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Dirin, A., Nieminen, M., & Alamäki, A. (2021). Social Media and Social Bonding in Students' Decision-Making Regarding Their Study Path. *International Journal of Information and Communication Technology Education (IJICTE)*, 17(1), 88-104. doi:10.4018/IJICTE.2021010106

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Please cite the original version:

Dirin, A., Nieminen, M., & Alamäki, A. (2021). Social Media and Social Bonding in Students' Decision-Making Regarding Their Study Path. *International Journal of Information and Communication Technology Education (IJICTE)*, 17(1), 88-104. doi:10.4018/IJICTE.2021010106


The final publication is available online <https://dx.doi.org/10.4018/IJICTE.2021010106>

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Social Media and Social Bonding in Students' Decision-Making Regarding Their Study Path

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ABSTRACT

Students are often unsure of how to select the right study path at a higher educational institution. They either lack knowledge of a proposed study path or they do not manage to learn more before making their selection. Universities often apply various approaches, such as printed or online course curricula, to facilitate the selection process. Yet these approaches are often inefficient because they do not attract students' attention, or they provide ambiguous descriptions. Moreover, these descriptions are not provided to students through the right channels. The study reveals that students use different digital channels in various contexts to perform their educational activities. The study reveals that the use of social media applications in an educational context results in social bonding among students. The results of the study can help educators select appropriate channels that match students' expectations of a reliable and trustworthy interaction medium.

KEYWORDS

Digital Channels, Digital Touchpoints, Study Path, User Experience

INTRODUCTION

Smart device usage at educational institutions has evolved at a rapid pace. The use of technology in mobile learning (M-learning) application design has also evolved quickly. Dirin and Nieminen (2018) divided the evolution of M-learning user experience into three distinct eras. A technology-focused approach (Era 1) is no longer sufficient for persuading learners to use an M-learning application. Neither does ease-of-use nor usability offer sufficient distinctive characteristics for successful M-learning services (Era 2). In the third and current era of M-learning user experience, the emphasis has moved toward engaging and emotional factors. In addition to M-learning applications, students widely apply various digital channels in their educational activities.

DOI: 10.4018/IJICTE.2021010106

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Students' study path selection after their first semester is often dependent on concerns, for example, about how they can improve their knowledge, their judgement of their own competence, and the extent to which they feel the university offers them the skills they need for their chosen career. Salmela and Read (2017) demonstrated that students often start university with high motivation, but over time, their motivation levels drop and feelings of stress and pressure develop. The students' mental models are constructed according to their learning experiences (Piaget & Brown, 1985), in which digital channels play a crucial role.

A Finnish Ministry of Education and Culture (2010) report indicated that 75% of high school graduates apply to attend higher educational institutions immediately after graduation, of which only 40% get through on the first attempt and the rest gain admission on the second and third attempts. In addition, many factors influence whether students successfully and smoothly graduate from higher education on time (Määttä & Uusi-autti, 2011).

The aim of this study was to reveal students preferred digital channels and social media when selecting their course and study paths. Skaniakos, Penttinen, and Lairio (2014) demonstrated that peer monitoring is an important part of pastoral care for first-year students in higher education. Määttä and Uusi-autti (2011) presented four factors that impact one's study path: first, the experience, habit, and ability that students develop during their studies; second, the instructors' mentoring skills; third, the curriculum; and fourth, the university community in general, such as the studying atmosphere and study culture.

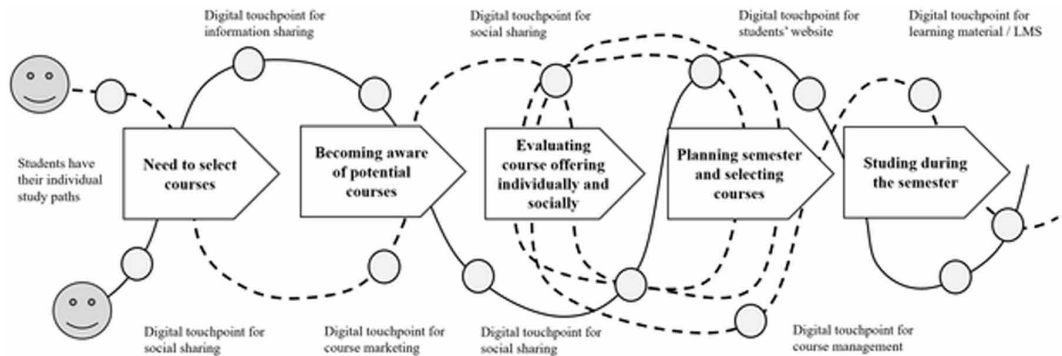
Digital channels and social media have become important means of interacting in contemporary life. We use these channels for communication, socializing, decision-making, and taking effective actions. Digital touchpoints, such as websites, email, search engines, social media, video content communities, discussion forums, and blogs (Hallikainen, Alamäki, & Laukkanen, 2018), enable individuals to interact with each other, access consumer content, and perform numerous other actions. Students at higher educational institutions often utilize these channels at various stages of their studies. For example, they may use them for learning, communication, or research purposes; for getting acquainted with new students; for learning about forthcoming courses; and for skill development (e.g., Dirin, Alamäki, & Suomala, 2019; Nguyen, Muilu, Dirin, & Alamäki, 2018).

