

Article

Sustained Improvement of Educational Information Asymmetry: Intentions to Use School Social Media

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Abstract: Under the impact of digitization, many schools in Taiwan have started to actively operate social media. Using social media to release important school information can reduce the educational information asymmetry between schools and students. Educational information asymmetry may cause problems of adverse selection and moral hazard, and damage the rights and interests of students. The main purpose of this study is to explore the intentions of high school students to use school social media as a channel to obtain important information about their schools. A questionnaire survey was administered to the students of a high school in Taoyuan City, Taiwan, and the collected data were statistically analyzed. The research results of this study show that perceived usefulness, subjective norm, and trust had positively significant effects on the intention to use school social media; however, perceived ease-of-use, and perceived behavioral control did not have significant effects on the intention to use school social media. Through the operation of social media, schools can not only eliminate the adverse selection and moral hazard caused by information asymmetry but also improve their brand images and reduce their marketing costs.

Keywords: social media; information asymmetry; brand image; usage intention



Citation: Huang, H.-T.; Chueh, H.-E. Sustained Improvement of Educational Information Asymmetry: Intentions to Use School Social Media. *Sustainability* **2023**, *15*, 2676. <https://doi.org/10.3390/su15032676>

Academic Editors: Teen-Hang Meen, Yung-Kuan Chan and Ming Yuan Hsieh

Received: 20 November 2022

Revised: 24 January 2023

Accepted: 31 January 2023

Published: 2 February 2023



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1. Introduction

In recent years, the issue of digital transformation has continued to receive attention in various fields due to the impacts of globalization and digitalization [1,2]. In addition, the COVID-19 pandemic has not only accelerated the pace of digital transformation in organizations but also tested how organizations can respond to various unexpected crises during the rapid digital transformation process. In this wave of digital transformation, various companies, including educational institutions, have begun investing in digital transformation hardware and software to actively strengthen their management and services to students and their parents [3–5].

Most countries around the world agree that a high quality of citizens is a key factor in the success of a country and that a high quality of citizens comes from a high quality of education. Therefore, countries around the world are investing resources in education and innovating teaching methods in order to cultivate high-quality citizens. To this end, many educational institutions have started to collect and analyze various educational data and use the results of the analysis to improve and innovate teaching models. They also provide the results to parents and students so they can understand the effectiveness of the students' learning in school and the performance of the schools. This educational performance orientation has facilitated the extensive use of data analytics and information platforms in education [6,7].

In Taiwan, when students apply for their high schools, they usually apply to public high schools first, and then to private high schools. However, due to the low birth rate, enrollment quotas are much higher than the number of students applying, so the competition among schools is very fierce. Schools that fail to deliver superior student learning

outcomes and school performance, and those that do not actively reinforce and market their brand image, may have the problem of no students applying. In today's society, brand image has become an important basis for consumers in making purchasing decisions [8,9]. A good brand image is not only an important strategy for the survival of enterprises but also an important weapon for schools to face the competition of other schools in the era of low birth rates.

The rapid development of mobile communication technologies has led to the emergence of new media, such as social media (Facebook, LINE, Instagram, and YouTube), which allows users to access and exchange important information through the Internet and information technology, so schools may consider using these new media to release news, and communicate with parents and students. Especially during the COVID-19 pandemic, when students were unable to come to school, all teaching activities, announcements, and the latest measures were released online. Students and parents must obtain the information released by the school in a timely manner. Real-time communication can avoid educational information asymmetry between schools and students.

Information asymmetry occurs when the parties involved in a transaction do not have the same information related to the transaction. Since the information possessed by the different parties is not equal, the party with the information advantage can use improper means to gain more benefits, causing the party with the information disadvantage to lose benefits. Even if the party with the information advantage does not deliberately withhold important transaction information, the party with the information disadvantage may make a wrong decision due to having insufficient information, resulting in the loss of benefits [10].

The main problems caused by information asymmetry are adverse selection and moral hazard [11]. Adverse selection occurs mainly before a transaction contract is signed, when the party with the information disadvantage is unable to choose the most advantageous transaction for itself due to insufficient information. In other words, adverse selection occurs when the party with the information advantage intentionally or unintentionally hides important information about the transaction, causing the party with the information disadvantage to make the wrong choice. For example, some schools do not reveal important information about how many learning resources the schools have before students apply, causing students to apply to schools that are not suitable for them, such as a school with a good ranking but fewer learning resources [12].

Moral hazards can arise after a transaction occurs between two parties if the person with the information advantage tries to harm the other party in order to gain more benefits, and causes the party with the information disadvantage to lose benefits because it does not have real-time access to important information. For example, the government provides funds to require schools to provide remedial programs for students who are not performing well, but schools may use some of these funds to provide advanced programs for their best students so they can perform better in the entrance exams for higher education, causing the rights and interests of underperforming students to be compromised [13–15].

The difference between adverse selection and moral hazard is that adverse selection arises because people with weak information cannot observe the characteristics of people with an information advantage, while moral hazard is because people with weak information cannot observe the behavior of people with an information advantage [16].

As mentioned above, adverse selection and moral hazards arising from information asymmetry can affect a student's choice of schools. In order to avoid adverse selection, the party with the information advantage should provide complete information as much as possible. For example, schools should disclose data on teacher satisfaction and student learning outcomes as a guarantee of teaching quality in order to gain parental and student approval and attract students to apply to the school. To avoid moral hazard, schools should disclose information about the curriculum and funding sources for the stakeholders' review and monitoring to reduce the information gap between schools and students, parents, and governments.

With the popularity of mobile networks and handheld devices, people are becoming increasingly dependent on social media in their lives. Online marketing is constantly innovating through social media, moving from one-way transmission in the past to two-way transmission, and from the previous group transmission to individual transmissions. In this trend, if a company wants to actively manage its brand, it should establish a communication platform with its stakeholders to transmit its brand image and information about its products and services. In recent years, many schools in Taiwan have started to actively operate social media to reveal important information about the school, hoping to reduce the problem of information asymmetry between the school and the students, as well as strengthen the school's brand marketing and enhance the school's brand image.

