

The Influence of Social Network and Information Cocoon on Major Selection

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ABSTRACT

The Internet is permeating the education sector as it becomes more informationized, which includes providing students with information to make learning and learning-related decisions easier. However, few studies have investigated how the information cocoon effect of the Internet and the social network (strong & weak ties) in sociology can influence students' choice of major. After combining and summarizing a number of literature, the research results show that the information cocoon effect and social networks can be combined, and a large number of weak ties can be found and utilized through the Internet itself to establish a social network, so as to obtain more diversified information to counter and break the information cocoon.

Keywords: Major Selection, Social Networking, Information Cocoons, Weak Ties

1. INTRODUCTION

In the 21st century with the rapid development of the Internet, the human frequency to interact with information is increasing rapidly. From a theoretical point of view, the choice of college major for high school students can be effectively optimized through the Internet. Because technically, personal interest points are more likely to be matched with major through the interaction of the Internet. However, due to the "side effects" produced by the Internet, the above problems have not been well solved. One of the most serious side-effects of the Internet is the information cocoon effect, combined with the facts of strong relationships described by American sociologist Mark Granovetter in "The Strength of Weak Ties,[1]" the magnitude of the diversity of information that high school students are exposed to has not increased dramatically because of the explosive amount of information brought about by the development of the Internet. This paper focuses on the dilemma of high school students in choosing college majors by systematically analyze the information cocoon effect, how strong ties affect the decision-making process of high school students in choosing majors, and how to properly solve such dilemma.

2. FACTORS INFLUENCING STUDENTS' CHOICES OF MAJOR

2.1 Overview

Among the main lines of research, it is surprising how many surveys explore why students choose to major in business school. Researchers have determined many possible factors by studying the major choices of undergraduate accounting students. Among them, the survey results in the United States show that for accounting, finance and management majors, future job benefits are the most important[2]. "The intrinsic appeal of the job itself, such as job satisfaction, opportunity to be creative, autonomy, intellect, and a challenging and dynamic working environment, is another factor that may influence students' academic major choice.[3]" Lowe and Simons show that friends, parents, and high school teachers have a smaller share of audio concepts for students' majors[2], but other studies do not support this conclusion: parents, following mentors (advisors), have a strong influence on students' major choices[4].

2.2 Access To Public Information

In a research project led by Hoag and his colleagues[5], the three used media as a starting point to explore whether media plays an important role in high school student's decision to choose a major. As one of

the few papers that directly establish the relationship between media and the influencing factors in choosing a major, they choose communication undergraduates as the main research objects to better explore whether news media, social networks and other media have an impact on communication undergraduates.

Previous studies on significant references (refers to the individuals and non-intermediaries that students know) show that students' choice of major is influenced by significant reference individuals. In this study, the researchers used "mediated referents" (referring to strangers) as subjects to answer research questions. More paradoxically, students may be influenced by strangers when choosing a major, or even by quasi-social connections from media figures. The researchers also said: "Unmediated salient referents had little impact on journalism as a career choice[5]." Such research results are completely consistent with the impact of the weak ties on career choice[1]. The researchers speculate that students who do not receive support from their social networks may turn to intermediaries for guidance, inspiration and important information. But relying on intermediary channels does not create any insurance just as a job seeker who invests a lot of time and energy in a network may not get a satisfying job. In addition, considering that strangers(weak ties) and weak ties may also influence communication of undergraduates, school advisers can exert a positive influence on students as weak ties. Consultants can assess students' views on their ideal careers to make more accurate recommendations on choosing a major[5].

Considering the huge influence of media, they also have their obligations: media need to influence students' choice of major in terms of information dissemination. By virtue of the fact that the Internet is highly accessible, future researchers can actually build on this research to expand the scope of their audience: "If communication majors are being manipulated by media exposure and Information technology use, are students in other disciplines also pursuing degrees on the basis of unmediated sources in the media?[5]" In CSI(Crime Scene Investigation) TV shows, students majoring in forensic medicine also participate in the shows to meet the demands of fans, but once many students realize that forensic medicine is not as interesting or exciting as it is in TV shows, they give up the major. This not only shows that students are easily depressed or even shaken in the process of major selection, but also shows that major selection is indeed a serious potential problem for many students to solve. It also shows that the media, as a weak link or even an unfamiliar channel, may have a huge impact on the choice of major.