Digital touchpoints and channels are used often in marketing and advertising to evoke emotions. Straker and Wrigley (2016) demonstrated that engaging with customers through digital channels has a significant impact on growth and revenue. In an educational context, we lack a proper systematic approach for using digital channels to assist students in their educational experiences, including study path selection. In this study, "digital channels" were defined as all those online and mobile applications and services that students use to engage with peers and educational institutions to communicate, perform education-related tasks, or socialize. Furthermore, "study path" encompassed the study models that students required to complete their B.Sc. degree program. The aim of this study was to reveal the digital touchpoints and channels that students in the Business Information Technology (BITE) department of the University of Applied Sciences (UAS) often apply to engage with peers about different study path options. Figure 1 presents the typical process of study path selection at a Nordic institution of higher education.

RELATED RESEARCH

Educational institutions have always used technology to support their educational offerings (Selwyn, 2011). Yet the remarkable development of information technology has transformed educational systems and processes (Fu, 2013). This development enables us to explore entirely new frameworks for teaching and learning. Traditional lecture-based teaching is often considered insufficient for deep learning and acquisition of the contextual understanding of a subject. With the increased popularity of new social media and work-related digital services, our lives have become overwhelmed with new digital channels and touchpoints. Various researchers have investigated these digital channels and

Figure 1. Study path selection process at a Nordic higher educational institution



touchpoints and their potential in the marketing sector (Hallikainen et al., 2018; Straker, Wrigley, & Rosemann, 2015). Kannan and Li (2017) developed a framework for digital channels and touchpoints in the marketing process, while Straker et al. (2015) focused on the opportunities that digital touchpoints provide for practitioners to open up a channel of communication with their customers. Straker et al. classified digital touchpoints into four categories: functional, social, community, and corporate. They showed that each of these four categories has a unique role in the context of digital channels. Aligned with this, Baxendale, Macdonald, and Wilson (2015) examined potential digital touchpoints in marketing, for example, in brand advertising, relative advertising, in-store communications, word of mouth (WOM), peer observation, and traditional media, such as editorials. Moreover, Straker and Wrigley (2016) demonstrated that emotional engagement is the essence of the study of digital touchpoints. In an educational context, Khanna, Jacob, and Yadav (2014) identified touchpoints for higher education marketing and branding, framing higher education as the service provider and students as the customer.

Technologies have brought about huge changes to the ways in which educational institutions offer education. M/E-learning offers great freedom and flexibility in terms of accessing knowledge anywhere, anytime (Philp, 2004). The freedom afforded by new technologies, however, has not changed students' behavioral engagement (Li, Qi, Wang, & Wang, 2014). In digital education, user engagement and user experience with learning applications play a crucial role. Huang, Jang, Machtmes, and Deggs (2012) investigated the roles of perceived playfulness and resistance to change in learning with mobile English learning outcomes (MELOs). Their results demonstrated that playfulness and self-management of learning had positive influences on MELOs. In the same year, Terras and Ramsay (2012) identified five important psychological challenges posed by mobile devices for M-learning. Cleveland-Innes, Ally, Wark, and Fung (2013) published similar research on emotional presence in M-learning. Their study focused on the use of mobile devices among graduate students pursuing their studies online and examined what effect (if any) their use had on emotional presence. In addition, Seraj and Wong (2014) investigated students' perceptions of learning through mobile devices. Their findings showed that lecturers and students raised many interactivity and flexibility issues regarding the effectiveness of learning applications especially when learning a technical subject. Moreover, Capuano, Mangione, Pierri, and Salerno (2014) addressed issues of personalization and contextualization of learning experiences in information and services management. Bachl, Tomitsch, Wimmer, and Grechenig (2010) investigated the design challenges of user experience in the context of multi-touch interfaces. The challenges that they identified (such as individual differences, input-based challenges, and accessibility) can be tackled either technologically, through a proper user interface design, or by a hardware solution.

