EXPLORING THE FACTORS INFLUENCING THE APPLICATION OF TELEGRAM BY MALAYSIAN TAMIL PRIMARY SCHOOL TEACHERS

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EXPLORING THE FACTORS INFLUENCING THE APPLICATION OF TELEGRAM BY MALAYSIAN TAMIL PRIMARY SCHOOL TEACHERS

ABSTRACT

For this study, we sought: (1) to identify motivating, group-interactive, knowledge-sharing, and confidence-increasing factors that influence teachers' use of Telegram in Malaysian Tamil Primary School; (2) to identify relationships between these determinants ("triggering event," exploration," integration," resolution. A total of 500 teachers from Malaysian Tamil Primary Schools (SJKT) took part in the workshop (SJKT). Surveys were used to collect the data. Data from the questionnaires were analyzed using SPSS and sophisticated PLS to examine the correlations between variables. A technique known as partial least squares structural equation modeling (PLS-SEM) was used to investigate factors that may influence teachers' future willingness to use Telegram. A correlational study found that instructors' attitudes of Telegram were linked to their intention to use it in the future, as well as their perception of behavioral control. Teachers' intentions to use Telegram in the future have a negligible negative link with social norm, according to the research. It is clear from the results of this study that using Telegram in the educational sector will be important in the future.

Keywords: instant messenger tool, behavioral intention, instructional management, Telegram, perceived behavioral control

MENGEKSPLORASI FAKTOR YANG MEMPENGARUHI PENGGUNAAN APLIKASI TELEGRAM OLEH GURU DI SEKOLAH RENDAH TAMIL (SJKT)

ABSTRAK

Tujuan kajian ini adalah untuk mengetahui: (1) faktor yang mempengaruhi penggunaan sistem pesanan ringkas oleh guru, Telegram (IM) di Sekolah Rendah Tamil (SJKT), dari segi motivasi, interaksi kumpulan, perkongsian pengetahuan dan keyakinan dalam meningkatkan perkembangan profesional ; (2) hubungan antara penentu (peristiwa pencetus, penerokaan, integrasi, resolusi. Ekspresiemosi, komunikasi terbuka, kerjasama dalam kumpulan, pengurusan instruksional, pemahaman bangunan, arahan secara langsung) dan persepsi terhadap tingkahlaku guru dalam penggunaan Telegram (IM) ; dan (3) faktor yang meramalkan hasrat guru untuk menggunakan Telegram (IM) pada masa akan datang. Pesertater diri daripada lima ratus (n = 500) guru dari sekolah rendah Tamil (SJKT). Data dikumpulkan daripada soalselidik. Data kuantitatif yang diperoleh dari soal selidik dianalisis secara statistik menggunakan analisis korelasi untuk menyiasat hubungan antara penentu (peristiwa pencetus, penerokaan, integrasi, resolusi. Ekspresiemosi, komunikasi terbuka, kerjasama dalamk umpulan, pengurus aninstruksional, pemahaman bangunan, arahan secara langsung) dan niatt ingkahlaku guru terhadap penggunaan Telegram (IM). Seterusnya, teknik teknik partial least squares structural equation modelling (PLS-SEM) digunakan untuk menganalisisfaktor-faktor yang menjadi hasrat guru untuk menggunakan Telegram (IM) pada masa depan. Selainitu, hasil dari analisis korelasi menunjukkan bahawa sikap guru merupakan peramal signifikan tertinggi untuk niat guru bagi menaplikasikan Telegram pada masa depan, diikuti oleh kawalan tingkahlaku. Sebaliknya, norma sosial didapati mempunyai

kepentingan negatif yang sangat kecil dalam meramalkan niat guru untuk menggunakan Telegram pada masa akan datang. Dapatan kajian ini menunjukkan betapa pentingnya memupuk sikap positif dan mewujudkan persekitaran sosial yang merangsang agar guru menggunakan Telegram (IM) pada masa akandatang.

Kata Kunci: sistem pesanan ringkas, tingkah laku, pengurusan instruksional, Telegram, kawalan tingkah laku

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CHAPTER 1

INTRODUCTION

The purpose of this research is to learn how teachers feel about using Telegram (IM), a mobile communication tool used to handle school administration tasks (IM). The study's secondary objective is to determine whether or not there is a correlation between teachers' stated intentions to utilise Telegram in the classroom and their actual use of the platform in their pedagogical practises (IM).

This chapter discusses the study's context, the problem statement, the research questions, the study's objectives, the rationale for conducting the investigation, the significance of the study, the limitations of the study, and the conceptual and operational meanings of terminology used in the study. Increasing mobile computer proficiency and a flood of mobile device submissions make mobile learning possible (mobile apps). Mobile phones and other wireless technologies have revolutionised human interaction. It has been reported that in 2019, the average amount of time that Americans spend using mobile messaging applications each day has doubled compared to 2015. Tang and Hew (2019).

With a population of 31,545,990, 68.5% of Malaysians are online, making up a total of 21,056,126 users (Malaysian Communications and Multimedia Commission, 2016a).

Learning developments in mobile computing present promising opportunities due to the wide range of users that may be served by the technology due to its portability, relatively high processing capability in tiny devices, and constant connectivity.

An active, responsive, and consistent social presence in three dimensions. Thus, technological tools have been extensively investigated in terms of their social presence because they allow educational exchanges (Kovanovi et al., 2018). There is a great deal of opportunity for innovative uses of mobile technology in the classroom as a result of these considerations. In addition, numerous user-friendly mobile software applications have contributed to the rise in popularity of devices like smart phones and iPod touches (Johnson et al., 2010).

As a result, this study's results should encourage educators to investigate and try out the feasibility of incorporating design-based learning activities like those examined here into their own classrooms, all while juggling the myriad of administrative tasks necessary to realise their own instructional and pedagogical objectives. Interest among teachers in the development of mobile apps has increased as the convenience they provide to the classroom has become more apparent (Johnson, 2012). Teachers often have to rely on remarks or anecdotes instead of reviews to determine whether or not an app is suitable.

1.1 Background of The Study

In this age of rapid technical advancement exemplified by ICT and the knowledge revolution, educators face an increasingly complex set of challenges.

Social cues such as "disclosure of personal information" (Bouhnik & Deshen, 2014), "salutation" (Miller, 2016), "expression of compliments" (Smit & Goede, 2013), "use of humour" (Robinson et al., 2015), and "expression of affect" (Studying the interactive content of instant messaging has allowed researchers to identify these fundamental social presence indicators).

(Wang, Fang, Han, and Chen, 2016).

Teachers play a crucial role and should be encouraged to take on new duties involving ICT in order to improve the quality of education and increase student access to education in both formal and informal settings (Govinda, 2002). Hence, educators should grasp the chance to learn more about and use the various technology resources already at their disposal in the classroom. Given the rapid development of new technologies, educators would do well to explore new ways to enhance their teaching methods, such as the use of instant messaging apps.

Over the past decade, "email, SMS, Facebook groups, Twitter, and, most recently, WhatsApp" have all gained popularity as means of digital communication among student groups and between teachers and students. The accuracy of these instruments for instructional uses is contingent on their particular characteristics (Calvo, et al., 2014). The authors of this study note that other research has examined other IM services. One research suggests that students who used instant messaging to get arithmetic instruction were able to ask questions about their lessons even after school had let out. It was evident that the anonymous forum was superior to a one-on-one interaction with the teacher, as the latter was able to better get to know the undergraduates and tailor their assistance accordingly (Hrastinski, et al., 2014).

Another study defines IM as a type of quasi-synchronous communication. In this day and age, people all around the world can use instant messaging apps to send and receive brief, typed messages. Even though it's customary to take turns talking, the virtual communication channel only works in one direction. There are two types of IM that fall under the OTT umbrella: MIM, or instant mobile messaging, and IM, or instant desktop

messaging (IDM). When compared to short message service (SMS) messaging, the cost of receiving and sending messages is minimal (2016, Simon). The latest instant messaging programmes can include media connections and information. The ability to have in-depth conversations as a group is a key feature of many of these apps, which also fosters intimate group dynamics (Vrocharidou&Efthymiou, 2012). The Community of Inquiry was adopted for this study.

The term "social, teaching, and cognitive presence" describes the integration of these three factors (Garrison, et al., 2000). It's a tool for researching and creating effective e-learning environments (Garrison et al., 2007). In this study, we defined all three of these constructs as multi-dimensional entities. There is an operational definition for each presence in terms of the component categories. To speak effectively, it described sharing ideas, working together, and being present in a group. Cognitive presence is defined in terms of the stages "triggering event, investigation, integration, and resolution" in the practical inquiry paradigm. The instructional presence was a synthesis of design, acceleration, and direct instruction. Perceived learning is linked to both teacher happiness and the existence of each CoI.

Students in a community of inquiry (CoI) work together on projects of personal significance while also checking their comprehension of complex topics through critical discussion and introspection. So, educators need to collaborate with administration to finish necessary tasks. Through the use of IM software, this kind of teamwork can be completed quickly. "the cognitive, social, and instruction presence of three interrelated elements to provide a deep and meaningful (collaborative-constructivist) learning experience" is what the Community of Inquiry (COI) theoretical framework strives for.

There are three main sections to the COI structure. Researchers use the terms "social, teaching, and cognitive presence, categories, and signals" to characterise the many types of IM apps they analyse. This framework is well-received by the community of online educators, who have offered new points of view and approaches to distance learning (Garrison et al., 2006).

We looked at how these three classroom presences interact with one another, the meanings they convey, and the functions they play in the classroom. The term "Influences" offers ways in which the System could be enhanced by referring to the overlaps between individual Presences. The three sorts of interconnected spaces between social, instructional, and cognitive presences are trust, meaning-making, and deeper understanding (Peacock & Cowan, 2016). Because Garrison (2018) has shown that the primary emphasis is now on non-functional features of a CoI, it is time for us to do the same. Further study is needed to help pupils learn, and teachers might use the CoI strategy to include the most impressive technologies into lessons.

Participants' capacities to "identify with the community," "to communicate meaningfully in a trusting atmosphere," and "to form interpersonal relationships by projecting their personalities" are all part of what it means for anything to be considered a social occurrence (Garrison, 2018).

Recent studies on the effects of group cohesiveness and communication on the effectiveness of graduate management teams provide substantial evidence for a correlation between students' participation in online discussion forums and their academic performance (Arbaugh, 2005b; Hwang &Arbaugh, 2006; Williams et al., 2006; Yoo et al., 2002).

Our findings suggest that instructors' positive attitudes on the internet as a material delivery medium are directly correlated with the amount of time they spend on IM activities that foster social presence (Arbaugh&Benbunan-Fich, 2006). Cooperative activities improve the online classroom's social and emotional climate by giving students a shared experience with their classmates (Richardson & Swan, 2003; Rovai, 2002a).

Students' satisfaction with both learning and the medium itself improves as a result of their greater ability to grasp the "hidden curriculum" of educational technology in these kinds of supportive social environments (Benbunan et al., 2003).

Preparing, facilitating, and directing social and cognitive processes to yield personally meaningful and educationally advantageous learning outcomes is what it means to teach presence (Anderson, 2017). Being physically present in the classroom has been shown to have significant benefits by numerous research.

Surveys, international "benchmarking" visits, and academic discussions all contributed to a 2007 Ministry of Education report on teachers' roles and responsibilities. The Malaysian Ministry of Education reported that 16,699 educators from primary and secondary institutions in the country took part in the study (MOElargest). The average work week for a teacher in elementary or middle school is 65.46 hours, while those in secondary education average 67.01.

Instruction, extracurricular activities, student affairs, financial organisation, office administration and management, physical expansion management, staff growth, community relations, and hostel management were all included in the total number of hours logged for this research. In a study conducted by Jackie, Don, and Janet, they found

that the workload responsibilities associated with policy and curricular reform were the most significant contextual and professional elements eroding their commitment to the profession (2017). This article classifies methods for dividing up work into two broad categories.

Table 1.1

Assessment of common social media and immediate messaging tools in education

Features	Email	SMS	Facebook	Twitter	Telegram
Cost	free	Payment	free	Free	Free
Text Size	Flexibility	Flexibility	No Flexibility	No Flexibility	Flexibility
Info about Users	no Info	no info	no info	no info	Full info
opening a group	possible	Possible	easy	not natural	Easy
Making Groups	Not possible the App	Possible	Require Approval	RequiresApproval	Easy
Group chat	not natural	impossible	easy	not natural	Easy
privacy	relatively high	relatively high	relatively low	relatively low	relatively high
collaborative learning	not natural	not natural	enables	Enables	Enables
sharing content	relatively easy	Ungainly	relatively easy	relatively easy	relatively easy

The first is self-evident: 'contained' time is given for face-to-face education, regular staff/departmental meetings, and extracurricular activities, all of which have remained stable and in conformity with national and international norms for some time. Administrative assistance at the school has reduced the number of time instructors have to spend on administrative tasks. Using mobile technologies in the classroom has both advantages and disadvantages. According to numerous research studies, mobile devices have inherent limits, like small screens, low battery life, and illusory computer keyboard

(Bansavich, 2011; Marinakou and Giousmpasoglou, 2014; Pegrum et al., 2013). Additional obstacles are associated with the BYOD approach, such as device requirements, and specifications met in the classroom. Access a particular organization's network, considering institutional policies and IT support (Traxler, 2010).

In this case, network performance, capacity, and safety will all be critical considerations (e.g., Melhuish&Falloon, 2010; Traxler, 2010). As Ahmet (2017) states, teachers are crucial to the long-term success of schooling. Incorporating technology relies on instructors' ability to keep up with rapidly changing technologies that are well-suited to classroom settings. With the advancements in mobile technology, teachers' attitudes toward using mobile technology are highlighted, and their ability to recognize accessibility and affordability as essential impediments to meaningful pedagogical integration. Teachers believe mobile devices are a terrible distraction for kids, leading to more disruption and cheating (Khaddage&Lattemann, 2013).

Digital protection, privacy, monitoring, and the blending of public and private realms are other ethical concerns (e.g., Pachler et al., 2010; Traxler, 2010).

Less than one-quarter of instructors measured by Pegrum et al. (2013) claimed they were confident in their capability to use mobile technologies in the classroom. Because of this, educators will have to receive training on how to use these devices in the schoolroom and explore new possibilities (Melhuish&Falloon, 2010; Pegrum et al., 2013). Training programs can help people develop positive attitudes about technology by assisting them to grasp its benefits better, become more self-aware, and have more confidence in it. Last but not least, Wang et al. (2016) discovered that emoticons (72 percent) and photos were

the two most often employed qualities to demonstrate influence (21 percent). The most frequently used emoticons were the thumbs-up and happy faces. Participants have provided the images from anecdotal research; it appears that instant messaging (IM) generates higher levels of dynamic responses than traditional communication methods like face-to-face conversations.

1.2 Problem Statement

Educators in the modern world are up against a wide range of challenges. When the requirements for obtaining a teaching licence increase in complexity, teachers often feel overwhelmed by the emotional and professional strain they place on their own lives. Teachers' already full schedules are made even more demanding by new responsibilities imposed by the responsibility movement. These include more extensive reporting, additional testing, differentiated instruction for students with varying learning styles, and involvement in student organisations (Rubiah, 2017). When parents anticipate constant updates and immediate responses to their questions and concerns, their already hectic workdays become even more so.

Teachers are dedicated to their students, but they also take pride in their work and are enthusiastic about the subjects they teach. But, today's pupils are very different from those of yesteryear in terms of their experiences and expectations.

There is a close relationship between how helpful students think IM is and how much they want to use multi-institution IM (Lai, 2016). Teachers should think about the goals and benefits of MIM before implementing it. If this is done, students will be better prepared to take part in MIM-related activities and acquire the desired knowledge. These

"digital natives" are more adept at using a variety of digital devices and platforms, as well as juggling many tasks at once, than many of their immigrant digital teachers. Instructors that are open to trying new methods of education and student support will be more likely to immediately connect with their students and encourage them to learn. Thus, teachers need access to cloud-based storage to help them manage their time effectively as they teach and do administrative tasks. It is essential for educators to have a solid backbone they can turn to whenever they need to.

It's a great feature of instant messaging because conversations may be saved and analysed later on. It has been shown that IM training is beneficial for both the instructor and the trainee. Instant messaging allows the student to pause and research topics of interest as the conversation progresses, and because all messages are archived, the student can refer back to an archived transcript for subsequent reflection.

MIM's quasi-synchronous format gives students more time to consider their responses than they would have in a face-to-face setting, and the chat logs make it easy for students to go back and examine previous conversations in an informal setting (So, 2016). Paul (2016) argues that teachers' stress levels are rising because their professions are becoming more difficult and time-consuming. What was once an obligation is now a bothersome duty. If teachers are coerced into doing this work, everyone will lose. Despite a rise in the number of kids they must teach, teachers continue to feel overwhelmed.

But, classroom instructors must prioritise one over the other in terms of their time and energy allocation (academic and non-academic tasks). People often link good teaching with adhering to the heroic paradigm of the selfless professional who is also resourceful and resilient despite the challenges they experience on the job, especially in the context

of contemporary political debates and in the midst of a pandemic like Covid 19. (Day, 2017). The consequences of teachers' workloads on students and schools warrant further investigation. The need for compliance with standardised performance monitoring and recording, including student performance, is one example of a system imperative that has led to a greater burden on teachers' time. As a result, there is "growing pressure to meet external results-driven policy requirements" (Day, 2017). One major source of stress for teachers is their heavy workload.

The quality of their work, their persistence, encouragement, imagination, dedication to assignments, competence, and moral convictions all suffer when teachers are overwhelmed with stress. Education's standard and effectiveness will be impacted by all of this (Azman, 2006). Educators can use IM to coordinate lesson plans and share information about future activities.

Teachers benefit from interacting in person about teaching materials and personal problems (Cifuentes & Lents, 2011); from communicating more casually with each other (Cifuentes & Lents, 2011; Smit, 2012); from helping each other learn (Smit, 2012); and from feeling a sense of belonging and public when using IM platforms. Do the social and political discussions, on the other side, cause some educators discomfort? (Doering et al., 2008).

As a result of their heavy workloads, most educators lack motivation. So, people need a place to rediscover their passion in order to maintain their inspiration. As a result of adopting instant messaging to handle their workload, educators report feeling more inspired and invested in their work (Plana et al., 2013). With instant messaging, this is a simple task to complete (IM). Because to the novelty of the medium, research on

Telegram's effect on interpersonal announcement in general and among high school teachers is scant (Church & de Oliveira, 2013).

According to the study's authors, "it was simpler to communicate with their teachers and the rest of the class" when students in the African classroom used instant messaging. Teachers were able to engage in lively, illuminating conversation about relevant topics in a relaxed, open environment, and many reported that they enjoyed the experience (Bere, 2013). It was felt that working together was necessary to fill in knowledge and location gaps.

In general, IM has developed into a platform for group work that facilitates communication, fosters teamwork, and increases student motivation (Bere, 2013; Chipunza, 2013).

As a relatively new educational tool, Telegram (IM) has similar beneficial traits to past technical tools employed, and its modern features may encourage teachers to use it to boost students' understanding. Instead than studying college or university students, as have been the majority of past research, this one will focus on teachers. Despite the fact that Telegram (IM) as a cultural tool is tailored to a wide range of ages and demographics, our study uncovers a unique phenomenon among college students.

The proliferation of mobile applications, or "apps," and the rapid development of mobile computer technologies make mobile knowledge possible. The first mobile message technology revolutionised the way we communicate. Each new day brings new potential changes to the educational system as a result of developments in technological culture and the advent of the internet. Students have access to opportunities made possible by

cutting-edge technology that have the potential to revolutionise the learning process. Now more than ever, social media platforms are the go-to for people looking to get their hands on cutting-edge technology. Over the globe, more than 49% of the population makes use of it (Tankowaska, 2021). The sharing of voice recordings, papers, and files via the internet is only one of the many uses for the ubiquitous social media platform. Numerous researchers have investigated the potential of social media in the classroom (Anggraeni, 2018). Telegram is a popular medium for teacher-student communication (Alizadeh, 2018). In addition to text files, it also supports the transfer of audio and video. Together, the student body has the option to inquire, just as they would in a traditional lecture hall. There has been a recent uptick in the use of IM in the classroom. The teacher's demeanour and pedagogical strategies will change as a result. Software known as instant messaging (IM) allows users to send and receive short messages with one another in real time. The servers that house these apps are located online. Teachers in the modern world face their own unique challenges, some of which can be rather trying. Because of this, teachers are looking for a cloud-based storage solution to aid them in juggling the many administrative and pedagogical tasks that come with their work. Teachers should have constant, unfettered access to all of the materials they need. Because chats can be archived and their transcripts read at a later time, instant messaging is a valuable resource. Because of this, IM is a fantastic resource. When asked about their preferred means of classroom communication, the vast majority of students at a South African university reported that they found using online IM to be easier and less stressful. The instructors "learned personally and genuinely, and that it was also fun," and "it was generative of good conversation on relevant themes in an informal atmosphere" (Bere, 2013). It was thought that working together would be necessary for overcoming both the informational and physical divides. In general, IM has become a collaborative platform that restores

availability, facilitates teamwork, and increases students' desire to participate actively in class (Bere, 2013; Chipunza, 2013). The study's overarching goal is to investigate the factors that influence educators' choices about the use of telegrams in the classroom (IM). In attempt to better understand academics' motivations for certain actions, previous studies have focused on faculty members at universities. In order to better understand a rare event involving telegrams, this research is conducted among Tamil school teachers.

Effective writing, as outlined by Wilbers (2001), is predicated on the following five pillars: I Focusing on a single, readily discussed concept while bolstering it with a few of related ideas is an example of a central theme. (ii) Structure: arranging concepts into meaningful categories; (ii) organisation, which means arranging your work in a way that makes sense to a reader by using clear headings and subheadings; evidence, further reading, etc. Data, facts, and examples to back up what you say are vital if you want to persuade your audience of anything. (iv) wording and presentation; use language that is clear, concise, and appropriate for the audience; avoid jargon and overly long sentences; aim for simplicity. In order to guarantee that the assembly, grammar, punctuation, and spelling are generated in an incredible manner, the writing process should be submitted to editing and editing. Technology use among students is inevitable given that we now reside in a post-industrial society. As it happens, this novel twist on education proves to be a significant improvement over the status quo. These devices have gone from being a novelty for kids to being an integral part of their education (Hashim, Yunus, & Embi, 2018). Students' interests have grown as a result of the inclusion of information into educational settings, which has piqued their interest in developing linguistic competence. Because of this, most countries' educational systems now use online courses alongside their traditional ones (Polly& Binns, 2018). As Kaya and Bicen (2016) point out, social

media is one of the most effective communication channels in the world. Anderson (2011) defines a social network as a set of interconnected digital tools that facilitates interpersonal communication and the sharing of information and experiences between people. Due to the availability of this social networking technology, lecturers and students may now communicate and work together. Every person alive today has a profile on at least one social media platform. It has been shown that many social media users view these platforms as a place where they may learn from one another and collaborate on projects. Hence, academics utilise social media sites for the purpose of researching and instructing linguistically-related topics. Some social media platforms, such as Twitter, Facebook, Instagram, and Snapchat, among others, have achieved unprecedented levels of fame in the field of communication. Because of the widespread fear of the Covid19 virus, teachers are increasingly relying on free messaging apps like WhatsApp, Telegram, and Imo to facilitate classroom discussions and student collaboration. In addition to posting homework, notes, and exercises, they also use them to display students' weekly schedules. The content that users can share includes videos, audio recordings, text messages, images, and photographs (Walker,2020).

1.3 Purpose of The Study

This research anticipates to learn more about how teachers feel about using a professional development instant messaging network, such as Telegram, about managing administrative responsibilities (IM). Administrative responsibilities will be examined, such as the occurrence of a activating event; investigation; integration; determination; emotional expressions; open message; group cohesiveness; instructional management; expanding comprehension; and direct training.

As a result of this research, teachers' propensity will better understand to use Telegram for administrative chores management. After that, the investigators will look at whether or not teachers plan to employ technology in the future. Telegram (IM). The following are the goals of this study:

1. To look at the profiles of teachers and their experiences with Telegram (IM).

2. The purpose of this study is to conduct an empirical investigation into the relationship between the determinants "trigger event, exploration, integration, and resolution, emotional expressions, open communication, group cohesion, instructional management, building understanding, and direct instruction," and the behavioral intentions of teachers regarding the use of Telegram (IM).

3. To determine which variables (trigger event, examination, integration, determination, emotional expressions, open communication, group consistency, instructional organization, growing comprehension, direct teaching) are more predictive of instructors' future intention to use Telegram (IM).

1.4 Research Questions

Following are the research questions of the study formulated to attain the research objectives.

1. What is the overall teacher profile regarding school management's use of Telegram(IM) in terms of a) motivation (b) Group interaction (c) knowledge sharing (d) professional development confidence?

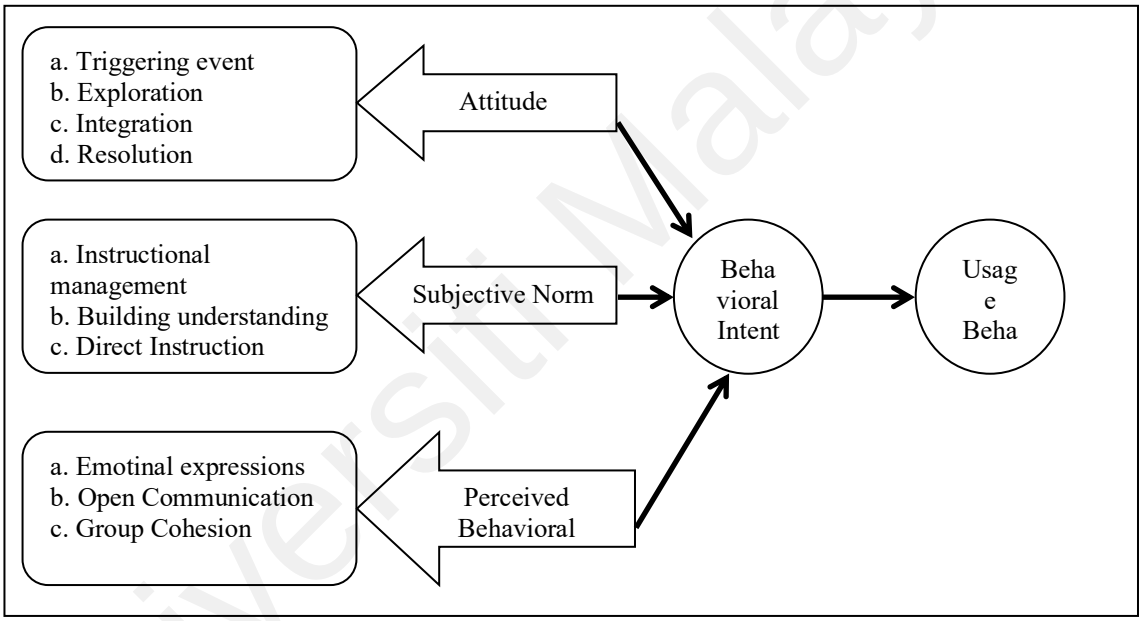
2. What is the relationship between the factors of attitude, subjective control, and professed behaviour control, as well as teachers' behavioural intentions toward Telegram (IM) use?

3. Which of the determinants would be the best and most appropriate for future use?

1.5 Conceptual Framework

Figure 1.1

Conceptual FrameWork



This study has adopted the framework modified by Garrison, Anderson, and Archer (2000)'s Community of Inquiry (CoI) Coding Template and Taylor and Todd's The Decomposed Theory of Planned Behaviour (DPTB) (1995).The DTPB has been used to predict and clarify individual behavioural intentions as well as real self-reported behaviour in a variety of technology adoption situations, both from an organizational and consumer viewpoint (Brown & Venkatesh 2005, Chau and Hu 2001, Pedersen 2005, Venkatesh et al. 2003).

On personal perceptions of technology innovation, the boldness is split into three concepts: perceived ease of use, apparent practicality and compatibility with innovation diffusion theory. The grade to which users believe that adopting a given application system will improve their job performance is named as perceived usefulness. The degree to which consumers believe that utilizing a particular application system is simple and convenient is referred to as professed ease of use. Compatibility refers to a potential acceptor's inventive acceptance that is likeminded with their current values, past involvements, and current level of desire (Chi, 2017).

Prior studies have showed factor examines to confirm the structure of the Community of Investigation framework COI (Garrison, et al., 2018; Arbaugh, 2007; Arbaugh& Hwang, 2008). Although this latest empirical data strongly supports the COI as a concise and consistent online learning theory, more research is needed to back up and evaluate this work.

As a result, both models can be combined to classify the factors that effect teachers' use of Telegram (IM) to manage school administration tasks. Individuals' use of technology (usage behaviour) is predisposed by their behavioural purposes to adopt or not adopt the knowledge, according to the DTPB (behavioural intention). On the other arrow, behavioural intention is linked to the individual's attitude toward technology, influences from others, and perceptions of the technology's limitations. According to Taylor and Todd (1995), deconstruction of attitudinal philosophy is required to understand better the links between belief assemblies and experiences of intention.

Taylor and Todd (1995) established that the disintegrated TPB model outperforms the pure TPB and TRA models in explanatory power. As a result, our empirical study

concludes that Instant Messaging (IM) is a scientific innovation and that the disintegrated TPB model better explains acceptance intention. The acceptance rate of an idea should be positively related to relative benefits (Rogers, 1983; Tan and Teo, 2000). As previously said, Instant Messaging (IM) allows users to access their financial records from any position, at any time of day, and thus offers significant benefit and convenience to consumers. Taylor and Todd (1995) defined attitude as feelings about engaging in a particular behaviour. It is made up of three factors: perceived utility, simplicity of use, and compatibility. These variables all have something to do with cognitive Presence. A person's view of a technology's utility in assisting him in performing his responsibilities is perceived usefulness. This perceived usefulness can be linked to determinants like the triggering event and exploration, where they need to share information among the members of the IM group.

Second, ease of use denotes to the level of difficulty that a person perceives he must overcome to use the technology, such as integration, which requires the connection of new ideas. Finally, compatibility refers to how well a piece of technology fits the user's work, values, experiences, and requirements (Rogers, 1983). It can be linked to resolution, in which the individual can put their new thoughts into practice.

Subjective standards refer to a person's awareness of other people's sentiments on whether or not they should perform specific behaviours (Ajzen, 1991). They include colleagues, such as other instructors, and superiors, such as school officials. It demonstrates how crucial social presence is in handling school administration tasks. The acceptability of technology and the usage of human behaviour are influenced by social factors such as subjective expectations (Omer, Yasin & Eda, 2019). Superiors should initiate emotional terminologies, open message, and group consistency to manage the administrative tasks.

People's opinions of their capability to perform behaviour are perceived as behavioral resistor (Ajzen, 1991).

Self-efficacy, technological facilitative conditions, and resource facilitative conditions are the three (3) measures. The term "self-efficacy" mentions to a person's belief in his ability to execute a task. Individuals should work to increase knowledge and share their meaning with their peers.

While resource and facilitative conditions deals with financial, time, and technological resources that allow its best used (Sadaf et al., 2012). As a result, supervisors should provide excellent instructional management to establish and initiate conversation themes while also giving appropriate facilities. It enables the professors to focus on their discussion by providing direct instruction.

1.6 The Significance of The Research

The study used Telegram (IM) for professional development in a few domains, including triggering events, investigation, integration, and resolution, to examine teachers' opinions of handling administrative tasks. Open message, group consistency, instructional management, establishing comprehension, and direct instruction are all examples of emotional expressiveness. Aside from that, the factors that influence instructors' willingness to use Telegram will be examined. It will help researchers figure out whether teachers think Telegram is beneficial for their administrative tasks when mobile and internet activities are used to complement face-to-face classroom instruction. Based on the input from the teachers, the course instructor and designers were able to obtain valuable insights into the use of Telegram (IM) for managing administrative tasks and

evaluate the tool's potential to augment professional development. Location, timing, and activity can all be modified in teaching materials (Isabwe, 2014). Instant messaging can help students learn more effectively (Akcaoglu& Lee, 2018; Ogara, et al., 2014). Teachers may access information and study independently, at their own step and elegance, and just in time thanks to portability, connection, and social networks.

This study will provide insight into building suitable Telegram (IM)-based learning in their administrative task by examining difficulties connected to perceptions and intentions to utilize Telegram (IM).

1.7 Operational Definition of Study Variables

1.7.1 Attitude

An attitude is "a psychological tendency that is expressed by evaluating a particular entity with some degree of favor or dislike," according to one definition of the term. According to the definition provided by Eagly and Chaiken (1993), an attitude is "a psychological inclination that is represented by appraising a particular entity with some degree of favor or disfavor." In the context of this study, an attitude refers to the favorable or unfavorable feelings or attitudes that instructors have about the utilization of Telegram (IM) for the management of administrative tasks and classroom instruction.This research divides attitude into four categories: activating event, examination, incorporation, and resolution.

1.7.2 Intention of Behavior

In which students develop knowledge and connections in their contexts, information-building settings replace intentional learning. The instructor is the hub through which all communication travels (Scardamalia& Bereiter, 2006). In this research, students'

intention to engage in Telegram (IM) activities for teaching and learning reasons is behavioural intention.