Research on social media in education has focused on its application in learning [17–19]. In a study conducted by Liu (2010) [20] at the University of Houston's Central Campus in the fall of 2009, students' uses, perceptions, and attitudes toward different social media tools, and their preferences for communities were investigated. The results reveal that the three most popular social media tools used by students are Facebook, Wikipedia, and YouTube. Furthermore, the study found that students use social media tools for community involvement, directional communication, speed of feedback, and relationship building. Evans (2014) [21] conducted a study using Twitter to teach a 12-week course in which undergraduates majoring in business and management were encouraged to use Twitter to communicate with the instructor and each other. The results reveal a positive correlation between Twitter usage and student participation in college-related activities (including organizing their social lives and sharing information). Kolhar, Kazi, and Alameen (2021) [22] conducted a questionnaire survey on 300 female university students in Saudi Arabia on the purpose of using social network websites and their impacts on their studies. The results show that 97% of the students used social media, but only 1% used social media for academic purposes. According to a study by Rajeh et al. (2021) [23], the main advantages of using social media in learning are that it helps to obtain more information about different subjects, makes education more attractive, provides better access to new resources, increases creativity and innovation, and improves research skills. In contrast, the main disadvantages are distractions from learning, increased likelihood of addiction, increased time spent on using social media, and fears of not having direct contact with teachers.

There have been many studies on the application of social media in teaching, but there are few studies on the application of social media in eliminating information asymmetry in schools, and whether students are willing to use school social media as a channel to obtain school information. This is the main purpose of this study.

2. Literature Review and Research Model

2.1. Educational Information

With the popularity and rapid development of information technologies, most schools are continuing to increase the construction of hardware and software information equipment and invest in the construction of digital service platforms to collect, store, and apply a large amount of data related to the overall educational process [24]. In general, the data collected, stored, and used in the educational process can be divided into four main categories [25,26]:

Individual student data: the students' basic information, learning records, and activity records, e.g., attendance records, academic performance, student leadership experiences, activity participation, and library records [27,28].

Course information data: course and assessment-related data, e.g., course names, syllabuses, assignment topics, and exam topics.

School performance data: data on school management, such as school profiles, number of teachers, number of students, and competitive programs [29].

School resource data: data on the resources required to ensure the operation of the school, such as school fund investments, grant information, and environmental equipment and maintenance.

Due to the rapid advancement in technology, the cost of collecting, storing, and applying relevant educational data has been greatly reduced. The data in videos, text, audio, and maps can all be disclosed to stakeholders, in compliance with government regulations, to build the school's brand image and market the school. This allows students, parents, and the public to clearly understand the school's performance and increase the recognition of the school's brand [30].

2.2. Social Media

A community is a group of people who share a common interest in a subject or hobby and thus develop interpersonal relationships. Media refers to the materials and tools that carry, transmit or control messages. Broadly speaking, media includes online videos, online news, smartphones, and communication software. Social media is an online platform where users can share ideas, exchange opinions, or engage in various forms of social interaction that include text, images, audio, and video. On such platforms, users can gather into communities according to their preferences. Generally, these platforms do not provide any content; the content is created by users and shared on the platforms [31]. Currently, the mainstream social media platforms include Facebook, Twitter, Instagram, LINE, WhatsApp, and YouTube, all of which emphasize different functions and features [32].

According to the Taiwan Internet Report of the Taiwan Network Information Center [33], the most common Internet services used by individuals aged 12 to 24 years old in Taiwan are community forums, real-time communications, and audio/video/live streaming, as shown in Table 1.

Table 1. Web services frequently used by users aged 12–24 in Taiwan.

Ranking	Web Service	Usage Rate
1	Community forum	95.6%
2	Real-time communication	90.2%
3	Audio/video/live streaming	87.4%
4	Internet news	79.0%
5	Email/search	76.6%

Of all social media, Facebook is social media with users of a wide age range. Facebook's popularity was initially because it was used by young people, but gradually more and more middle-aged people use it. There is a huge amount of news and content on Facebook, regardless of the accuracy of the information, which is very convenient for people who need to follow the news every day. While young people are spending less time on it, many of them still use Facebook to read the news or receive messages [34,35].

Instagram is a very popular platform for the younger generation, and almost every person of the younger generation has their own Instagram account. In other words, the time spent on Facebook is slowly decreasing, but it is actually being transferred to the Instagram platform. Young people today mainly create their own style through Instagram, share their lives, and let more people know about and see them [36,37].

Twitter is also a platform primarily used by young people. Unlike Instagram, which is mainly based on pictures, Twitter is a platform based on text. Much of the content is not about sharing knowledge, but simply expressing emotions. Therefore, many politicians and entertainers like to use the platform to express their opinions. Compared with Instagram, which is mainly used for personal image management, Twitter can better express the real personality of users [38].

LINE is a popular instant messaging and social media application that was first developed and released in Japan in 2011. LINE users can send text messages, make voice and video calls, and share images and other media with their friends and family. LINE has a feature that allows users to follow and interact with each other, similar to social media platforms like Facebook and Twitter [39,40]. LINE also includes a variety of features such as a Timeline, where users can post updates and share photos and videos, and a Sticker Shop, where users can purchase and download additional emoticons and stickers.

According to the above analysis, it is obvious that the main function of Facebook is to provide information and news, the main function of Instagram is to manage personal image, Twitter is mainly used to express self-opinion and emotion, and LINE is mainly used for instant messaging.

Based on the functions and characteristics of Facebook, many schools use it as a channel to disseminate important information to parents and students, allowing them to understand the latest policies, activities, and school-related educational data. If parents and students can obtain important information about the school in real-time on Facebook, it will reduce the information asymmetry between the school and the parents and students.