Social Bonding

The social bond theory was proposed by Hirschi (1969). According to this theory, acceptance of social norms may prevent individuals from committing crimes or delinquency. Therefore, social bond theory suggests that an individual who has solid relationships with peers and family members may accept the surrounding social conditions and be unlikely to commit illegal acts. Hirschi identified the following four factors of social bond theory. First, *attachment* refers to individual emotional connections to others, such as parents, teachers, and friends. It also includes the value that individuals place on others' opinions. Second, *commitment* refers to the goals that individuals set for themselves, such as educational or occupational goals. The reasoning is that an individual who is committed to a goal is less likely to risk losing the chance to achieve that goal. Third, *involvement* refers to an individual's daily activities, such as schoolwork, sports, hobbies, or work-related tasks. Lastly, *belief* refers to an individual's beliefs regarding the social and moral norms.

Hirschi (1969) employed the social bond theory to explore whether strong attachments to society prevent deflection from social norms. Similarly, Bryan et al. (2012) demonstrated that social bonds impact educational outcomes. Bishop, Bishop, Gelbwasser, Green, and Zuckerman (2003) showed that parental support has a stronger influence on children's educational success than friends' support does.

Peguero, Ovink, and Ling (2016) identified a correlation between social bonding at school and dropout for racial and ethnic minorities. They used national survey data to show that social bonding factors, such as attachment, academic and sports involvement, commitment, and belief, influence the dropout rates of racial and ethnic minorities.

In contemporary life, social media has become a strong instrument for establishing social bonds and social well-being (Burke, Marlow, & Lento, 2010). Cao, Lu, Dong, Tang, and Li (2013) investigated the role of social media as the main communication platform for supporting real-time information sharing in social bonding and bridging. Aligned with this, Phua, Jin, and Kim (2017) investigated the influence of social networking on social bridging and social bonding by receiving gratification through the media, which satisfies social and leisure needs.

Social Media in the Educational Context

Social networking services, such as Facebook, Twitter, Google+, and LinkedIn, have become popular globally. According to Jin, Chen, Wang, Hui, and Vasilakos (2013), social networking services play a significant role in peoples' lives. Lu and Churchill (2013) revealed that social patterns in a social networking environment appear to enhance social engagement, and the utilization of social networking platforms supports productive and meaningful learning. According to Watermeyer (2010), social networking services are new, innovative pedagogical tools that support creative interaction and new ways of learning science. Furthermore, Rehm and Notten (2016) discussed the contribution of Twitter to teachers' continuous competence development by analyzing hashtag conversations among German-speaking teachers.

In addition to social networking, communication applications, such as WhatsApp, Telegram, Instagram, Viber, IMO, and Discord, have become popular and are competitors of social networking services. Sutikno, Handayani, Stiawan, Riyadi, and Subroto (2016) compared WhatsApp, Telegram, and Viber and identified WhatsApp as the best instant messaging platform. Similarly, Montag et al. (2015) demonstrated that WhatsApp is the driving force in communication applications. Khodarahimi and Fathi (2017) showed that the level of anxiety of WhatsApp users was less than that of users of other social networking applications. According to data published online, in 2018, the average time that people spent on social networking sites was 144 minutes per day, which is an increase of 1 hour or 62.5% since 2012 (BroadbandSearch, 2020). Social media has also begun to play a significant role in higher education (Al-Qaysi & Al-Emran, 2017) for information sharing, as a learning management system, and to assist students in making decisions by enabling direct access to teachers and peers. Kumar and Nanda (2019) identified that educational institutions use social media as potential media to reach a large youth audience. Therefore, they concluded that social media is a good marketing

instrument for higher education students. Furthermore, Dumpit and Fernandez (2017) investigated higher education students' adoption of social media. They applied the technology accepted model (TAM), perceived norm, and perceived playfulness in their study, and their results demonstrated that perceived ease of use, perceived usefulness, subjective norm, and playfulness are important predictors of students' social media usage behavior.

We are moving toward life-long learning wherein learning happens such that it corresponds with the learner's needs. Hence, we expect to see social media play an increasingly strong role as learning happens through sets of connected smart gadgets with the associated applications. Therefore, the learner's attention and focus are extending from mobile devices to other "cool" technologies and services, such as smart watches and associated social media. Chen, Grossman, Wigdor, and Fitzmaurice (2014) presented an interactive system exploring a design space of interactions between a smart phone and smart watch. This design indicates that interaction and input media for gadgets are emerging on the basis of devices and service capabilities. The emergence of a symphony of applications for smart phones and digital channels has facilitated and enhanced the use of smart devices and social media in the education system.