1.7.3 Presence in Teaching

Teaching Presence uses the facilitation, design, and course of social and cognitive procedures to support and encourage the achievement of aims and goals (Anderson et al., 2001).The creation of the curriculum and related activities, the formation and direction of positive dialogue, and the concentration and resolution of emergent difficulties are all examples of practices that demonstrate the reality of teaching.

1.7.4 Presence in Society

Common Presence is "the ability of individuals to identify with the community (for example, course of study), talk meaningfully in an atmosphere that inspires trust, and develop inter-personal relationships by projecting their personalities," as stated in the definition (Garrison, 2009). Social Presence can be broken down into many different subcategories, some of which include affective expressiveness, open communication, and group unity.

1.7.5 Presence of Consciousness

The persistent contemplation and dialogue required for learners to develop and validate meaning explain cognitive Presence (Garrison, et al., 2001). Triggering events (a sensation of perplexity), examination (sharing knowledge and ideas), incorporation (linking ideas), and resolution are all markers of cognitive Presence (synthesizing & applying new ideas).

1.7.6 Control of Perceived Behavior

People's opinions of their ability to complete a behaviour are perceived behavioural control, or PBC (Ajzen, 1991). Supposed behavioural controller refers to the circumstance in which people trust they don't have complete control over their actions (Ajzen, 1991).Emotional expressions, open communication, and group cohesion are the three groups that this study decomposes perceived behavioural control.

1.7.7 Tool for Instant Messaging

Instant messaging (IM) organizations are web-based and permit users to guide short messages to another individual in real-time. IM, or instant messaging, is a sort of online communication or chat that allows for synchronous, real-time contentmove to the internet (Smith, 2020). IM (Stenbom, Hrastinski, & Cleveland) is a one-to-one computer-based communication tool.

1.8 Summary of The Chapter

This chapter discussed the study's history and how technology is employed in the classroom and learning process. Using the internet as a medium for education provides the public with many new options and possibilities. Even though technology provides several benefits to society, integrating it into the educational system has not been challenging since many students still prefer the more conventional classroom setting. As a result, it was hoped that this research would help educational communities understand if online activities to supplement face-to-face meetings advantageous to their learning.

Additionally, this research aimed to identify predictors of students' willingness to use Telegram in the classroom and for learning. Further research was done on the elements

that best predict whether or not students will continue to utilise Wiki in the future. Several web-based collaboration tools are discussed in previous studies, particularly Telegram. The detail of Telegram in different aspects is discussed in detail in the next Chapter 2.

This is to illuminate the notion and provide comprehensive knowledge based on previous research into the tool's use. This study was built on a theoretical and conceptual framework that was examined in the literature review.

CHAPTER 2

LITERATURE REVIEW

These days people worldwide using the information and communication knowledges (ICTs) and Internet everyplace and anytime. Technology is playing very critical role in everyday life and in academic surroundings. Rendering to Ralston “technology is a detail of life as the average of everyday communication affecting language learning”. Modern youth is known as the "net generation" because of their familiarity with technology and the World Wide Web (Beemt et al., 2010).

People of the newer generation are more involved and always on the internet. Internet-generation students, it is said, prefer a more self-directed learning style and have a stronger faith in technology as a tool for education. Globally, online social networking stages such as Twitter and Facebook are becoming increasingly popular. In many ways, these networks have become an vital part of daily life, especially in the context of education at all levels.There has been a slew of recent studies indicating that young people spend a significant percentage of their waking hours on social media.These web pages have grown to be crucial in the lives of most students (Akkerman, & Simons, 2010; Yapici&Hevedanli, 2014).As a result, the educational system stands to benefit much from these. Students and teachers can benefit from social networks by facilitating teaching and learning both inside and outside of school.

2.1 Instant Messaging (IM)

Since SMS shifted to mobile platforms, instant messaging has become a global phenomenon, gradually replacing the traditional Short Message Service (SMS). Mobile instant messaging allows the consumers to communicate with other smartphone users in

real-time and asynchronously, without having to participate in the conversation right away to receive a response (Kaufman, 2019). Since smartphones are often always on, linked to the Internet, and carried around by their owners (Ling & Lai, 2016), additional equipment is no longer necessary. Both are alerting, and responding will be possible through a single app.

An instant message is a text message sent in real-time over the Internet via a chat programme (Bere&Rambe, 2016). Unlike more expensive texting alternatives like SMS, these apps only consume a little Internet traffic (Hsieh & Tseng, 2017). Most messaging apps include a wide range of features, such as group chat, image, video, audio sharing, and emoticons (Hsieh & Tseng, 2017). WhatsApp, Viber, WeChat, and other instant messaging apps enable low-cost voice over IP calls in addition to messaging capabilities. Due to its low cost, many smartphone workers utilise instant messaging as their prime method of communication (Hsieh and Tseng, 2017).

No doubt, IM is an advanced prominent tool that helps people recognises the existence of their "buddies" on the Internet. Individuals, particularly young people, now choose to connect via social media because of the advancements in information technology. To discuss and express their daily lives, people frequently use social technology stages like Facebook, YouTube, and WeChat (Junco &Cotten, 2012; Wu et al., 2015).

Social survey in a study estimated that more than three billion people use social media daily. Most of these people use their mobile devices to access their favourite platforms (Kemp, 2018). MIM may be the most popular social networking, especially on mobile devices (Tang & Hew, 2017). As a result of MIM, our communication methods have changed, and mobile learning is now widely available (So, 2016). Whatsapp, BBM,

Viber, Hike, Line, Skype, Messenger, and others are IM mobile apps. Due to low data pack rates, Internet messaging mobile apps have effectively supplanted traditional SMS (short message service). Many people now utilise instant messaging apps because of their numerous perks. According to Reid (2004), To see if a friend is available, type in "Wassup?" and you're chatting away." Working in a modern office means relying on effective communication among coworkers to succeed. Some of the most accessible and widely used networking methods in the workplace are email, blogs, wikis, Twitter, etc.

Studies show that the essential part of education is what students learn and how they engage and debate (Hsu, 2018). For learners, the practise classes generate cooperative simulation experiences that help them prepare for future job settings. The use of IM or mixed interactions can facilitate cooperative simulation. With the advance technology of Internet, the world has shrunk to a fist, and found in every home, organisation and institution. Now it is accessible by everyone.

2.2 Instant Messaging (IM) Apps in Education

More than ever before, the educational benefits of instant messaging apps are unparalleled. Generally speaking, all IM systems can be used for student-faculty contact, job and admissions searches, library research, community service, last-minute cramming, and classroom disputes. These apps undoubtedly allow for and promote novel ways of communicating, ones that integrate the organic spontaneity of conversation with the ability to articulate thoughts and feelings. Also, the capture function included on most modern smartphones' digital cameras enables instantaneous multimodal communication transmission (e.g., images and videos). In addition to enhancing feelings of community, this quality promotes the development and maintenance of interpersonal relationships

through phatic exchanges (Kofoed & Larsen, 2016). So, getting the recipient's attention quickly is essential for SMS messages.

There is great promise for mobile machine-based instruction and study (Bere and Rambe, 2016) Murire&Cilliers (2017) found that the most active smartphone users were students at four-year universities. Mobile instant messaging apps are also widely used among academics as a means of communication (Murire&Cilliers, 2017). The widespread adoption of smartphones and instant messaging software among college students has opened up exciting new possibilities. Murire&Cilliers (2017) found that the most active smartphone users were those enrolled in higher education. For even more student-to-student communication, there are now instant messaging apps (Murire&Cilliers, 2017). The widespread adoption of smartphones and instant messaging programmes among college students has opened up exciting new possibilities. In general, instant messaging programmes facilitate easy home and school collaboration on similar processing files among students and academics.

With IM programmes, professors can easily provide feedback on students' work and make edits as needed. Edmodo is a student-teacher-parent site that was developed recently with the intention of facilitating communication between those three parties in order to help students and their parents better understand and evaluate their children's academic development. Teachers and parents can work together to better track their students' academic progress with this tool. Instant messaging software like Google Docs provides pupils with with another accessible system for storing and erasing crucial writing assignments. Because most students now have their own smartphones, texting is a great way to reach them anytime, anywhere (Shih & Mills 2007).

Furthermore, in order to take part in an online chat via instant messaging, one must first log in (usually on a computer as opposed to a mobile phone). Students said they have to phone those they wish to send instant messages to if they don't see them online at work (Bullen et al., 2011). Something to keep in mind is that students generally view texting to be more "instant" than email. Students use it more than any other electronic learning tool, including email (Harley et al., 2007). Its wide adoption and user-friendliness make it a top choice when compared to other forms of communication in the social sphere, particularly email. "text messaging helped students consolidate relationships," write Longmate and Baber (2002). Yet, email is rarely used by students. But students who used text messaging to communicate with their teachers reported feeling more connected to and hopeful about their classroom experience than those who relied on email and online activities (Rau et al., 2008).

Text messages are more useful than emails because students "constantly check at their phones," as Naismith (2007) found (p. 166). Despite the benefits of email in higher education (Lauricella and Kay, 2010), boosting the proximity and prevalence of communication through text messaging is more beneficial.

Table 2.1

Summary of Instant Messaging Apps in Study

Author (s) and year	Research purpose	IM features	Research method	Data Collection Method	Findings
Laguarda,2003	To determine teachers perceive the school management experiences of Telegram (IM) in terms social presence	having a fluent conversation as a group	Descriptive research	Teachers survey	Internet users have found that Telegram (IM) make easy to communicate and provide efficient communication systems.
Turner, Qvarfordt, Biehl, Golovchinsky, & Back, 2010	To determine school management experiences of Telegram (IM) in terms of teaching presence	collaborative learning	Descriptive research	Teachers survey	The modern workplace is inherently collaborative, and this collaboration relies on effective Chat
Woodard, 2011)	To explore the relationship between TE and intention towards e of Telegram (IM)	sharing content	Descriptive research	Teachers survey	The world is shrink to a fist globally.
D'Silva, 2013	To identify the connection amongst resolution and behavioural intention in the direction of the use of Telegram (IM)	Accessibility	Descriptive research	Teachers survey	Instant messaging provides the facility of instant communication all over the world.
Radicati Group, 2001	To determine the connection amongst instructional management and	sharing content	Descriptive research	Teachers survey	IM is used by multiple populations for both social and work purposes.

Author (s) and year	Research purpose	IM features	Research method	Data Collection Method	Findings
	behavioural intention in the direction of the use of Telegram (IM)				
Coniam& Wong, 2004	To identify the connection amongst integration and behavioural intention in the direction of the use of Telegram (IM)	opening a group	Descriptive research	Teachers survey	IM systems have over 250 million active users.

2.3 Instant Messaging (IM) in Learning

According to Frand (2000), today's "Information Age" students have learned to imagine. Younger generations are used to chatting and IMing in real time and are adept at multitasking (performing multiple tasks at once) (IM). According to a 2004 survey by NetDay, 76% of high school-aged Internet users have at least one IM screen name, making it the most popular form of online activity among this demographic. These are the percentages, as reported by a recent Pew Research Center study: Most teenagers (74%) and most of them (69%) use instant messaging regularly (Lenhart, Rainie, & Lewis, 2001). (Lenhart, Rainie, & Lewis, 2001). Instant messaging (IM) serves many functions for today's adolescents, including multitasking, socialising, and even helping with homework (Grinter&Palen, 2002).

As today's students embrace the mentality of the information age, we have the opportunity to adapt our teaching and learning strategies to better meet the needs of our students and foster a culture of active learning (Frand, 2000). Students' ability to juggle multiple tasks at once and communicate and debate in real time through Chat and IM sessions may open up novel pedagogical possibilities. Initially, we developed and executed a research inquiry. While WhatsApp dominates the international market, WeChat is largely ignored in Asia (Bere and Rambe, 2016). Due to its inclination to stimulate dynamic learning, social presence, and cooperative learning, instant messaging has been the subject of recent research into its potential use to enhance learning in higher education.

The proliferation of smartphones has increased the importance of mobile learning, which can be defined as a learner-centered strategy that places a premium on the mobility of both the teacher and the student (Kartal, 2019). Students who multitask may also benefit from the time spent contemplating class material. This is analogous to the motivational

effects of "dual-processing" (using both oral and visual broadcasting) (Clark &Paivio, 1991) and active learning (Grabinger, 1996; CTGV, 1992). As is customary in any standard university setting, lectures are the main means of instruction.

Everyone would like to contribute to class discussions, but there just isn't enough time to get to everything that could be studied. As a rule, this function is taken care of by "discussion sections" inside larger classrooms. Some of these discussions can be moved to asynchronous settings like these forums thanks to online learning technology like threaded message boards and chat dialogues. The fact that these conferences are rarely scheduled at the same time as other classroom events like lectures, demonstrations, or training sessions is a major drawback. The process has the potential to suffocate pupils' curiosity about abstract ideas and questions.

There are academic and educational benefits to using IM, including increased motivation and participation in the learning process (Bouhnik&Deshen, 2014; Andjar, 2016). Several studies have shown that studying a foreign language on a mobile device, such as a smartphone or tablet, is an efficient way to do so (Liu, Lu, & Lai, 2016). Collaborative education and mobile devices have been the focus of previous lessons. The ability to have fruitful dialogues while the teacher was presenting. We thought that by having teachers engage in real-time chatting with randomly assigned colleagues, they would be able to better absorb the material presented to them.

Table 2.2

Summary of instant Messaging App in Learning

Author (s) and year	Research purpose	IM features	Research method	Data Collection Method	Findings
Frand, 2000	To identify whether triggering event is the best to predict teachers' intention to accept Telegram (IM) in the future	having a fluent conversation as a group	Descriptive research	Teachers survey	constant connectivity and real-time interchange from anywhere, and that they are used to multi-tasking
Grinter&Palen, 2002	To identify whether emotional expression is the best to predict teachers' intention to accept Telegram (IM) in the future	having a fluent conversation as a group	Descriptive research	Teachers survey	IM for homework care as well as for socialization, and often involve in multiple concurrent conversations
Hembrooke& Gay, 2003	To identify whether triggering event is the best to predict teachers' intention to assume Telegram (IM) in the future	teachers usage in private life	Descriptive research	Teachers survey	multi-tasking included content-related web glancing in addition to un-related web perusing, e-mail, and IM
Guernsey (2003	To identify whether open communication is the best to predict teachers' intention to adopt Telegram (IM) in the future	student usage in private life	Descriptive research	Teachers survey	Synchronous connections while still in the learning environment have clear demand for apprentices

2.4 Instant Messaging (IM) in Teaching

According to the studies on IM use, teachers are already using the medium for instructional purposes. However, as previously stated, education has refused to acknowledge the powerful platform that it has become. This may suggest that instant messaging is not an appropriate intermediate for teaching, but there are compelling opinions for the opposite. Farmer, for example, did an IM experimentation with students and found that they were enthusiastic about the medium (Farmer, 2005). However, experiential data is also available. Bouhnik and Deshen (2014), Church and de Oliveira (2013), Nguyen and Fussell (2016), for example, did WhatsApp research and concluded that the app might be a valuable tool for learning anytime and anywhere, as well as collaborative learning.

According to Nassar (2016), the advent of social networks allows learners to participate in learning and study while improving teamwork and communication skills and offering a learning situation for self-directed beginners. Furthermore, the scholar demonstrates a positive attitude toward the students, allowing them to share information and connect with one another. At the same time, modern teachers must learn how to use Telegram successfully to integrate themselves into students' current learning patterns and make education a part of their digital activity and life. Many relevant causes for educators' acceptance of IM in the classroom have been pushed and highlighted by Berger (2001), Barhoumi (2015), Ketineni (2016), Singhal (2016), and Bhagwat (2016).

Table 2.3

Summay of IM app in Teaching

Author (s) and year	Research purpose	IM features	Research method	Data Collection Method	Findings
Farmer, 2005	To identify the connection amongst instructional management and behavioural intention in the direction of the use of Telegram (IM).	having a fluent conversation as a group	Descriptive research	Teachers survey	They had a positive attitude in the direction of the IM medium
Nicholson, 2002	To determine the connection amongst building understanding and behavioural intention in the direction of the use of Telegram (IM).	collaborative learning	Descriptive research	Teachers survey	IM as a tool for socialization with fellow undergraduates outside lectures
Andrews, 2004; Cummings & Guerlain, 2004; Fagan, 2004; Foley, 2002; Johnson, 2004	To determine the connection between emotional languages and behavioural intention in the direction of the use of Telegram (IM)	sharing content	Descriptive research	Teachers survey	of IM as an online library referencing facility
Coniam& Wong, 2004	To identify the connection amongst exploration and behavioural intention in the direction of the use of Telegram (IM)	accessbility	Descriptive research	Teachers survey	IM as a tool for language proficiency working out between students from different countries
Hrastinski, 2006	To identify the connection amongst resolution and behavioural intention in the direction of the use of Telegram (IM)	collaborative learning	Descriptive research	Teachers survey	IM to an asynchronous distance learning course, stimulated student contribution

2.5 Instant Messaging (IM) and Learning in School

Substantial changes in how we live and work are occurring in the current technological and social development context.Although instant messaging (IM) is a gigantic phenomenon that has altered worldwide communication, little is known about its role in schooling and learning (Pimmer, 2019). The "information age" or "knowledge-based society" describes the current era, which is characterized by the widespread acceptance of info and communication technologies (ICTs) and the growing desire for innovative enlightening approaches and educations that promote lifelong education (Fischer & Konomi, 2005). In advanced education, there are shifting perspectives on what teaching is for, with a greater importance on the need to not only encourage and facilitate the attainment of the info but also to improve the skills and possessions needed to involve with technological and social change and to learn throughout one's life (Owen, et al., 2006).

We're seeing a tremendous increase and propagation of IM skills that focus less on narrowcasting and more on generating groups where people can engage, learn, and raise awareness within school groups. At the same time, significant societal changes at work, such as the diversity of career pathways, re-skilling, and flexible working hours, are driving forces behind on-demand learning (Punie& Cabrera, 2006).In such a digital environment, with high accessibility and pervasive, demand-driven knowledge, we need to increase our vision of education. So that students are effective members or co-creators rather than inactive content consumers, and education is a participating, social procedure that promotes individual life goals and needs.

"The new Web 2.0 is emerging...", according to several academics. Concepts and innovations provide doors to more successful learning and can enhance the growth of enduring skills (Klamma et al., 2007).This demonstrates that social apps such as Telegram (IM) are one of the ways for instructors to learn in the classroom and boost their professional growth.Many online communities of self-directed, critical, self-managed, and active individuals are convincing examples of flourishing community-building knowledge available to those who want to participate beyond the walls of structured learning sites in the generation of new ideas.The affordances of Telegram (IM) are identified in this study, and examples of current creative practices that use these attributes to enable learner choice and self-sufficiency are provided. Learning takes place in an IM, where teachers employ numerous tools and many modes of communication to create a collaborative activity aided by technological affordances. The following are some examples of the benefits of instant messaging apps based on existing IM research and practice:Social rapport and connectivity: IM tools such as Telegram, Whatsapp, and Wechat attract and promote social networks and facilitate interactions between them.

As defined by Gee (2004), they are examples of affinity spaces where users learn social and communicative skills while also participating in IM's participatory culture.Teachers participate in informal learning, imaginative, sensitive behaviour, and identity seeking in these places, all while gaining a variety of digital literacies.

- Collaborative information finding and sharing: Various software tools enable data sharing, and professionals and beginners alike can make their work obtainable to the rest of the internet world, for instance, through individual and group websites. Teachers with similar benefits can study from one another by sharing information

and learning materials and actively underwrite to the growth and development of IM content and expertise.

- Content production: In IM, content creation takes precedence over content consumption.To suit their own and others' needs, anyone can develop, compile, organise, and exchange content.Open source and open content projects (cf. MIT, 2007; MERLOT, 2006; Beshears, 2005) and copyright licencing models like Creative Playgrounds (2007) are assisting in the expansion of user-generated models material.Telegram (IM) allows teams and persons to collaborate to develop new information through an open excision and appraisal system.
- Knowledge and information combination and content alteration: The widespread adoption of Really Simple Syndication (RSS), as well as related knowledges like podcasting and vodcasting (which involve the syndication and combination of audio and video content, correspondingly), reflects a trend toward gathering information from a variety of foundations and tailoring it to individual needs The content can be rearranged and remixed (the concept of a mashup).

These advantages encourage the growth of a participation culture marked by genuine engagement and communication and a sense of social connection among teachers as members of the group.However, just because IM gives affordances does not mean that is all that is obligatory for operative learning. It is critical to plan ahead of time and has a thorough awareness of the complexity of these affordances. Furthermore, IM technologies for learning must be guided by a clear learning example and instructions that encourage student autonomy and knowledge development.

Table 2.4

Summary of Instant Messaging (IM) and Learning in School

Author (s) and year	Research purpose	IM features	Research method	Data Collection Method	Findings
Fischer & Konomi, 2005	To identify whether open communication is the best to predict teachers' intention to adopt Telegram (IM) in the future	having a fluent conversation as a group	Descriptive research	Teachers survey	increasing mandate for new educational methods and educations that foster lifelong learning
Owen, Grant, Sayers & Facer, 2006	To identify whether group cohesion is the best to predict teachers' intention to adopt Telegram (IM) in the future	Privacy	Descriptive research	Teachers survey	to progress the skills and possessions essential to engage with social and practical change, and to tolerate learning throughout life
Punie& Cabrera, 2006	To identify whether instructional management is the best to predict teachers' intention to adopt Telegram (IM) .	collaborative learning	Descriptive research	Teachers survey	flexible working aeras that are drivers of knowledge on-demand
Gee, 2004	To identify whether building understanding is the best to predict teachers' intention to adopt Telegram (IM) in the future	sharing content	Descriptive research	Teachers survey	IM tools like *Telegram*, Whatsappand*Wechat*attract and support networks of people and facilitate connections between them

2.6 Instant Messaging (IM) in Administration

Workplace arrangements have been significantly disrupted as a result of the COVID19 epidemic. Due to the COVID19 pandemic, more organisations are directing employees to work from home, and mobile instant messaging (MIM) has become an essential communication tool to enable remote work (Lee, 2020). Instant Messaging (IM) apps are well-known for facilitating efficient administrative tasks in the modern era. Administrative tasks are accomplished more efficiently with electronic devices that are programmed with Instant Messaging software. This technique boosts productivity in all levels of management, including lower, middle, and upper. Furthermore, as compared to e-mail, computer-mediated Instant Messaging systems are gaining a lot of traction among office workers.

In today's workplaces, employees are susceptible to various networking practices (e.g., information overload; Edmunds & Morris, 2000; Kock, 2000; Klausegger et al., 2007; Levitin, 2016). According to a recent study, 279 out of 379 respondents have utilised instant messaging for work orders, information collection, and developing relationships among coworkers (Aripin, 2011). Text messaging is useful for addressing brief or time-sensitive managerial concerns, whereas instant messaging has allowed employees to stay "connected" outside of working hours, blurring the lines between their professional and personal lives (Adisa, Gbadamosi, &Osabutey, 2017). Despite this, instant messaging has allowed employees to stay "connected" outside of working hours. Undergraduate students, for instance, might ask librarians for assistance with their research projects or be informed of upcoming due dates for library books (Anderson and Blackwood 2004). (Hill, Hill, and Sherman 2007).

According to Jeong (2007), prompt messaging can be used for simulated office hours, which helps students and teachers overcome obstacles related to their respective locations. The use of the text message varies depending on the circumstances, such as when classes are dismissed (Brown, Vetter, and Saunders-White 2008; Smith, Salaway, and Caruso 2009). Due to the immediacy and pervasiveness of text messaging, it lends itself very well to the role of providing support for instructors in the area of time management. Text messaging has been proposed as a method for informing teachers of assignment or submission due dates, as well as the schedule or operational changes (Keegan 2005; Naismith 2007), while managerial staff colleagues have been reluctant to utilize it with students or classmates (Keegan 2005; Naismith 2007). (Pirani and Sheehan 2009). [Citation needed] The authors Jones, Edwards, and Reid (2009) state that sending faculty reminders in the form of SMS texts will be helpful to instructors in the process of formulating an approach to time management

In a similar vein, Harley (2007) found that sending first-year students text message reminders of the dates by which they needed to complete assignments was helpful in assisting them in adjusting to the demands of academic life. In conclusion, instant messaging is utilized to obtain prompt responses to questions or concerns raised by students, as well as to allow contact in both directions between students and staff (Yao, 2011). Some educational benefits have been highlighted, despite the fact that there has been relatively little research done on the effectiveness of texting and instant messaging for specific educational objectives. The utilization of text and flash messaging for undergraduate students who are not physically present in the classroom is the primary concentration of these studies (Muirhead 2005). participation in decision-making scenario replicas (Cornelius and Marston 2009), field data collecting (Patten, Sanchez, and Tangney 2006), or the discovery of new vocabulary phrases within a learning Local Area

Network. [Citation needed] (Cavus and Ibrahim 2009). It is possible to expand texting and instant messaging to include contemporary social networking sites like Facebook and Twitter, which are gaining traction in the higher education sector (Grosseck and Holotescu 2008; Hosterman 2009).

Undergraduate students have been shown to divert their attention away from the activity in which they are already engaged when they respond to the arrival tone of inward text posts. This can be a very significant advantage when texting is allowed in the classroom (Markett, 2006). Conversations that take place via instant messaging face the same challenges. Instant messaging is a multitasking activity for learning, as Junco and Cotton (2011) explain, because it requires undergraduates to split their attention between the conversation at hand and the theoretical backdrop.

Table 2.5

Summary of Instant Messaging (IM) in Administration

Author (s) and year	Research purpose	IM features	Research method	Data Collection Method	Findings
Aripin, 2011	To examine overall teachers' outline on the school management knowledges of using Telegram (IM).	collaborative learning	Descriptive research	Teachers survey	IM used for work orders, information collection, and strengthening relationship among workers
Anderson and Blackwood 2004	To identify whether instructional management is the best to predict teachers' intention to accept Telegram (IM) in the future	sharing content	Descriptive research	Teachers survey	Text messaging is cooperative for supportive brief or time-sensitive administrative issues.
Jeong (2007)	To find out the connection amongst the elements(exploration) and teachers' interactive intention in the direction of the use of Telegram (IM).	collaborative learning	Descriptive research	Teachers survey	Instant messaging can be used for simulated office periods
Keegan 2005; Naismith 2007	To find out the connection between the elements (integration) and teachers' behavioral intention in the direction of the use of Telegram (IM)	opening a group	Descriptive research	Teachers survey	Reminding teachers' of task or application due dates, and timetable or procedural changes
Harley, 2007	To find out the connection between the determinants (building understanding) and teachers' behavioral intention	sharing content	Descriptive researc	Teachers survey	To adjust to academic

Author (s) and year	Research purpose	IM features	Research method	Data Collection Method	Findings
	in the direction of the use of Telegram (IM).				
Yao, 2011	To find out the connection between the elements (direct instruction) and teachers' behavioral intention in the direction of the use of Telegram (IM).	collaborative learning	Descriptive research	Teachers survey	Instant messaging is also used for receiving instant responses
Junco and Cotton, 2011	To find out the connection amongst the determinants (group cohesion) and teachers' behavioral intention in the direction of the use of Telegram (IM).	sharing content	Descriptive research	Teachers survey	Instant messaging is a multitasking activity to learning
Jones, Edwards, and Reid, 2009	To identify whether building understanding is the best to predict teachers' intention to accept Telegram (IM) in the future	having a fluent conversation as a group	Descriptive research	Teachers survey	Text messaging reminders from faculty can help teachers to develop a time-management strategy
Markett, 2006	To find out the relationship between the determinants (building understanding) and teachers' behavioral intention towards the use of Telegram (IM).	having a fluent conversation as a group	Descriptive research	Teachers survey	This can be a significant advantages when text messaging is used in class

2.7 Theoretical Framework and Hypotheses Development

This research is based on Community of Inquiry (CoI) Coding Template by Garrison, Anderson & Archer (2000) and The Decomposed Theory of Planned Behaviour (DPTB) by Taylor and Todd (1995). Thus, both these models can be interrelated to regulate the factors that are distressing teachers' use of Telegram (IM) in managing school administrative task. As described above, researchers have built a range of models to learning the adoption of end-user IM tools. We are discovering the resemblances and alterations amongst these models with a goal of emerging mutual models with more illuminating control. In full detail, Chen and Li (2010) demonstrate that combining TPB's theoretical constructs with TRI will certainly improve the accuracy of an combined model to forecast and describe the behavioural intentions of users.Thus, DPTB and CoI are chosen as the theoretic basis to change a research model for better clarification and prediction of the IM acceptance performance of teachers.

Applying the previous description to the study of IM acceptance, we expect that hopefulness and innovativeness of both these models could inspire teachers to use IM tools, and to hold a positive boldness toward IM tools use.

2.7.1 Theories

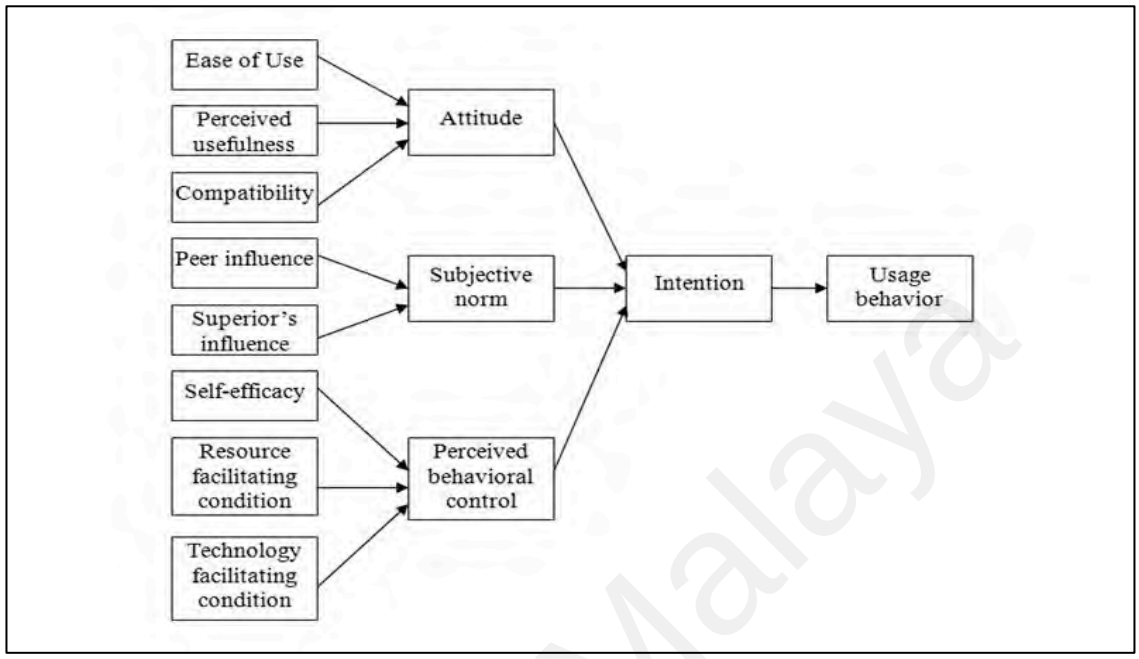
This study has used decomposed theory of planned behaviour and COL framework to provide the theoretical support to study hypothesis.

2.7.1.1 Theory of Decomposed Planned Behaviour (DPTB)

Figure 2.1 below displays the Decomposed Theory of Planned Behaviour by Taylor and Todd (1995).

Figure 2.1

Decomposed Philosophy of Deliberate Behaviour by Taylor and Todd (1995)



The TPB, an outgrowth of Fishbein and Ajzen's (1975) theory of coherent action, was developed in 1975 by the two researchers to explain nonvolitional conduct. Perceived behavioural control is a component of the total behaviour profile (TPB) since it predicts both behavioural intention and behaviour (Notani, 1998, p. 248). Taylor and Todd (1995) develop the deconstructed TPB by starting with the TPB (DTPB). One of the purposes of this approach, which tries to increase our understanding of user behaviour, is to examine the links between beliefs, attitudes, intent, and conduct. This paradigm contends that arrogances, subjective values, and asserted behavioural control all contribute to understanding why people do what they do in the first place, despite the fact that purpose is regarded as the best predictor of action. DTPB investigates three elements in depth: attitudes, personal norms, and perceived behavioural control. These are the factors that eventually decide conduct. Rogers' diffusion of innovation theory divides attitude into three categories: perceived utility, perceived ease of use, and compatibility (Rogers,

1995). The degree to which a new invention is perceived as consistent with the values of current and prior generations of consumers, as well as their future expectations, is characterised as compatibility. The degree to which a new invention is considered as congruent with the values of current and prior generations of consumers is characterised as perceived usefulness (Rogers, 1995, p 224; In Eastin, 2002, p. 253).