2.3. Social Media Usage Intention

2.3.1. Perceived Usefulness, Perceived Ease-of-Use, and Usage Intention

The technology acceptance model (TAM) is a behavioral intention model developed by Davis et al. in 1989 [41] based on the theory of reasoned action (TRA). It aims to explain users' intention to use new information technologies and to analyze the factors that influence usage intentions. This model also provides a theoretical basis for understanding the influence of external factors on users' attitudes and usage intentions, which in turn affects the usage behaviors towards new information technologies [42–44].

TAM uses perceived usefulness (PU) and perceived ease-of-use (PEOU) as independent variables, with attitudes, usage intentions, and use behaviors as dependent variables. TAM asserts that perceived usefulness and perceived ease-of-use affect users' attitudes toward new information technology, which in turn affects usage intentions. It also asserts that users' usage behaviors toward new information technology are influenced by usage intentions. This model mainly uses perceived usefulness and perceived ease-of-use to explain and infer users' attitudes and usage intentions, while perceived usefulness and perceived ease-of-use are influenced by external variables.

Salloum et al. (2021) [45] explored students' acceptance of social media applications in learning and the factors that influence such acceptance. They distributed a questionnaire to 369 students studying at a university and statistically analyzed the results of the survey. Their findings confirmed that perceived usefulness and perceived ease of use have a positively significant effect on the intention to use social media. Akar and Mardikyan (2014) [46] explored the factors influencing users' behavioral intentions toward the use of Twitter. They used an online survey service to collect data from Twitter users, collected the valid data of 462 users, and analyzed the collected data using structural equation modeling. Their research results confirmed that perceived usefulness and perceived ease-of-use have a positively significant effect on the intention to use social media. Therefore, the following hypotheses were proposed:

H1: *Perceived usefulness has a positively significant effect on students' intention to use school social media as a channel for information acquisition.*

H2: *Perceived ease-of-use has a positively significant effect on students' intention to use school social media as a channel for information acquisition.*

2.3.2. Subjective Norm and Perceived Behavioral Control

The theory of reasoned action (TRA) [47] asserts that individuals tend to choose among many behavioral options to engage in the behavior with the highest desired outcome in order to achieve the desired goal based on their values, and that individuals' behaviors

are determined by their behavioral intentions and influenced by their attitudes and the subjective norm (SN) towards the behavior. Subjective norm refers to the social pressure that an individual perceives when performing a particular behavior, i.e., the pressure that individuals perceive from significant others or groups (e.g., parents, spouses, friends, and colleagues) as to whether they should perform a particular behavior. The stronger the positive subjective norm, the more likely it is to motivate the individual's behavioral intentions to perform the behavior.

However, predicting the occurrence of a behavior solely from an individual's intention may overlook other important influence factors, so TRA may not be able to account for situations in which individuals are unable to autonomously decide their behavioral intentions or perform specific behaviors based on their intentions [48,49]. Thus, by adding perceived behavioral control (PBC) to TRA, Ajzen (1989) [50] proposed the theory of planned behavior (TPB). Perceived behavioral control refers to the belief that individuals can self-control the outcome of their behaviors and reflects their experience of engaging in similar behaviors. For example, the more resources or opportunities individuals believe they have for performing a behavior, the stronger their perception of control over the performance of that behavior will be. When individuals perceive a lack of resources or opportunities to perform a behavior, they will be less likely to have a strong intention to perform it.

In their study, Tantipongnant and Laksitamas (2014) [51] explored the factors influencing users' selection of universities based on social media. They conducted a questionnaire survey on 350 freshmen in a university and analyzed the collected data using structural equation modeling. The results of their study confirmed that self-efficacy and subjective norms have a positively significant impact on the intention to use social media. Werling and Barkela (2021) [52] explored the key factors influencing employees' use of social media within organizations during the COVID-19 pandemic. They collected data from employees of four organizations in Germany. These organizations ranged in size from 300 to over 21,000 employees and came from a variety of industries. The employees who were eligible to participate in Werling and Barkela's study were those who had access to the internal social media of these organizations. The valid data from a total of 140 employees were collected for analysis. Their findings confirmed that perceived behavioral control and subjective norm among colleagues have a positively significant effect on employees' intention to use corporate internal social media. Therefore, the following hypotheses were proposed:

H3: *Subjective norm has a positively significant effect on students' intention to use school social media as a channel for information acquisition.*

H4: *Perceived behavioral control has a positively significant effect on students' intention to use school social media as a channel for information acquisition.*

2.3.3. Trust

Trust (TRU) is one of the most important factors influencing users' use of any information technology, especially the use of social media platforms. However, social media platforms continuously collect information about users. Therefore, it is important for platforms to protect their users' information and not misuse it. Rauniar et al. (2013) [53] argued that users post, reply to messages, and interact with other users on social media, and that social media should not make users worry about privacy and security when performing these actions. They believed that users' intentions to use social media are influenced by their trust in the social media platform. Therefore, the following hypothesis was proposed:

H5: *Trust has a positively significant effect on students' intention to use school social media as a channel for information acquisition.*

2.4. Research Model

Based on the above literature review, it could be concluded that five factors, including perceived usefulness, perceived ease-of-use, subjective norm, perceived behavioral control,

and trust had positively significant effects on students' intention to use school social media as a channel for information acquisition (Figure 1).