Structure of UAS Degree Programs and Major Selections

The overall structure of degree programs at UAS is as follows ("Studyinfo.fi," n.d.). UAS provides students with solid knowledge of, and research opportunities in, their chosen fields and professional specializations. The professional studies provide competencies and expertise in a specific field that the student chooses from the course curriculum depending on their interest, motivation, and recommendations of others, such as teachers, current students, and peers. In addition, there are elective studies that students often select from other degree programs or even other UAS campuses. Furthermore, during the practical training period, students gain experience in their professional field via hands-on job experience. The final stage of bachelor's degree studies is a thesis, depending on the student's selected study path and specialization. Various factors affect students' selection of a study path and major. For example, Malgwi, Howe, and Burnaby (2005) stated that for female students, the driving factor is their aptitude for the subject, whereas male students are motivated by the potential for career advancement and job opportunities. Arcidiacono, Hotz, and Kang (2012) suggested that future earnings primarily influence a student's major selection. However, in addition to future earnings, Wiswall and Zafar (2013) identified the student's ability as the main factor for major selection. Furthermore, Workman (2015) demonstrated that parents influence students in making this decision.

RESEARCH METHODOLOGY AND PROCESS

This section provides a general description of the research approach and process. The study was a qualitative study and its main objective was to learn students' opinions on digital touchpoints and social media's support with their study path selection. Furthermore, the study was intended to explore the social bonding that facilitates students' search for further help and information based on the digital channels. Therefore, an interview and a survey were selected as appropriate methods for obtaining students' opinions.

Research Questions

To investigate the role of digital channels in students' study path choices and course selection, this study aimed to answer the following research questions:

1. What are the digital channels used by students prior to study path selection?
2. What are the roles of digital channels in study path selection?
3. What are the major opportunities and challenges associated with the digital channels?

Research Methods

In this study, we applied qualitative research methods to learn about user attitudes and behavior regarding study path selection and managing coursework. As part of our approach, we conducted a semi-structured interview (Cohen & Crabtree, 2006). Livesey (2010) recommended semi-structured interviews because they allow respondents to express their opinions on specific subjects. Furthermore, Livesey stated that the objective of semi-structured interviews is to learn respondents' viewpoints on an specific issue rather than identifying general behavior. The semi-structured interview was conducted with a focus group. According to Longhurst (2010), a focus group should contain between 6 and 12 participants who represent the target users. Additionally, we administered a survey to collect opinions. Story and Tait (2019) identified surveys as a method of gathering evidence, attitudes, and knowledge. In this vein, Fink (2010) stated that surveys also enable people to describe and compare behavior. Therefore, in this study, the survey and semi-structured interview complemented each other for learning students' attitudes concerning how social media and social bonding impact their decision-making.

Participants

To learn about students' digital channel usage, we conducted our semi-structured interview and a survey with a group of students in their second semester of higher education. We selected students randomly at a Finnish university (UAS) during the fall 2018 semester. We conducted an interview with a student advisor, the head of the BITE department, and four students between 18 and 30 years old (of whom two were male and two were female). Table 1 presents the overall user profile. The participants in this study represent both the faculty (i.e., the head of the department and a study advisor) and the students.

In addition to the interviews, we conducted a short survey (n = 40) with students in their second semester to learn about their use of various channels for decision-making prior to their course and study path selections.

Table 1. User profiles

Users	Title	Gender	Most used App in education	Learning App
U1	Department head	Male	Teams/WhatsApp	-
U2	Student advisor	Female	WhatsApp, Email	-
U3	Student	Male	WhatsApp, Skype, Telegram, Email	YouTube/Search engine
U4	Student	Male	WhatsApp, Discord, GitHub, YouTube, Email	YouTube/Search engine, Moodle
U5	Student	Female	WhatsApp, Telegram, Facebook, YouTube, Search engine, Discord	MOOCs, YouTube/Search engine, Moodle
U6	Student	Male	WhatsApp, Telegram, Facebook, YouTube, Search engine	YouTube, Search engine, Moodle

RESULTS

Interview Results

What are the digital channels that students use prior to selecting their study path? The interview data indicate that none of the participants use a dedicated M-learning app at school. However, they

regularly use publically available digital channels, such as WhatsApp, YouTube, and search engines (“We have created a WhatsApp group for our classroom activity” – U3, U4, U5, U6). This is also shown in Figure 3, which indicates that WhatsApp is the most commonly used tool (used by 79.2% of participants) after Moodle, which is a university default online learning platform. This aligns with the findings of Kaur (2017) on the use of WhatsApp in a collaborative learning environment.

What are the roles of digital channels in study path selection? The interview analysis shows that students’ course and study path selections go through several stages. We identified that the course selection starts with awareness of a potential course from individual course planning or the course curriculum (“Online course curriculum is the first step to introducing the course” – U1; “We help students plan in advance for the course, but I am not an expert on all courses, so students often change what we plan” – U2). Therefore, the existing online information was good for promoting awareness, but it did not sufficiently help the students make their selection. Thus, awareness in this context is associated with previous experience, personal interest, or just simply an appealing course name (“Sometime I attend the course just because I like the course name” – U4). The survey and interview demonstrate that students may be familiar with the name of a course, but not its content and objectives (“Check the course curriculum, but it is not clear... lots of new terms” – U4 and U6). At the start of the course, students often establish a WhatsApp group for organizing social interactions (“We engage with each other through WhatsApp, since we established a specific classmate channel during our orientation week” – U5). This channel is strictly for students, with no staff involvement. They use this channel to get to know each other, to socialize, and to exchange ideas. Learning about the courses and teachers actually started from this channel (“We also share our findings about the courses and teachers in this channel” – U5 and U6). This channel greatly impacts course selection (“I often discuss with the previous semester’s students about their experience with courses and teachers, then accordingly, I select the course” – U3, U4, U5, U6).