Compatibility is widely used to predict behaviour. Compatibility influences sentiments towards an online transaction, according to a model provided by Chen, Gillenson, and Sherrell (2002). In the Theory of Diffusion of Innovation (TDI) and Theory of Adaptive Management, it is a forerunner to recognised usefulness (TAM). In a study aimed at investigating the primary success drivers for the adoption of online merchants, Chen and Tan (2004) demonstrated that the usability variable is a predictor of attitude between perceived utility, apparent ease of use, confidence, and apparent quality of service. The more the interoperability, the more likely internet stores will be adopted. As Vijayasarathy (2004) and Lin (2007) indicate, influencing attitudes towards utilising the Internet as a tool is dependent on compatibility. According to Chen and Li (2010), in gauging behavioural intention to use e-services, DTPB attitude is more important than perceived behaviour regulation. The findings are consistent with previous investigations. "Perceived social pressure to perform or refrain from performing the action" is the TRA subjective norm. This indicates that your subjective standard is tied to normative beliefs about what other people can expect from you (Wu and Chen, 2005). Some empirical studies have found that subjective standards have an optimistic and direct effect on behavioural intention, but this effect is typically weaker than attitudes and apparent behavioural resistors (Ajzen and Fishbein, 1980; Armitage and Conner, 2001). Gretzel (2006) asserts that private usage of technology lessens the importance of considering what others might think. The apparent behavioural control of TPB, as well as some

consideration about enabling tactics, allow people to swiftly embrace new IT solutions (Liao, Chen, and Yen, 2007). The DTPB additionally takes into account the component of perceived behavioural regulation (PBC). According to Chen and Wu, PBC represents a person's knowledge of how easy or difficult it is to enforce behaviours (2005). Although there is conflicting evidence on the effect of apparent behavioural control, it appears that this construct only has an effect on behavioural purpose, as evidenced by previous studies such as those by Mathieson (1991), Taylor (1995), Hsu and Lam (2006), Lu (2006a), Zhou and Wang (2006b), and Hwang, Lin, and Wang (2010).

Table 2.6

Summary of Theory of Decomposed Planned Behaviour

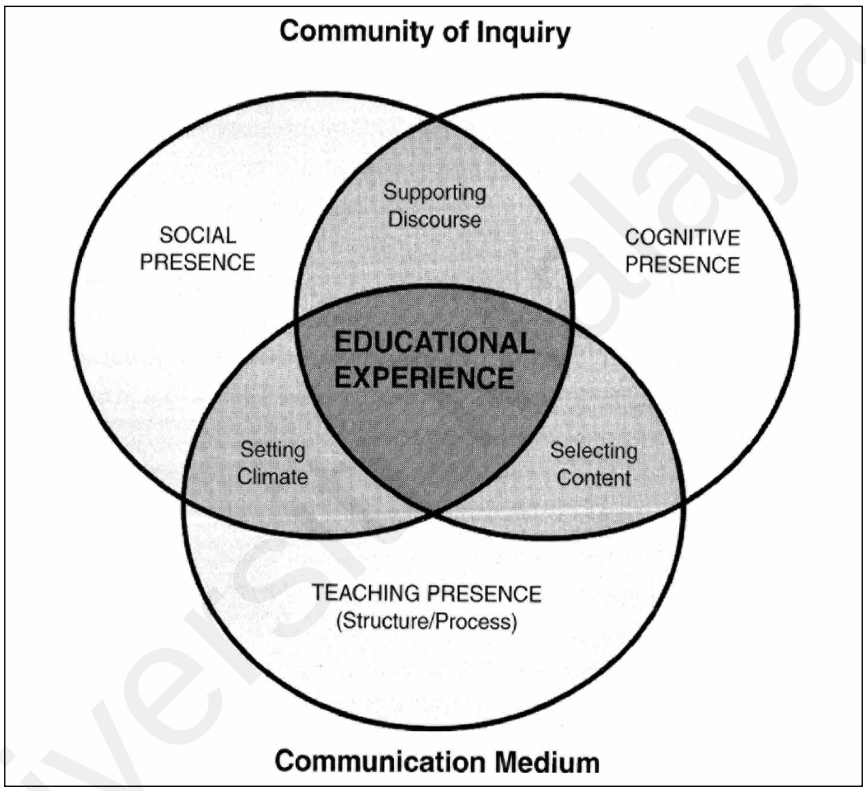
Author (s) and year	Research purpose	IM features	Research method	Data Collection Method	Findings
Vijayasarathy, 2004 and Lin, 2007	To identify whether instructional management is the best to predict teachers' intention to adopt Telegram (IM) in the future	collaborative learning	Descriptive research	Teachers survey	Compatibility has great influence on attitude toward the Internet as tool.
Herrero Crespo &Rodríguez del Bosque, 2008	To find out the connection amongst the elements (exploration) and teachers' behavioral intention towards the usage of Telegram (IM).	sharing content	Descriptive research	Teachers survey	"Attitudes, subjective norms, and perceived behavioral control" help to in explaining the individual behaviour.
Chen, Gillenson and Sherrell (2002)	To find out the connection amongst the elements (exploration) and teachers' behavioral intention in the direction of the use of Telegram (IM).	collaborative learning	Descriptive research	Teachers survey	A model integrating Theory of diffusion of invention
Chen and Li (2010)	To find out the association amongst the elements (open communication) and teachers' behavioral intention in the direction of the use of Telegram (IM).	sharing content	Descriptive research	Teachers survey	DTPB has more importance than apparent behavior control in determining behavioral intention to use e-service
Liao, Chen, and Yen, 2007	To find out the connection amongst the elements (triggering event) and instructors' behavioral intention in the direction of the use of Telegram (IM).	opening a group	Descriptive research	Teachers survey	Certain facilitating instruments help users adopt new IT tools with ease

2.7.1.2 Community of Inquiry

Figure 2.2 below demonstrate the Decomposed Theory of Planned Behaviour by Taylor and Todd (1995).

Figure 2.2

Community of Inquiry (CoI) by Garrison, Anderson & Archer (2000)



The CoI system is social constructivist and based on John Dewey's idea of practical inquiry (1938). The concept, explanation, and measurement of elements that help online learning communities grow is a dynamic process model. COI model's social occurrence, cognitive occurrence, and teaching occurrence were all used in this learning as the primary determinants of success.

Cognitive occurrence is distinct as the degree to which beginners can construct and authorize meaning through continued replication and debate, which is characterized as the degree to which computer-mediated communication members feel effectively related

to one another.Teachable moments are when cognitive and social processes are designed, facilitated, and directed to promote learning (Swan, Garrison, & Richardson, 2009).When it comes to an understanding asynchronous learning network, their properties are helpful, but further research into the educational and transactional issues they raise calls for a theoretical framework that can deliver order and simplicity in an otherwise chaotic world of online learning. When it comes to higher education, a group of undergraduates is a construct that's gotten a lot of attention.Because it's critical to higher learning success, higher education has always emphasized building a sense of public.

Although online learning communities have the potential to be isolating, there is indication to suggest that a sense of public can be created (Rovai, 2002a; Thompson & MacDonald, 2005).There's also evidence to suggest that a strong sense of belonging is directly related to how much people value education (Rovai, 2002b; Shea, 2006; Shea, Li, & Pickett, 2006).While social presence was heavily emphasized in early online learning studies, Henri (1992) was the first to draw attention to the cognitive aspect of online learning.As depicted in Figure 2.3.2, this work stimulated Garrison et al. (2000) to create a comprehensive framework for online learning study and rehearsal. For each of the three social, teaching and intellectual occurrence components, the framework includes categories and indicators to help code transcripts (b).The system's origins can be traced back to John Dewey's writings and constructivist methods to learning higher education.

This paradigm has been embraced by the online learning public, which has providing new views and research methodologies for perusing online learning (Garrison & Archer, in press; Garrison, Cleveland-Innes, Koole, &Kappelman, 2006).The COI approach has been adopted and adapted by educators all around the world.It has been used in various ways in this study to help inform future IM research and practice.There has been an

explosion of new research since creating a standardized CoI survey, taking our understanding of online learning forward.When it comes to managing administrative tasks in schools, instant messaging demonstrates the value of the Community of Investigation model because of the significant contributions it has made possible.

To answer the research issues, two hypotheses are developed based on the theories stated above. The dependent variable in this study is behaviour intention, which has a close relationship with actual behaviour (Kiraz&Ozdemir, 2006). A person's behavioural purpose is captured by their willingness to work hard to carry out behaviour (Ajzen, 1991). To summarise, as a dependent variable, intention to use is more dynamic and prospective than actual use (Mun et al., 2006).This study has practical advantages since accessing the information on how technology is used in classrooms may be too sensitive, discouraging schools from participating.

2.7.2 Attitude and behavioural intention to use Telegram

Attitude has attained the remarkable attention in the field of research.Attitude is the emotion or feeling of someone towards certain thing. There is a great need of research on attitude of teachers as this study examining the intention of teachers to use the new technology Telegram (IM). There are some factors which influence the attitude of teachers. These are Triggring events, Exploration, Integration and Resolution.

H1a: Triggering event (TE) is positively and significantly associated with teachers' behavioural intention (BI) to use Telegram (IM).

H1b: Exploration is positively and significantly associated with teacher’s' behavioural intention (BI) to use Telegram (IM).

H1c: Integration (INT) is positively and significantly associated with teacher's behavioural intention (BI) to use Telegram (IM).

H1d: Resolution is positively and significantly associated with teacher's behavioural intention (BI) to use Telegram (IM).

2.7.3 Subjective Norms and behavioural intention to use Telegram

H1e: Instructional management (IM) is positively and significantly associated with teachers' behavioural intention (BI) to use Telegram (IM).

H1f: Building understanding (BU) is positively and significantly associated with teacher's behavioural intention (BI) to use Telegram (IM).

H1g: Direct instruction (DI) is positively and significantly associated with teacher's' behavioural intention (BI) toward Telegram (IM).

2.7.4 Perceived Behaviourcontrolandbehavioural intention to use Telegram

H1h: Emotional expression is positively and significantly associated with teacher's behavioural intention (BI) toward Telegram (IM).

H1i: Open communication (OC) is positively and significantly associated with teacher's behavioural intention to use Telegram (IM).

H1j Group cohesiveness (GC) is positively and significantly associated with teacher's behavioural intention (BI) toward Telegram (IM).

Table 2.7

Summary of Community of Inquiry (CoI)

Author (s) and year	Research purpose	IM features	Research method	Data Collection Method	Findings
Swan, Garrison, & Richardson, 2009	To find out the connection amongst the elements (open communication) and teachers' behavioral intention to use Telegram	collaborative learning	Descriptive research	Teachers survey	Design, simplification, and direction of cognitive and social procedures for learning are all examples of teaching presence.
Rovai, 2002a; Thompson & MacDonald, 2005	To find out the connection among the elements (triggering event) and teachers' behavioral intention to use of Telegram (IM).	sharing content	Descriptive research	Teachers survey	Indication that a sense of community can be formed online
Rovai, 2002b; Shea, 2006; Shea, Li, & Pickett, 2006	To find out the connection amongst the elements (triggering event) and teachers' behavioral intention towards the use of Telegram (IM).	collaborative learning	Descriptive research	Teachers survey	To progress a inclusive framework to guide the research and practice of online learning
Garrison & Archer, in press; Garrison et al., 2006	integration and teachers' behavioral intention	opening a group	Descriptive research	Teachers survey	online learning public and provided understandings and methodology for studying online learning

Instructor and learner interaction is the type of interaction which have been discussed concerning the telegram to promote educational interaction. There are different ways of interaction that may interact with the student to link the physical gap in the online environment. Interaction could be improved by giving the student feedback which is given immediately with the first names that are used when the instant messages are sent. Emotional support is offered to increase the interaction of students and decrease the feeling of isolation. Additionally, when the teacher participates in the conversation thread alongside their undergraduates, it encourages the students to participate more actively in the activities that are part of their online education. Several studies highlighted the beneficial impact that synchronous classrooms had in terms of encouraging the most amount of contact possible amongst students. Students' academic performance, motivation, and overall pleasure with their education, as well as their tenacity in completing a course, may all benefit from positive interactions between teachers and students. Because of the physical distance that exists between students and their teachers in online learning environments, it is not uncommon for students to experience feelings of isolation (Aladsani, 2021). Learner–instructor interaction has the potential to generate a sense of academic community, which may alleviate or eliminate these feelings. Learner-to-learner contact is the second form of educational interaction, and it takes place when students speak with one another and take part in educational activities. The relationship between students and teachers may be improved if teachers encourage students to take part in threaded conversation forums and to coordinate or take the lead on group projects. In addition to these activities, students have the opportunity to engage in peer-to-peer conversation inside their synchronous or asynchronous online classrooms, with or without the presence of their teacher. Researchers have shown that students who participate in regular peer interaction in online courses can absorb a significant quantity of new material and enhance their academic performance. Learner–content interaction

may be encouraged by giving students with instructional films to view, research projects to do, and interactive material inside the classroom to engage with. Learners recover previously acquired information, process newly acquired information, and mix the two to produce new knowledge via the process of interacting with the material. Interaction between students and instructors is an essential component of online education. Students should have a positive experience while using technology to study and organize their information since the technology should make its users' lives easier and give them a sense of accomplishment. If however these issues in an online system are not fixed as soon as possible, they may have a detrimental influence on the students' ability to learn and connect with technology (Chalak et al, 2019).

2.8 Telegram in Higher Education

With different aspects and features, the telegram could be used efficiently and is used for academic determinations. Previous and different literature have deliberated the attitude of the student towards the use of the telegram in different courses which is applied by the teacher along with the advantages and disadvantages along with the effects on the student academic performance. The studies may identify that the student may enjoy using telegram as it also makes the courses more stimulating. Students may have a positive attitude due to some advantages which may grant them from using the telegram in their learning. One of the basic factors of the telegram is the seamless network. This may allow the student to access the accounts on the device meaning that they can start learning on their mobiles and endure to learn on their laptops to maintain the flow of information from the resources (Neill et al, 2018).

Both students and professors appreciate Telegram's assistance with material sharing. Telegram allows users to send files of any size up to 1.5 gigabytes. This function can be

utilised by instructors in their teaching activities, and they can provide their students with multimedia information, such as video clips and still photographs, to help them learn better. According to some experts' observations, students prefer utilising Telegram in a classroom setting since their instructors give them video clips and images. Another researcher stated that viewing his students English video broadcasts on Telegram helped improve their ability to accurately enunciate the language. He also stated that teaching articulation is a difficult task for educators; however, on Telegram, beginners can watch instructional video clips and listen to native reciters to learn proper articulation on their own time and as many times as they want, which is impossible in outdated offline classroom methods. This makes it easier for students to learn accurate pronunciation. Because each Telegram group can have up to 200,000 participants, it is an ideal tool for building communities. These groups can give their content to anyone who uses the Telegram search box, or they can offer it privately to a select group of people by issuing them special invite links. Several studies have found that students can improve their academic performance and course results by joining in Telegram groups for a variety of reasons, which is only one of the numerous advantages that these groups offer. First, the utilisation of Telegram groups increases student participation and conversations with teachers and peers, resulting in students receiving new material. As a result of their regular contacts with their peers in group discussions, students have a deeper understanding of the subject given in class. Furthermore, some lecturers outsource assessment tasks to students' peers via Telegram. These tasks are extremely beneficial since they allow students to learn from one another and, as a result, broaden and deepen their knowledge and expertise. Furthermore, the extra attention students pay to their remarks during peer assessments in Telegram groups helps students enhance their critical thinking skills. This is due to the fact that students' explanations are available in the class's Telegram group, where they are examined and evaluated by the instructor and the other

undergraduates (Xodabande, 2017).Another element that contributes to students' improved academic performance is the timely feedback they receive from their lecturers in Telegram groups. Prior research has looked at the disadvantages of using Telegram, despite the fact that it has many benefits. The most notable downside of Telegram is that it frequently suffers from technical issues such as occasional network outages and insufficient internet connectivity. Students have expressed their dissatisfaction with internet issues that interfere with their ability to study online, such as frequent disconnections and insufficient internet coverage. Another concern is the high cost of keeping an internet connection. Another disadvantage of using Telegram in class is that it may take students' attention away from the fundamental goal of the assignment, which is to learn through methods other than those commonly utilised in education. According to the findings of one study, numerous students failed to complete the mandatory Telegraph writing task because they were distracted by the fun alternatives provided by the internet. When a student enters Telegram to deliver homework but becomes distracted by other Telegram assemblies they have joined, they may find themselves in this humorous position. It is also possible for classmates to become a distraction by publishing irrelevant messages in the class group on Telegram, interfering with the student's ability to learn on the platform. Telegram's simplicity of use may result in an increase in workload for both students and professors. T.This is particularly true if students have the unrealistic expectation that their teacher would be accessible to them 24 hours a day, 7 days a week, resultant in the students' feelings of a letdown (Gracia et al, 2018).

The significance of proper English language has grown significantly in the 21st century as a direct result of the development of Information and Communication Technology. Teaching kids in English presents several difficult obstacles for instructors. In addition, because of the recent COVID-19 epidemic, the management has created several laws to

restrict the spread of COVID-19 in educational institutions by shifting away from traditional learning techniques and toward e-learning. There is a plethora of educational software available online. The program known as Telegram Messenger has a significant user base. As a consequence of this, the objective of the study was to determine the reactions of the students to the usage of Telegram in English class during the COVID-19 outbreak as well as the difficulties that they encountered when utilizing this application. The participants in the study were all ninth-grade students at SMP Negeri 1 Kawunganten. They were the ones who made contributions. The research was carried out in the form of a survey, and the examination of the compiled data was carried out with the assistance of both quantitative methodology and descriptive statistics. In addition to that, we employed a questionnaire with no open-ended questions to conduct the experiment. The whole plan was deemed to be "extremely successful" since 81 percent of students provided positive feedback regarding the use of Telegram, which put the strategy in the "highly successful" category. According to the findings of this experiment, students profited from using Telegram, and it proved to be a very beneficial tool in English class. This experiment was carried out to test the hypothesis that students would benefit from using Telegram. Despite this, students continued to have a hard time, as seen by an average grade of 70 percent, which indicated that the level of difficulty was relatively high. When the students participated in e-learning, both their ability to concentrate and their desire to study suffered, which resulted in the greatest number of issues (Kusuma and Suwartono, 2021).

During the COVID-19 epidemic that occurred at SMP Negeri 1 Kawunganten, the purpose of this study was to determine the responses of the students to the use of Telegram Messenger and to identify the obstacles that they practiced when applying this claim in English class. Additionally, this study aimed to determine how the students felt about the use of Telegram Messenger. In order to find these responses, this investigation was

carried out from the very beginning to the very finish. In this section, a summary of the findings of the study is offered in the form of a list of conclusions. This section also contains an overall analysis of the findings. First, during the COVID-19 epidemic, the outcome of the student's reaction to the employment of Telegram Messenger in English class was in the proportion of 81 percent. When examining the percentage, it was discovered that this was in fact the case. It appears that Telegram Messenger was beneficial for the students, a huge success when utilized in English class, and that the students were pleased with this application. In addition, it shows that the students were delighted with it. In addition, the utilization of Telegram Messenger within the context of the English course was quite productive. In addition, the ease of access indicator demonstrated that the percentage was highest in the first quarter (92 percent), which was included. This information was taken into account. After downloading and installing Telegram Messenger, it was reported that the children had no problems logging into their respective accounts. The percentage that was found to be the lowest was discovered in question nine (71 percent), which was a part of the indicator for communication and involvement. During the course of their English studies, it was observed that the students reported feeling comfortable sharing their thoughts and ideas via the use of Telegram Messenger.

Second, the outcome of the challenges that students had while attempting to use Telegram Messenger in English class was a score of 70 percent. When it comes to using Telegram Messenger in English class, it indicates that the students are still facing some challenges, and the percentage indicates that the degree of difficulty is high. In addition, the question that received the largest proportion of responses (73 percent), which said that the students believed that their focus and drive to study declined as a result of e-learning, received the most responses. The number of students who said that they had difficulty comprehending

the instructional materials provided via Telegram was the lowest in question 18, which had a response rate of 68 percent. The findings of this research lead the authors to conclude that using Telegram Messenger is an efficient teaching tool for English language classes. On the other hand, to make the process of learning more effective, it is strongly recommended that students utilize this program imaginatively and appropriately. In the meantime, it is recommended that instructors who plan to use this application in their lessons pay closer attention to their students and provide additional assistance whenever necessary. This will ensure that the pupils do not have any trouble comprehending the instructional materials that are delivered via Telegram Messenger. Since the present study was carried out in a short amount of time, it is reasonable to anticipate that future researchers will be able to recover the quality of related research by devoting a greater amount of time to the endeavor (Wiranegara and Hairi, S. 2020).

2.9 The Contribution of the Telegram Application to the Development of Better Writing Skills

This study was conducted with the intention of investigating the impact that utilizing the Telegram software has on the development of writing skills among undergraduate students who are learning English as a second language. The sample for the research project consisted of seventy-five students who are currently enrolled in the Bachelor of English program at The World Islamic Sciences and Education University in Jordan. In this study, the quasi-experimental method was used, and the students were divided into two groups: the first group, consisting of (38 students), represented the experimental group, and used the social networking site Telegram; the second group, consisting of (37 students), denoted the control assembly.

There are statistically important variations at the level of significance (=0.05) between the mean scores of the investigational group and the control group in the writing ability posttest due to the use of social networking Telegram in favor of the investigational group; (ii) the Telegram Application has a positive impact on the users because it helps the students save and record their writing; and (iii) the consequences of the study are as follows: there is a statistically significant difference between the mean scores of the investigational group and the control It is of the utmost importance that we encourage our students to make use of technology in their self-education as well as in the teaching of language. This is due to the fact that a large number of students gravitate toward using technology for the purpose of amusement. This study's objective is to determine whether or not making use of an application known as Telegram can assist students in developing their writing skills. In this particular investigation, the quasi-experimental method was chosen for use.

People who were currently enrolled at WISE University in Jordan and were majoring in English were invited to take part in the study. The following are some of the findings of the study: writing ability has a very significant influence on learning consequences, so improving writing ability in this study can guide to recover other English language skills. there were significantly significant variances between the means of the pre-test and the post-test in the experimental group; (ii) the use of the Telegram App as an effective method in teaching writing skills; and (iii) writing ability has a very significant influence on learning consequences. (iv) students were required to save and record their writing while using Telegram, which resulted in a positive impact on members; (v) the Telegram App can correct errors and suggest linguistic sentences for students to use when expressing their opinions; (vi) the Telegram App is available on both iOS and Android.

The researchers came up with the following ideas and proposals, which are listed below: I I there should be a need for training workshops to train teachers on how to use Telegram App as a teaching approach; (ii) researchers are called upon to conduct additional empirical studies in authentic lessons to examine the impact of Telegram App on other English skills over a long period of time with other large populations and comparators; (iv) students should be more active and collaborate with one another using the Telegram App to improve their writing skills and other English skills; The researcher urges the students to study whether or not it would be possible to use a virtual instructor to teach language skills to students via mobile devices and personal computers.

A great number of researchers have come to the conclusion that the question of how much of a role technology should play in the learning process is an intriguing one. These researchers have presented evidence to support the notion that there is an immediate need to make use of technology in language training. The claim is that there is an immediate need to make use of technology in language instruction. In point of fact, "today, the emphasis is not on whether to embrace the use of technology to develop the four abilities in the English language, but rather on how to incorporate technology into the instruction of language in a more effective manner," as stated in the aforementioned article. The process of using technology to effectively carry out and change the activities related with language education is referred to as technology incorporation, as defined by Gilakjani (2017).

Technology incorporation is defined as the practice of using technology. A great number of academics working in the field of education have investigated the effects that the usage of technology has had on student performances, including success, academic accomplishment, growth in social media, and a great many other outcomes (Fogg, 2010).

Numerous academics have weighed in on the topic of whether or not schools should use technological tools into their lesson plans. For instance, Baleghizadeh and Oladrostam (2010) investigated the impact of mobile-assisted language knowledge on the grammatical accuracy of English as a Foreign Language (EFL) Students in order to assist these students in enhancing their grammatical capabilities. Students in both the experimental group and the control group were given the option to review and recycle grammatical forms that they had already mastered in the course of their studies. According to the findings of their investigation, students who were a part of the experimental group received assistance from mobile-assisted learning, and their total performance was superior to that of the participants who were a part of the control group.

In spite of this, Zarei (2015) conducted an investigation into the efficacy of using the Telegram program to improve writing in a second language. The purpose of this investigation was to examine how students view the usage of telegrams in written communication. a method of teaching a language to students in order to facilitate their language learning The results of the study revealed that the group who participated in the research and utilized the Telegram App performed significantly better than the control group. Research was carried out by Chotipaktanasook (2016) to study how the use of social media apps effects students' inclination to interact with one another. The greater inclination of individuals to interact was found to have a clear correlation to the individuals' use of social media, as indicated by the data. Research was carried out by Mompean and Fouz-González (2016) to investigate whether or not Twitter is an effective medium for teaching pronunciation. They were curious as to whether or not the use of social media could encourage students of English as a foreign language to spend more time online and whether or not it could assist them in accurately pronouncing difficult terms.

Students who were enrolled in a Spanish language program took part in the research project. They were provided with a constant stream of tweets throughout the day, which included the articulation of some tense relationships. Because of the unique sound-spelling correspondences, the lexical stress, or the occurrence of silent letters, some names were difficult to say. The use of mobile devices in educational settings needs to be regarded as a matter of significant importance. The usage of WhatsApp contributes to the creation of a positive social environment, which in turn helps to foster a sense of belonging to a community or team with the other undergraduate students and the instructors. In addition to this, it alleviates sensations of nervousness and anxiety. Awada (2016) investigates the question of whether or not it is beneficial to use WhatsApp in language instruction. She has arrived at the conclusion that teaching writing skills via WhatsApp is more successful than training students in the conventional manner, and that it also increased the students' motivation. According to Mashhadi Heidar and Kaviani (2016), learning English using Telegram can provide exceptional pedagogical and technical advantages for Iranian students of English as a foreign language (EFL), in addition to having a favorable impact on the vocabulary growth of EFL students.

On the other hand, studying English through Telegram can have a beneficial effect on the expansion of vocabulary for students of English as a foreign language. In addition, Setiawan and Wahyuni (2017) investigate the utility of Telegram in the process of teaching students of English as a foreign language the correct way to pronounce English words. The findings suggested that using the Telegram app to execute the E-talk castle model has a substantial effect on the capability of learners to improve their English language speaking skills. [Citation needed] [Citation needed] [Citation needed] [Citation needed] [Citation needed] Additionally, English language learners who use the Telegram

app may find that using the app to enunciate words in a more professional manner might be advantageous to them.

Wahyuni (2017) carried out research with the purpose of determining whether or not the use of Telegram telegram was effective in the learning and teaching process. The findings of the study revealed that the individuals who participated are enthusiastic about the prospect of utilizing Telegram in their respective learning and teaching processes. Iksan and Saufian (2017) conducted study on the Telegram application in order to assess whether or not it would be feasible to implement Telegrams into the school system as a tool for teaching and learning. They came up with the findings that are as follows: The telegram is versatile and can be utilized for a variety of purposes, including participation, one-way chats, methodology, arguments, photos, drawings, and audio; (ii) (ii) According to the reports of undergraduate students, the use of Telegram as a tool for teaching and learning enabled them to acquire new experiences, be more imaginative, produce spontaneous ideas, have genuine ideas without the fear of being embarrassed, and encouraged them to be happy and enthusiastic about their learning. (iii) According to the feedback provided by students, the use of Telegram made instruction more effective by addressing the issues faced by educators. Researchers Aghajani and Adloo (2018) found that students who took part in cooperative writing groups through telegram obtained higher grades than those who took part in face-to-face cooperative writing groups. This was true for both categories of different groups. In addition, Ghaemi and Golshan (2018) made use of Telegram in their research to investigate the impact that using short messaging systems has on the vocabulary development of students learning English as a foreign language. Making use of learning scenarios that are based on technology such as Telegram and smart smartphones may make it easier to overcome the difficulties that are linked with the process of acquiring new terminology. Ghobadi and Taki (2018) shown,

among other things, that students are able to acquire new language in an effective and uncomplicated manner when it is taught to them through the utilization of Telegram stickers as a teaching tool. The findings of Naderi and Akrami (2018) indicate that the implementation of telegrams into the educational setting assists students in enhancing their level of reading comprehension. In addition, Al-Jarrah et al. (2019) mentioned that students are increasingly using writing for academic purposes, which is a trend that has been seen. It is necessary of them that they have substantial amounts of experience in writing in order for them to be qualified. Students should be encouraged to improve their writing skills by using social media as a tool, and they should be given opportunities to do so. In addition, Yinka and Queendarline (2018) explore how students feel about using the Telegram app in English classrooms, particularly in regard to enhancing their writing abilities. Specifically, the focus of this investigation is on improving students' ability to communicate in writing. They study the opportunities presented by utilizing Telegram as a tool in the academic setting of writing. In addition, Khansarian-Dehkordi and Ameri-Golestan (2019) investigate how the usage of mobile devices could potentially benefit students in the process of learning a new language and practicing that language. Their research demonstrates that there is a significant improvement in the academic performance of students who use social media networking software on their personal computers or mobile devices. This benefit can be seen in the students' ability to retain information and communicate with their peers. In educational settings, the application of technology is not only extremely beneficial, but it also yields results that are more satisfying than the more traditional approach. This is because technology is better able to simulate real-world conditions.

2.10 The educational conversations that take place over

Telegram According to findings from earlier research, the characteristics of Telegram facilitate a variety of different kinds of online connections. For instance, it is compatible with all file types and conversations, and it enables assemblies to optimize learner-instructor and learner-learner connections. This, in turn, improves the academic achievements that students achieve in their online learning courses. Researchers who utilized Telegram as a medium for language learning concluded that it encourages students to interact with one another in a cooperative setting. This was found to be the case as a result of the online peer assessments that were allocated through this SNS. Online peer assessments play a significant part in boosting learner-to-learner communication. According to the findings of certain researchers, contact between students and teachers is the most popular kind of interaction in online learning, which makes use of Telegram for several reasons. To begin, the need of pupils for immediate response is superbly met by Telegram. In addition, as a social networking service, Telegram provides students with extra possibilities to communicate with their teachers outside of the conventional classroom's constrained time and location. These results are consistent with those of, who further said that interactions between learners and instructors are the most preferred sort of interaction type for both learners and instructors. These findings are in accord with those of. Based on our assessment of the relevant literature, it would seem that the majority of this research has concentrated on the findings of trials designed to evaluate whether or not Telegram is beneficial in enhancing students' academic achievements or investigating students' views regarding Telegram. There is a scarcity of studies on the use of Telegram to improve students' interactions in online educational environments, although the findings of this research ultimately highlight the significance of engaging in an online conversation with others. In addition, there haven't

been a lot of qualitative studies done to explore what kinds of instructional actions are working in exercise to improve interaction in general and how students feel about utilizing Telegram for their conversations with one another. The current study fills up these research gaps and sheds light on how educators may make better use of Telegram as a medium to improve the quality of online educational interactions amongst students.

2.11 A Case Study of English as a Foreign Language Learners at Ajloun University College in Jordan Investigating the Efficiency of the Social Media Application "Telegram Messenger" in Improving Students' Reading Skills

The following is a summary of the opinions of some of the writers who advocate utilizing Telegram as an effective and successful teaching-learning tool, as well as the perspectives of some of the other members of the project team. Also included are some of the authors' proposals. Email, text messaging, Facebook pages, Twitter, Wifi, and most recently Telegram are some of the prominent digital communication methods that students use to connect with one another and with their teachers. Students also utilize Telegram. Over the course of the last decade, there has been a rise in popularity of the trend toward digital communication. The extent to which each of these resources can be utilized successfully for educational purposes is contingent on a diverse set of characteristics that are exclusive to that particular resource. 2014 saw the publication of the findings that Iglesias, Calvo, and Arbiol had obtained. Previous studies investigated a wide range of educational applications for the Telegram messaging app and found it to be useful in a variety of settings. The purpose of this study was to investigate whether or not it would be useful to use Telegram to teach English pronunciation to Iranian students of the language. The experimental group had a size of N=14, and the control group had a size of N=16. There were a total of 30 Iranian EFL students that participated in the study, and they were divided into two groups: an investigational group and a control group. During the course

of the research, every group was given a different kind of treatment for a period of four weeks. The results of the study for both the pre-test and the post-test indicated that there was a significant improvement in the participants' pronunciation in the experimental group in compared to the persons in the control group. According to the findings of the research, one approach that demonstrates potential for application in English language instruction is the utilization of the messaging service Telegram (Xodabande, 2017). In the study that was conducted by Zarei et al. (2017), the primary objective was to evaluate the influence that utilizing Telegram had on EFL learners' knowledge as well as their attitudes about the process of vocabulary acquisition. Specifically, the researchers were interested in determining whether or not the use of Telegram had an effect on the learners' knowledge of the process of vocabulary acquisition. In the course of a study that was only semi-experimental in nature, the research sample was made up of one hundred individuals who were studying English as a foreign language. The people who agreed to take part in the study were divided into two groups: a control group with a size of N = 50, and an experimental group with the same number of people. Both of the people who were a part of the group had previously taken part in a vocabulary education session that had lasted for a total of three weeks. Participants in the experimental group were asked to fill out a questionnaire that had been drafted in advance. At the very end of the research, a vocabulary test was administered to each and every participant in both of the study groups. The findings of the study revealed that the overall performance of the experimental group was noticeably higher than that of the control group. In addition to this, what the findings of the investigation showed was. The researcher spent a significant portion of her professional life working as an English teacher. During this time, she observed that more contemporary teaching strategies, such as actively participating in the learning process rather than passively absorbing information and reciting it, had

supplanted the more conventional, memorization-based approaches. This investigation is being carried out as a result of the following three key reasons: (Al-Momani, 2020).