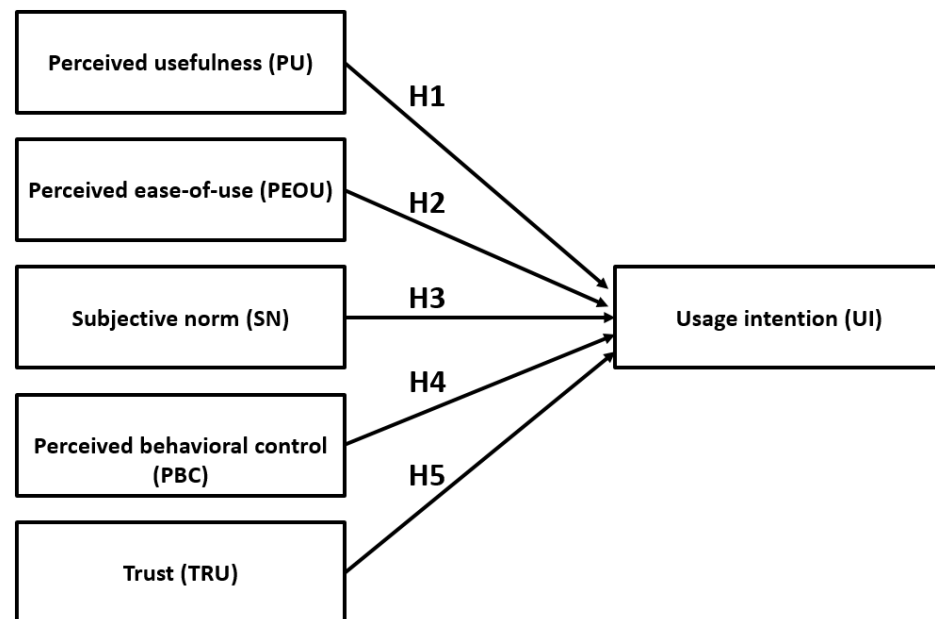


Figure 1. The research model.

The variables used in the research model and the definitions of each variable are shown below:

Perceived usefulness (PU): Students perceive that using school social media as a channel for information acquisition is useful for learning about the school.

Perceived ease-of-use (PEOU): Students perceive that using school social media as a channel for information acquisition is easy for learning about the school.

Subjective norm (SN): Students perceive that their friends and family believe that they should use school social media as a channel to get information about the school.

Perceived behavioral control (PBC): Students believe that they can use school social media as a channel to get information about the school.

Trust (TRU): Students believe that they can trust using the school's social media as a channel to get information about the school.

Usage intention (UI): Students are willing to use school social media as a channel to get information about the school.

3. Research Method

3.1. Study Context and Participants

To test the research model, we conducted a questionnaire survey of students at a high school in Taoyuan City, Taiwan. Before the questionnaire survey was conducted, each participant was asked to browse the school's official Facebook fan page for one minute on their cell phone and name the most impressive posting. Each participant was then asked a question about the content of the fan page and was required to go through the fan page again to find answers. After this guided process was completed, each participant was asked to fill out an online questionnaire. The survey was conducted from 1 to 30 June 2022, and the completed questionnaires from a total of 176 respondents were collected. The demographic information of the respondents is shown in Table 2.

Table 2. Demographic information ($n = 176$).

Item	Option	Frequency
Gender	Male	91
	Female	85
Grade	Grade 10	101
	Grade 11	70
	Grade 12	5
Do you regularly visit the Facebook community?	Strongly disagree	8
	Disagree	16
	Neutral	83
	Agree	36
	Strongly agree	33
Do you know that your school has an official Facebook fan page?	Yes	153
	No	23
Have you visited the school's official Facebook fan page?	Yes	130
	No	46

3.2. Instrument Development

The questionnaire used in this study was divided into six main parts, representing the six research variables of this study (PU, PEOU, SN, PBC, TRU, and UI). A five-point Likert scale was used to measure the strength of each item of the questionnaire, with answers ranging from 5 (strongly agree) to 1 (strongly disagree). The details of the items in the questionnaire are shown in Table 3.

Table 3. Research variables and questionnaire items.

Variable	Questionnaire Item
PU	PU1: I think I can know what the school is promoting through the school's official FB fan page.
	PU2: I think I can know about the school's activities through the school's official FB fan page.
	PU3: I think I can learn about the school's awards and honors through the school's official FB fan page.
PEOU	PEOU1: I think it is easy to view posts on the school's official FB fan page.
	PEOU2: I think it is easy to find posts on the school's official FB fan page.
	PEOU3: I think it is easy to share or reply to posts on the school's official FB fan page.
SN	SN1: I think some students will view posts on the school's official FB fan page.
	SN2: I think some of my classmates' parents will view posts on the school's official FB fan page.
	SN3: I think the director, team leader, and teachers would like me to view posts on the school's official FB fan page.
PBC	PBC1: I think I can use the Facebook app to view posts on the school's official FB fan page by myself.
	PBC2: I think I can use the Facebook app to view posts on the school's official FB fan page even if no one tells me how to use it.
	PBC3: I think I have the knowledge and ability to use the FB app on my own to view posts on the school's official FB fan page.

Table 3. *Cont.*

Variable	Questionnaire Item
TRU	TRU1: I think the information posted on the school's official FB fan page is correct.
	TRU2: I think there are no fake messages on the school's official FB fan page.
	TRU3: I think it is safe to share the information posted on the school's official FB fan page.
UI	UI1: In the future, I will view posts on the school's official FB fan page.
	UI2: In the future, if I want to know about school announcements or events, I will go to the school's official FB fan page to view posts.
	UI3: In the future, if someone wants to know about the school, I will tell them they can visit the school's official FB fan page to view posts.

3.3. Measures

This study calculated the Cronbach's α value for each research variable to assess the reliability of the questionnaire structure and ensure internal consistency among the questionnaire items. The reliability values of various research variables and the overall questionnaire are shown in Table 4. The Cronbach's α value for the overall questionnaire was 0.970 (over 0.8), and the Cronbach's α value for each research variable was also higher than 0.8, indicating high internal consistency and good reliability of the questionnaire [54]. The questionnaire items for each research variable were adapted from previous literature and therefore had good expert validity. In order to evaluate the research model and test the research hypotheses, Pearson correlation analysis and multiple regression analysis were used for analysis. Pearson correlation analysis is mainly used to investigate the linear correlation between two variables, while multiple regression analysis is used to investigate the relationship between one dependent variable and multiple independent variables.