"Dreary, cautious and boring number crunchers [6][7][8][9][10]." These stereotypes created by the media and conveyed to the public will cause many

students to enter or drop out of certain professional studies. As the CSI survey example mentioned above: once students realize that forensic science isn't that interesting or exciting, they give up on the idea of studying it. Moreover, the stereotype has been confirmed: The students believed that the accountant's studio was "Time-Consuming and Unpleasant"[4], or as being narrow, Audit-focused and restricted to 'core' Accounting[11]"[3].

In a separate article describing the main factors influencing business school students' choice of major, the researchers said business school respondents tended to be knowledgeable about management, marketing, accounting, and finance, but least knowledgeable about computer science, logistics & operations, etc. Even for this generation of students who are heavily exposed to the Internet and electronic devices, most respondents didn't even consider other majors, such as computer-related majors when they graduated from high school. In addition, the study was not designed to identify important sources of information that students can use when choosing a major. The survey included television and movie descriptions of the career, university and college websites, professional brochures, newspaper articles, and online information, but all of them were less important than average due to students' low emphasis. When it comes to the influence the media can create on this issue, the researchers give high marks: While the college/department website was ranked relatively high, it is unlikely students will visit the department website for computing related majors unless they become more aware that these are potentially rewarding career areas. In the absence of TV/movies glamorizing these fields, it is unlikely prospective students will seek related information sources[12].

2.3 The Measurement Of Monetary Reward

In the study on the main motivation of high school students to choose a major, researchers found that for high school students, money is the motivation for them to choose a given major and college[13]. Results led by Boudarbat and Montmoarquette[14] suggest that perceived future earnings are more likely to influence students' choice of college major, and no gender difference has been found in this phenomenon[13].

If the low predictability and uncertainty of the perceived future are ignored, taking high income as the main motivation for choosing a major cannot guarantee the security of obtaining a high-earning career in the future, still less can it ensure that there is no huge difference between students' real life and their expected life. The acquisition of money as the primary motivation will be strongly influenced by the information cocoon effect. The simplest example of this is to search social networks for words such as "high income" and "wealth" to get information about choosing a major. Obviously,

this type of search keyword is not likely to help high school students find their own interests. A lot of research on future majors and career planning aimed at finding teens' interests would be meaningless if the keyword was "money" instead of "interest". Add low predictability and uncertainty to the perceived future, and the chances of making a professional and career choice based on money and succeeding in wealth become even smaller. Although a high-income field in a particular field represents a highly valued and urgently needed field in the current environment, it does not mean that the average income in that field will remain high after the completion of college (which is usually measured in years). If a large number of high school students regard money as the main factor affecting their choice of major and career, the information cocoon effect will be difficult to eliminate.

Whether it is driven by money (high income) or by their interest-driven choice of major, some students still make huge changes to their plans during college. In the research subject led by Galotti [15], undergraduates as respondents indicated that they considered about seven criteria when choosing a major, and although the number of these criteria did not change over the course of a year, about half of them changed. At the same time, the number of major options prepared by students fell from about four to three, and half of those options changed over the course of the year. Based on the research results on Granitz[13], once to select a profession or occupation with money as the main motivation, once the macro-environment changes, the student will probably about his plan to make a huge adjustment, the change is not only unfavorable to finish college, but also is very unfavorable to find suitable employment in the future.

2.4 Guidance From Home Environment

Although high school students may not directly relate their interests to their majors and career choices because they cannot find their interests, 94% of students have considered their majors and colleges in their senior year, while 37% have considered their majors in their junior year[13]. During high school, students tend to focus on their major options, with 95% of respondents limiting the number of major options to 1-3[13]. This is in line with Ginzberg's[16] theory that students gradually break away from idealization and indecision after the age of 18 in order to focus on a certain type of major. When it comes to choosing a major and a university, Granitz[13] and his colleagues have some excellent explanations. Students cite their families and parents as the main source of information to support their choice, which indicates that parents are an important factor in students' choice of major[17][18]. In addition, parents can also use direct (for example, encouraging the pursuit of higher information

education) or indirect (non-verbal communication) to encourage students to choose a major[19]. In response to the theory drawn from some studies that parents do not have a strong influence in the major selection, and that major selection is largely an individual decision, the researchers suggest that the difference in results may be due to age differences in the sample. When choosing a future study major, college students will become more independent as students grow older and thus rely less on their parents' influence than high school students[20]

2.5 Students' Selection of Information

The results of Galotti's[15] study suggest that students limit the amount of information they are exposed to even if they have more than a year to go before making a decision. Even though all participants in the study had the environment and time to consider at least 25 different specialties, none of the participants said they considered more than seven[15]. Galotti believes that the reason for this situation may be that the focus on a few standards and alternatives is students' own management strategy for the task of information and data collection. One solution to breaking the information cocoon effect is to diversify information by changing standards, but this process should be started and completed no later than the selection of a major.