To begin, the objective is to get both students and teachers out of the static and repetitive setting of the classroom and into other live, interactive surroundings. These habitats can be found either inside or outside the four walls of the school building. The second goal is to investigate the impact that adopting Telegram as a mobile learning tool has had on the reading abilities of scholar students who are enrolled in English as a foreign language classes at Ajloun University College. This project will examine unique teaching and learning methodologies that are more relevant to the subject matter that is being investigated and meet the interests and preferences of students in order to heighten the students' awareness of the topic that is being researched. found that respondents to the study had positive feelings about the possibility of using the Telegram messenger. Numerous studies have been carried out in order to investigate the extent to which Whatsapp and other similar mobile applications had an impact on students' academic performance. For example, Bansal et al. (2014) conducted a study with the intention of investigating the ways in which students utilized Whatsapp® mobile learning during the academic year 2013-2014. The researchers decided to conduct interviews and observations with a sample group consisting of 37 Bachelor of Education students throughout the course of the study. Following the conclusion of the discussion that took place between the students in the study sample, their instructor, and one another within a Whatsapp® group, the students were given a questionnaire that had been pre-designed for them to fill out. The findings of the study suggested that there was an improvement in students' social contact, that they learned in groups, and that Whatsapp® was helpful for students. Additionally, the data indicated that there was an increase in the number of students who used Whatsapp®. The findings of the study also revealed that there was an

increase in the amount of social interaction among the pupils. In addition, the results of the poll demonstrated that married students felt that studying via Whatsapp® is distracting, and that they would rather learn in an environment similar to that of a traditional classroom (Darani et al, 2017).

2.12 Summary of The Chapter

This section discusses a number of previous trainings that have been showed on the use of immediate messaging for cooperative learning in the context of managing school administration tasks. The research looked at how previous studies have used telegram (IM) in the classroom and how this medium is used for learning and cooperation. This literature review highlights several recent research that addresses the issues surrounding instant messaging apps' usage. This was conducted to obtain a better understanding and give a framework for future research.

CHAPTER 3

RESEARCH METHODOLOGY

The study aims to find out how teachers feel about utilising Telegram in school management (IM). The study aims to discover the relationship between teachers' behavioural purpose towards Telegram use and factors (triggering actions (explorations, integration, resolution. Expressive expressions) and group cohesion, instructional management, and creating understanding (IM). Additionally, this research attempts to identify the characteristics “trigger event; examination; addition; resolution; emotional expressions; collection cohesion; instructional management; rising knowledge; direct instruction” that most accurately forecast future teacher adoption of Telegram (IM). This section shows how the study's stated goals are attained through a research plan and methodology. This chapter also discusses the study's research methodology, including the strategy employed, the design of the study's study population and sample size calculations, the data sources, the data collection techniques, and the analysis methods used to solve the study's research questions**.**

A brief explanation of the research methodology utilized in this study is providing in this chapter, including the study's research approach, research design, participants, sampling method and data sources and procedures, and data analysis methodologies used to answer research questions.

3.1 Research Approach and Design

The researcher concluded that quantitative data collection techniques, such as the survey method with a survey as the instrument, were appropriate after considering the study's goals, the factors influencing teachers' use of Telegram (IM) to manage school administrative tasks, the research questions, and the study's limitations and scope.

Researchers acquired more data as a result of the study's methodology, resulting in a more accurate evaluation. The questionnaire must be created not only for the investigators but also for people who respond to it (Rahi, 2017; Rahi, 2017; Rowley, 2014). According to Zikmund (2000), questionnaires are the most effective data collection methods when researchers know exactly what questions to ask and how to quantify the variables. Because the study is quantitative, a survey questionnaire appears to be the best form of inquiry (Rahi, 2018a, 2018b; Zikmund, 2000).

The quantitative inquiry in this work employs a cross-sectional survey design. Cross-sectional and longitudinal observational study designs are examples of observational study designs. In a cross-sectional analysis, the outcomes and exposures of research subjects can be evaluated at the same time. Individuals in a cross-sectional sample are chosen based on inclusion and exclusion criteria explicitly recognised for the study, rather than on outcome status, as in case-control or cohort studies (participants selected based on exposure status). "Cross-functional research design" is one of the most popular types of research design employed today, despite its many names. There are references to cross-sectional survey design in (Easterby-Smith et al., 2008; Robson, 2002). "A cross-sectional design entails collecting data on multiple occasions and at a single point in time in order to collect a body of quantitative or measurable data in relation to two or more variables, which is then studied to uncover patterns of relationship" (Bryman & Bell, 2007). A cross-

functional research design is defined as selecting a subset (country, people, organisation, or state) of the population from which data is collected in order to meet the research objective and research question. The cross-sectional study is one of many types of observational research approaches. A cross-sectional study involves researchers measuring both the outcome and the exposure at the same time. Participants in a cross-sectional study are chosen at random, as opposed to being recruited based on their exposure or result status, as in case-control or cohort studies. Once participants are recruited, the researcher oversees the study to assess exposure and outcomes. Cross-sectional study methodologies improve both population surveys and disease prevalence evaluations in clinical samples. It is generally quicker and less expensive to conduct these types of investigations rapidly. They can be done either before or after a cohort study. These designs can provide information about the prevalence of outcomes or exposures, which can aid in the development of cohort research. Yet, because this is merely a snapshot in time, inferring causal associations using cross-sectional research is difficult. Cross-sectional studies can be used to determine disease prevalence. We may also estimate odds ratios using this method to understand more about the relationship between exposure and results.

Once participants have been chosen for the study, the researcher monitors exposure and findings. Cross-sectional designs are used for population-based surveys. Maninder can provide more information (2018). These examinations are frequently conducted promptly and inexpensively. We'll use models like this to acquire information on how common various findings or exposures are to aid with the design of the cohort research. This method will allow you to create odds ratios to investigate how exposure influences outcomes (Maninder, 2018). It is used, for example, to obtain input from instructors on

how they feel about utilising Telegram (an instant messaging service) to perform administrative work at school.

In terms of the second survey design feature, data is collected all at once using surveys as the primary data collection method (Creswell, 2008). The researcher can gather and analyse data from participants on their current beliefs or attitudes towards specific topics. Because of these characteristics, a cross-sectional survey plan is the most relevant and acceptable strategy for this study. The study's primary goal is to investigate the general profile of teachers' experiences with Telegram in school management (IM). Aside from that, the study's purpose is to discover the connection between the elements. Participants complete a survey after learning the goal of the study.

3.2 Research Design

3.2.1 Sampling procedures and samples

Before delving into the various sampling techniques and outlining why researchers are likely to choose a sample, it is critical to define sampling. The procedure of picking a subset of the entire population or a sampling border from which to take samples is known as sampling.

A sample allows you to draw conclusions about a population or generalise an existing theory about that group. In essence, it is governed by the sampling technology utilised (Hamed, 2016). Burns and Grove (2003) discuss sampling and how to select a suitable sample of people to perform a study. An intended sample design is used in this study to select persons who fit a profile with the "logic of creating insight and comprehension of the phenomenon under examination" (Bloomberg & Volpe, 2008).

Polit et al. (2001) discovered that using stratified random selection, a representative sample of the complete population was chosen. The sampling approach utilised has a strong influence on the data's generalizability. A non-probable and deliberate sampling approach was adopted in this study. According to Parahoo, while adopting non-probability sampling, researchers use their understanding of the phenomenon to select the people to be included in the sample (1997). This study employed a technique known as purposive sampling. Purposive sampling enabled us to include studies from around the world that had a wide range of data and a focus that was quite comparable to our synthesis goal (Ames, 2019). Yet, it's possible that we overlooked some important primary studies because they didn't satisfy our sample criteria. The researcher adopted this technique because participants would have such knowledge if they wished to learn about instructors' opinions. Only teachers who met the criteria for participation in this study were accepted.

As samples in this study, teachers from a few Tamil primary schools in Malaysia engaged in a course that incorporated Telegram (IM) as an additional tool for handling their school's administrative chores. The curriculum will have 500 full-time graduate instructors from a variety of backgrounds. The purpose of this study is to investigate the usage of Telegram (IM) for managing school administration activities from the views of instructors from various backgrounds, such as age, socioeconomic, and technical.

3.2.2 Context of study

This study's participants cooperated in a Telegram (IM) group. Teachers were made aware of the study's objective: to learn about their attitudes and intentions concerning using instant messaging apps for school administrative purposes. This study differs from others that have examined the use of Telegram (IM) as a cloud-based instant messaging tool to assist teachers with multitasking. With the widespread usage of smartphones in

the education sector, WhatsApp has become a popular way for students and teachers to stay in touch during the past year.

Teachers can build a class "basic social network" for their pupils by setting them up in a group on the site (Fischer, 2013). Teaching staff will use Telegram to participate in a collaborative educational activity, then share their views and recommendations (IM).

Open source Telegram (IM) was utilised in this study and can be used by anyone.

The course is designed to be a group-based professional development instead of a standard meeting-based one. Teachers collaborate on course content and teaching materials in large groups of 1000 participants on Telegram (IM). Teachers can see their peers' work and provide constructive criticism by making the activities and group pages in Telegram (IM) available to everyone in the group. Officials thought educational technologies might help schools, so they've been testing them on teachers for years (Cuban & Cuban, 2009). Since teachers already use IM in their personal life, Telegram (IM) may be the first technology to achieve administrative tasks without any prior preparation or administrative oversight.

3.2.3 Research Instruments

Teachers' current perceptions and intentions regarding using Telegram (IM) as a tool to manage administrative tasks will be collected in this study using a questionnaire.

3.2.4 Survey

As shown in Appendix A, a survey was conducted from the teachers to get their thoughts on using Telegram (IM) to manage administrative tasks. According to the study results,

which was titled The Factors Influencing Teachers' Use of Telegram in Tamil Primary Schools (SJKT), respondents from Tamil schools in Peninsular Malaysia were given a Survey Form to complete.

Teachers' perceptions of Telegram (IM pedagogical) benefits were examined, as was their intention to use Telegram (IM) grounded on the Decomposed Theory of Planted Behaviour (DTPB) Scale. Sections A and B of the survey examined demographic characteristics and technology background, while Sections C and D reviewed teachers' perceptions of Telegram (IMpedagogical)'s benefits.

In Section A, there were three subscales: Demographic Features (6 items), Language Proficiency (4 items), and Technology Knowledge and Background. Section A (Demographic Characteristics and Technology Background) had six items (10 items).

There were questions on respondents' age, gender, and what technological equipment they had. There were also questions about how much time was spent working on the course and whether or not they had Internet access.

In Section B “Evaluation of Telegra to Supplement Class Instruction” and Section C “Teachers’ Perception towards the Pedagogical Benefits of Telegram”of the questionnaire related questions are asked. The questions were responded based on a five-point Likert scale.

The final part, D, "Investigating faculty decisions to adopt Web 2.0 technologies: Theory and empirical tests," was written using the DTPB theory by Hartshorne and Ajjan (2009). The original declarations' language was modified to match the participants and situation.

The 35 items in this section are listed below. The variables that make up the items are attitude, perceived utility, compatibility, and ease of usage. Peer influence, perceived behavioral control, "self-efficacy," "resource facilitation," and behavioral aim all play a role.

All the items in Section D is derived from the conceptual framework presented in above. Behavioural Intention (BI) is consists of 2 items.Moreover, in analysis using PLS-SEM there is no issue of pertaining 2 items. This is because, “the constructs’ measurement properties are less restrictive with PLS-SEM, therefore constructs with fewer items, for example one or two, can be used with no issue” (Hair et al., 2011,p. 140). PLS-SEM has the quality to make Analysis with fewer items (Hair et al, 2014).

3.2.5 Pilot Study

Thirty (30) people participated in a pilot study to test the validity and reliability of the research instrument before it was sent to the actual respondents. Respondents shared nearly all of the traits of the intended audience. Teachers from Tamil School (SJKT) who used Telegram (IM) as a teaching and learning tool in the classroom participated in the pilot project. There were two (2) stages to the evaluation. For the first phase, we used Cronbach's alpha internal consistency approach to check on the instrument's reliability. In order to determine the construct validity, we used validity analysis techniques such as convergent validity and discriminant validity.

3.3 Data Collection Method

After the data collection process, data entry procedure is completed in SPSS. As explained, the study would adopt quantitative data gathering technique. To answer the research questions, a survey research approach was introduced, using the questionnaire

as the key instrument. Thus, survey information was collected through pre-determined questions sent by the post to the respondents. This study aims to determine th factors influencing teachers' perception in using Telegram (IM) as a tool to manage school administrative task. In conducting the study, researcher need to pick and choose the steps carefully by taking into account whether the study methods that will be used from prior stage of research until the execution and analysis of data.

In this study, researchers have identified the study design and subsequently distributing questionnaires to obtain information and research instruments were identified to obtain the required information. Participants in the study were approached with an explanation of the research's purpose and an invitation to participate. The study's goal was to learn more about teachers' technological skills, specifically, what skills they should have to handle their many tasks effectively. The goal of the investigation was to determine how dimensional the variables were. Data was collected using a survey method to identify Telegram's major underlying dimensions and establish the scale's dependability. Teachers were asked to complete the survey, and only those with prior Telegram experience were allowed to participate (IM). Thanks to convenience sampling, the questionnaire was distributed to 500 instructors via an email with a link to it.

3.4 Preliminary Data Analysis Technique

Quantitative analysis of the survey data will be performed using SPSS software version 22.0 and SmartPLS software version 3.0. Quantitative data will be analyzed using descriptive and inferential statistics, as well as the approach known as partial least squares structural equation modeling (PLS-SEM), in order to address the objectives of the study. In order to guarantee the correctness of the scale, its consistency, dependability, and validity are all put to the test. In addition to this, SEM is utilized in the validation of the

study hypotheses. In addition, SEM is applied for a wide variety of other activities, including "confirmatory factor analysis, exploratory factor analysis, linear regression, covariance, estimating variances, and hypothesis testing."

Some people believe that SEM is utilized in modern research to evaluate uni-dimensionality, dependability, validity, and model fitness. [Citation needed] Meyer et al. (2006) and Hair et al. (2006) argued that SEM was capable of adjusting the model for the best possible fit, in addition to checking the fitness of the model. Due to the nature of the study, a two-stage structural equation modeling (SEM) approach was utilized in order to infer the results. When conducting the analysis for the first objective of the study, descriptive statistics such as frequency, proportions, or mean score and standard deviation will be utilized in order to determine the nature of the relationship that exists between the various determinants in terms of the stimulus that triggers them. The behavioral purpose of teachers about the use of Telegram is based on emotional expressions as well as communication between teachers and students, as well as instructional management and group cohesion (IM).

Both the Pearson product-moment correlation and the approach known as Partial Least Squares Structural Equation Modeling (PLS-SEM) are inferential statistical analysis approaches, and both will be utilized in the process of testing the hypotheses. There is a correlation between attitude, social effect, and perceived behavioural control with behavioural intention in the direction of using Telegram. This correlation will be tested using Pearson's product-moment correlation for the second research goal. The first research goal was to determine whether or not there was a correlation between these three factors and behavioural intention (IM). The Pearson's product-moment correlation will be used for the analysis of the third research objective of this study. It is possible to make

a prediction about whether or not teachers will use Telegram in the future by determining the elements that are the best predictors of their intention to use Telegram (e.g. a triggering event, an investigation, an integration, a resolution).

In order to discover the elements that best predict instructors' future intention to use Telegram (IM), the Partial Least Squares Structural Equation Modeling (PLS-SEM) approach will be employed. SEM is a multivariate analysis technique from the second generation. The multivariate analysis uses statistical methods to examine several different variables at the same time.

Regression, ANOVA, exploratory factor examination, cluster analysis, and multidimensional grading are examples of first-generation multivariate analysis techniques (Hair et al., 2014). Researchers can add unobservable factors measured indirectly by indicator variables using structural equation modelling (SEM). Structural Equation Modeling can be separated into two groups based on how they use covariance information, one being Covariance-based Structural Equation Modeling (PLS-SEM).

In exploratory research, Covariance-based SEM (CB-SEM) is primarily used to assess existing hypotheses, such as confirming or refuting them. In contrast, PLS-SEM is primarily used to progress theories (Hair et al., 2014). The research purpose includes theory creation and prediction. Hence PLS-SEM was selected. The PLS-SEM method can forecast the link between two variables and test the overall model relationship when all variables are considered.

As a result, path models can be created using PLS-SEM to demonstrate hypotheses and variable correlations investigated using SEM (Hair et al., 2014).

Figure 3.2 depicts the study's path model for Research Question 3.

There are two types of elements shown in the diagram: latent variables (blue circles) and indicators (yellow rectangles).

Table 3.1on the other hand, contains a list of structures and their indicators.

Figure 3.1

The research path model which shows the association amongst constructs and indicators for Research Question 3

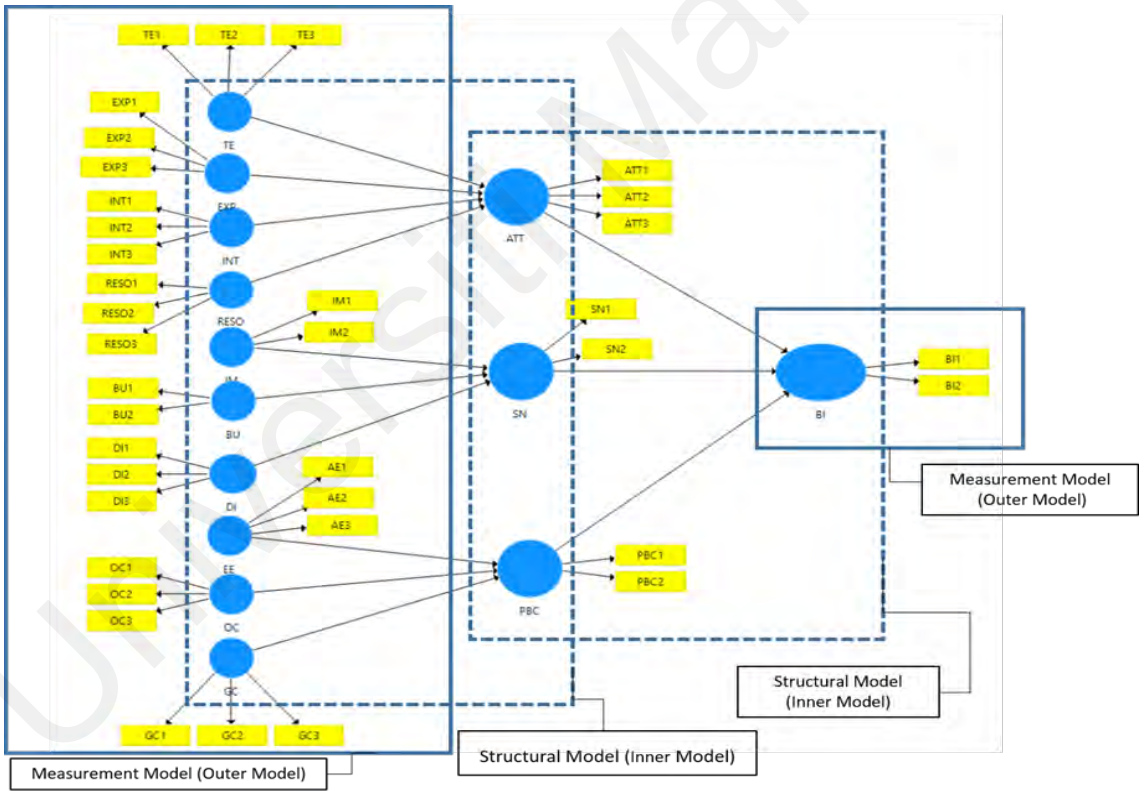


Table 3.1

List of constructs and indicators for Research Question 3

Construct	Indicators	No. of Scales
Attitude (ATT)	ATT1, ATT2, ATT3	3
Subjective Norm (SN)	SN1, SN2	2
Perceived Behavioural Control	PBC1, PBC2	2
Behavioural Intention (BI)	BI1, BI2	2

Construct	Indicators	No. of Scales
Triggering Event (TE)	TE1, TE2, TE3	3
Exploration (EXP)	EXP1, EXP2, EXP3	3
Integration (INT)	INT1, INT2, INT3	3
Resolution (RESO)	RESO1, RESO2, RESO3	3
Instructional Management (IM)	IM1, IM2	2
Building Understanding (BU)	BU1, BU2	2
Direct Instruction (DI)	DI1, DI2, DI3	3
Emotional Expressions (EE)	EE1, EE2, EE3	3
Open Communication (OC)	OC1, OC2, OC3	3
Group Cohesion (GC)	GC1, GC2, GC3	3

3.4.1 Reliability of Study Variables

The Cronbach's coefficient alpha can be used to govern how well the scale's items measure the same underlying attribute (Pallant, 2005). Cronbach's coefficient alpha has a 0-1 range, with larger values suggesting more dependability. The Cronbach's alpha coefficient for the internal consistency and dependability of the scales used in the questionnaire, according to Gliem&Gliem (2003), should be calculated and published. The answers of a questionnaire can be trusted if a variable score is consistent across all items in the instrument (Creswell, 2008).

The range of a good alpha coefficient value is 0.65 to 0.95, indicating that the instrument was reliable (Chua, 2013). Alpha coefficient values less than 0.65 suggest that a research instrument's ability to evaluate a concept or variable is limited. Alpha coefficient values greater than 0.95, on the other hand, suggest that the instrument's items are comparable and overlap (Chua, 2013). In addition to these two, we looked at Cronbach's alpha and item-total correlation scores. The item-total correlation measures how closely each item connects to the overall score (ITC).

Values less than 0.30 indicate that the item is measuring something different from the scale as a whole, while values more than 0.30 indicate that the item's value is accurate (Pallant, 2005). Items with overall correlation values larger than 0.30 do not appear to be

assessing anything other than the scale as a whole. This data is available in the table. An alpha coefficient value of 0.65 to 0.95 is regarded good for reliability (Chua, 2013).

Alpha coefficient values less than 0.65 suggest that a research instrument's ability to evaluate a concept or variable is limited. Alpha coefficient values above 0.95, on the other hand, suggest that the instrument's elements are comparable and overlap in numerous ways (Chua, 2013). Cronbach's alpha values all fit the criterion, suggesting that the variables under consideration are consistent.

Cronbach's alpha value for design and organisation is 0.955. This implies that the device was trustworthy. Apart from that, facilitation, direct instruction, open communication, group cohesion, triggering event, and exploration are deemed to be more reliable. Although having the lowest Cronbach's alpha score when compared to the other variables, affective expression is nonetheless reliable and dependable.

Table 3.2

Reliability of variables

Variable	Items	Item-total correlation	Cronbach's alpha value
Design and Organization	DO_1	0.869	0.955
	DO_2	0.898	
	DO_3	0.922	
	DO_4	0.869	
Facilitation	F_1	0.792	0.842
	F_2	0.606	
	F_3	0.792	
	F_4	0.832	
	F_5	0.819	
	F_6	0.831	
Direct Instruction	DI_1	0.734	0.869
	DI_2	0.822	
	DI_3	0.714	
Affective Expression	AE_1	0.456	0.777
	AE_2	0.754	

Variable	Items	Item-total correlation	Cronbach's alpha value
	AE_3	0.650	
Open Communication	OC_1	0.809	0.867
	OC_2	0.845	
	OC_3	0.615	
Group Cohesion	GC_1	0.654	0.832
	GC_2	0.687	
	GC_3	0.845	
Triggering Event	TE_1	0.812	0.864
	TE_2	0.831	
	TE_3	0.857	
Exploration	EXP_1	0.646	0.868
	EXP_2	0.648	
	EXP_3	0.765	
Integration	INT_1	0.654	0.872
	INT_2	0.657	
	INT_3	0.875	
Resolution	RES_1	0.654	0.872
	RES_2	0.657	
	RES_3	0.875	
Attitude	ATT_1	0.654	0.872
	ATT_2	0.657	
	ATT_3	0.875	
Subjective Norm	SN_1	0.632	0.913
	SN_2	0.872	
	SN_3	0.845	
	SN_4	0.606	
	SN_5	0.854	
	SN_6	0.645	
Perceived Behavioural Control	PBC_1	0.732	0.865
	PBC_2	0.732	
Behavioural Intention	BI_1	0.606	0.875
	BI_2	0.606	

3.4.2 Validity of Study Variables

The degree to which a measurement scale measures what it wants to measure is its validity (Pallant, 2005). The degree to which a measurement measures the construct is supposed to assess the constructed validity (Peter, 1981). When assessing construct validity, researchers used two different kinds of validity testing. There was convergent validity, and there was discriminant validity, respectively. The construct validity of measurement

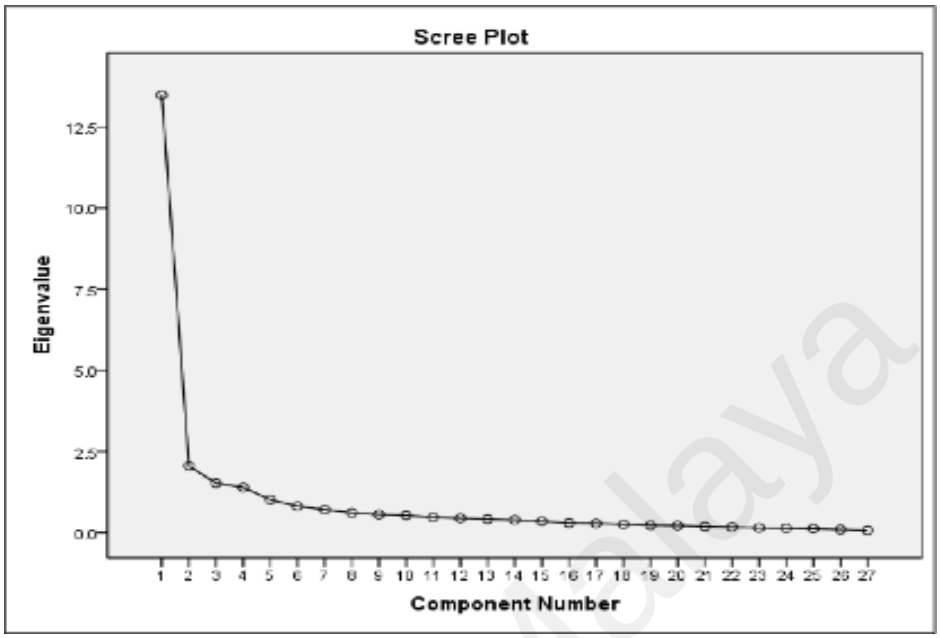
scales was measured using two methods: convergent validity and discriminant validity. The degree to which a measure relates well with other events of the same concept is recognized as convergent rationality (Hair et al., 2014).

The scree test is another test that may be used to figure out how many factors need to be removed. It is necessary to do the Scree Test to discover the point where the curve's shape changes direction and becomes horizontal (Pallant, 2005). This element contributes most to the explanation of data set variance. Hence it is advised to keep it on the plot (Pallant,2005). The outcome of the Scree Test is shown in Figure 3.1. The table shows that the slope of the curve equalises at five (5) factors, allowing for the extraction of five (5) components.

On the other hand, discriminant validity denotes to how different a construct is from other concepts (Hair et al., 2014). The steps involved in validating the measurement scales are described in detail in the following subsections.

Figure 3.2

The Scree plot



3.4.2.1 Convergent Validity

Composite reliability (CR) and usual variance extracted (AVE) scores were used to determine convergent validity based on item loading. Table 3.13 summarizes the findings. The findings showed that all constructions were more valid than the bare minimum. All constructions had CR values greater than or equal to 0.708, according to the results.

According to Hair et al. (2014), CR values should be higher than 0.708. For all items, the loadings are more than 0.50, and they only load on the factors they are related with; no additional factors loaded. AVE should have a value superior than 0.50, according to Hair et al. (2014). As shown in Table 3.10 below, Factor 3, which measures writing improvement, indicates that the average variance extracted (AVE), at 0.473, has relatively low validity.

On the other hand, other constructions showed a respectable level of extracted average variance (AVE) more than 0.50.

Table 3.3

Factor analysis and convergent validity analysis

Factor/Constructs/Items	Item Loading	Composite Reliability (CR)	Average Variance Extracted (AVE)
Factor 1 : Motivation		0.854	0.524
MOT_1	0.854		
MOT_2	0.834		
MOT_3	0.754		
MOT_4	0.654		
MOT_5	0.612		
MOT_6	0.606		
MOT_7	0.645		
MOT_8	0.614		
Factor 2 : Group Interaction		0.860	0.532
GI_1	0.973		
GI_2	0.832		
GI_3	0.866		
GI_4	0.543		
Factor 3 : Knowledge Sharing		0.880	0.512
KS_1	0.938		
KS_2	0.715		
KS_3	0.600		
KS_4	0.655		
KS_5	0.754		
KS_6	0.589		
Factor 4 : Confidence in Improving Professional Development		0.867	0.550
CIPD_1	0.842		
CIPD_2	0.854		
CIPD_3	0.762		
CIPD_4	0.654		
CIPD_5	0.693		
CIPD_6	0.604		
CIPD_7	0.654		
CIPD_8	0.846		

The degree to which a variable compares favourably with the same construct's alternative measures was included in determining convergent validity (Hair et al., 2014). In order to prove convergent validity, it was necessary to take into account two different factors. Indicator outer loadings and extracted average variance were both taken into

consideration (AVE). Hair et al. (2014) found that the value of the outer loading should be at least 0.708 when looking at the outer loadings. On the other hand, the average variance extracted (AVE) is the grand mean of the squared loadings, with a value of at least 0.50 (Hair et al., 2014). The outer loading values for all indicators in the pilot test were greater than 0.708, as shown in Table 3.15 below. While this was going on, the average extracted variance (AVE) for all constructs was greater than the bare minimum of 0.50. There was, therefore, a fact of convergent validity.

Table 3.4

Convergent validity analysis

Construct	**Indicators**	**Outer Loadings**	**Average Variance Extracted (AVE)**
Design & Orientation (DO)	DO_1	0.967	0.883
	DO_2	0.932	
	DO_3	0.949	
	DO_4	0.951	
Facilitation (F)	F_1	0.881	0.865
	F_2	0.890	
	F_3	0.965	
	F_4	0.929	
	F_5	0.931	
	F_6	0.876	
Direct Instruction (DI)	DI_1	0.862	0.728
	DI_2	0.821	
	DI_3	0.749	
Affective Expression (AE)	AE_1	0.781	0.711
	AE_2	0.864	
	AE_3	0.943	
Open Communication (OC)	OC_1	0.874	0.822
	OC_2	0.931	
	OC_3	0.840	
Group Cohesion (GC)	GC_1	0.915	0.759
	GC_2	0.887	
	GC_3	0.810	
Triggering Event (TE)	TE_1	0.931	0.755
	TE_2	0.806	
	TE_3	0.932	

Construct	Indicators	Outer Loadings	Average Variance Extracted (AVE)
Exploration (EXP)	EXP_1 EXP_2 EXP_3	0.893 0.923 0.852	0.801
Integration (INT)	INT_1 INT_2 INT_3	0.865 0.892 0.923	0.766
Resolution (RES)	RES_1 RES_2 RES_3	0.871 0.980 0.844	0.825
Attitude (ATT)	ATT_1 ATT_2 ATT_3	0.825 0.818 0.946	0.754
Subjective Norm (SN)	SN_1 SN_2 SN_3 SN_4 SN_5 SN_6	0.784 0.831 0.913 0.840 0.842 0.845	0.697
Perceived Behavioral Control (PBC)	PBC_1 PBC_2	0.765 0.765	0.897
Behavioral Intention (BI)	BI_1 BI2	0.873 0.872	0.765

3.4.2.2 Discriminant Validity

It is possible to determine discriminant validity by examining the correlations between constructs and the average variance extracted (AVE) associated with each (Staples et al., 1999). The results of the discriminant validity study are shown in Table 3.14.

Table 3.5

Discriminant Validity Analysis

Factor	Factor 1	Factor 2	Factor 3	Factor 4
Factor 1	0.742			
Factor 2	0.467	0.718		
Factor 3	0.512	0.502	0.688	
Factor 4	0.428	0.406	0.370	0.718

Correlations between different constructs can be seen in the bold transverse elements, representing the average variance extracted (AVE). In order to show discriminant validity, the crosswise elements' values must be greater than all other equivalent values combined. It was found in Table 3.5 that the square roots of average variance removed (AVE) in the diagonal essentials were greater than the correlations among the various constructs (see below). There is no issue of Discriminant validity. Two method are used furher to test the discriminenet validity which are

(a) ***Through Cross Loadings***

Comparative validity was concerned with determining how distinct one construct was from another based on empirical evidence (Hair et al., 2014). As a result, the construct can measure a phenomenon that no other construct can. Discriminant validity was evaluated using two different approaches. (1) Cross-loading analysis or (2) The Fornell-Larcker criterion was used. Both approaches were employed to settle the discriminant validity once again in this investigation. It is possible to prove discriminant validity when an indicator's loading on a construct exceeds all of its cross-loadings with other concepts in an evaluation of cross-loadings (Hair et al., 2014).

The cross-loadings and outer loadings for each of the indicators are shown in Table 3.16 below. The table shows that the outer freights of each construct are higher than all the cross-loadings with other concepts. This is expected.

For Example: The loading value of an indication ATT 1 with its matching construct is the most than any other cross-loading (for example, ATT 1 on BI is less than 0.627). This was also true for other ATT indicators, as well as indicators that measure “BI, BU, DI, EE, EXP, FCL, GC, INT, IM, OC, PBC, RESO, SN, and TE,” as well as additional

indicators that measure all of those things. As a result, the validity of the discriminant was confirmed.