Table 4. Reliability analysis.

Variable	Cronbach's α
PU	0.932
PEOU	0.876
SN	0.893
PBC	0.921
TRU	0.866
UI	0.932
Overall	0.970

4. Research Results and Discussion

4.1. Descriptive Statistics

The means and standard deviations of the questionnaire items are shown in Table 5. The mean of PBC was the highest among all the research variables, indicating the students believed they had the ability to use school social media as a channel for information acquisition to get important information about the school. The mean of UI was the lowest among all the research variables, implying the participants were less likely to use school social media as a channel for accessing important school information.

Table 5. Descriptive statistics of the questionnaire items.

Variable	Questionnaire Items	Mean	Standard Deviation
PU	PU1	3.84	0.901
	PU2	3.89	0.878
	PU3	3.99	0.891
PEOU	PEOU1	3.97	0.874
	PEOU2	3.88	0.890
	PEOU3	3.62	1.024
SN	SN1	3.84	0.912
	SN2	3.76	0.980
	SN3	3.86	0.934
PBC	PBC1	3.97	0.913
	PBC2	3.91	0.919
	PBC3	3.98	0.865
TRU	TRU1	3.90	0.869
	TRU2	3.99	0.835
	TRU3	3.78	0.956
UI	UI1	3.78	0.915
	UI2	3.79	0.942
	UI3	3.84	0.899

4.2. Empirical Analysis

Before performing multiple regression analysis, we analyzed the Pearson correlation coefficients among the research variables to understand the linearity between each pair of research variables, and determine the applicability of regression analysis. The Pearson correlation coefficients among research variables are shown in Table 6.

Table 6. Pearson correlation coefficients.

	PU	PEOU	SN	PBC	TRU	UI
PU	1					
PEOU	0.634 **	1				
SN	0.711 **	0.747 **	1			
PBC	0.673 **	0.801 **	0.732 **	1		
TRU	0.637 **	0.680 **	0.705 **	0.735 **	1	
UI	0.770 **	0.691 **	0.751 **	0.700 **	0.759 **	1

Note: *** indicates $p < 0.001$, ** indicates $p < 0.01$, * indicates $p < 0.05$.

Next, multiple regression analysis was used to find the path coefficients of the research model. The path coefficients were standardized regression coefficients and were used to explain the direction of the relationships among research variables. The multiple regression analysis results are shown in Table 7.

Table 7. Multiple regression analysis results.

Path	Standardized Coefficient (β)	t Value	p Value	Result
PU- > UI	0.368	6.180	0.000 ***	Supported
PEOU- > UI	0.099	1.380	0.169	Not supported
SN- > UI	0.188	2.693	0.008 **	Supported
PBC- > UI	-0.007	-0.093	0.926	Not supported
TRU- > UI	0.329	5.231	0.000 ***	Supported

Note: *** indicates $p < 0.001$, ** indicates $p < 0.01$, * indicates $p < 0.05$.

The adjusted R-squared value was 0.725 and the F-value was 118.171. According to the multiple regression analysis results, PU had a significant positive effect on UI ($\beta = 0.368$, $p = 0.000 < 0.001$); SN had a significant positive effect on UI ($\beta = 0.188$, $p = 0.008 < 0.01$); TRU also had a significant positive effect on UI ($\beta = 0.329$, $p = 0.000 < 0.001$). Therefore, H1, H3, and H5 were supported.

However, the effect of PEOU on UI was not statistically significant ($\beta = 0.099$, $p = 0.169 > 0.05$); the effect of PBC on UI was also not statistically significant ($\beta = -0.007$, $p = 0.926 > 0.05$). Therefore, H2 and H4 were not supported.

4.3. Discussion

According to Table 5, the mean of PBC was the highest among all research variables, which might be due to the fact that high school students nowadays are generally referred to as Generation Z, or digital natives, and their information skills are stronger than previous Generations X and Y. Therefore, most high school students believe that they can use any information platform. However, among all research variables, the mean of UI was the lowest. This might be because high school students in Taiwan receive great pressure to go on to higher education and show high academic performance, and they spend more than ten hours a day at school. During their time at school, they continuously receive information from the school units, instructors, and teachers. Therefore, these students are often reluctant to use their free time to learn related information about the school through school social media.

In addition, according to the results of the empirical analysis (Table 7), PU, SN, and TRU had a significant effect on students' intention to use school social media as a channel to obtain school information, while PEOU and PBC did not have a significant effect on students' intention to use school social media as a channel to obtain school information. The high school students of Generation Z have been living in both the virtual and real worlds since childhood. Therefore, they are greatly influenced by technology such as the Internet, real-time communications, multimedia, smartphones, and tablet computers. As a result, with their unique culture and abilities, the high school students of Generation Z receive information in a completely different way from other generations in terms of learning and life.

In terms of learning and life, unlike other generations who were more regular, high school students of Generation Z pay more attention to success, and they do not restrict their use of tools and methods as long as they can complete the specified task, so usefulness is very important to them. In terms of organization, the high school students of Generation Z prefer to work together in task and project groups or other random forms of collaboration, which is different from other generations who tend to coordinate within departments or units, so peer groups are very important to them. In terms of the communication format, the high school students of Generation Z prefer to receive instant messages and respond quickly to messages, unlike other generations who prefer to receive organized and complete messages. Finally, in terms of information acquisition sources, high school students of Generation Z rely more on information sourced from the Internet, compared to other

generations who tend to consult their teachers or experts to obtain information. Therefore, a fast and reliable information acquisition channel is also important to them.