Survey Results

The participants who took part in the survey were in their second semester and had recently selected their study path. They were between 19 and 42 years old and of various nationalities, including Finnish, Chinese, South Korean, Vietnamese, Somalian, Ukraine, Philippines, Mexican, Japan, Austria, and German. The majority of students stated that a laptop is the main device on which they perform their educational activities. Figure 2 presents an overview of the devices used for educational purposes.

Students use various social media for educational purposes. The main tool that they employ in university is the learning platform Moodle (used by 87.5%), while WhatsApp is their primary social media tool (used by 80%). Figure 3 presents the usage of social media by students for educational purposes.

In addition to the above, during the interview, participants mentioned that channels such as GitHub, MS Teams, and Discord are used widely, for example, to share programming codes with peers. The digital channels that students use for personal reasons differ slightly from those that they use for educational purposes. In their personal lives, 90% of students use WhatsApp and 57.5% use Instagram and 55% Facebook. Figure 4 demonstrates the common social media tools that students use in their personal lives.

Students were also asked where they had learned about their course and study path options. The survey results underline online course curricula as the most common source of information. Figure 5 presents the most commonly used channels for study path selection.

Students stated that digital channels make their school life easier by offering more freedom and flexibility. Figure 6 demonstrates that the majority of students felt that using digital channels offers them greater freedom in their education.

Figure 2. Overview of devices used in an educational context

Which of the following devices do you use the most for your educational activities

40 responses

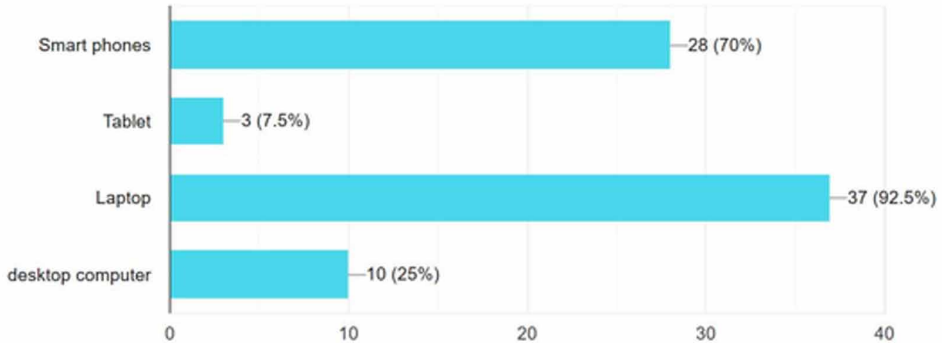
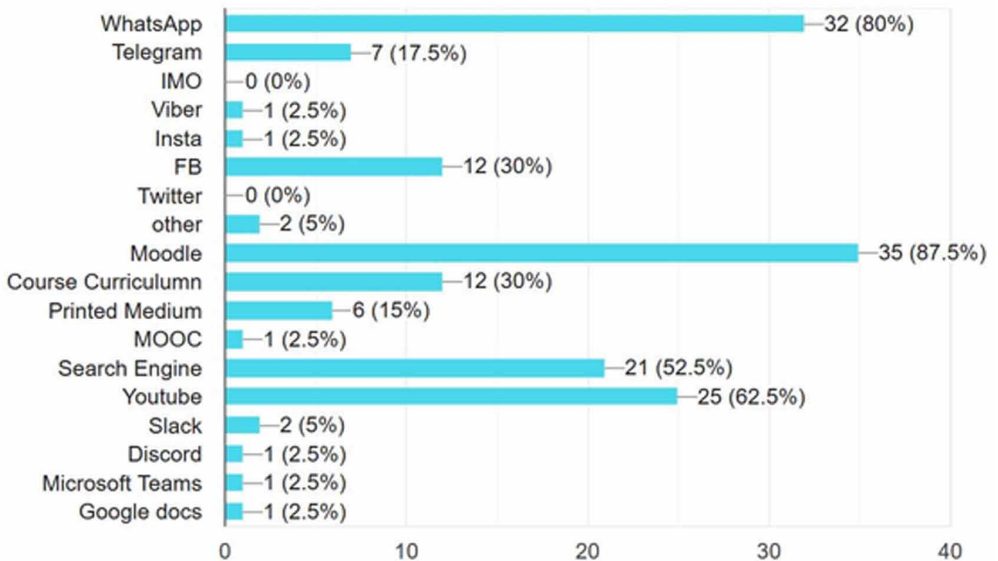


Figure 3. Students' use of social media for educational purposes

Which of the following SM do you use in educational context

40 responses



DISCUSSION

In the contemporary educational setup, students have the option to use various digital channels in different contexts. Identifying the channels that students employ for educational and social purposes can enable us to devise new solutions for facilitating their educational journey. The learner-centric touchpoints solution (Wong, 2012) can facilitate engaging students more closely with course implementation, selecting the best channels for engagement, and constructing a friendlier educational environment.