Table 3.6

Assessment of constructs' outer loadings and cross loadings

	ATT	BI	BU	DI	EE	EXP	GC	INT	IM	OC	PBC	RESO	SN	TE
ATT_1	**0.965**	0.627	0.745	0.876	0.711	0.867	0.833	0.822	0.754	0.882	0.761	0.811	0.916	0.761
ATT_2	**0.924**	0.654	0.726	0.678	0.670	0.765	0.798	0.678	0.659	0.792	0.565	0.792	0.892	0.698
ATT_3	**0.972**	0.678	0.567	0.724	0.812	0.645	0.676	0.894	0.655	0.671	0.662	0.802	0.823	0.727
BI_1	0.799	**0.945**	0.765	0.865	0.834	0.715	0.825	0.892	0.769	0.671	0.732	0.629	0.762	0.789
BI_2	0.675	**0.938**	0.722	0.844	0.799	0.756	0.843	0.845	0.782	0.623	0.786	0.654	0.689	0.623
BU_1	0.654	0.754	**0.845**	0.679	0.679	0.823	0.812	0.792	0.799	0.756	0.743	0.822	0.652	0.805
BU_2	0.734	0.876	**0.892**	0.773	0.675	0.721	0.799	0.714	0.800	0.677	0.794	0.834	0.699	0.822
DI_1	0.762	0.772	0.772	**0.924**	0.812	0.821	0.765	0.765	0.834	0.854	0.849	0.821	0.876	0.888
DI_2	0.567	0.877	0.827	**0.965**	0.793	0.824	0.798	0.798	0.823	0.845	0.813	0.798	0.863	0.829
DI_3	0.678	0.674	0.674	**0.945**	0.673	0.671	0.811	0.699	0.795	0.796	0.778	0.803	0.888	0.745
EE_1	0.826	0.756	0.776	0.734	**0.845**	0.786	0.611	0.657	0.714	0.734	0.784	0.683	0.812	0.834
EE_2	0.567	0.861	0.831	0.847	**0.862**	0.654	0.678	0.765	0.676	0.759	0.663	0.692	0.788	0.811
EE_3	0.765	0.843	0.843	0.698	**0.876**	0.654	0.650	0.699	0.644	0.666	0.785	0.773	0.756	0.786
EXP_1	0.677	0.658	0.647	0.723	0.647	**0.956**	0.777	0.875	0.664	0.835	0.723	0.662	0.903	0.854
EXP_2	0.589	0.748	0.778	0.854	0.778	**0.932**	0.698	0.789	0.632	0.856	0.670	0.789	0.911	0.843
EXP_3	0.822	0.896	0.896	0.843	0.816	**0.954**	0.819	0.672	0.765	0.755	0.642	0.801	0.891	0.836
GC_1	0.811	0.812	0.886	0.659	0.786	0.838	**0.898**	0854	0.645	0.829	0.733	0.771	0.822	0.664
GC_2	0.863	0.809	0.812	0.709	0.812	0.768	**0.867**	0.823	0.765	0.745	0.694	0.698	0.790	0.629
GC_3	0.764	0.832	0.811	0.812	0.811	0.861	**0.892**	0.667	0.721	0.659	0.651	0.823	0.763	0.719
INT_1	0.678	0.654	0.673	0.886	0.673	0.598	0.535	**0.967**	0.772	0.812	0.720	0.809	0.912	0.673
INT_2	0.654	0.765	0.734	0.910	0.734	0.567	0.678	**0.921**	0.674	0.678	0.692	0.774	0.891	0.669
INT_3	0.763	0.891	0.833	0.823	0.783	0.670	0.764	**0.945**	0.725	0.772	0.734	0.671	0.756	0.717
IM_1	0.543	0.593	0.546	0.609	0.546	0.764	0.801	0.794	**0.843**	0.760	0.664	0.775	0.821	0.720
IM_2	0.803	0.659	0.652	0.721	0.652	0.723	0.654	0.822	**0.865**	0.633	0.711	0.763	0.771	0.755

	ATT	BI	BU	DI	EE	EXP	GC	INT	IM	OC	PBC	RESO	SN	TE
OC_1	0.871	0.809	0.812	0.555	0.812	0.812	0.754	0.611	0.833	**0.985**	0.861	0.659	0.759	0.885
OC_2	0.822	0.721	0.769	0.678	0.769	0.673	0.662	0.602	0.816	**0.934**	0.807	0.655	0.669	0.867
OC_3	0.653	0.678	0.657	0.653	0.657	0.749	0.759	0.662	0.689	**0.954**	0.774	0.723	0.634	0.771
PBC_1	0.826	0.611	0.832	0.804	0.832	0.765	0.732	0.705	0.609	0.709	**0.865**	0.672	0.812	0.823
PBC_2	0.643	0.704	0.722	0.712	0.822	0.759	0.648	0.823	0.811	0.745	**0.876**	0.773	0.766	0.651
RESO_1	0.811	0.865	0.832	0.920	0.832	0.896	0.621	0.823	0.734	0.623	0.733	**0.945**	0.658	0.723
RESO_2	0.765	0.570	0.567	0.913	0.567	0.766	0.732	0.645	0.734	0.561	0.818	**0.986**	0.855	0.664
RESO_3	0.823	0.618	0.678	0.825	0.678	0.654	0.692	0.611	0.698	0.666	0.667	**0.976**	0.671	0.698
SN_1	0.914	0.845	0.833	0.838	0.833	0.820	0.720	0.609	0.821	0.719	0.612	0.832	**0.943**	0.815
SN_2	0.911	0.768	0.765	0.678	0.765	0.626	0.749	0.823	0.765	0.656	0.772	0.667	**0.956**	0.723
TE_1	0.678	0.731	0.769	0.867	0.769	0.556	0.691	0.756	0.681	0.812	0.709	0.623	0.765	**0.976**
TE_2	0.675	0.902	0.694	0.773	0.634	0.652	0.779	0.669	0.752	0.723	0.860	0.845	0.659	**0.933**

(b) ***Fornell-Larcker Criterion***

In order to satisfy the Fornell-Larcker criterion, the square root of the average variance extracted (AVE) from each concept must to be bigger than the correlation that exists between the construct and any other concept that is included in the model (Hair et al., 2014). The findings of the Fornell-Larcker criterion evaluation are displayed in Table 3.17 below. According to Table 3.17, the square root of the average variance extracted (AVE) for each construct is higher than the correlation between the constructs. This is the case even though the correlation between the constructs is higher.

For instance, the extracted average variance for the reflective construct ATT has a square root of 0.937. (AVE). After then, it was essential to compare this correlation value with all of the other correlation values that were contained within the ATT column. The AVE square roots of every reflective concept were larger than their correlations with the other latent variables in the pathway model, which were lower..

They were ATT (0.972), BI (0.932), BU (0.831), DI (0.911), EE(0.886), EXP (0.954), GC (0.806), INT (0.932), IM (0.841), OC (0.877), PBC (0.829), RESO(0.851), SN(0.862) and TE (0.854). As a result, the validity of the discriminant was confirmed.

Table 3.7

The Fornell-Larcker criterion

	ATT	**BI**	**BU**	**DI**	**EE**	**EXP**	**GC**	**INT**	**IM**	**OC**	**PBC**	**RESO**	**SN**	**TE**
ATT	**0.972**													
BI	0.799	**0.932**												
BU	0.654	0.754	**0.831**											
DI	0.762	0.772	0.604	**0.911**										
EE	0.876	0.776	0.810	0.801	**0.886**									
EXP	0.677	0.647	0.624	0.645	0.876	**0.954**								
GC	0.676	0.786	0.544	0.567	0.667	0.738	**0.806**							
INT	0.678	0.673	0.711	0.811	0.764	0.598	0.535	**0.932**						
IM	0.543	0.543	0.643	0.601	0.812	0.764	0.801	0.794	**0.841**					
OC	0.871	0.854	0.767	0.825	0.765	0.812	0.754	0.611	0.833	**0.877**				
PBC	0.826	0.621	0.812	0.658	0.824	0.765	0.732	0.705	0.609	0.709	**0.829**			
RESO	0.811	0.832	0.634	0.721	0.654	0.896	0.654	0.823	0.734	0.623	0.733	**0.851**		
SN	0.634	0.833	0.723	0.654	0.623	0.820	0.720	0.609	0.821	0.719	0.612	0.832	**0.862**	
TE	0.678	0.769	0.801	0.697	0.543	0.556	0.691	0.756	0.681	0.812	0.709	0.623	0.765	**0.854**

3.5 Summary of the chapter

This Chapter has offered the methodology and research design employed in this learning. Input from the appraisal of the literature on service quality valuation and scale development has designated that quantitative approach is the best for the purpose of exploring dimensions of Telegram (IM) and further confirmatory these extents and predictive control of the developed measure. The study is conducted in the quantitative approach to confirm the scale measures

CHAPTER 4

DATA ANALYSIS AND RESULTS

This chapter presents the discussion of research findings and data analysis using the instrument (questionnaire) to accomplish the main research purposes and to answer the research questions. For this purpose, the questionnaire is distributed to five-hundred (500) participants (teachers) in various Tamil schools (SJKT). To test the study hypotheses, statistical software such as IBM SPSS Statistics software version 23.0 and Smart PLS version 3.0 is used to analyse the data statistically. Detailed analysis for study hypotheses is discussed below.

4.1 Data Cleaning and Screening

During data collection process, some respondents don't provide the complete info regarding the questions. These in complete responses are considered as missing values. Before moving towards the data analysis, initially missing values analysis is applied. The result shows that there is no missing value. Data file is free from error and ready for further analysis.

4.2 Descriptive Statistics

4.2.1 Demographics

This section includes the demographic characteristics of respondents. These values describe about the summary of respondents regarding age, qualification, gender ethnicity etc. This study has used the mean median correlation for clear picture of demographic variables.

Table 4.1 indicates the demographic details of the participants in the study. Based on result presented in Table 4.1 below, the respondents consisted of 210 (42.0%) male and 290 female (58.0%) teachers. The Table 4.1 shows that the respondents were between 31-40 age group were 287 (57.4%), 41-50 years old were 119 (23.8%), 51-60 years old were 76 (15.2%) and 20-30 years old were 18 (3.6%).

The ethnicity distribution of the respondents were 6 (1.2%) Malay, 6 (1.2%) Chinese, 487 (97.4%) Indian, and 1 (0.2%) other races. All of the respondents, which were 500 (100.0%), professionally qualified teachers.

It can be observed from Table 4.1 below, a majority of respondents are undergraduate degree holders, 257 (51.4%). Additionally 202 (40.4%) are postgraduate holders and 41 (8.2%) are diploma holders.

Table 4.1

Demographic Characteristics

Demographic Information	**Frequency**	**(%)**
Age		
20-30	18	3.6
31-40	287	57.4
41-50	119	23.8
51-60	76	15.2
Gender		
Male	210	42.0
Female	290	58.0
Ethnicity		
Malay	6	1.2
Chinese	6	1.2
Indian	487	97.4
Others	1	0.2
Professional Qualifications		
Diploma	41	8.2
Undergraduate Degree	257	51.4
Postgraduate Degree	202	40.4

4.2.2 Respondents Designation

Table 4.2 presents the demographic information of *respondent's designation*. It can be observed that 299 (59.8%) respondents reported that they have 3 or more than 3 designation or position, 156 (31.2%) have 2 designation or position and 45 (9.0%) have only 1 designation or position in curriculum field. On the other hand, 437 (87.4%) respondents reported that they have 1 designation or position, 37 (7.4%) have 3 or more than 3 designation or position and 26 (5.2%) have 2 designation or position in student affairs field. Table 4.2 below stated 443 (88.6%) respondents reported that they have only 1 designation or position, 44 (8.8%) have 2 designation or position and 13 (2.6%) have 3 or more than 3 designation or position in co-curriculum field.

Table 4.2

Demographic information on designation of respondents

Designation/Position	Frequency	Percentage (%)
Curriculum		
1 Designation/Position	45	9.0
2 Designations/Positions	156	31.2
3 or more than 3 Designations/Positions	299	59.8
Student Affairs		
1 Designation/Position	437	87.4
2 Designations/Positions	26	5.2
3 or more than 3 Designations/Positions	37	7.4
Co-curriculum		
1 Designation/Position	443	88.6
2 Designations/Positions	44	8.8
3 or more than 3 Designations/Positions	13	2.6

4.2.3 Technological Equipment

Table 4.3 exhibits the demographic information about the technological equipment owned by the teachers. It can be shown 148 (29.6%) respondents reported that owned 5 technological equipments while 137 (27.4%) owned 8 technological equipments. On the other hand, 76 (15.2%) owned 6 technological equipments, 45 (9.0%) owned 4 technological equipments, 39 (7.8%) owned 7 technological equipments, 22 (4.4%) owned 1 technological equipment, 21 (4.2%) owned 2 technological equipments and 12 (2.4%) owned 3 technological equipments.

Table 4.3

Demographic information on technological equipment

Number of Equipment Owned	Frequency	Percentage (%)
1 Equipment	22	4.4
2 Equipment	21	4.2
3 Equipments	12	2.4
4 Equipments	45	9.0
5 Equipments	148	29.6
6 Equipments	76	15.2
7 Equipments	39	7.8
8 Equipments	137	27.4

4.2.4 Language proficiency

Table 4.4 shows that respondents were distributed based on their language skills. As a result, it's critical to assess the respondents' language proficiency, as it could impact their willingness to participate in Telegrams (IM) activities such as writing or typing.

Table 4.4

Distribution of respondents according to language proficiency level

	Respondent's proficiency level		Frequency	%
English	Verbal	Average	8	1.6

		Good	151	30.2
		Excellent	341	68.2
	Written	Weak	2	0.4
		Average	8	1.6
		Good	168	33.6
		Excellent	322	64.4
Bahasa Malaysia	Verbal	Average	91	18.2
		Good	216	43.2
		Excellent	193	38.6
	Written Written	Weak	2	0.4
		Average	95	19.0
		Good	227	45.4
		Excellent	**176**	**35.2**

4.2.5 Knowledge about Technology

Knowledge about the technology plays a vital role in its use. In this study teachers knowledge about the technology is also measured. Table 4.5 below shows respondent's technology competency. Computer and technology competency level is measured on the basis of word processing software, spreadsheet software, web browser and presentation software.

The biggest number of respondents, 294, or 58.8 percent, are considered "quite skilled in using sophisticated capabilities" of a web browser. Examples of such browsers include Mozilla Firefox, Internet Explorer, and Safari. While 85 people claimed that they are less talented in utilizing advanced structures of a web browser, 61 people said that they were capable in using advance features. Meanwhile, 60 people said that they had no experience using advanced features.

The findings indicate that there are 279 respondents who belong to the category of being "pretty skilled in using advanced features" of word processing software such as WordPad or Microsoft Word. This represents a response rate of 55.8 percent. The overall number

of respondents who are less capable of using advanced features comes in at 156 (31.2 percent), with 56 (11.2 percent) seeing themselves to be competent in using advanced structures of a word processing program and 9 (1.8 percent) finding themselves to be not competent.

According to the data, 182 (36.4 percent) of respondents stated that they are "pretty skilled in using advanced features" of a spreadsheet software application like Microsoft Excel or Apache OpenOffice. These programs include Microsoft Excel and Apache OpenOffice. There were a total of 153 respondents (30.6 percent) who reported that they are not competent in using the progressive features of a spreadsheet software program. There were 130 respondents (26.0 percent) who were less competent, and there were 35 respondents (7.0 percent) who were competent in using it.

The overwhelming majority of educators, 206 (41.2 percent), reported that they had a good level of proficiency when it came to making use of the more complex features of presentation software such as Microsoft PowerPoint, ClearSlide, or Prezi.. There were 138 (27.6%) respondents who were proficient in using advanced features of presentation software, 138 (27.6%) who were less proficient, and 18 (3.6%) who had no experience with it. All of the respondents were proficient with the essentials of computer and technology use, according to the statistics. This was one of the most important considerations for administrators when integrating Telegram (IM) instructors' work requirements. This is because to Telegram's (IM) nature, which is based on a web browser and programmes requires users to have a basic understanding of computers, devices, and the Internet.

Table 4.5

Distribution of respondents on computer Knowledge basis

Computer and Technology Competency Level	Frequency	(%)
Web browser Using advanced Feature		
No experience	60	12.0
Less competent	85	17.0
Fairly competent	294	58.8
Competent	61	12.2
Word Processing software using Advanced Feature	9	1.8
No experience	156	31.2
Less competent	279	55.8
Fairly competent	56	11.2
Competent in		
Spreadsheet software using Advanced Feature		
No experience	153	30.6
Less competent	130	26.0
Fairly competent	182	36.4
Competent	35	7.0
Presentation software using Advanced Feature		
No experience	18	3.6
Less competent	138	27.6
Fairly competent	206	41.2
Competent	138	27.6

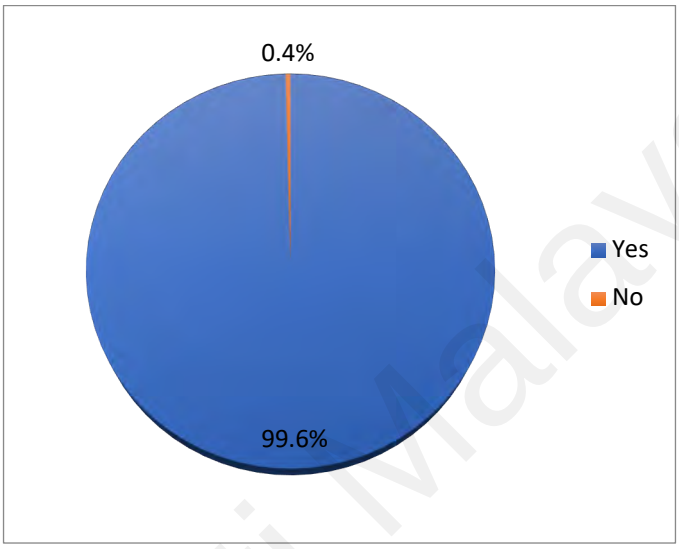
4.2.6 Access to the Internet

Respondents' access to the Internet when teachers aren't present is shown in Figure 4.1. The majority of respondents, 498 (99.6%) teachers, indicated that they have Internet service outside of the school. When they are not at school, two (0.4 percent) of the respondents claimed that they do not have access to the Internet. This is an important element that administrators should consider when giving teachers a task via Telegram (IM), as instructors will require access to the Internet in order to use Telegram (IM) while they are not at school, even if it is just showing a few of them. Teachers' engagement in the Telegram (IM) outside of school hours may be impeded if they do not have Internet

access outside of school. When teachers do not have access to Telegram, this may make it difficult for them to perform the assignment (IM).

Figure 4.1

Access to internet

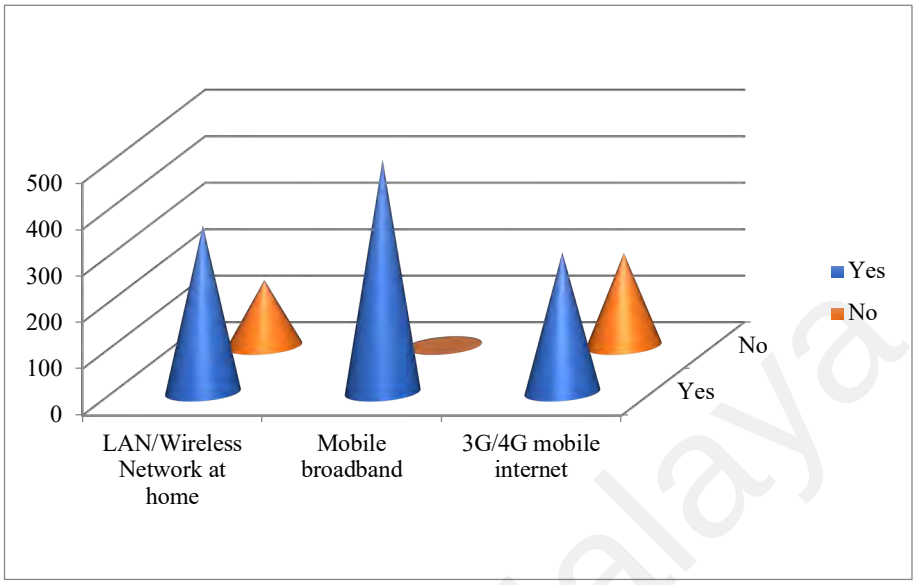


4.2.7 Type of Internet access

Figure 4.2 depicts the respondent's distribution based on the type of Internet access available to teachers. According to Figure 4.2, 359 (71.8%) of teachers have a home LAN or wireless network, whereas 141 (28.2%) do not. 500 (100%) teachers, on the other hand, have access to 3G or 4G mobile Internets for their cell phones or tablets. While 79 students (72.5%) did not have it. A total of 301 (60.2%) teachers said that they have access to a 3G/4G mobile network, while 199 (39.8%) do not.

Figure 4.2

Types of internet access



4.2.8 Purpose of Accessing the Internet

Table 4.6 shows the distribution of respondents based on their purpose for using the Internet, such as communication, pleasure, or intellectual pursuits. Over half 299 (59.8%) of teachers use the Internet two to three times a day, but only 92(18.4%) say they use it more than three times each week for communication. The Internet was utilized by 71 students (14.2 percent) weekly, 37 students (7.4 percent) monthly, and one student (0.2 percent) never used it for communication. When asked how often they used the Internet for fun, the majority of students, 272 (54.4%), said they used it two to three times each day, while instructors, 110 (22.0%), said they used it two to three times per week. A total of 44 (8.8%) teachers used the Internet for leisure once a week, 42 (8.4%) teachers once a month, and 32 (6.4%) teachers never used the Internet for leisure purposes.

The majority of respondents, 290 (58.0 percent) instructors, used the Internet for academic purposes two to three times each day, while 138 (27.6%) used it two to three times per week. Twenty-one percent of teachers (4.2 percent) used the Internet for

academic purposes once a week, twenty-one percent of students used it once a month, and thirty-one percent of teachers never used it for academic purposes.

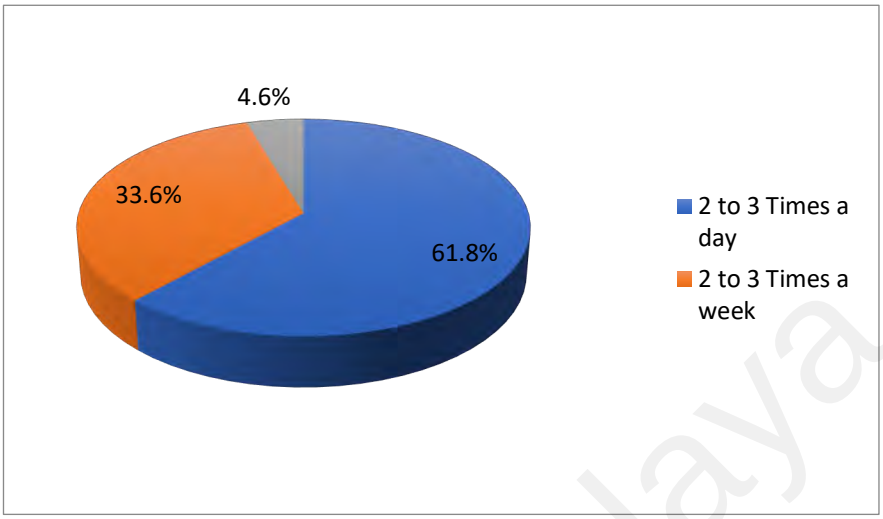
Table 4.6

Distribution of respondents according to purpose and time

Purpose of accessing the Internet	Frequency	Percentage (%)
Communication Purposes		
2 to 3 times a day	299	59.8
2 to 3 times each Week	92	18.4
Weekly one time	71	14.2
Monthly one time	37	7.4
Never	1	0.2
Leisure Purposes		
2 to 3 times a day	272	54.4
2 to 3 times each week	110	22.0
Weekly one time	44	8.8
Monthly One time	42	8.4
Never	32	6.4
Academic Purposes		
2 to 3 times a day	290	58.0
2 to 3 times each week	138	27.6
Weekly One time	21	4.2
Monthly one time	20	4.0
Never	31	6.2

Figure 4.3

Distribution of respondents (accessing the internet time basis)



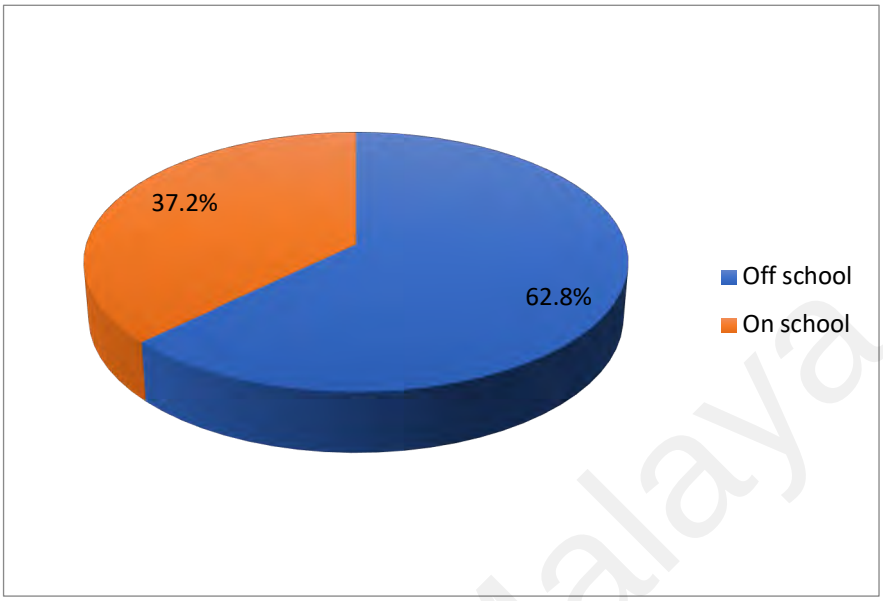
4.2.9 Teachers access to Internet for work

Figure 4.4 depicts the circulation of respondents by how they use the Internet to complete their work, whether on-campus or off-campus. According to Figure 4.4, the common of respondents, 314 (62.8 percent) instructors, used the Internet to work on the course outside of school, such as at home or in other locations, while 186 (37.2 percent) used it at school, such as in the library or in the teacher's room.

This could be evident by the fact that, as previously stated, only a tiny proportion of teachers have Internet access outside or off school hours.

Figure 4.4

Distribution of respondents according to how access Internet

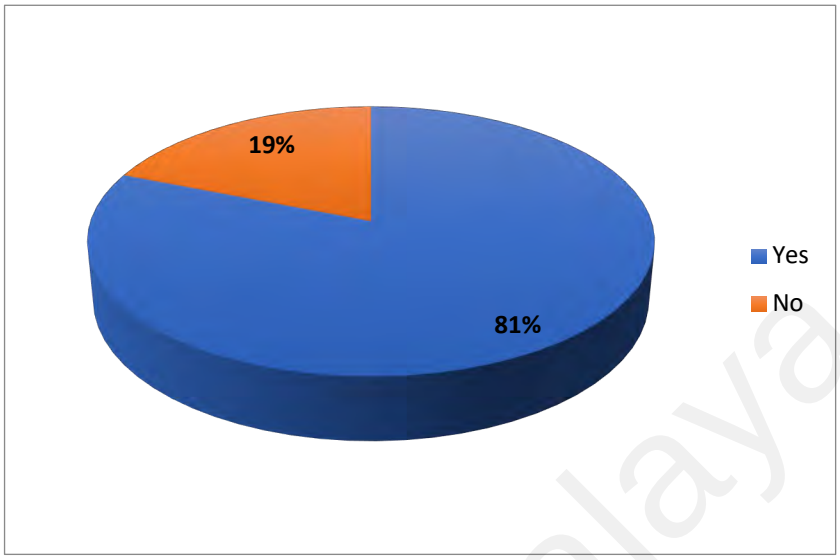


4.2.10 First Telegram (IM) Experience

Figure 4.5 demonstrates the variation of respondents based on their Telegram (IM) experience. The majority of respondents, 405 (81.0 percent) teachers, have experienced Telegram,(IM) as shown in Figure 4.5. On the other hand, 95% (19.0%) of those polled stated they had never used Telegram (IM) before.

Figure 4.5

Distribution of respondents (Telegram experience)

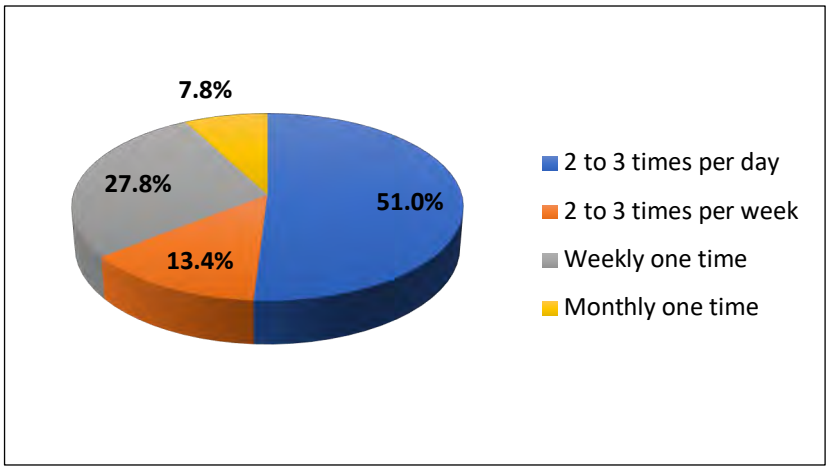


4.3 Frequency of Participants in Telegram (IM)

Figure 4.6 presents the distribution of participants by frequency of Telegram participation (IM). According to Figure 4.6, 255 (51.0 percent) of teachers used Telegram (IM) two to three times per day, while 139 (27.8%) used it once a week. Following that, 67 (13.4 percent) of respondents used Telegram (IM) two or three periods per week, and 39 (7.8%) of respondents used Telegram (IM) once a month.

Figure 4.6

Respondent's Distribution on the basis of participation in Telegram

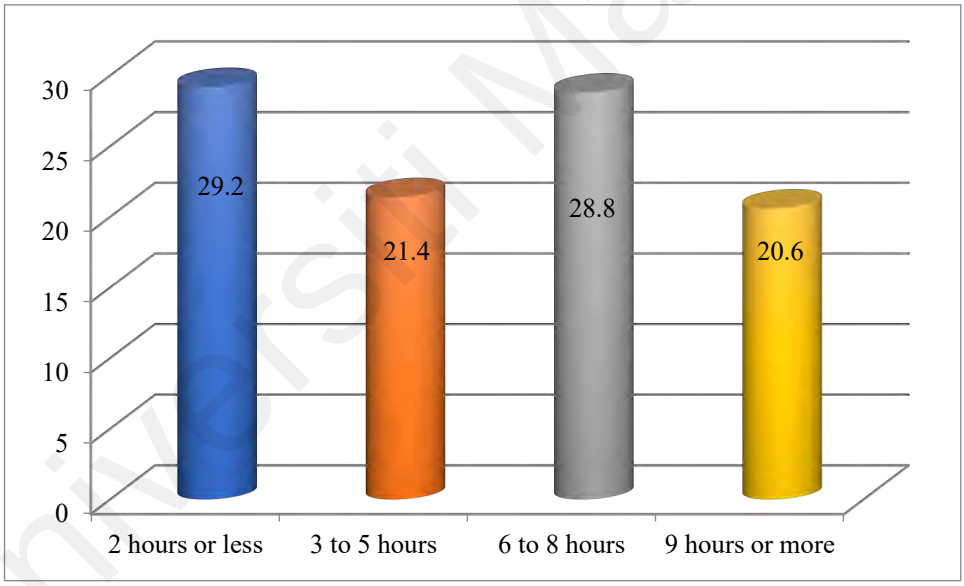


4.4 Distribution of Respondents on Time basis Using Telegram

The distribution of responses focused on time spent working by the Telegram (IM) is depicted in Figure 4.7 below. According to Figure 4.7, the majority of respondents, 146 teachers (29.2%), said they spent two hours of work by using Telegram (IM), while 144 (28.8%) said they spent six to eight hours. A amount of teachers, 103 (20.6 percent), said they spent nine or more hours per week employed via Telegram (IM), while 107 (21.4 percent) said they spent three to five hours per calendar week.

Figure 4.7

Distribution of respondents according to time spent using Telegram



4.5 Evaluation of Telegram (IM)

The distribution of responders based on students' evaluations of Telegram is shown in Table 4.7. (IM). Percentages (%), frequency, mean, and standard deviation scores were used to present the findings. The mean, also known as the central tendency, is the average value of the results. It is calculated by multiplying the total number of points by the sum of all the data obtained. This study has used five-point Likert. The dispersal of scores in

a distribution, or how much a score diverges from the mean score in a circulation, is explained by standard deviation (Chua Yan Piaw, 2013).

According to Table 4.7, 449 (89.8%) respondents, mean 4.26, agreed and strongly agreed to the statement agreed or strongly agreed to the declaration "In my perspective, the time spent doing the activities and assignments using Telegram (IM) was well worth the effort required".

