, the process is inefficient. Encouragingly, Figure 13 shows that most of the students (69%) prefer to register for courses online as they are able to do it at their own time. But Figure 14 suggests that many students still do not think that going to their faculty/advisor is inefficient. The reason could be that students do not actually know the advantages of using the technology and they should be exposed to the benefits in terms of time, cost and overall efficiency of using technology and other available resources.

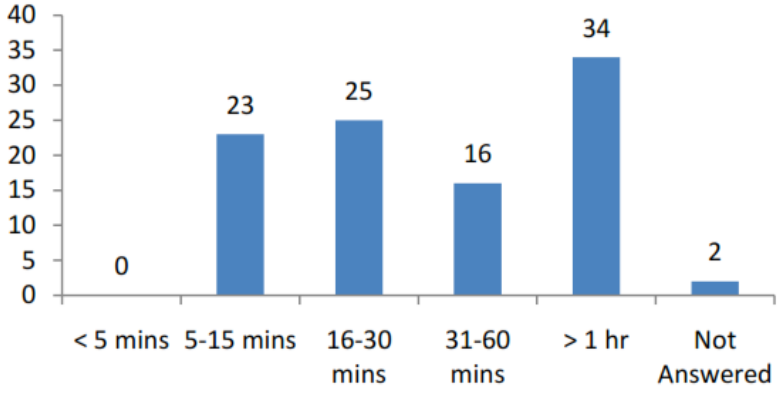

***Figure 12**: Responses for Question U4*

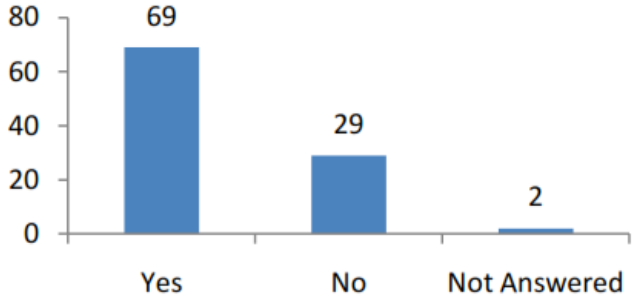

***Figure 13**: Responses for Question U5*

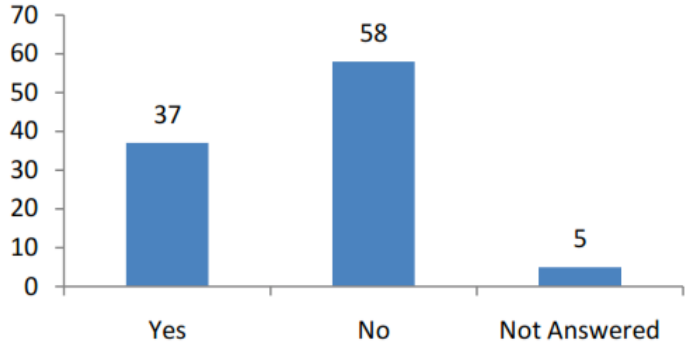

***Figure 14**: Responses for Question U6*

Table 1 displays the answers provided by the students for question U7.

Results from Table 1 show that most of the students, responding to question U7, said that they did not know about the system and did not have enough knowledge on how to use the system.

***Table 1**: Responses for Question U7*

Part of Question U7	Percent of students answered "Yes"
a)	26
b)	24
c)	4
d)	17
e)	11
f)	6
g)	4
h)	12

A few major comments students noted on the question U7 (i) are as follows: system malfunction, not available 24/7, never knew about the system, safety issues, and fear of making mistakes.

Even though the above results show that a good number of students said that they know about the system and some of them use the system to register for their courses online, this is not uniform among all students at SUNO. As mentioned earlier, the survey was conducted through several MIS classes and those students have at least some knowledge of technology. Most students of majors unrelated to technology use do not use the system to register for their courses. As a result, it is found that only about 10% of the students at SUNO use the online course registration system for registering for courses online.

PROBLEMS FOUND AND RECOMMENDATIONS

The above results and discussion make it evident that the following are the major problems or reasons that the students do not use the available resources and technology at capacity at the selected HBCU, and the authors recommend some work needs to be done to overcome those problems.

Culture

Most of the students at SUNO, and traditionally at any HBCU, are the first generation college/university students from minority groups. Consequently, they do not get enough family support in terms of education and technology. Also, it is the culture of many students to get help doing things from others instead of working independently. Thus, as the case study shows, instead of registering for courses by themselves using the online course registration system, the students usually go to a faculty/advisor to register for their courses. The university can play a crucial role in changing this culture. The university can educate students about the resources and technology, exposing them to the benefits and ease on using the technology so they can be encouraged and motivated to use the available resources and technology at the university, thus increasing the overall operating efficiency of the university system.

Lack of Information

The survey results also showed that many students in fact do not know about the system the university has available for their use. So the university should expose the available resources and technology to all students properly. This can be done by conducting workshops, seminars, handing out brochures to students, and even faculty members can inform the students about the related resources in their classrooms. The students also should be given the information about the benefits of using the resources and technology in terms of time, cost and efficiency.

Lack of Knowledge and Training

Through this study it was also found that most of the students do not have enough knowledge and/or do not get proper training from the university to use available resources and technology. Again, the university should provide enough training on using available resources and technology to the students based on need and encourage them to use the resources and technology.

The system also should be accurate and available at all times so that students can use them at their own pace.

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