According to the results of the study, Hypothesis 1 is supported, therefore, perceived usefulness has a positively significant effect on students' intention to use school social media as a channel for information acquisition. Considering the characteristics of high school students, this study found that they rely heavily on the Internet to get the information they need. Even though the information they receive online is fragmented and unorganized, they still prefer to search for the most up-to-date information through this method. The use of school social media to disclose important information about the school is consistent with the instant messaging and web-based nature of the information, and therefore meets the students' perception of the usefulness of this channel for information acquisition.

In addition, according to the results of the study, Hypothesis 3 is also supported, therefore, the subjective norm has a positively significant effect on students' intention to use school social media as a channel for information acquisition. High school students prefer to collaborate with each other in task or project groups, and their self-identity is deeply influenced by the social relationships and values shaped by technological development. Thus, if all members of a social relationship use social media platforms to share and transmit information, it will certainly affect the intention of the high school students of Generation Z to use this channel to obtain information.

Finally, according to the results of the study, Hypothesis 5 is supported, therefore, trust has a positively significant effect on students' intention to use school social media as a channel for information acquisition. One of the most common concerns about social media platforms is the problem of misleading and false information. Instead of consulting teachers or experts to obtain information, the high school students of Generation Z prefer to use online platforms to get real-time information. They also use online platforms to quickly transmit and share information with different online communities. However, if it is later found that the shared information is false, the credibility and personal image of the person transmitting the information will be affected. Therefore, for the high school students of Generation Z, their trust in the messages they receive through information channels will affect their intention to use these channels.

Based on the above reasoning, this study made several recommendations for schools wishing to actively manage their social media accounts to reduce the educational information asymmetry between schools and students. Perceived usefulness has a positively significant effect on students' intention to use school social media as a channel for information acquisition, so, before disclosing information, schools should confirm the correctness of the information, and then avoid modifying or deleting the information after it is released. In addition, schools should make school social media platforms the priority for information disclosure, rather than using social media to disclose information after it has been announced on the school website, physical bulletin boards, or verbally by teachers; otherwise, it will reduce students' perceived usefulness for school social media and affect students' intention to use it. Due to subjective norms having a positively significant effect on students' intention to use school social media as a channel for information acquisition, schools should include students as school social media editors to promote students' intention to use school social media platforms through the influence of peers or community members. Due to trust having a positively significant effect on students' intention to use school social media as a channel for information acquisition, schools must protect students' personal information and not allow social media to become a channel for the disclosure of students' personal information.

5. Conclusions

When adverse selection and moral hazards occur between schools and students due to information asymmetry, students' rights and interests will be damaged, and stakeholders' perceptions and satisfaction with the schools may be affected. With the trend of digitization and low birth rates, the use of social media to disclose important school information

can not only reduce the information asymmetry between schools and students but also strengthen brand management and enhance the brand image of the schools. This study used a questionnaire and statistical analysis to investigate the factors influencing high school students' intention to use school social media as a channel to obtain information. It was found that perceived usefulness, subjective norm, and trust were the key factors influencing high school students of Generation Z to use school social media as information acquisition channels. Based on these findings, this study proposed a set of school social media management strategies to provide practical reference guidelines for schools wishing to actively manage social media to build their brand images and use social media as a channel to disclose important school information.

There are some limitations of this study. This study was conducted using high school students in Taiwan as the research subjects, and the findings may not be fully applicable to high school students in other countries or regions, and may not be applicable to college students or elementary school students. In addition, the high school surveyed in this study only uses the school's official website and Facebook fan page as the platform for publishing important information, thus, this study can only use Facebook fan pages as the research target, and the findings might not be fully applicable to other social media such as Instagram or Twitter.

For future research, we propose several directions for improvement. First, because high school students will use many kinds of social media, each social medium has different characteristics and functions, and high school students will also use different social media for different social activities, therefore, we think it is necessary to compare students' intentions to use different school social media as channels for information acquisition. In addition, we believe that high school students of the same age may have different habits and experiences of using school social media. Therefore, if more background information or social media habits of high school students can be obtained in the future, high school students can be grouped first, and then future studies can analyze and compare different student groups to find the key factors influencing the high school students' intentions to use various social media.

Author Contributions: Conceptualization, H.-T.H. and H.-E.C.; methodology, H.-T.H.; software, H.-E.C.; validation, H.-T.H.; formal analysis, H.-E.C.; investigation, H.-T.H.; writing—original draft preparation, H.-T.H. and H.-E.C.; writing—review and editing, H.-T.H. and H.-E.C.; visualization, H.-E.C. All authors have read and agreed to the published version of the manuscript.

Funding: This research received no external funding.

Institutional Review Board Statement: Not applicable.

Informed Consent Statement: Not applicable.

Data Availability Statement: Not applicable.

Conflicts of Interest: The authors declare no conflict of interest.

References

1. Feroz, A.K.; Zo, H.; Chiravuri, A. Digital transformation and environmental sustainability: A review and research agenda. *Sustainability* **2021**, *13*, 1530. [[CrossRef](#)]
2. Tijan, E.; Jović, M.; Aksentijević, S.; Pucihar, A. Digital transformation in the maritime transport sector. *Technol. Forecast. Soc. Chang.* **2021**, *170*, 120879. [[CrossRef](#)]
3. Peñalvo, F.J.G. Digital transformation in the universities: Implications of the COVID-19 pandemic. *Educ. Knowl. Soc.* **2021**, *22*, e25465. [[CrossRef](#)]
4. Klein, V.B.; Todesco, J.L. COVID-19 crisis and SMEs responses: The role of digital transformation. *Knowl. Process. Manag.* **2021**, *28*, 117–133. [[CrossRef](#)]
5. Sáiz-Manzanares, M.C.; Rodríguez-Díez, J.J.; Díez-Pastor, J.F.; Rodríguez-Arribas, S.; Marticorena-Sánchez, R.; Ji, Y.P. Monitoring of student learning in learning management systems: An application of educational data mining techniques. *Appl. Sci.* **2021**, *11*, 2677. [[CrossRef](#)]
6. Dash, G.; Chakraborty, D. Digital transformation of marketing strategies during a pandemic: Evidence from an emerging economy during COVID-19. *Sustainability* **2021**, *13*, 6735. [[CrossRef](#)]