Figure 4. Students' social media usage in their personal lives

Which of the following SM do you use in your personal life

40 responses

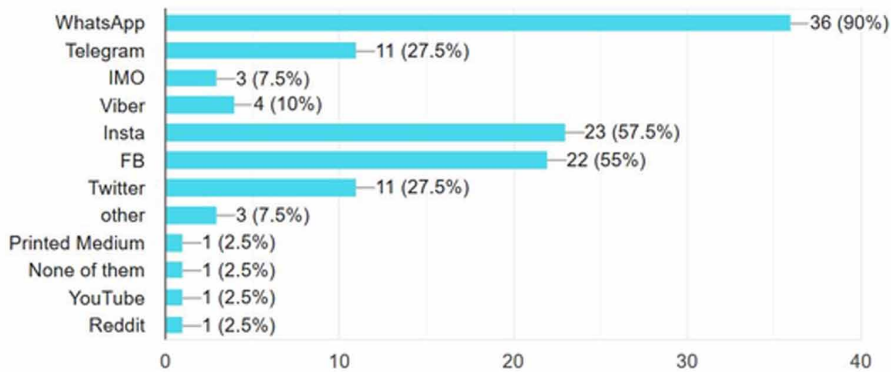
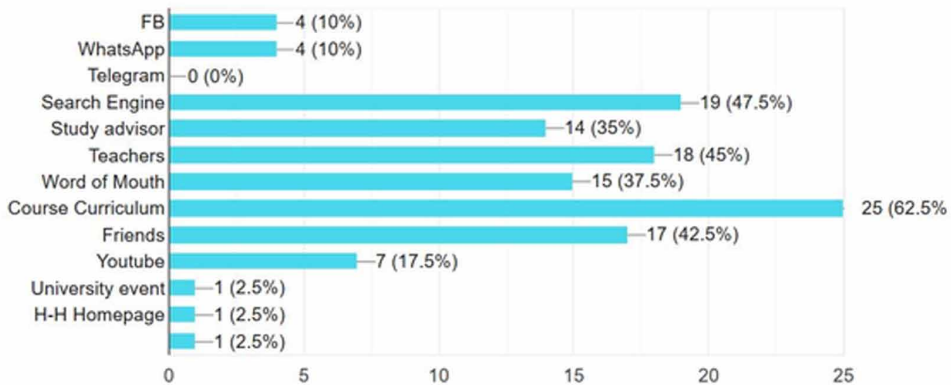


Figure 5. Most commonly used digital channels for study path selection

Which of the following helped you to select your study path

40 responses

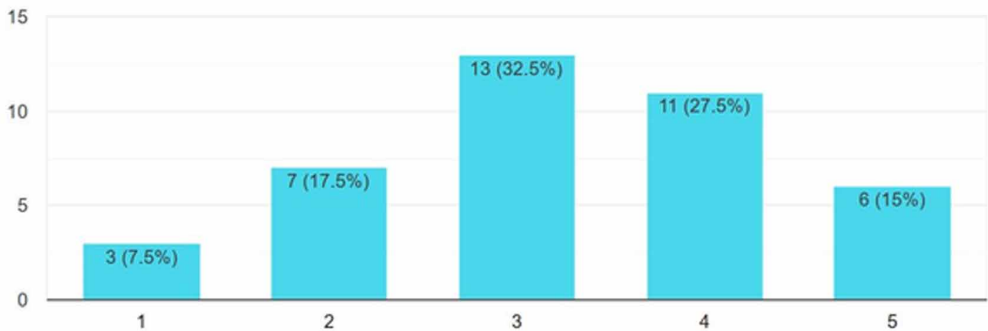


Smart phones have become popular among students as potential educational tools, and they often use them to perform their educational tasks via a proper digital channel. As shown in Figure 2, smart phones (at 70%) are the most commonly used devices after laptops (at 92.5%). Mobile penetration is the result of the existence of services and applications that students can access on these devices to perform their daily and educational tasks. Furthermore, according to the interview analysis, none of the participants use any dedicated mobile learning applications. Instead, all participants utilize available digital channels, such as Moodle and search engines, and social media, such as WhatsApp, YouTube, GitHub, and Telegram, to perform their educational duties. This corresponds with our survey results, which surprisingly indicate that 15% of students still use the printed medium despite the fact that 2.5% of students use the printed medium in their personal lives. This finding echoes Casselden and Pears' (2019) investigation of students' preferences for using ebooks from academic

Figure 6. Students' experience of freedom through digital channels

I have more freedom at the school because of SM

40 responses



libraries. It also aligns with Kay and Lauricella's (2011) findings regarding the benefits of soft copy note-taking, as opposed to hard copy note-taking, for students.