3. STUDENTS LACK THE COGNITION OF INFORMATION COCOON EFFECT AND MAJOR SELECTION

Some college students do not feel the fact that the Internet is becoming "personalized" until they feel the cocoon effect of information through special course content. As a required course, Information Literacy 101 at York University has received mixed reviews. However, the vast majority of students were surprised to learn about the personalized development trend of the Internet, and many even thought this trend was "scary" and "creepy"[21]. The researchers said: "Even if they had noticed certain trends online, most of our students had not realized just how ubiquitous that personalization is, or taken time to consider the implications of living in a filtered environment[21]." Although the theme of this paper is to explore whether it is possible to reform the information literacy teaching curriculum to some extent, the fact behind this paper is stated: A large number of students who take required college courses are only aware of and fearful of the information cocoon effect while in college, meaning they are not even aware that they are experiencing it while choosing a major. And behind this, how many students think their choice of major is not in line with expectations and want to change the major will bring inestimable impact.

Besides, research from another study shares the same concerns in his study towards the "lack cognition

situation": "It appears these students are not receiving, or are ignoring, the career information and advice they should have received in high school[12]." While considering that Bundura and his colleagues stated in the employment question that over time, Personal development and learning skills also influence career choice[22], but this does not apply to Suutari's theory of a strong correlation between personal interests and career choice[23]. High school students simply do not think about the matching of their future plans with personal interests, nor do they realize the strong correlation between their choice of major and career choice. If there is no planning for career choices, it can only be assumed that high school students are not sure what their real interests are. If the above situation is true, high school students will face a big problem in choosing a major.

4. RELATIONSHIP BETWEEN SOCIAL NETWORK & INFORMATION COCOON AND MAJOR & JOB SELECTION

It was found in a number of studies that mass media can exert a great influence in both major selection and job selection, among which the information cocoon effect is unavoidable. The only significant changes that are likely to occur are in parental influence, personal choices, and networks. As students get older, parental influence is likely to shift gradually between personal choices and networks. The reason for the shift to personal choice is most likely because independence increases with age. The growth of the relationship network is that with the increase of age, individuals will have more opportunities to contact more strangers, thus establishing more valuable weak ties and being influenced by them[20].

There is a strong correlation between network and information cocoon effect, which was initially demonstrated in Tümen's study of stable career path conditions in African Americans and whites[24]. The study found that the differences in career choices between African-Americans and Whites were not due to race, but rather to macro circumstances. Tümen concludes that young workers living in isolated communities or environments often have difficulty finding a suitable career (strong ties develop rapidly in closed environments, but closed environments also lead to information sharing). Workers living in an open environment can obtain more diversified information (open environment is conducive to the development of weak ties, and open environment will also increase the diversification of information and avoid the information cocoon effect)[24].

The research on career choice and major choice shows that the relationship network and information cocoon (filter bubble) are important influencing factors in the process of high school students' major choice.

Although there is currently a research line on the factors that influence the choice of a major by business school students, there is, unfortunately, no systematic research topic on the factors that may influence the choice of a major.

5. CONCLUSION

This study speculated the possible factors that influenced the major choice, which include information cocoon effect and relationship network, and successfully concluded that weak ties and information cocoon effect are important influencing factors for students' major choice. Factors solve the information cocoon effect and strong ties affect students' professional choices, is to use a large number of weak ties established network of relationships, access to more diverse information to counter the information and break the cocoon effect. This solution is supported by the findings of Min and Wohn[25]. Moreover, cross-cultural differences in career selection (citizens of Western countries like to use weak ties[26][27], while citizens of Eastern countries like to use strong ties[28][29]) are likely to appear in major selection as well. In this case, avoiding strong ties and advice from elders can effectively avoid the tragedy of "obligated" acceptance of a choice. Making good use of peer students, special third-party groups (teachers, overseas study consultants, educational agents) and weak ties will help students gain access to a wide variety of information on the basis of which to improve their chances of finding a suitable major. Future research direction can be based on this essay to conduct a comparative study of different kinds of major choices or focus on exploring how students are affected by the relationship network and information cocoon effect in the process of major choice and related cross-cultural research.

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