7. Baek, C.; Doleck, T. Educational data mining versus learning analytics: A review of publications from 2015 to 2019. *Interact. Learn. Environ.* **2021**, *1*, 1–23. [CrossRef]
8. Tan, Z.; Sadiq, B.; Bashir, T.; Mahmood, H.; Rasool, Y. Investigating the Impact of Green Marketing Components on Purchase Intention: The Mediating Role of Brand Image and Brand Trust. *Sustainability* **2022**, *14*, 5939. [CrossRef]
9. Cuesta-Valiño, P.; Gutiérrez-Rodríguez, P.; Núñez-Barriopedro, E. The role of consumer happiness in brand loyalty: A model of the satisfaction and brand image in fashion. *Corp. Gov.* **2021**, *22*, 458–473. [CrossRef]
10. Mishra, D.P.; Heide, J.B.; Cort, S.G. Information asymmetry and levels of agency relationships. *J. Mark. Res.* **1998**, *35*, 277–295. [CrossRef]
11. Klein, T.J.; Lambert, C.; Stahl, K.O. Market transparency, adverse selection, and moral hazard. *J. Political Econ.* **2016**, *124*, 1677–1713. [CrossRef]
12. Oppedisano, V. The (adverse) effects of expanding higher education: Evidence from Italy. *Econ. Educ. Rev.* **2011**, *30*, 997–1008. [CrossRef]
13. Fleurbaey, M.; Gary-Bobo, R.J.; Maguain, D. Education, distributive justice, and adverse selection. *J. Public Econ.* **2002**, *84*, 113–150. [CrossRef]
14. Kivistö, J. The government-higher education institution relationship: Theoretical considerations from the perspective of agency theory. *Tert. Educ. Manag.* **2005**, *11*, 1–17. [CrossRef]
15. Cigno, A.; Luporini, A. Scholarships or student loans? Subsidizing higher education in the presence of moral hazard. *J. Public Econ. Theory* **2009**, *11*, 55–87. [CrossRef]
16. Doherty, N.A.; Posey, L.L. On the value of a checkup: Adverse selection, moral hazard and the value of information. *J. Risk Insur.* **1998**, *65*, 189–211. [CrossRef]
17. Hashim, K.F.; Rashid, A.; Atalla, S. Social Media for Teaching and Learning within Higher Education Institution: A Bibliometric Analysis of the Literature (2008–2018). *Int. J. Interact. Mob. Technol.* **2018**, *12*, 4–19. [CrossRef]
18. Barrot, J.S. Social media as a language learning environment: A systematic review of the literature (2008–2019). *Comput. Assist. Lang. Learn.* **2022**, *35*, 2534–2562. [CrossRef]
19. Khan, M.N.; Ashraf, M.A.; Seinen, D.; Khan, K.U.; Laar, R.A. Social media for knowledge acquisition and dissemination: The impact of the COVID-19 pandemic on collaborative learning driven social media adoption. *Front. Psychol.* **2021**, *12*, 648253. [CrossRef]
20. Liu, Y. Social media tools as a learning resource. *J. Educ. Technol. Dev. Exch.* **2010**, *3*, 8. [CrossRef]
21. Evans, C. Twitter for teaching: Can social media be used to enhance the process of learning? *Br. J. Educ. Technol.* **2014**, *45*, 902–915. [CrossRef]
22. Kolhar, M.; Kazi, R.N.A.; Alameen, A. Effect of social media use on learning, social interactions, and sleep duration among university students. *Saudi J. Biol. Sci.* **2021**, *28*, 2216–2222. [CrossRef] [PubMed]
23. Rajeh, M.T.; Sembawa, S.N.; Nassar, A.A.; Al Hebshi, S.A.; Aboalshamat, K.T.; Badri, M.K. Social media as a learning tool: Dental students' perspectives. *J. Dent. Educ.* **2021**, *85*, 513–520. [CrossRef] [PubMed]
24. Amo, D.; Gómez, P.; Hernández-Ibáñez, L.; Fonseca, D. Educational warehouse: Modular, private and secure cloudable architecture system for educational data storage, analysis and access. *Appl. Sci.* **2021**, *11*, 806. [CrossRef]
25. Khan, A.; Ghosh, S.K. Student performance analysis and prediction in classroom learning: A review of educational data mining studies. *Educ. Inf. Technol.* **2021**, *26*, 205–240. [CrossRef]
26. Xu, F.; Li, Z.; Yue, J.; Qu, S. A Systematic Review of Educational Data Mining. In *Intelligent Computing; Lecture Notes in Networks and Systems*; Springer: Cham, Switzerland, 2021; Volume 284, pp. 764–780. [CrossRef]
27. Feng, G.; Fan, M.; Chen, Y. Analysis and Prediction of Students' Academic Performance Based on Educational Data Mining. *IEEE Access* **2022**, *10*, 19558–19571. [CrossRef]
28. Ramaswami, G.; Susnjak, T.; Mathrani, A. On Developing Generic Models for Predicting Student Outcomes in Educational Data Mining. *Big Data Cogn. Comput.* **2022**, *6*, 6. [CrossRef]
29. Syarwani, M.; Syahrani, S. The Role of Information System Management For Educational Institutions During Pandemic. *Indones. J. Educ.* **2022**, *3*, 270–281. [CrossRef]
30. Fonseca, D.; García-Peñalvo, F.J.; Camba, J.D. New methods and technologies for enhancing usability and accessibility of educational data. *Univers. Access Inf. Soc.* **2021**, *20*, 421–427. [CrossRef]
31. Fuchs, C. *Social Media: A Critical Introduction*; Sage: Thousand Oaks, CA, USA, 2021. [CrossRef]
32. Tuten, T.L.; Hanlon, A. Introduction to Social Media Marketing. In *The SAGE Handbook of Social Media Marketing*; SAGE Publications: Thousand Oaks, CA, USA, 2022; Volume 1.
33. Center, T.N.I. 2019 Taiwan Internet Report. 2019. Available online: <https://www.twinc.tw/doc/twrrp/201912e.pdf> (accessed on 9 September 2022). (In Chinese)
34. Boukes, M. Social network sites and acquiring current affairs knowledge: The impact of Twitter and Facebook usage on learning about the news. *J. Inf. Technol. Politics* **2019**, *16*, 36–51. [CrossRef]
35. Hellemans, J.; Willems, K.; Brengman, M. Daily Active Users of Social Network Sites: Facebook, Twitter, and Instagram—Use Compared to General Social Network Site Use. In *Advances in Digital Marketing and Ecommerce*; Springer: Berlin/Heidelberg, Germany, 2020; pp. 194–202. [CrossRef]