Table 4.7

Distribution of respondents according to teachers' evaluation towards Telegram

Statement	**Scale**						
Teachers' evaluation towards Telegram	**1 SD**	**2 D**	**3 N**	**4 A**	**5 SA**	**Mean**	**Std. Deviation**
"In my opinion, the time spent in doing the activities and assignments using Telegram (IM) was well worth the effort required".	33 (6.6)	4 (0.8)	14 (2.8)	197 (39.4)	252 (50.4)	4.26	1.04477

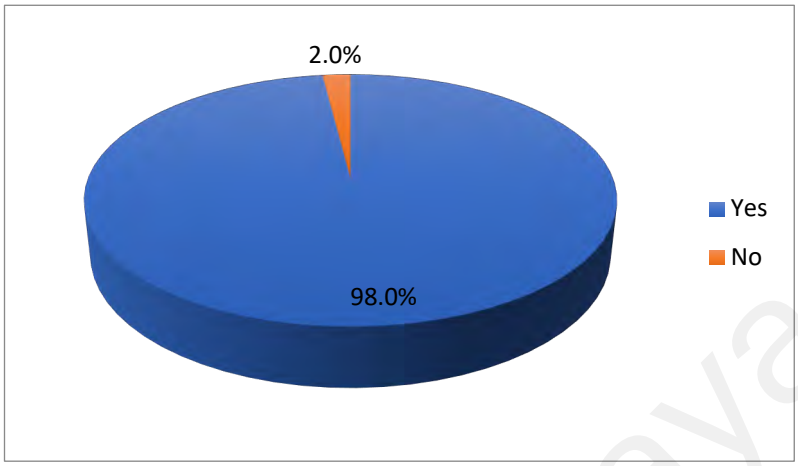
Note. 1. Strongly Disagree; 2. Disagree; 3. Neither Agree nor Disagree; 4. Agree; 5. Strongly Agree , * Numbers in parentheses are percentages.

4.6 Respondent's Planning to Use Telegram in Future

The distribution of responses according to time spent working by the Telegram (IM) is depicted in Figure 4.7 below . According to Figure 4.7, the majority of respondents, 146 teachers (29.2%), indicated they consumed two hours of work by using Telegram (IM), while 144 (28.8%) remarked they spent six to eight hours. A sum of teachers, 103 (20.6 percent), said they spent nine or more hours per week occupied via Telegram (IM), while 107 (21.4 percent) mentioned they spent three to five hours per week.

Figure 4.8

Distribution of respondents (use telegram in future)



4.7 Quantitative Data Analysis

Before quantitatively assessing the data, the results from each subscale question were added to determine how teachers felt about using Telegram (IM). These are summated scores, which are individual items' scores multiplied by many questions measuring the same variable to arrive at an overall score (Creswell, 2008). The overall composite score can be calculated indirectly by combining several variables to create a scale or index (Hair et al., 2014). The results reflected the perception of the professors, which may be low, medium, or high. Table 4.8 shows the results for each of the subscales.

Table 4.8

The summed scores of Pedagogical Benefits of teachers

Subscale	Total of Summed Scores to Indicate Teachers' Perception		
	Low Perception	Medium Perception	High Perception
Motivation	4	22	40
Interaction	4	12	20
Knowledge Sharing	4	17	30
CIDP	4	22	40

Note: CIDP=confidence in improving professional development

4.8 Results

Research Question 1 (a): The research question 1*how do teachers perceive the pedagogical benefit of Telegram (IM) interms of motivation?*

The circulation of respondents according to teacher perceptions of the educational benefits of Telegram (IM) for online teamwork in terms of motivation is shown in Table 4.9 below. The results showed that all 500 respondents (100.0 percent), with a mean of 4.58, agreed and strongly agreed that using Telegram (IM) to strengthen teaching and clerical work was preferable to the old method. Following that, it was discovered that a majority of respondents, 488 (97.6%), reported that Telegram (IM) boosted their interest in teaching (mean 4.57). The majority of respondents, 497 (99.4%), agreed or strongly agreed that the ability to submit their work for others to review motivated them to work more and produce higher-quality work.

On the other side, a majority of respondents, 482 (99.6%), said that being able to look at the work of other group members pushed them to put in more effort. The results revealed that all 500 respondents (100.0 percent), with an average of 4.74, agreed and strongly agreed that seeing work done improved than theirs pushed them to put more effort into their own group's work. The majority of respondents, 498 (99.4%), agreed or strongly agreed that they were looking forward to engaging in class activities utilising the Telegram (mean 4.59). (IM). The majority of respondents, 486 (97.2 percent), said that they were delighted to share Telegram (IM) activities and teaching materials with their colleagues (mean 4.70).Finally, the majority of respondents, 487 (97.4%), said that they were delighted to discuss Telegram (IM) activities and instructional materials with their classmates (mean 4.56).

To answer the research question, evidence of favourable perceptions of Telegram (IM) in terms of inspiration was discovered for all items in the Motivation subscale with mean scores above 4.00. The results were founded on a five-point scale ranging from 1 to 5, with a determined score of 5 for strongly agreeing and a minimum score of 1 for strongly disagreeing. Teachers had a good attitude regarding the statement delivered, as evidenced by the mean score of 4.0. Teachers' perceptions of the pedagogical benefits of Telegram (IM) in terms of motivation were based on the summed score of the Motivation subscale in this study (Li et al., 2010). The score varied from 4 to 40, with 4 indicating poor perception and 40 indicating excellent perception.In terms of motivation, a mean score above 22 indicates a positive attitude toward Telegram (IM). The mean of the total score was 32.41, based on the outcome of the mean computation.This revealed that the students thought Telegram (IM) was helpful in enabling their online teamwork and motivation.

Table 4.9

Distribution of respondents in terms of Motivation

Items	**Scale**						
	1 SD	2 D	3 N	4 A	5 SA	Mean	Std. Deviation
Item 1	0 (0.0)	0 (0.0)	0	210 (42.0)	290 (58.0)	4.58	0.49
Item 2	0 (0.0)	0 (0.0)	12 (2.4)	191 (38.2)	297 (59.4)	4.57	0.54
Item 3	0 (0.0)	2 (0.4)	1 (0.2)	178 (35.6)	319 (63.8)	4.63	0.51
Item 4	0 (0.0)	0 (0.0)	18 (3.6)	155 (31.0)	327 (65.4)	4.61	0.56
Item 5	0 (0.0)	0 (0.0)	0 (0.0)	128 (25.6)	372 (74.4)	4.74	0.44
Item 6	0 (0.0)	2 (0.4)	0 (0.0)	200 (40.0)	298 (59.6)	4.59	0.52
Item 7	2 (0.4)	12 (2.4)	0 (0.0)	107 (21.4)	379 (75.8)	4.70	0.64
Item 8	4 (0.8)	9 (1.8)	0 (0.0)	176 (35.2)	311 (62.2)	4.56	0.67

As shown in Table 4.9, teachers believe Telegram (IM) has pedagogical benefits when it comes to group interaction. The statement "I learned a lot from my group members and other groups in Telegram (IM) during group interaction" was agreed and strongly agreed by the majority of respondents, which included 498 teachers (99.6 percent), mean 4.72. The majority of respondents (497) agreed and strongly agreed that each member's participation is critical, whereas the minority (4.82) disagreed. Most students surveyed (98.0 percent) said that conversation between professors on Telegram could boost professional development more than only face-to-face interactions with colleagues (mean 4.62).

There were 500 (100.0 percent) respondents who said conflict among group members produced more benefits than negatives, resulting in an average response of 4.80 out of 5. A subscale score above 4.00 indicates that participants have a favourable opinion of the statement they were given. The results were calculated using a five-point scale ranging from 1 to 5, with 5 on behalf of strong agreement and 1 representing significant disagreement. Teacher perceptions were good, as evidenced by the mean score of above 4.0. (Li et al., 2010).

According to the results in Table 4.10, the mean score for all items was 4.00 or higher. According to the study, there was evidence of positive perception towards Telegram's pedagogical benefits in terms of group communication for all items in the subscale. Summation scores for this subscale varied from 4 to 20, with lower values denoting poorer perception and higher values suggesting better perception. The higher the mean score, the more enthusiastic the students were about using Telegram (IM) for group communication. The mean group interaction score was found to be 18.96 as a result of this study. This

showed that students thought Telegram (IM) was useful for facilitating group contact while working online

Table 4.10

Distribution of respondents in terms of group interaction

Items	**Scale**						
	1 SD	2 D	3 N	4 A	5 SA	Mean	Std. Deviation
Item1	1 (0.2)	1 (0.2)	0 (0.0)	131 (26.2)	367 (73.4)	4.724	0.48610
Item2	2 (0.4)	0 (0.0)	1 (0.2)	81 (16.2)	416 (83.2)	4.818	0.45
Item 3	2 (0.4)	0 (0.0)	8 (1.6)	166 (33.2)	324 (64.8)	4.62	0.56
Item4	0 (0.0)	0 (0.0)	0 (0.0)	100 (20.0)	400 (80.0)	4.800	0.40

According to respondents, table 4.11 below shows the distribution of instructors' perceptions of Telegram's (IM) pedagogical benefits in terms of knowledge transfer. In the end, 368 persons (73.6 percent) agreed and strongly agreed that more people can read their group's work, they become more engaged in sharing. Large numbers of teachers who took the survey (91.2 percent) said they agreed and strongly agreed that sharing their work on Telegram (IM) exposes it to a larger audience, making them more conscientious about what they create.

To the statement "I learn better when reading and evaluating samples from other group members' work in Telegram (IM)," 470 (94.0 percent) respondents, mean 4.62, answered "Agree" and "Strongly Agree." Also, according to Table 4.10, a considerable percentage of students — 500 of them (100.0 percent) — believe that Telegram (IM) features 's make it simple to share content and knowledge. According to the results in the table, a

significant number of teachers (451) (90.2 percent) agreed and strongly agreed that opportunities to look at the work of other group members give them more perspectives on how the work or task could be done (mean 3.96). At the end of the day, 446 people (89.2%) said they liked using Telegram (IM) in class because it allows them to respond and exchange ideas with their peers and colleagues.

According to the results in Table 4.11, the mean score for all items was 4.00 or higher. All items in the subscale had an excellent assessment of Telegram's pedagogical benefits in terms of knowledge sharing, which supported the findings. The results were calculated using a five-point scale ranging from 1 to 5, with 5 representing strong agreement and 1 representing significant disagreement. The majority of students scored above 4.0, indicating a favorable attitude toward the statement (Li et al., 2010). The Improvement in writing subscale had a range of summed scores ranging from 4, indicating low perception, to 30, indicating great perception. The higher the mean score, the more positive people felt about the subscale. The average improvement in writing and knowledge was 24.56, according to the results. Telegram (IM) was seen as helpful by teachers in terms of online cooperation and knowledge transfer, as seen by this.**Item statement are shown in Appendix A**

Table 4.11

Distribution of respondents in terms of knowledge sharing

Items	**Scale**						
	1 SD	2 D	3 N	4 A	5 SA	Mean	Std. Deviation
1.	0 (0.0)	7 (1.4)	125 (25.0)	243 (48.6)	125 (25.0)	4.05	0.686
2.	8 (1.6)	7 (1.4)	29 (5.8)	153 (30.6)	303 (60.6)	4.22	0.685
3.	2 (0.4)	0	28	135	335	4.62	0.5623

		(0.0)	(5.6)	(27.0)	(67.0)		
4.	0 (0.0)	0 (0.0)	0 (0.0)	100 (20.0)	400 (80.0)	3.90	0.745
5.	0 (0.0)	2 (0.4)	47 (9.4)	302 (60.4)	149 (29.8)	3.96	0.732
6	6 (1.2)	9 (1.8)	39 (7.8)	331 (66.2)	115 (23.0)	3.85	0.930

Table 4.11 below shows the circulation of respondents conferring to teachers' awareness towards the pedagogical assistances of Telegram (IM) in terms of group interaction.

Most of the respondents are comprised of 341 students (68.2%), mean 3.76, "agreed and strongly agreed" to the statement "using the telegram (IM) in work helped improve my confidence in developing my professional skills'.

While, 483 (96.6%) respondents showing 4.71as mean, "agreed and strongly agreed"to produce more teaching materials and input then required in group duringgroup interaction because it help to boost their self-reliance in working.Additionally, 496 (99.2%) teachers, mean 4.64, stated that explanations from peers boosted their self-assurance in work using the Telegram (IM).

Total 485 (97.0%) teachers having mean 4.88, "agreed and strongly agreed" that learning collaboratively using the Telegram (IM) helped improve the growth of my content knowledge and working skills. Result also displayed that 444 (88.8%) respondents, mean 4.61, answered "Agree" and strongly agree" to the declaration "commenting in group helped improve my working skills and content knowledge." It can be observed from Table 4.11 that most of the respondents were 415 (83.0%) teachers, mean 3.91, think that

comments established from peers and colleagues helped improved their working skills and content information.

From the table, it can also be seen that 393 (78.6%) teachers, mean 4.07, “agreed and strongly agreed” that the technology features of the Telegram (IM) helped improve their working skills and content information. Finally, result from the table showed that 460 (92.0%) respondents, mean 3.96, learned a lot from their group associates during group interaction, which in turn supplemented their working skills and content information.

The average score was above 4.00, indicating that they had a favourable opinion of the statement they had been given in the subscale. The results were calculated using a five-point scale ranging from 1 to 5, with 5 on behalf of strong agreement and 1 representing important disagreement. The mean score was above 4.0 indicated that teachers had a favourable opinion of the presented statement (Li et al., 2010).

It can be observed from Table 4.11 that all items had a mean score of at least 4.00. For all items in the subscale, evidence of favourable perception towards Telegram's (IM) pedagogical benefits could be discovered, as trust in enhancing professional growth increased. Summation scores for this subscale ranged from 4 to 40, with 4 denoting poor perception and 40 denoting excellent perception. Teachers who scored above 22 felt confident about Telegram's ability to improve their professional development. The average group interaction score was 34.54, according to the findings.

As a result, students viewed Telegram (IM) as helpful in increasing their professional development through facilitating online cooperation.

Table 4.12

Distribution of respondents in terms of confidence in improving professional development

Items	Scale						
	1 SD	2 D	3 N	4 A	5 SA	Mean	Std. Deviation
1.	0 (0.0)	9 (1.8)	150 (30.0)	255 (51.0)	86 (17.2)	3.76	0.654
2.	3 (0.6)	5 (1.0)	9 (1.8)	157 (31.4)	326 (65.2)	4.71	0.687
3.	2 (0.4)	0 (0.0)	2 (0.4)	112 (22.4)	384 (76.8)	4.64	0.562
4	0 (0.0)	10 (2.0)	5 (1.0)	312 (62.4)	173 (34.6)	4.88	0.765
5.	0 (0.0)	12 (2.4)	44 (8.8)	356 (71.2)	88 (17.6)	4.61	0.745
6.	16 (3.2)	0 (0.0)	69 (13.8)	360 (72.0)	55 (11.0)	3.91	0.930
7.	5 (1.0)	12 (12.4)	90 (18.0)	148 (29.6)	245 (49.0)	4.07	0.634
8.	0 (0.0)	17 (3.4)	23 (4.6)	214 (42.8)	246 (49.2)	3.96	0.685

4.8.1 Summary of First Research Question

To answer the first research question, based on the summarized result in Table 4.13 below, it can be seen that learners positively perceived Telegram (IM) as beneficial in four (4) areas. The areas were: (1) motivation; (2) group interaction; (3) knowledge sharing and (4) confidence in improving professional development. Table 4.13 below shows that the mean of summed scores for each subscales preceded their average summed scores.

The average sum of the scores for teachers' motivation was 32.41, which was higher than the favourable perception threshold of 22.0. This study found that teachers thought Telegram (IM) was useful for motivating their online collaboration. Overall, the group interaction mean was 18.96, well above the favourable perception threshold of 12.0.

According to the results of this study, telegram (IM) was seen as helpful by students in facilitating their online collaboration in group interaction. With a mean of 24.56, the summed score for knowledge sharing was higher than a favorable perception threshold of 17.0. Telegram (IM) was seen as helpful by teachers in terms of online cooperation and knowledge transfer, as seen by this. The average confidence score in enhancing professional development was 34.54, well over the 22.0 threshold for a positive opinion.

This study found that Teachers thought Telegram (IM) was useful for promoting online communication and felt more confident about furthering their professional growth. Overall, learners saw Telegram (IM) as advantageous in four areas: (1) motivation, (2) group interaction, (3) knowledge Sharing, and (4) confidence in increasing professional development.

Table 4.13

Summary of teachers' perception towards the pedagogical benefits of Telegram (IM)

Subscale	Mean of Summed Scores	Perception	Note
Subscale 1 : Motivation	32.41	Positive Perception	The score ranges from 4 which denotes a "low perception" to 40 which denotes a "high perception". Mean score above 22.0 demonstrates a positive perception.
Subscale 2 : Group Interaction	18.96	Positive Perception	The score ranges from 4 which denotes a "low perception" to 20 which denotes a "high perception". Mean score above 12.0 demonstrates a positive perception.
Subscale 3 : Knowledge Sharing	24.56	Positive Perception	The score ranges from 4 which denotes a "low perception" to 30 which denotes a "high perception". Mean score above 17.0 demonstrates a positive perception.
Subscale 4 : CIDP	34.54	Positive Perception	The score ranges from 4 which denotes a "low perception" to 40 which denotes a "high perception".Mean score above 22.0 demonstrates a positive perception.

To answer the research question 2 certain hypotheses are developed. To test the study hypotheses, Pearson coefficient correlation is applied. This research question aimed to evaluate the relationship between the determinants (triggering event, exploration, integration, resolution. emotional expressions, open communication, group cohesion, instructional management, building understanding, direct instruction) and teachers' behavioral intention towards the use of Telegram (IM)? Hence, ten (10) sub research questions (2(a) to 2(j) developed.

In order to test the association or link of factors of Attitude factors with behavioural intention, we have develop the null hypotheses.

H_{1_a} Triggering event (TE) is positively and significantly associated with teachers' behavioural intention (BI) towards the use of Telegram (IM).

H_{0_a} Triggering event (TE) is not positively and significantly associated teachers' behavioural intention (BI) towards the use of Telegram (IM).

To assess the association among triggering event (TE) and teacher' behavioural intention (BI) towards the use of Telegram (IM), Pearson product-moment correlation is computed. The result is portrayed in Table 4.14 below.

Table 4.14

Correlation between triggering event (TE) and teacher' behavioural intention (BI) towards the use of Telegram (IM)

Triggering event		**Behavioural Intention**		**Significance**	
M	SD	M	SD	r	p
4.72	0.27	4.42	0.48	-0.14	0.00

Note: ** Correlation is significant at the 0.01 level

As the table 4.14 indicates, there is negative relationship between triggering event (TE) and teacher' behavioural intention (BI) towards the use of Telegram (IM), whereby *r* (500) = -0.14, $p<0.01$. So, the result does not support the null hypothesis. Triggering event (TE) is positively and significantly associated with teacher' behavioural intention (BI) towards the use of Telegram (IM), providing support to H1a.

H_{1_b} Exploration (EXP) is positively and significantly associated with teachers' behavioural intention (BI) towards the use of Telegram (IM).

H_{0_b} Exploration (EXP) is notpositively and significantly associated and teachers' behavioural intention (BI) towards the use of Telegram (IM).

Table 4.15

Correlation between exploration (EXP) and teacher' behavioural intention (BI) towards the use of Telegram (IM)

Exploration		**Behavioural Intention**		**Significance**	
M	**SD**	**M**	**SD**	**r**	**p**
4.72	0.27	4.42	0.48	0.22	0.01

Note: ** Correlation is significant at the 0.01 level

As the table 4.15 indicates, Exploration (EXP) is positively and significantly associated with teacher' behavioural intention (BI) towards the use of Telegram (IM), whereby *r* (500) = 0.22, $p<0.01$. Therefore, the null hypothesis is rejected. ploration (EXP) and teacher' behavioural intention (BI) towards the use of Telegram (IM).

H_{1_c} Integration (INT) is positively and significantly associated with and teachers' behavioural intention (BI) towards the use of Telegram (IM).

H_{0_c} There is a positive relationship between integration (INT) and teachers' behavioural intention (BI) towards the use of Telegram (IM).

Pearson product-moment correlation coefficient was computed to assess the relationship between integration (INT) and teacher' behavioural intention (BI) towards the use of Telegram (IM). The result is portrayed in Table 4.15 below.

Table 4.16

Correlation between integration (INT) and teacher' behavioural intention (BI) towards the use of Telegram (IM)

Integration		**Behavioural Intention**		**Significance**	
M	*SD*	*M*	*SD*	*r*	*p*
4.58	*0.32*	*4.42*	*0.48*	*0.08*	*0.78*

Note: ** Correlation is significant at the 0.01 level

As the table 4.16 indicates, there is positive relationship between integration (INT) and teacher' behavioural intention (BI) towards the use of Telegram (IM), whereby r (500) = 0.08, p>0.01. Therefore, the null hypothesis is rejected. There is a positive relationship between integration (INT) and teacher' behavioural intention (BI) towards the use of Telegram (IM).

H_{1_d} Resolution (RESO) is not positively and significantly associated with teachers' behavioural intention (BI) towards the use of Telegram (IM).

H_{0_d} Resolution (RESO) is positively and significantly associated with resolution (RESO) and teachers' behavioural intention (BI) towards the use of Telegram (IM).

Table 4.17

Correlation between resolution (RESO) and teacher' behavioural intention (BI) towards the use of Telegram (IM)

Resolution		**Behavioural Intention**		**Significance**	
M	SD	M	SD	r	p
4.45	0.37	4.42	0.48	0.13	0.00

Note: ** Correlation is significant at the 0.01 level

As the table 4.17 indicates, there is positive relationship between resolution (RESO) and teacher' behavioural intention (BI) towards the use of Telegram (IM), whereby r (500) = 0.13, p<0.01. Therefore, the null hypothesis is rejected. There is a significant positive relationship between resolution (RESO) and teacher' behavioural intention (BI) towards the use of Telegram (IM).

H_{1_e} Instructional management (IM) is not positively and significantly associated with teachers' behavioural intention (BI) towards the use of Telegram (IM).

H_{0_e} Instructional management (IM) is positively and significantly associated with teachers' behavioural intention (BI) towards the use of Telegram (IM).

Table 4.18

Correlation between instructional management (IM) and teacher' behavioural intention (BI) towards the use of Telegram (IM)

Instructional Management		**Behavioural Intention**		**Significance**	
M	*SD*	*M*	*SD*	*r*	*P*
4.51	*0.39*	*4.42*	*0.48*	*-0.17*	*0.00*

Note: ** Correlation is significant at the 0.01 level

As the table 4.18 indicates, there is negative relationship between instructional management (IM) and teacher' behavioural intention (BI) towards the use of Telegram (IM), whereby r (500) = -0.17, p<0.01. Therefore, the null hypothesis is accepted. There is a significant negative relationship between instructional management (IM) and teacher' behavioural intention (BI) towards the use of Telegram (IM).

H_{1_f} Building understanding (BU) is positively and significantly associated with teachers' behavioural intention (BI) towards the use of Telegram (IM).

H_{0_f} Building understanding (BU) and teachers' behavioural intention (BI) towards the use of Telegram (IM).

Table 4.19

Correlation between building understanding (BU) and teacher' behavioural intention (BI) towards the use of Telegram (IM)

Building Understanding		**Behavioural Intention**		**Significance**	
M	*SD*	*M*	*SD*	*R*	*p*
4.40	*0.62*	*4.42*	*0.48*	*-0.19*	*0.00*

Note: ** Correlation is significant at the 0.01 level

As the table 4.19 indicates, there is negative relationship between building understanding (BU) and teacher' behavioural intention (BI) towards the use of Telegram (IM), whereby r (500) = -0.19, p<0.01. Therefore, the null hypothesis is accepted. There is a significant negative relationship between building understanding (BU) and teacher' behavioural intention (BI) towards the use of Telegram (IM).

H_{1_g} Direct instruction (DI) is not positively and significantly associated with teachers' behavioural intention (BI) towards the use of Telegram (IM).

H_{0_g} Direct instruction (DI) is positively and significantly associated with and teachers' behavioural intention (BI) towards the use of Telegram (IM).

Table 4.20

Correlation between direct instruction (DI) and teacher' behavioural intention (BI) towards the use of Telegram (IM)

Direct instruction		**Behavioural Intention**		**Significance**	
M	**SD**	**M**	**SD**	**r**	**p**
4.72	*0.30*	*4.42*	*0.48*	*-0.17*	*0.00*

Note: ** Correlation is significant at the 0.01 level

As the table 4.20 indicates, there is negative relationship between direct instruction (DI) and teacher' behavioural intention (BI) towards the use of Telegram (IM), whereby r (500) = -0.17, p<0.01. Therefore, the null hypothesis is accepted. There is a significant negative relationship between direct instruction (DI) and teacher' behavioural intention (BI) towards the use of Telegram (IM).

H_{1_h} Emotional expression (EE) is not positively and significantly associated with teachers' behavioural intention (BI) towards the use of Telegram (IM).

H_{0_h} Emotional expression (EE) is positively and significantly associated with teachers' behavioural intention (BI) towards the use of Telegram (IM).

Table 4.21

Correlation between Emotional Expressions (EE) and teacher' behavioural intention (BI) towards the use of Telegram (IM)

Emotional Expressions		**Behavioural Intention**		**Significance**	
M	SD	M	SD	r	p
4.70	0.27	4.42	0.48	-0.27	0.00

Note: ** Correlation is significant at the 0.01 level

As the table 4.21 indicates, there is negative association between emotional expression (EE) and teacher' behavioural intention (BI) towards the use of Telegram (IM), whereby r (500) = -0.27, p<0.01. Therefore, the null hypothesis is accepted. There is a significant negative association between emotional expressions (EE) and teacher' behavioural intention (BI) towards the use of Telegram (IM).

H_{1_i} Open communication (OC) is not positively and significantly associated with teachers' behavioural intention (BI) towards the use of Telegram (IM).

H_{0_i} Open communication (OC) is positively and significantly associated with teachers' behavioural intention (BI) towards the use of Telegram (IM).

Table 4.22

Correlation between open communication (OC) and teacher' behavioural intention (BI) towards the use of Telegram (IM)

open communication		**Behavioural Intention**		**Significance**	
M	SD	M	SD	r	P
4.63	0.27	4.42	0.48	0.05	0.26

Note: ** Correlation is significant at the 0.01 level

As the table 4.22 indicates, there is positive relationship between open communication (OC) and teacher' behavioural intention (BI) towards the use of Telegram (IM), whereby r(500) = 0.05, p>0.01. Therefore, the null hypothesis is rejected. There is a positive association between open communication (OC) and teacher' behavioural intention (BI) towards the use of Telegram (IM).

H_{1_j} Group cohesion (GC) is not positively and significantlyassociated with teachers' behavioural intention (BI) towards the use of Telegram (IM).

H_{0_j} Group Cohesion is positivelyandsignificantlyassociated with teachers' behavioural intention (BI) towards the use of Telegram (IM).

Table 4.23

Correlation between EE and teacher' behavioural intention (BI)

Emotional Expressions		**Behavioural Intention**		**Significance**	
M	*SD*	*M*	*SD*	*r*	*p*
4.77	*0.23*	*4.42*	*0.48*	*-0.11*	*0.01*

Note: ** Correlation is significant at the 0.01 level

As the table 4.23 indicates, there is negative relationship between emotional expressions (EE) and teacher' behavioural intention (BI) towards the use of Telegram (IM), whereby r (500) = -0.11, p<0.01. Therefore, the null hypothesis is accepted. There is a significant negative association between group cohesion (GC) and teacher' behavioural intention (BI) towards the use of Telegram (IM).

4.8.2 Summary of Second Research Question

Table 4.23 below summarized the findings of the hypotheses testing for research question 2. The results show that some hypotheses are accepted while results does not provide support to some hypotheses.

Table 4.24

Summary of the Hypothesis Testing Findings for Research Question 2

No	**Hypothesis**	**Findings**	**Remarks**
H_{1a}	Triggering event (TE) is positively and significantly associated with teachers' behavioural intention (BI) towards the use of Telegram (IM).	Negative correlation	Null hypothesis is accepted
H_{1b}	Exploration (EXP) is positively and significantly associated with teachers' behavioural intention (BI) towards the use of Telegram (IM).	Positive correlation	Null hypothesis is rejected

No	Hypothesis	Findings	Remarks
H_{1c}	Integration (INT) is positively and significantly associated with teachers' behavioural intention (BI) towards the use of Telegram (IM).	Positive correlation	Null hypothesis is rejected
H_{1d}	Resolution (RESO) is positively and significantly associated with teachers' behavioural intention (BI) towards the use of Telegram (IM).	Positive correlation	Null hypothesis is rejected
H_{1e}	Instructional management (IM) is positively and significantly associated with teachers' behavioural intention (BI) towards the use of Telegram (IM).	Negative correlation	Null hypothesis is accepted
H_{1f}	Building understanding (BU) is positively and significantly associated with teachers' behavioural intention (BI) towards the use of Telegram (IM).	Negative correlation	Null hypothesis is accepted
H_{1g}	Direct instruction (DI) is positively and significantly associated with teachers' behavioural intention (BI) towards the use of Telegram (IM).	Negative correlation	Null hypothesis is accepted
H_{1h}	Emotional expression (EE) is positively and significantly associated with teachers' behavioural intention (BI) towards the use of Telegram (IM).	Negative correlation	Null hypothesis is accepted
H_{1i}	Open communication (OC) is positively and significantly associated with teachers' behavioural intention (BI) towards the use of Telegram (IM).	Positive correlation	Null hypothesis is rejected
H_{1j}	Group cohesion (GC) is positively and significantly asoociated with teachers' behavioural intention (BI) towards the use of Telegram (IM).	Negative correlation	Null hypothesis is accepted

Research Question 3: *To identify the determinants (triggering event (TE), exploration (EXP), integration (INT), resolution (RESO), instructional management (IM), building understanding (BU), direct instruction (DI), emotional expressions (EE), open communication (OC), and, group cohesion (GC)) best predict teachers' behavioural intention (BI) to adopt Telegram (IM) in the future?*

The PLS-SEM technique and Smart PLS 3.0 are used to evaluate the data to get an answer to the fourth research question. Hair et al. (2017) stated that the PLS-SEM technique aims to forecast a specific set of hypothesized associations that enhance the dependent

variables' explained variance. As a result, the PLS-SEM technique can be used to make predictions.

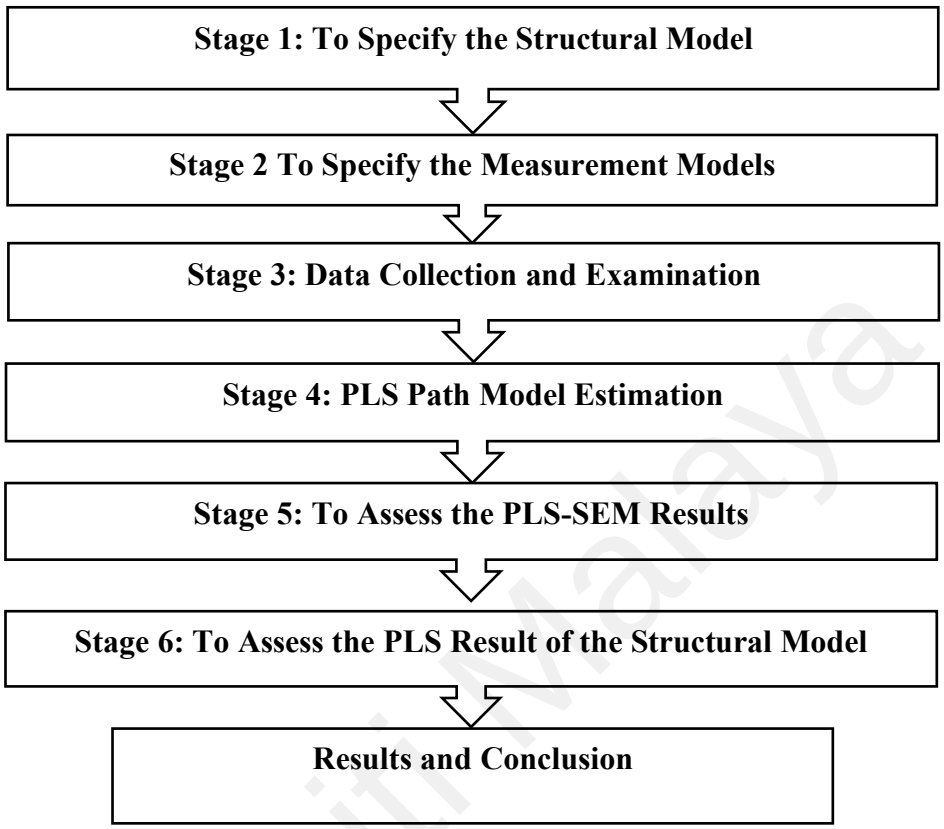
This is because the third research question sought to identify the factors most likely to influence teachers' decision to use Telegram (IM) in the future for educational purposes. Data were examined for normality before analysis to ensure the distribution of data uniformly. Standard distribution is asymmetrical, bell-shaped curve, with the highest scores in the center and the lowest frequencies at the poles (Pallant, 2005). It is possible to determine the normality of data using the Kolmogorov-Smirnov and Shapiro-Wilks tests, skewness and kurtosis, and graphs (such as a histogram, stem-and-leaf plot, standard probability plot, or box plot) (Stephen, 2016).