We identified that students' course and study path selections often go through several stages. The course selection starts with the awareness of a potential course, which happens either through individual course planning or through course curricula recommended by educational institutions. The findings reveal that the existing online information was good for generating awareness about courses, but it was insufficient for making decisions about courses and study paths. Awareness is associated with previous experience regarding a topic, personal interest in a study path, or the fact that course names in the selected study path appeal to students. In all cases, the results indicate that printed or online course curricula do not provide sufficient information to students. Moore and Shulock (2011) showed that supporting students in selecting their study program promotes program completion.

Furthermore, Hoad et al. (2017) revealed that media affects students' major selection. Their findings indicated that mediated referents and news following resulted in students choosing to study journalism, while others selected, for example, communications-related majors. In the present study, we also identified the impact of social media on study path selection. The survey and interview results indicate that social and community channels have become important tools for course and study path selections. Furthermore, students often establish a WhatsApp group for organizing social activities and sharing course information when they start university, and they do not invite lecturers or other staff into these groups. Our findings also validate previous research on the use of WhatsApp among students, such as that of Bouhnik and Deshen (2014), who identified four main reasons why students use WhatsApp: communicating with peers, socializing, initiating dialogue, and encouragement. Similarly, we identified that students use WhatsApp to get acquainted, socialize, and exchange ideas about a course, and to help each other with course assignments.

Steffes and Burgee (2009) demonstrated that electronic word of mouth (eWOM) communication influences decision-making. The WhatsApp channel also functions as eWOM in the context of course and study path selections besides playing other social and educational supporting roles. In addition to these unconventional approaches to learning about courses and study paths, students often use Moodle as an official resource to obtain information about course content when participation is approved by their lecturer. Some students drop a course after the first or second lecture if, for example, the topic or the instructor does not meet their expectations. This process of trial and error, moving back and forth from different courses, can often result in the student missing out on the whole period or semester. Dropout from a course or from school is an important issue that has been widely investigated by

researchers such as Dekker, Pechenizkiy, and Vleeshouwers (2009) and Bayer, Bydžovská, Géryk, Obšívač, and Popelínský (2012). Our findings indicate that social media through sharing information reduces trial and error dropout from courses.

The interview and survey show that students often use various digital channels and means, such as WhatsApp, WOM, Moodle, search engines, Facebook, and YouTube, to get help, develop skills, perform educational activities, and carry out group work (see Figure 3). As U3 noted, “For group work, we use Facebook in some project-based courses,” which Hew (2011) also identified. In addition, U4 stated, “Often, I use YouTube to learn further, specifically in [my] programming course,” which aligns with the findings of Moghavvemi, Sulaiman, Jaafar, and Kasem (2018) regarding students’ use of this digital channel in the educational context. However, the aforementioned digital channel usage depends on the stage of the course, the context, and the content of the course.

Research on social media usage in the educational context is on the rise. For example, researchers are investigating how social media helps students adjust to college (e.g., Deandrea, Ellison, Larose, Steinfield, and Fiore, 2012), the role of social media in students’ academic performance (Media, 2015), and the impact of social media on students’ grades and engagement (Junco Heiberger, and Loken, 2011). In our study, we focused on the role of social media in students’ study path and major selections. The analysis indicates that students use various digital channels in selecting their study paths (see Figure 5). Aligning with the categories of digital touchpoints identified by Straker et al. (2015), we found that the course curriculum (used by 62.5%) represents the corporate touchpoint (which we can rename as the organizational touchpoint in an educational context). It delivers university-generated content and this content and use are controlled by the educational organization. Search engines (used by 47.5%) and WOM (used by 37.5%) are the second and third most-used channels. Search engines represent “functional digital” channels, which offer means for finding and consuming digital content. Friends, teachers, study advisors, and university events represent social or community channels, which enable students to communicate. Students use digital social channels, such as YouTube (17.5%), WhatsApp (10%), and Facebook (10%), most frequently to communicate or develop their competencies. Our third research question focused on the major opportunities and challenges associated with the range of channels. We found that digital channels must connect to the study path because their role varies depending on the phase of the study path. Before they make their course selection, students tend to have different needs and demands for finding information and communicating about the study path for which they have a passion.