36. Yau, J.C.; Reich, S.M. “It’s just a lot of work”: Adolescents’ self-presentation norms and practices on Facebook and Instagram. *J. Res. Adolesc.* **2019**, *29*, 196–209. [[CrossRef](#)] [[PubMed](#)]
37. Kircaburun, K.; Alhabash, S.; Tosuntaş, Ş.B.; Griffiths, M.D. Uses and gratifications of problematic social media use among university students: A simultaneous examination of the Big Five of personality traits, social media platforms, and social media use motives. *Int. J. Ment. Health Addict.* **2020**, *18*, 525–547. [[CrossRef](#)]
38. Sailunaz, K.; Alhajj, R. Emotion and sentiment analysis from Twitter text. *J. Comput. Sci.* **2019**, *36*, 101003. [[CrossRef](#)]
39. Habuchi, I. Social Media Usage and Translocality Among Japanese Young Adults. In *The Second Offline*; Springer: Singapore, 2021; pp. 245–261. [[CrossRef](#)]
40. Tateno, M.; Kim, D.J.; Teo, A.R.; Skokauskas, N.; Guerrero, A.P.; Kato, T.A. Smartphone addiction in Japanese college students: Usefulness of the Japanese version of the smartphone addiction scale as a screening tool for a new form of internet addiction. *Psychiatry Investig.* **2019**, *16*, 115–120. [[CrossRef](#)] [[PubMed](#)]
41. Davis, F.D.; Bagozzi, R.P.; Warshaw, P.R. User acceptance of computer technology: A comparison of two theoretical models. *Manag. Sci.* **1989**, *35*, 982–1003. [[CrossRef](#)]
42. Alyoussef, I. An empirical investigation on students’ acceptance of (SM) use for teaching and learning. *Int. J. Emerg. Technol. Learn.* **2020**, *15*, 158–178. [[CrossRef](#)]
43. Nguyen, H.T.H.; Van Pham, H.; Vu, N.H.; Hoang, H.T. Factors Influencing Students’ Intention to Use E-learning System: A Case Study Conducted in Vietnam. *Int. J. Emerg. Technol. Learn.* **2020**, *15*, 165–182. [[CrossRef](#)]
44. Alsharida, R.; Hammood, M.; Al-Emran, M. Mobile Learning Adoption: A Systematic Review of the Technology Acceptance Model from 2017 to 2020. *Int. J. Emerg. Technol. Learn.* **2021**, *16*, 147–162. [[CrossRef](#)]
45. Salloum, S.A.; AlAhbabi, N.M.N.; Habes, M.; Aburayya, A.; Akour, I. Predicting the Intention to use Social Media Sites: A Hybrid SEM-Machine Learning Approach. In *Advances in Intelligent Systems and Computing*; Springer: Cham, Switzerland, 2021; Volume 1339, pp. 324–334. [[CrossRef](#)]
46. Akar, E.; Mardikyan, S. Analyzing factors affecting users’ behavior intention to use social media: Twitter case. *Int. J. Bus. Soc. Sci.* **2014**, *5*, 85–95.
47. Ajzen, I.; Fishbein, M. *Understanding Attitudes and Predicting Social Behavior*; Prentice-Hall: Hoboken, NJ, USA, 1980.
48. Sheppard, B.H.; Hartwick, J.; Warshaw, P.R. The theory of reasoned action: A meta-analysis of past research with recommendations for modifications and future research. *J. Consum. Res.* **1988**, *15*, 325–343. [[CrossRef](#)]
49. Madden, T.J.; Ellen, P.S.; Ajzen, I. A comparison of the theory of planned behavior and the theory of reasoned action. *Pers. Soc. Psychol. Bull.* **1992**, *18*, 3–9. [[CrossRef](#)]
50. Ajzen, I. Attitude Structure and Behavior. In *Attitude Structure and Function*; Lawrence Erlbaum Associates, Inc.: Mahwah, NJ, USA, 1989; pp. 241–274.
51. Tantipongnant, P.; Laksitamas, P. An Analysis of the Technology Acceptance Model in Understanding Students’ Behavioral Intention To Use University’s Social Media. In Proceedings of the 2014 IIAI 3rd International Conference on Advanced Applied Informatics, Kokura, Japan, 31 August–4 September 2014; pp. 8–12. [[CrossRef](#)]
52. Werling, K.; Barkela, B. COVID-19 Contextual Conditions’ Influence on Employees’ Internal Social Media Usage Intention. *J. Soc. Media Org.* **2021**, *5*, 1–19.
53. Rauniar, R.; Rawski, G.; Johnson, B.; Yang, J. Social media user satisfaction—Theory development and research findings. *J. Internet Commer.* **2013**, *12*, 195–224. [[CrossRef](#)]
54. Cronbach, L.J. *Essentials of Psychological Testing*. Harper & Row: New York, NY, USA, 1970.

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