Although PLS-SEM does not make any assumptions about data distribution and does not need that data to be normally distributed, it is vital to check data distribution twice (Hair et al., 2017). Data that is highly non-normal has been demonstrated to cause issues when establishing the significance of parameters, making it less likely that specific correlations may prove to be significant (Ramayah et al., 2018). As a result, in the preceding part, normality testing was carried out to determine the study's distribution's normality. When researching the PLS-SEM technique, 6 phases are systematically applied(Hair et al., 2017).

Figure 4.9 depicts the various stages.

Figure 4.9

A systematic procedure for applying PLS-SEM



Adapted and modified from *A Primer on Partial Least Squares Structural Equation Modeling (PLS-SEM)* (p. 30), by J. F. Hair, G. T. M. Hult, C. Ringle and M. Sarstedt, 2017, Thousand Oaks, California: Sage Publications. Copyright 2017 by Sage Publications.

4.9 Procedure to Apply The PLS SEM

4.9.1 Stage 1: To Specify the Structural Model

The Structural Model is based on Taylor and Todd's Decomposed Theory of Planned Behaviour (DTPB) model as the conceptual underpinning for the research (1995).

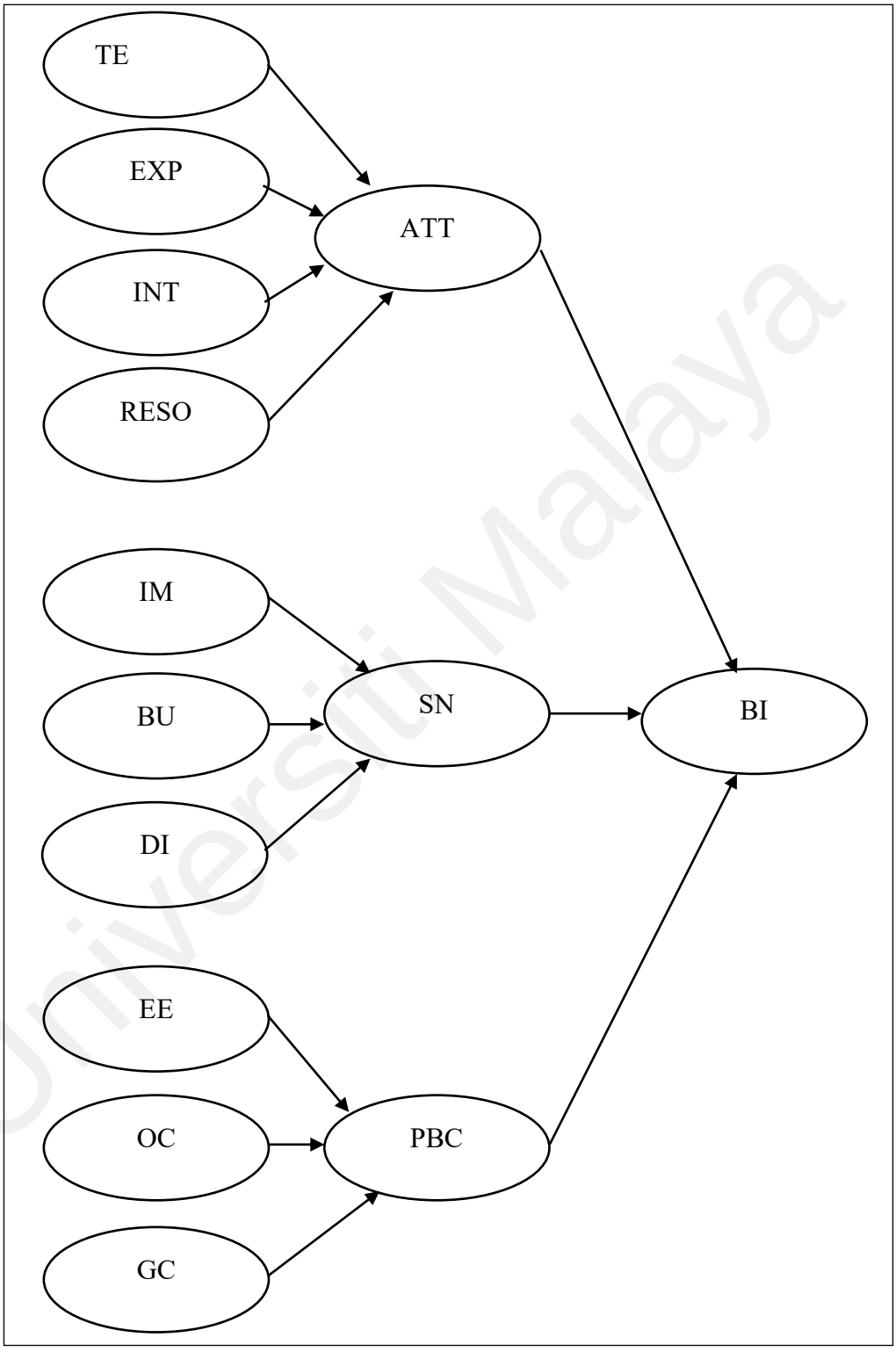
The relationship between constructs or the latent variable is the structural model, often known as the inner model. The Structural Model used in this study is depicted in Figure

4.10, which shows the links between the various constructs. There are two primary conceptual parts to the model.

The first part was the study's focus on the dependent variables, which were attitudes (ATT), subjective norms (SN), and perceived behavioural control (PBC) (INT). It also included independent variables that represent vital determinants of target constructs, such as triggering events, exploration (EXP), integration (INT), resolution (RESO), instructional management (IM), and understanding building activities, and direct instruction (DI).

Figure 4.10

Structural Model



4.9.2 Stage 2: To Specify the Measurement Models

The Outer Model, also known as the Measurement Model, depicts the link between constructs and indicator variables. Figure 4.11 depicts the measurement model for each concept or latent variable in this investigation. Because the constructs aren't immediately observable, each one has its own Measurement Model (Hair et al., 2017).

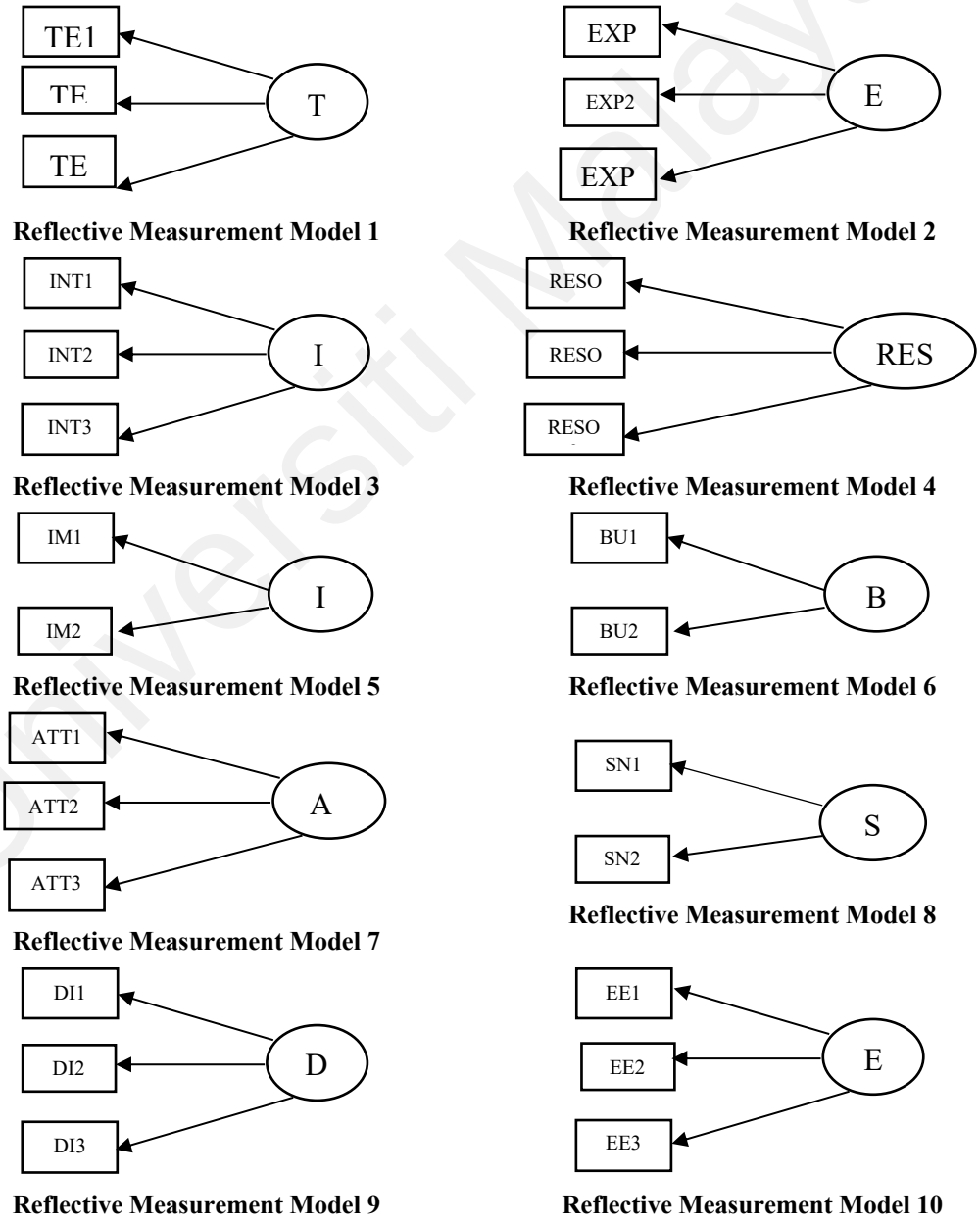
This research used the Reflective Measurement Model, in which the construct is a characteristic that explains the indicators (observed variables). Instead of employing a set of indicators, the authors of this study opted to use this model (Ramayah et al., 2018). Aside from that, the indicators, also known as observable variables, represented a construct's effects rather than the construct's cause (Hair et al., 2017). Within the conceptual framework of this research, there were a total of fourteen different constructs, including the following: attitude (ATT), subjective norm (SN), perceived behavioural control (PBC), behavioural intention (INT), triggering celebration (TE), exploration (EXP), integration (INT), resolution (RESO), training scheme (IM), building comprehension (BU), direct instruction (DI), emotional responses (EE), open communication (OC), and group cohesion (GC). There was more than one item used to evaluate each of the twelve (14) different components. All of the structures must have reflective measurement models if the arrows heading from the construct to the indicators are pointing in the same direction (refer Figure 4.11). One way to think of reflective indicators is as a sample that is intended to be representative of all of the possible components that fall under the construct's conceptual umbrella (Hair et al., 2017).

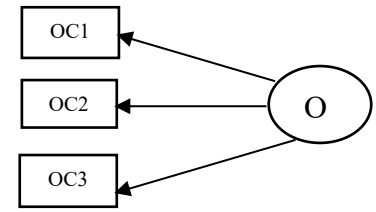
The construct triggering event, abbreviated TE, is evaluated, for instance, with the assistance of three reflection elements, abbreviated TE1, TE2, and TE3.

Due to the fact that all indicator items in a reflective measure are driven by the same construct, indicators that are linked with the same specific construct need to have a strong correlation with one another (Hair et al., 207). The research survey supplied each of the structures along with the reflective things that were associated with them.

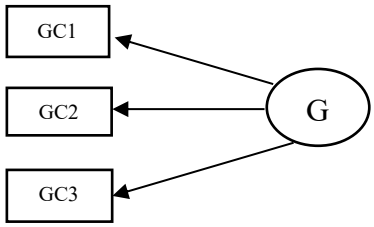
Figure 4.11

The indicators for each of the constructs in Reflective Measurement Model 1 until Reflective Measurement Model 14

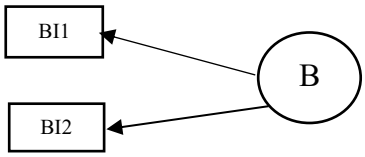




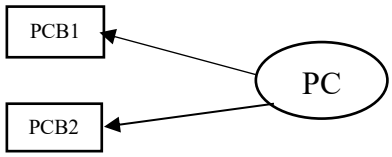
Reflective Measurement Model 11



Reflective Measurement Model 12



Reflective Measurement Model 13



Reflective Measurement Model 14

Table 4.24 below shows the indicators for each of the constructs in the Reflective Measurement Model.

Table 4.25

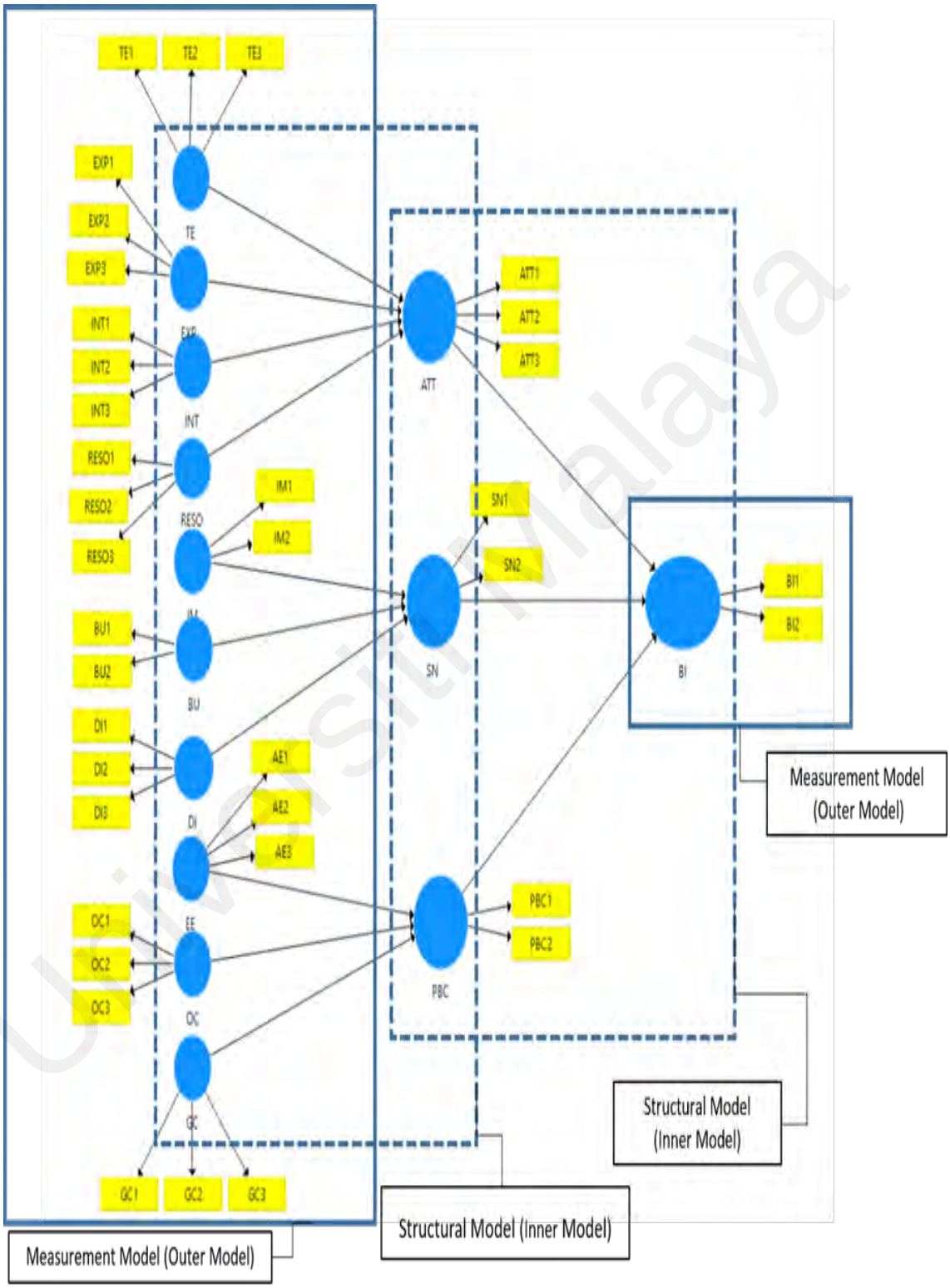
Indicators in Reflective Measurement Model

Construct	Indicators	No. of Scales
Attitude (ATT)	ATT1, ATT2, ATT3	3
Subjective Norm (SN)	SN1, SN2	2
Perceived Behavioural Control	PBC1, PBC2	2
Behavioural Intention (BI)	BI1, BI2	2
Triggering Event (TE)	TE1, TE2, TE3	3
Exploration (EXP)	EXP1, EXP2, EXP3	3
Integration (INT)	INT1, INT2, INT3	3
Resolution (RESO)	RESO1, RESO2, RESO3	3
Instructional Management	IM1, IM2	2
Building Understanding (BU)	BU1, BU2	2
Direct Instruction (DI)	DI1, DI2, DI3	3
Emotional Expressions (EE)	EE1, EE2, EE3	3
Open Communication (OC)	OC1, OC2, OC3	3
Group Cohesion (GC)	GC1, GC2, GC3	3

Figure 4.12 below shows the study variables and construct used in developing the study hypotheses. The structural model presents the relation of constructs with the variables.

Figure 4.12

Research path model



A two-step process was used to evaluate the path model (refer Figure 4.9).

The first step consisted of the evaluation of the measurement models, which had reached Stage 5 at the time. The subsequent stage consisted of the examination of the Structural Model, which had reached Stage 6 at this point. The examination of the concept measurements' reliability and validity is provided by the Measurement Model assessment. After the reliability and validity tests had been measured and validated, the structural model was examined again for further analysis. As part of the examination, both the procedure for determining the coefficients of determination (R2 values) as well as the degree to which path coefficients were significant and their importance were considered (Hair et al., 2017).

4.9.3 Stage 3: Data Gathering and Analysis

Before employing the SmartPLS software version 3.0, the acquired data were analyzed with SPSS IBM Statistics v26 in order to check for any missing values, outliers, and abnormalities in their normal distribution. On the other hand, the PLS-SEM analysis method does not have any issues with maintaining the normalcy of the data. It is not necessary for the data to have a regular distribution while performing a PLS-SEM analysis (Hair et al., 2017).

However, it is essential to double-check that the data are not excessively out of the ordinary. This is because having data that are excessively out of the ordinary can make it difficult to determine the relevance of the parameters (Ramayah et al., 2018).

As a direct consequence of this, during the prior study, each and every piece of data was investigated for problems with its normalcy and found to have a normal distribution.

Before beginning the computation for the PLS algorithm, the bootstrapping method was utilized to conduct an analysis on the relevance of the route model.

During the phase known as "bootstrapping," an extremely large number of sub-samples, which are also referred to as "bootstrap samples," were obtained from the initial sample with replacement (Hair et al., 2017).

When an observation is taken at random from the sampling population, it is replaced and returned to the sampling population before the next observation is drawn (Hair et al., 2017).

500 bootstrap samples were used in the bootstrapping technique.

If the p value is less than 0.05 with a 95 percent confidence interval, the model is considered significant.

4.9.4 Stage 4: Estimation of the PLS Path Model

In Step 4, also known as the model estimation stage, the PLS algorithm was computed.

The PLS algorithm was used to obtain the following results: (1) the outer loadings for the measurement items; (2) the path coefficients for the structural model relationships; and (3) the R2 values for the latent endogenous variables, that are attitude (ATT), subjective norm (SN), perceived behavioural control (PBC), and behavioural intention (INT). The quantification model's loading factor belong to it, and the path coefficients and R2 values for the structural model can be found below (Hair et al., 2017).

At this juncture, the researcher was in a position to determine whether or not the conceptual model had been empirically validated.

It is also possible to make comments concerning the relative importance of the exogenous latent variables in the process of forecasting the endogenous latent variable by taking into consideration the respective magnitude of the significant path linkages (Hair et al., 2017).

The conclusion was addressed in great detail during Stage 5, which consisted of the analysis of the measurement models, as well as the appraisal of the structural model (Stage 6).

4.9.5 Stage 5: Analyzing the Reflective Measurement Models

The process of analyzing the concept measures' reliability and validity was called measurement model assessment.When evaluating the reflective measuring models, four (4) measures were tested.Internal consistency reliability was assessed using composite reliability (CR), individual indicator reliability was assessed using individual indicator reliability, convergent validity was assessed using average variance extracted (AVE), and discriminant validity was assessed using the Fornell-Larcker criterion and cross loadings (Hair et al., 2017).

The outcomes of all four (4) reflective measurement model assessments are reported in Table 4.25. The following sub-sections go over the specifics of each evaluation and their outcomes

Table 4.26

Reflective Measurement Model assessments result

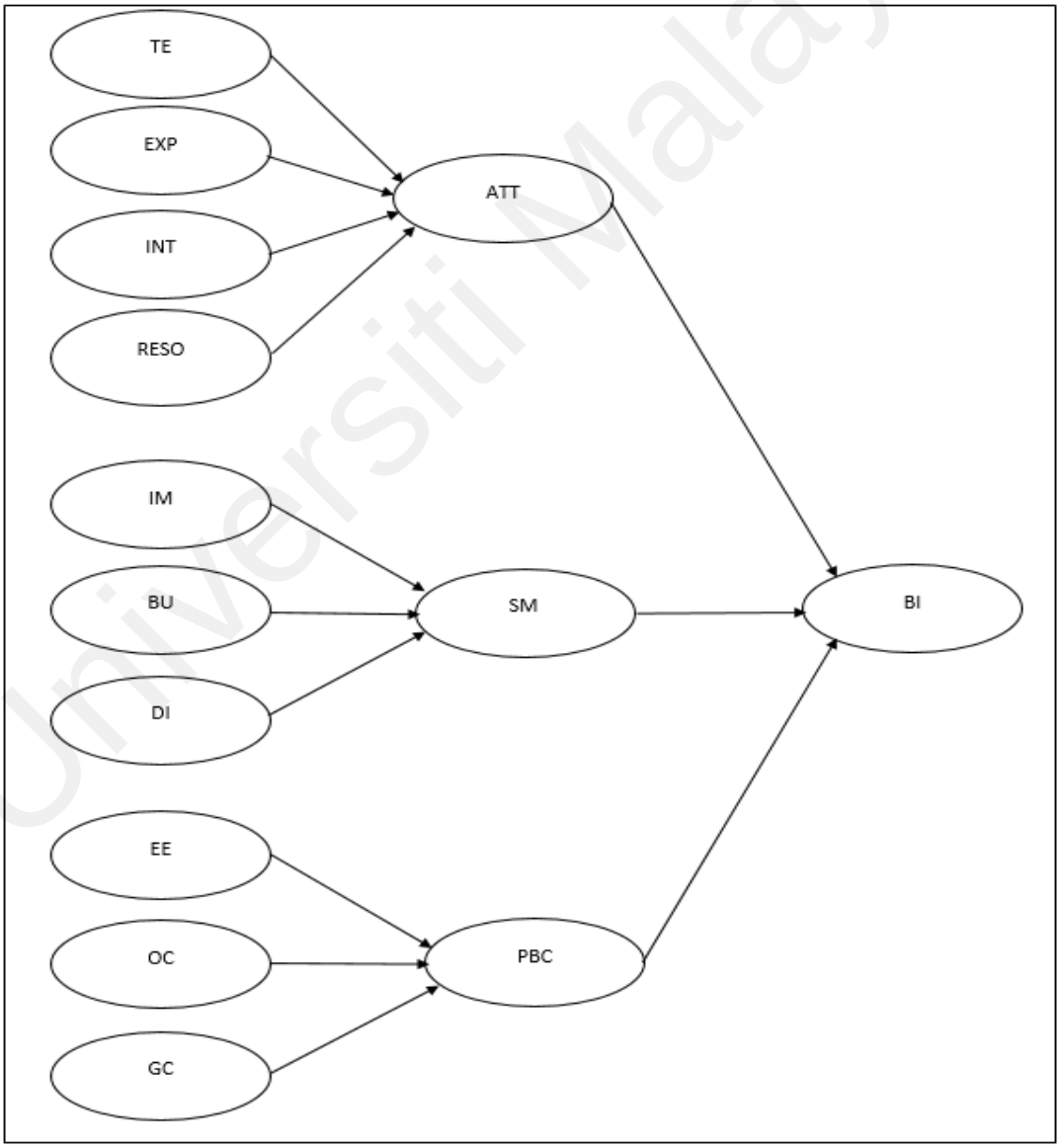
Construct	Indicators	Outer Loadings	(AVE)	(CR)
TE	TE1	0.141	0.426	0.028
	TE2	0.834		
	TE3	0.751		
EXP	EXP1	0.283	0.41	0.05
	EXP2	0.769		
	EDP3	0.748		
INT	INT1	0.981	0.376	0.325
	INT2	0.303		
	INT3	0.271		
RESO	RESO1	0.684	0.411	0.023
	RESO2	0.874		
	RESO3	0.016		
IM	IM1	0.969	0.541	0.664
	IM2	0.378		
BU	BU1	0.935	0.485	0.275
	BU2	0.309		
EE	EE1	0.653	0.499	0.466
	EE2	0.442		
	EE3	0.935		
DI	DI1	0.958	0.432	0.541
	DI2	0.213		
	DI3	0.332		
OC	OC1	0.925	0.44	0.556
	OC2	0.141		
	OC3	0.667		
GC	GC1	0.585	0.525	0.278
	GC2	0.702		
	GC3	0.859		
ATT	ATT1	0.844	0.502	0.506
	ATT2	0.402		
	ATT3	0.795		
SN	SN1	0.474	0.505	0.651
	SN2	0.886		
PBC	PBC1	0.838	0.622	0.013
	PBC2	0.736		
BI	BI1	0.267	0.432	0.541
	BI2	0.89		

4.9.6 Stage 6: To Assess the PLS-SEM results of the Structural Model

The subsequent stage, which involves the examination of the Structural Model, comes after the Reflective Measurement Models and the construct measurements have both been evaluated to see whether or not they are trustworthy and valid. Figure 4.13 provides an illustration of the research's underlying structural model.

Figure 4.13

Structural Model



4.10 Reliability Using Composite Reliability (CR)

Internal consistency dependability was utilized so that we could evaluate the degree to which individual items on the same test had similar results. In the PLS-SEM methodology, composite reliability (CR) testing was utilized as the primary reliability metric rather than Cronbach's alpha. Cronbach's alpha is derived from a reliability estimate based on the inter-correlations of the observed variables in the indicator, under the assumption that all indicators are subject to the same amount of external strain on the structure (Hair et al., 2017). Because PLS-SEM prioritizes indicators based on their individual reliability, composite reliability, on the other hand, is based on a measure of internal consistency dependability. This does not indicate that all of the indicators will have the same amount of weight assigned to them (Hair et al., 2014). The values of internal consistency dependability range from 0 to 1, with a higher number signifying a better level of validity. According to Hair et al(2014) .'s research, the overall reliability ratings should be higher than 0.708. If the composite reliability score is less than 0.60, then this indicates that the internal consistency reliability is high. (Hair et al., 2014).

However, composite reliability values between 0.60 and 0.70 are considered acceptable for conducting exploratory research (Nunally & Bernstein, 1994, as cited in Hair et al., 2014). The reliability of the indication can be determined by looking at the levels of the outer loading. The fact that the construct has high outer loading values is evidence of the reliability of the indicators, which suggests that the indicators share a great deal in common. According to Hair et al. (2014), the outside loadings need to be at least 0.708 in order to be considered acceptable. However, Hulland (1999) pointed out that studies in the social sciences frequently find lower outer loadings values, so rather than immediately removing the indicators, it is best to assess the impact of item removal on composite

reliability and construct content validity first. This should be done before deciding whether or not to remove the indicators (as cited in Hair et al., 2014). In Hair et al. (2014)'s outer loading relevance testing technique, if the outer loading value is greater than 0.40 but less than 0.70, it will be considered for the analysis of the impact of the indicator deletion on the average variance extracted (AVE) and composite reliability (CR) values. This is done in accordance with the condition that the outer loading value must be greater than 0.40 but less than 0.70. All of the indicators, however, can be maintained given that the AVE is somewhere around 0.5.

Convergent validity was established by analyzing the outer loadings of the indicators in conjunction with the average variance that was recovered (AVE). Convergent validity refers to the degree to which one measure has a positive correlation with other measurements of the same construct (Hair et al., 2014). For convergent validity to be established, there are two aspects that need to be taken into consideration: (1) the outer loadings of the indicators, which have been covered previously, and (2) the average variance retrieved from the data (AVE). It is possible to define the grand mean value of the squared loadings as the average variance extracted (AVE), with the expectation being that the value will be greater than 0.50. (Hair et al., 2014). According to Table 4.26 from the section before this one, the average variance extracted (AVE) values for all structures that met or exceeded the 0.50 criterion are as follows: It was clear from this that the construct was responsible for more than half of the variance in the indicators. As a result, convergent validity has been demonstrated. In order to establish the discriminant validity of the test, the Fornell-Larcker criterion and cross loadings were utilized. According to the criteria of empirical research, discriminant validity is a measure of how different a construct is from those of other types (Hair et al., 2014). This indicates that the construct

is able to measure the phenomenon that it is intended to assess in a manner that cannot be measured by any other construct.

Two different methods were utilized in this research project so that discriminant validity could be determined. Either the cross loading analysis or the Fornell-Larcker criterion were the methods that were used. In this work, a combination of the two methods was utilized to re-evaluate the discriminant validity.

i. Cross-loading investigations

Discriminant validity is demonstrated when an indicator's loading on a construct is higher than all of its cross loadings with other constructs when employing cross loadings (Hair et al., 2017). The outer and cross loadings for each of the indicators are shown in Table 4.26. The outer loadings for each build were higher than all of the cross loadings with other constructs, as shown in Table 4.26. These findings suggested that discriminant validity had been achieved in some way.

Table 4.27

Assessment of constructs' outer loadings and cross loadings

	TE	EXP	INT	RESO	IM	BU	EE	DI	OC	GC	ATT	SN	PBC	BI
TE1	0.141	-0.081	0.007	-0.058	0.085	0.075	0.081	0.194	-0.349	0.134	-0.095	0.148	0.007	-0.120
TE2	0.834	-0.169	-0.325	-0.302	0.253	0.162	0.284	-0.174	0.210	-0.283	-0.294	-0.109	0.080	-0.059
TE3	-0.751	0.041	0.216	0.327	-0.115	-0.180	-0.034	0.215	-0.508	0.108	0.281	0.091	0.029	-0.068
EXP1	-0.092	0.283	0.090	-0.124	-0.216	-0.019	0.056	-0.075	0.009	-0.229	0.166	-0.046	0.231	0.303
EXP2	-0.053	0.769	0.315	0.168	-0.163	0.111	-0.301	-0.054	0.018	0.374	0.335	-0.209	-0.233	0.241
EXP3	0.144	-0.748	-0.266	-0.006	-0.023	-0.062	0.263	-0.047	0.075	-0.086	-0.343	-0.032	0.180	-0.169
INT1	0.083	-0.088	-0.303	-0.110	0.053	-0.188	0.084	-0.019	-0.007	-0.225	0.391	0.107	0.098	0.229
INT2	-0.058	-0.068	0.271	0.135	-0.024	-0.073	0.127	-0.004	-0.111	0.078	-0.080	-0.040	0.001	-0.044
INT3	-0.239	0.004	0.283	0.024	-0.285	-0.162	-0.069	0.237	-0.925	0.201	0.022	0.019	0.115	-0.048
RESO1	-0.053	0.076	0.045	-0.684	0.047	0.125	0.088	-0.164	0.146	-0.152	-0.169	-0.053	0.117	0.164
RESO2	-0.119	0.142	0.124	0.874	-0.204	-0.192	-0.160	0.219	-0.086	0.293	0.252	-0.119	-0.043	0.058
RESO3	0.086	-0.175	-0.179	0.016	0.158	-0.132	0.342	0.065	0.000	-0.182	0.002	0.086	0.149	-0.018
IM1	0.263	-0.170	-0.142	-0.245	0.969	0.157	0.257	-0.074	0.226	-0.151	-0.282	0.083	0.111	-0.177
IM2	-0.006	0.049	-0.028	0.214	0.378	0.051	-0.085	-0.017	0.276	0.036	-0.164	0.022	-0.236	-0.066
BU1	0.280	0.041	-0.197	-0.206	0.118	0.935	-0.116	-0.224	0.180	0.098	-0.175	-0.224	-0.136	0.157
BU2	0.120	-0.166	-0.045	0.030	-0.133	-0.309	0.064	0.048	-0.004	0.063	-0.093	0.084	0.211	0.051
EE1	0.210	-0.279	-0.104	-0.036	0.022	0.012	0.653	-0.092	0.148	-0.178	-0.284	-0.002	0.174	-0.156
EE2	-0.171	0.043	0.081	0.254	0.062	0.041	-0.442	0.143	-0.009	0.274	-0.031	0.009	-0.084	-0.099
EE3	0.151	-0.294	-0.086	-0.144	0.298	-0.175	0.935	-0.052	0.053	-0.467	-0.280	0.147	0.374	-0.256
DI1	-0.199	-0.058	0.127	0.216	-0.017	-0.218	-0.089	0.958	-0.326	0.126	0.204	0.307	0.239	-0.111
DI2	0.256	-0.012	-0.297	-0.320	0.274	0.286	0.159	-0.213	0.332	-0.256	-0.256	0.017	-0.052	-0.102
DI3	-0.073	0.099	0.177	0.192	-0.234	-0.123	-0.061	0.332	-0.107	0.227	-0.045	0.099	-0.110	-0.109
OC1	-0.239	0.004	0.283	0.024	-0.285	-0.119	-0.069	0.237	-0.925	0.201	0.316	0.019	0.115	0.030
OC2	0.401	0.129	-0.015	-0.475	0.131	0.298	0.160	-0.230	0.141	-0.247	-0.087	-0.113	-0.001	0.085
OC3	-0.434	0.076	0.066	0.290	-0.132	-0.192	-0.092	0.339	-0.667	0.058	0.347	0.138	0.058	-0.028
GC1	0.278	-0.162	-0.220	-0.219	0.068	0.047	0.394	-0.108	0.165	-0.585	-0.225	0.083	0.084	-0.103
GC2	-0.174	0.023	0.026	0.277	-0.099	0.070	-0.216	0.114	-0.035	0.702	-0.015	0.031	-0.188	-0.051
GC3	0.117	-0.257	-0.232	-0.187	0.113	-0.074	0.429	-0.157	0.209	-0.859	-0.295	0.083	0.252	-0.079
ATT1	-0.319	0.379	0.280	0.326	-0.189	-0.136	-0.192	0.163	-0.322	0.170	0.844	-0.091	-0.050	0.289
ATT2	0.215	-0.144	-0.055	-0.192	0.135	-0.134	0.350	-0.062	0.058	-0.261	-0.402	0.056	0.117	-0.136
ATT3	-0.254	0.396	0.413	0.064	-0.314	-0.178	-0.194	0.108	-0.371	0.117	0.795	-0.013	-0.025	0.194
SN1	-0.186	-0.047	-0.001	-0.121	0.042	-0.137	0.016	0.106	-0.058	-0.070	-0.122	0.474	0.063	-0.047
SN2	-0.007	-0.081	0.007	-0.007	0.085	-0.204	0.114	0.310	-0.349	0.134	-0.021	0.886	0.007	-0.092
PBC1	-0.030	-0.126	0.053	0.046	0.046	-0.197	0.332	0.145	-0.111	-0.190	0.038	0.012	0.838	-0.011
PBC2	-0.098	0.166	0.046	0.216	-0.022	0.118	-0.217	-0.158	0.065	0.238	0.177	-0.199	-0.736	-0.101
BI1	-0.029	-0.037	-0.012	0.161	-0.118	-0.109	0.147	-0.051	-0.004	-0.085	0.142	0.067	0.053	0.267
BI2	-0.007	0.360	0.232	-0.116	-0.129	0.024	-0.302	-0.122	-0.010	0.089	0.241	-0.136	0.025	0.890

(ii)The Fornell-Larcker Criteria

When applying the Fornell-Larcker criterion, each construct's square root of average variance extracted (AVE) must be greater than its correlation with any other construct in the model (Hair et al., 2017). Table 4.27 shows the results of the Fornell-Larcker criterion evaluation.