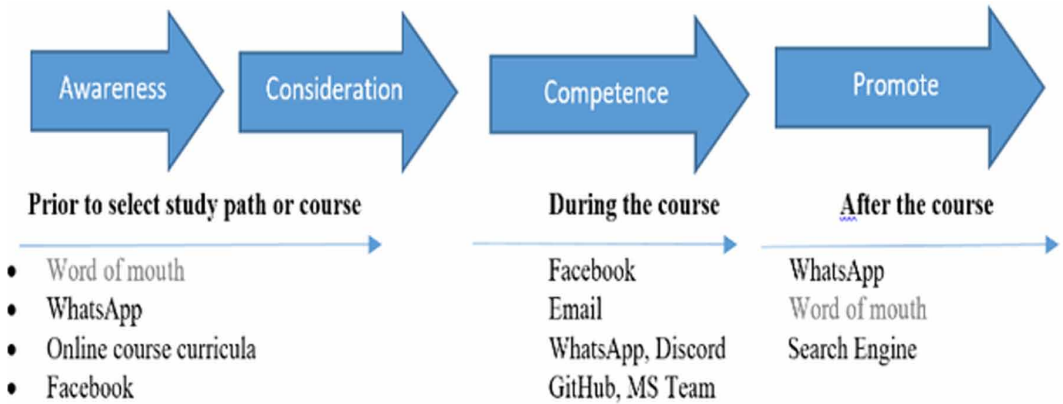
The survey and semi-structured interview analyses revealed that course and study path selections are carried out on the basis of what is depicted in Figure 5. That is, the first phase is awareness of the course through online materials, WOM, and social networking channels. This phase attracts the initial attention of most students before they begin their course and study path selections. During the next stage, which we call the “consideration phase,” students use channels such as WhatsApp, search engines, and YouTube to collect further information in order to choose or drop a course. During the next phase, students select a course and start to develop competence on the topic by attending lectures. Moreover, students often use WhatsApp, email, Facebook, and YouTube for projects and group work and to understand the learning materials more efficiently. Figure 7 presents the course and study path selection process.

After taking a course, those students who have gained sufficient knowledge will promote the course to their peers. Therefore, social media as an enhanced tool in the educational context constructs Hirschi’s (1969) social bonding among students.

Finally, this study revealed that students rarely use printed materials prior to or during their studies (even those materials that instructors hand out during lectures).

A major challenge associated with social media usage in the educational context is the number of social media applications that students have at their disposal. This variation confused students as to which one would be the best application for their purposes. The second major challenge is the fragmentation of social media applications, such as using WhatsApp for communication, Google Docs

Figure 7. The process of study path selection and common digital channel use



for sharing files, and GitHub for sharing codes. Therefore, a dedicated social networking application is needed to cover the essential needs of students.

This study focused on students' opinions of the role of social media at BITE. We applied a qualitative research methodology including a semi-structured interview and survey to answer the research questions. These two methods complemented each other for gathering and analyzing data from the target group. Therefore, we consider the findings to be valid and reliable.

CONCLUSION

Technological advancements have always impacted educational institutions' strategic planning and educational offerings. Today, students perform their educational duties through different digital channels and by applying various digital tools. During course and study path selection, students go through various phases, such as awareness, consideration, competence, and promotion. In each of these phases, students often use relevant digital channels depending on the nature of the task at hand. These digital channels, such as WhatsApp, Facebook, and Discord, are not primarily intended for educational purposes. However, these tools have become part of the educational performance toolkit. Thus, students learn and study in a multi-channel learning environment where they use functional, social, community, and organizational touchpoints for finding information, communicating, making decisions, and completing course assignments. Some educational institutions provide their own digital channels, but many of the channels that students use are their own selections and are outside the control of educational institutions and faculty. The latest developments in digital channel usage indicate that we are moving away from a single smart device service or application and heading toward multiple touchpoints that interact in a chain of decision-making toward a collective digital channel.

Although the concepts of digital channels and digital touchpoints have been used synonymously quite often in the existing research, we conclude that the concept of digital touchpoints better illustrates the use of digital tools among students. This study shows that students use different digital tools in the different phases of their studies, and they have many options to choose from. Thus, digital tools are touchpoints for the formal education process, courses, and administrative tasks rather than official channels. Physical and digital communication and administration are now blended as students seamlessly combine digital tools and physical encounters to facilitate retrieving and sharing information. Therefore, we suggest that more research be done on digital touchpoints as part of the physical activities and encounters that raise students' awareness of their educational context. This could clarify the role of channels and touchpoints, as the concept of "channels" refers more to an

official way of obtaining access to the service provider and “touchpoint” connotes integrated and non-formal ways of carrying out everyday tasks in the blended digital and physical world.

As a future study, we plan to expand this research with other degree programs. Collecting more data will enable us to generalize our findings.

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