The square root of average variance extracted (AVE) of each construct is higher than the constructs' correlation with others, as seen in the table. For example, the square root of

the average variance retrieved from the reflective construct attitude (ATT) is 0.829. (AVE). The correlation values in the attitude (ATT) column were then compared to this value. All of the reflecting constructs' square roots of the average variance extracted (AVE) were found to be larger than the correlations of the constructs with other latent variables in the route model.

ATT (0.829), COMP (0.862), EU (0.803), INT (0.913), LI (0.851), PBC (0.787), PI (0.841), PU (0.861), RFC (0.887), SE (0.847), SI (0.803), TFC (0.887), TFC (0.887), TFC (0.887), TFC (0.887), TFC (0.887), TFC (0.887), TFC (0.887), TFC (0.887), TFC (0.8 (0.918).

The discriminant validity was established as a result of these findings.

Table 4.28

The Fornell-Larcker criterion

	ATT	BI	BU	DI	EE	EXP	GC	IM	INT	OC	PBC	RESO	SN	TE
ATT	**0.709**													
BI	0.303	**0.657**												
BU	-0.133	-0.027	**0.696**											
DI	0.166	-0.144	-0.230	**0.598**										
EE	-0.302	-0.229	-0.133	-0.095	**0.706**									
EXP	0.459	0.337	0.098	-0.025	-0.324	**0.641**								
GC	0.227	0.048	0.071	0.176	-0.457	0.208	**0.724**							
IM	-0.304	-0.182	0.160	-0.074	0.219	-0.147	-0.133	**0.736**						
INT	0.386	0.222	-0.172	0.160	-0.114	0.377	0.206	-0.139	**0.613**					
OC	-0.390	-0.012	0.173	-0.325	0.093	-0.033	-0.184	0.279	-0.251	**0.663**				
PBC	-0.073	0.049	-0.204	0.191	0.354	-0.181	-0.266	0.045	0.011	-0.114	**0.788**			
RESO	0.274	-0.039	-0.207	0.247	-0.163	0.067	0.296	-0.176	0.070	-0.138	-0.090	**0.641**		
SN	-0.075	-0.103	-0.243	0.322	0.108	-0.118	-0.055	0.083	-0.025	-0.071	0.121	-0.062	**0.711**	
TE	-0.372	-0.021	0.224	-0.199	0.214	-0.147	-0.215	0.245	-0.331	0.366	0.034	-0.396	-0.092	**0.653**

Note. ** Bold values represent the square root of its AVE
*** The numbers which are not bolded are the correlation values

The Structural Model was evaluated by looking at how accurate it may be in predicting future events. Hair et al. (2017) proposed five (5) different systematic ways to assess the model.

Stage 1: assessment of collinearity using variance inflation value (VIF)

Using SmartPLS 3.0, the procedure of calculating the variance inflation factors (VIF) for each sub-part of the structural model involved determining the degree to which the predictor constructs were correlated. Tolerance or variance inflation factors (VIF) should be more than or equal to 0.20 for each predictor construct (Hair et al., 2017). Eliminating constructs, integrating predictors into one single model or developing higher-order models are proposed when dealing with collinearity difficulties (Hair et al., 2017). Table 4.28 shows the analysis results, and all VIF values are below the threshold level of 5.0. There was no problem with predictor construct collinearity in the structural model.

Table 4.29

Result of the Collinearity assessment

Constructs	VIF	Constructs	VIF
AE1	1.176	INT1	1.074
AE2	1.116	INT2	1.016
AE3	1.299	INT3	1.059
ATT1	1.259	OC1	1.171
ATT2	1.022	OC2	1.245
ATT3	1.253	OC3	1.399
BI1	1.042	PBC1	1.065
BI2	1.042	PBC2	1.065
BU1	1.002	RESO1	1.108
BU2	1.002	RESO2	1.095
DI1	1.020	RESO3	1.059
DI2	1.252	SN1	1.000
DI3	1.231	SN2	1.000
EXP1	1.008	TE1	1.083
EXP2	1.077	TE2	1.146

EXP3	1.079	TE3	1.186
GC1	1.233	IM1	1.020
GC2	1.107	IM2	1.020
GC3	1.275		

Stage 2: To Assess Structural Model relationships using path coefficient

Path coefficients, or the predicted path relationships for the structural model, is obtained when the PLS method was applied. Coeffcients of path represent assumed relationships between the objects and range from 1 to 1. (Hair et al., 2017). Below, in Table 4.29, you'll see the path coefficient and its indication. Values closer to 1 denote an extremely positive correlation, whereas values closer to -1 denote an extremely negative correlation. Path coefficient is a measure of the strength of a link between two variables (refer Table 4.30 below).

Table 4.30

Path coefficient values and its indication

	Indication
Closer to +1	Strong positive relationship
Closer to -1	Strong negative relationship
Closer to 0	Weak relationship

Reprinted from A primer on Partial Least Squares Structural Equation Modeling (PLS-SEM) (p. 169), by J. F. Hair, G. T. M. Hult, C. Ringle and M. Sarstedt, 2017, Thousand Oaks, California: Sage Publications. Copyright 2017 by Sage Publications.

Stage 3: assessing the level of the coefficient of determination (R^2)

This statistic, known as the coefficient of determination (R2), measures the model's ability to accurately predict future values for a specific endogenous construct or dependent

variable (Hair et al., 2017). It depicts the combined effects of the independent and exogenous latent variables on the endogenous latent variable in the form of a coefficient (Hair et al., 2017).

Predictive accuracy can be measured using the R2value, which can be anywhere from 0 to 1.0.75 is considered substantial, 0.50 is moderate, and 0.25 is considered weak for R2 values (Hair et al., 2017).

Results of coefficient determination are shown in Table 4.31. Table 4.31 (R2). It turned out to be an R2 value of 0.40 for attitude (ATT), 0.30 for behavioural intention (BI), 0.3 for perceived behavioural control (PBC), and 0.3 for subjective norm, according to the results.

As a result, the statistics show an average level of accuracy in predicting the future.

Table 4.31

The coefficient of determination (R^2) result

Construct	R^2
ATT	0.4
BI	0.3
PBC	0.3
SN	0.3

Stage 4: assessing the effect sizes, f^2

It assesses the impact of a particular predictive construct on an endogenous construct or dependent variable and is designated as f2. Exogenous constructs, or independent variables, are eliminated from the model, and the R2 values alter as a result. This is to

determine the true impact of an exogenous construct on an endogenous one. Cohen (1988) states that an effect size of 0.02 is considered little, an effect size of 0.15 is deemed to be medium, and an effect size of 0.35 is considered high (as cited in Hair et al., 2017). The effect sizes, f2, are shown in Table 4.32 below.

As shown in Table 4.32 below, the effect size is medium for the following connections: the ATC to the BI, the BTC, the DI to the SN, the ETC to the PBC, the EXP, the GTC and the RESO. PBC to BI and SN to BI have large IM to SN, IM to SN, and IM to SN distances.

Table 4.32

Result summary for the effect sizes, f^2

	f2	Effect Size
ATT → BI	0.101	Medium
BU → SN	0.043	Medium
DI → SN	0.092	Medium
EE →PBC	0.083	Medium
EXP → ATT	0.164	Medium
GC → PBC	0.025	Medium
IM → SN	0.021	Small
INT → ATT	0.037	Medium
OC → PBC	0.034	Medium
PBC → BI	0.007	Small
RESO → ATT	0.033	Medium
SN → BI	0.009	Small
TE → ATT	0.045	Medium

Stage 5: assessing the predictive relevance, Q^2

In the last stage, using the Stone-Geisser Q2 value, the model's predictive relevance is evaluated. When an endogenous construct reflective measurement model has predictive significance, it accurately predicts data points from indicators in the model (Hair et al., 2017).

Model predictive importance for the reflective construct is shown by a Q2 value greater than zero in the structural model (Hair et al., 2017).

The SmartPLS 3.0.0. The blindfolding approach can be used to get this. Q2 value of 0.02 indicates a low predictive value, a Q2 value of 0.15 suggests a medium predictive value, and a Q2 value of 0.35 shows a high predictive value (Hair et al., 2017).

Table 4.33 shows the predicted relevance results. There are four endogenous components included in the model, and the table shows that all of the Q2 values were above zero. Such as for attitude (ATT), behavioural intention (BI), perceived behavioural control (PBC), and subjective norm (SN), supporting the model's predictive relevance for all four.

Table 4.33

Results of the predictive relevance

Endogenous Latent Variable	Q^2	Predictive Relevance
ATT	0.2	Medium
BI	0.1	Medium
PBC	0.1	Medium
SN	0.2	Medium

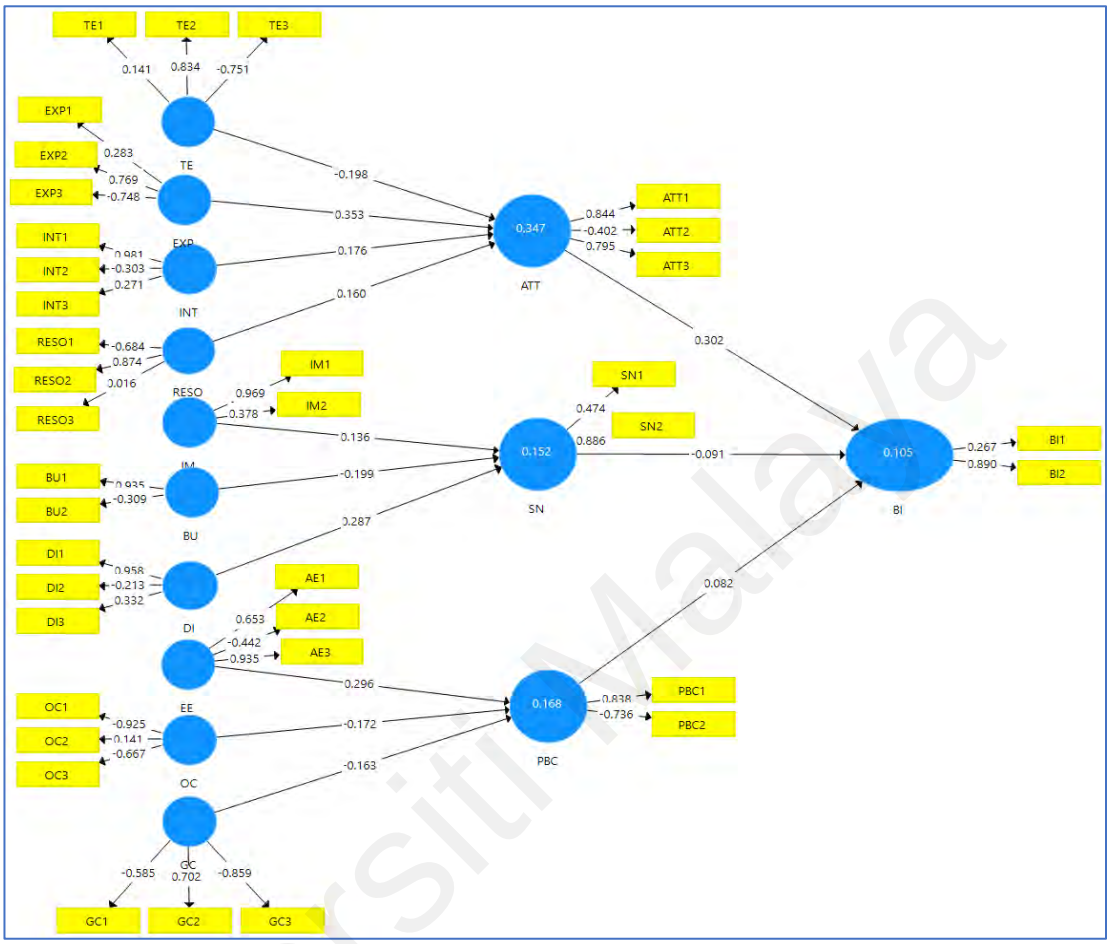
Teachers' behavioral intention to use Telegram (IM) was assessed using the structural model results to answer the third research question. Teachers' behavioral intention to use

Telegram (IM) was evaluated using attitudes (ATT), behavioral intention (BI), perceived behavioral control (PBC), and subjective norm (SN).

There is a significant relationship between instructors' attitude (ATT) and future behavioral intention (BI) to use Telegram, with ATT being significantly more important than perceived disciplinary authority (PDA) (PBC). Teachers' intentions to use Telegram in the future were shown to be unchanged by the social norm (SN), which was determined to be negligible negative significance. The entire assessment result is shown in Figure 4.15 below. Throughout the constructs, R2 values are displayed. The measurement model's outer loadings are represented by the arrows' values between the construct and indicators. The path coefficient for the structural model is represented by values that are on the arrow between the two constructions.

Figure 4.14

Structural Model assessment



4.11 Summarized Results of Research Question 3

The structural model route coefficients are summarized in Table 4.30, which is organized based on the relative importance and significance of the driving construct.The significance of a path coefficient, on the other hand, is determined by the standard error of the bootstrapping method, which allows the computation of at-value to determine whether or not an indicator significantly contributes to the associated construct. This means that the coefficient is statistically significant if the t-value is greater than the crucial value of 1.96 (significance level = 5 per cent) (Hair et al., 2017). According to Hair et al. (2017) doing the bootstrapping process with 5000 sub-samples to acquire the t-values. The path coefficients and t-values are shown in Table 4.30 below. Except for EE PBC,

IM SN, PBC BI, SN BI, and TE ATT, all connections in the structural model were judged to be significant when the t-values were more than 1.96 (significance level = 5%).

Table 4.34

Summarized results of structural model path coefficients

	Path coefficients	***t*-values**	***p*-values**	**Significance**
ATT → BI	0.302	7.756	0.000	Significant
BU → SN	0.199	2.916	0.004	Significant
DI → SN	0.287	5.878	0.000	Significant
EE →PBC	0.172	1.206	0.228	Not significant
EXP → ATT	0.176	1.717	0.087	Not significant
GC → PBC	0.163	2.966	0.003	Significant
IM → SN	0.199	1.363	0.174	Not significant
INT → ATT	0.160	4.045	0.000	Significant
OC → PBC	0.163	1.935	0.054	Significant
PBC → BI	0.082	0.805	0.421	Not significant
RESO → ATT	0.136	3.147	0.002	Significant
SN → BI	0.091	1.533	0.126	Not significant
TE → ATT	0.357	0.990	0.323	Not significant

4.12 Summary of Chapter

Quantitative data analysis from the survey is discussed in this chapter. The research questions and hypotheses guided the explanation of the findings. After Chapter Four, in Chapter Five, the findings from Chapter Four were explored upon in greater depth. Demographics and attitudes on using Telegram as a learning tool are also summarized in the initial descriptive statistics. This was followed by an assessment of the data's normalcy to determine whether or not it satisfied the requirement. As a result of the quantitative findings from the descriptive analysis, teachers saw Telegram (IM) as advantageous in five (5) areas: (1) motivation, (2) group interaction, (3) knowledge exchange, and (4) confidence in improving professional growth (frequency, percentages, mean, standard deviation).

In addition, the correlational analysis for the second research question indicated positive correlations between the determinants (triggering event) of instructors' behavioural intention to use Telegram (exploration, integration, resolution). Several factors were taken into consideration, including the following: a precipitating incident; an investigation; integration; resolution; instructional management; and direct instruction. This study's conclusions backed up all eleven of its hypotheses. Final results from the PLS-SEM study suggest that teachers' future intention to use Telegram is most strongly predicted by attitude, followed by their perception of disciplinary control.

Concerning teachers' intentions for using Telegram, a slight negative correlation has been established between social norms and instructors' intention to use it. Furthermore, this connection has no bearing.

CHAPTER 5

DISCUSSION

Teachers' use of Telegram (IM), a mobile collaboration tool for managing administrative tasks at schools, was examined in this study to see what factors influenced their motivation, Group interaction, knowledge sharing, and confidence in their professional development.The study's second aim was to determine if attitudes, subjective norms, and perceptions of behavioral control were linked to behavioral intentions toward using Telegram (IM).We also looked into the factors that predicted whether or not teachers would use Telegram(IM) in the future.This chapter reviews and expands on the information presented in Chapter 4 while also answering the research questions. This chapter also covers the study's ramifications and recommendations for further investigation.Research Questions are discussed in depth.To begin, we'll look into research question 1.

5.1 Discussion on Result

5.1.1 Discussion on Research question 1

The following was the initial research question:

What is the overall profile of teachers' use of Telegram(IM) in school management?

The initial research question was divided into four smaller ones, with each sub-question having its discussion section.Chapter 4 indicated that teacherobserved technology as an essential tool for teaching and learning in five key areas: (1) motivation; (2) group interaction, (3) knowledge sharing; and (4) confidence in increasing professional growth.

The study findingsof research question 1 shows the positive perception of Telegram (IM) in terms of motivation, with an average of 36.98 points on the Motivation subscale (a score ranging from 4 to 40, denoting a "high perception" and a mean score above 22 exhibiting a positive perception).The study's findings revealed that students thought of Telegram (IM) as a helpful tool for boosting motivation.This conclusion is also supported by prior research showing that increasing learners' motivation increases performance (Basar&Yusop, 2014; Franco, 2008; Li et al., 2012; Notari, 2006; Wichadee, 2013; Zorko, 2009).

Teachers' motivation can be boosted by using Telegram (IM) to learn because it shifts the focus from traditional lectures to something more engaging and participatory. This was demonstrated quantitatively because all teachers, who were 100% in agreement and firmly agreed, favored Telegram (IM) over the traditional pen and paper form of communication.

According to research, using a technological tool and abandoning the traditional model of teaching and learning has been shown to boost instructors' enthusiasm for their jobs. This could be because of the novelty of modern educational technology.This study's findings are consistent with those of a prior one whereOnes, especially young people, now choose to communicate via social media due to advancements in information technology.Individuals frequently utilize social media technology platforms like “Facebook, YouTube, and WeChat” in daily life to share and converse (Junco &Cotten, 2012; Wu et al., 2015).Students thought Telegram (an instant messaging app) was an excellent teaching aid since it piqued their interest in the material.To demonstrate this, researchers used quantitative findings showing that 97.6 percent of students agreed and strongly agreed that using Telegram (IM) for teaching and learning boosted their

interest.Excitement and a heightened sense of curiosity are promising signs of motivation, according to research.

As Per the study, students are provided with a practical, realistic, and appealing training skill under the supervision of professional staff (Vergnano et al., 2017).

According to research, it can motivate people to learn and perform better as a team (Paige et al., 2014).Teachers are also agreed and highly agreed that the ability to submission of work to others for review pushed them to work more and generate better quality work, with 99.4 percent of teachers agreeing or strongly agreeing.When teachers are given a chance to post their work for review or to have others examine their group's work, it motivates them to do their best job and put in the most effort. Overall, teachers viewed Telegram (IM) as a helpful tool for facilitating their online cooperation, particularly motivation.

Teacher perception of online collaborative writing via Telegram (IM) as helpful in facilitating their teaching motivation has been confirmed in earlier studies (Basar&Yusop, 2014; Franco, 2008; Lee, 2010; Li et al., 2012; Su& Beaumont, 2010; Yusop&Basar, 2014; Wichadee, 2013; Zorko, 2009).This demonstrates that Telegram (IM) can provide a pleasant online teaching environment for teachers, enhancing their enthusiasm to study. Students and co-workers can use this information to help them in build a motivating teaching approach to help teachers stay engaged in their work.

When it comes to group interaction, how do teachers see Telegram's educational benefits?

Research Question 1(b) revealed evidence of Telegram (IM) positive's perception when found the mean group interaction subscale score to be 18.96 (a score ranging from 4 to 20, signalling "high perception"; a mean score over 12 suggested a positive perception).Researchers found that students thought Telegram (IM) was a helpful tool for increasing teacher-student contact.According to the results of this study, Telegram (IM) can help teachers improve their knowledge, group interactions, and intrinsic motivation by providing an interactive simulation environment.From the perspective of teaching, cooperative learning through social interactions is referred to be a teaching approach.Cooperation in educational design should entail that teacher's work together to finish an assignment (Newbery et al., 2016; Waller et al., 2014).Teacher groups or pairs collaborate to attain learning objectives in cooperative learning (Lin et al., 2018).

Telegram (IM) and F2F discussions are frequent social connection methods in current working modes, particularly in the face of the present COVID-19 pandemic situation."Telegram's (IM) technological features allow it to serve as a platform for asynchronous collaboration. T User-to-user file sharing and message communication are both possible with Telegram (IM). There was a finding that Telegram's (IM) specific attribute was suitable for collaborative working processes. It was found that 99.6% of learners agreed and strongly agreed during group interactions that they have learned a lot from their group members and also from other groups in Telegram (IM). This finding was based on quantitative data. It's possible to trade information with Telegram's social and collaborative features. As a result, teachers can build on one another's knowledge by exchanging ideas. Teachers can also use Telegram (IM) to increase collaboration (Woo et al., 2011; Zorko, 2009). Telegram collaboration allows teachers to learn from each other and create collaborative knowledge creations rather than learning in a solitary

fashion. When Teachers connect, they learn a lot, and their writing skills grow as a result. Members' contributions are also boosted by using Telegram (an instant messaging app). According to the analysis of the quantitative results, 99.4% of teachers felt that contributions from all members were vital to generating the finest work or product. Everyone should give it they're all.

Zorko (2009) described that Telegram (IM) enabled teachers to foster collaborative behaviours such as learning from one another and talking with other group members, which is in line with the findings of this study. Thus, Telegram's (IM) feature promotes communication between professors and students.

Teachers benefited from conflict among group members while working on their task in the group Telegram (IM), rather than the other way around. This type of disagreement is referred to as “productive”. It's possible to think of constructive conflict as a tool for enhancing meaning creation or learning behaviour, leading to a more widely shared understanding and, as a result, more extraordinary team performance (Bossche et al., 2006).

Quantitative evidence showed that all of the teachers, who were 100 percent in favour of the idea that conflict among group members had more benefits than drawbacks, strongly agreed. There is more understanding when there is constructive conflict because instructors are free to express their thoughts and make better decisions while also learning how to deal with others.

Research Question 2

According to the results of this study, attitudes (ATT) have a significant positive influence on behavioral intention (INT). However, subjective norms (SN) and perceived behavioral control (PBC) have no significant effect in explaining behavioral intention (Ajjan&Hartshone, 2008). Sadaf et al. (2012), on the other hand, found that attitude (ATT) is the essential factor in influencing a person's behavioral intention (BI). Ajjan and Hartshorne (2008) also discovered that attitude (ATT) contributes most to predicting behavioral intention (INT), followed by the belief in one's ability to control one's behavior (PBC). Researchers found that administrators should improve instructors' attitudes toward instant messaging because it's a major determinant of behavior. Teachers' willingness to use instant messaging may be influenced by social influence. Thus the administration should inform them of the importance and advantages of using the medium in their teaching.

These elements are predicted by using Decomposed Theory of Planned Behaviour presented by Taylor and Todd's (1995) in this study. Additionally, it gives administrators assistance and a deeper understanding of which characteristics are more powerful in predicting teachers' intention to use Telegram by providing a broader experience of behavioral choice and guidance (IM).

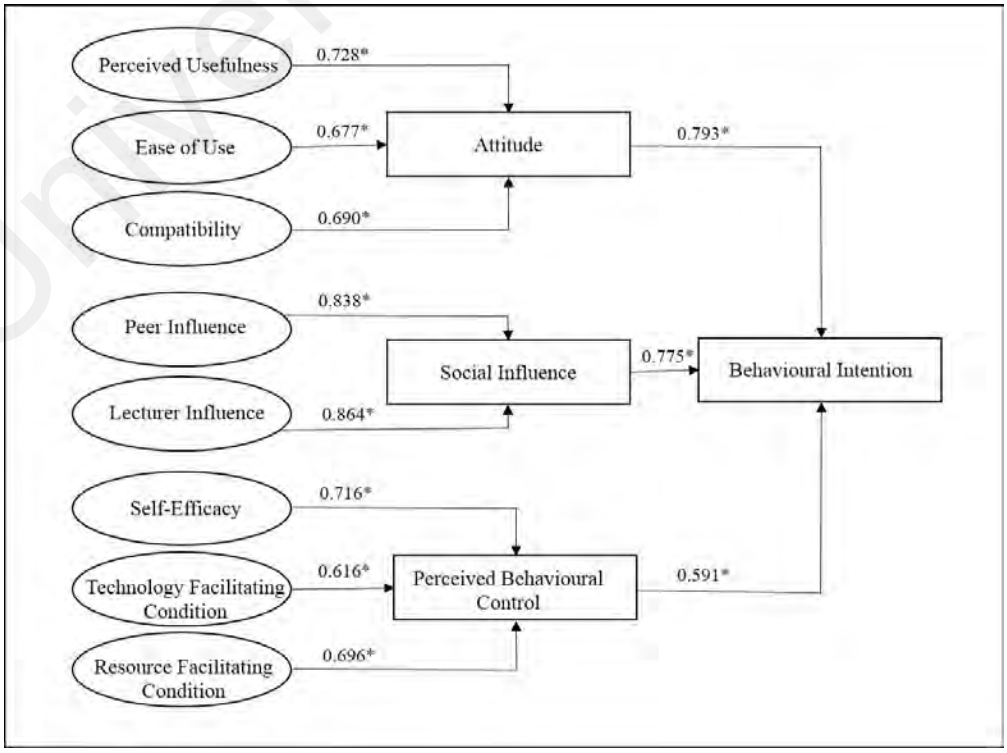
Research Question 3

A teacher's future behavioural intention to use Telegram can be predicted by a variety of factors, including the following: the event that sets off an exploration period followed by an integration period and a resolution period. Instructional management can also be predicted by factors such as the following: building understanding (BU), direct instruction (DI), emotional expressions (EE), and open communication.

Using the PLS-SEM statistical analysis method, researchers sought to determine which of the ten factors best predicts teachers' behavioral intention to use Telegrams (IM's), the most vital determinant of teachers' behavior. The study findings using PLS-SEM shows that the attitude of the teacher (ATT), (=0.302), was the most significant predictor of students' behavioral intentions (BI). After that, subjective norm (SN), (=0.091) is the second most important factor in describing behavioral intention (BI) while utilizing Telegram (IM) for cooperation purposes. Finally, the findings show that perceived behavioral control (PBC) (=0.082) had a negligible effect on behavioral intention (BI). Recent study by Sadaf et al. (2012), described that these three variables ATT, SN or SI, and PBC are significant predictors of behavioral intention. This may be because the findings of this study differ slightly from those of who found that all three variables, namely attitude.

Figure 5.1

Validated model of factors



CHAPTER 6

CONCLUSION

The social media tool "Telegram" has changed the way of teaching and students' learning. In the twenty-first century, the availability of the social media tool telegram has transformed traditional teaching into more advanced teaching. The main impetus to conduct this study is to determine the factors which influence the teacher's use of Telegram in Tamil primary school. In this study, the researcher attempted to enhance the understanding and use of telegram in teaching.

The current study was aimed to answer the three research questions: overall teacher profile regarding use of telegram. The determinants influence the teacher's use of telegram and which determinant would be best for the teacher in future. The study findings indicated that telegram is the best tool for promoting online communication in teaching. Teachers are felt more confident about its use in professional growth. A substantial positive link was observed between attitude, subjective norm, and perceived behavioural control and teachers' behavioural intention to use Telegram using Taylor and Todd's Decomposed Theory of Planned Behaviour (1995) and the Community of Inquiry (CoI) (IM).

Attitude has a significant positive influence on behavioural intention. However, the subjective norms and perceived behavioural control have no significant effect in explaining behavioural intention. Teachers'Teachers' willingness to use instant messaging may be influenced by social influence.The present was conducted among the Timail primary school

Teachers. All in all, this study provides a comprehensive model to determine the factors to use telegram in teaching. It presents the teacher's future intention to use it in their teaching career.

6.1 Consequences of The Study

Many people, including teachers, instructional designers, and policymakers, believe the conclusions of this study have ramifications.

6.1.1 Consequences for Educational and Administrator

In building an efficient online working structure using Telegram (IM), the findings of this study will be helpful for future administrators and instructional designers, as the concerns highlighted were interrelated and would influence the overall quality of the job.

This is because they are the key drivers in the school's adoption of new technologies. Researchers believe their findings will provide light on how a task (work) is planned and executed. Administrative leaders have a responsibility to develop an environment conducive to the development of teachers' knowledge beyond the cognitive, as well as other abilities such as communication, teamwork, and creative problem-solving. There are many reasons for this.

The most important reason is that implementing an instant messaging-based working environment in a school relies on more than just technology. Incorporating technology into a task means administrators must pay close attention to how it is planned, organized, and delivered. Administrators must also evaluate other critical factors, such as the qualities and profile of the teachers. Computers and other technology do not inherently

make teachers more capable, even though some teachers may see them as a cure-all in the classroom.

They must, however, be well-versed in technology integration best practices. There is no educational system that can last forever without the contributions of teachers. Technology integration affects teachers' ability to keep up with quickly changing technologies in the classroom (Bentham, 2013; Ortega & Fuentes, 2015). Students' achievement is unaffected by the media, according to Clark (1983). Only the substance of the media has an impact on student achievement.

6.2 Implications For Theory

This study used the conceptual frameworks of Decomposed Theory of Planned Behaviour (DTPB) and Community of Inquiry (COI) to predict what factors influence students' intentions to use Telegram for professional purposes. The results showed that the model is quite accurate and predictive overall. Similar to prior research using the Decomposed Theory of Planned Behavior and the Community of Inquiry (COI), the researchers found that teachers' attitudes accounted for a significant amount of the variation in their findings. This provided additional confirmation that the model's explanatory variables were appropriate. As Decomposed Theory of Planned Behaviour (Taylor & Todd's 1995) offers a comprehensive account of the components connected with behavioural intention, this demonstrates the theory's adaptability and utility in a wide range of situations and contexts. Educators ought to take this into account.

This research analysed how educators use Telegram (IM) to foster collaboration in the classroom.

Moderate use of MIM was found to improve students' ability to make the transition from school to work, as well as their knowledge acquisition and learning as (professional) engagement (Pimmer, 2019).

Telegram has been associated with the monitoring of professional and social activity and the dissemination of information (IM).

These results demonstrate the growing significance of IM in (inter)personal classroom settings (Timmis, 2012).

Since they shed light on instructors' motivations, emotions, and actions in relation to pedagogical choices, educators' perspectives merit attention.

This is because, when planning a technologically-based approach to education, it is essential to keep the requirements of educators in mind.

Examining the beliefs and goals associated with Telegram (IM), this research will provide a comprehensive look at tailoring a Telegram-based learning experience to the preferences and perspectives of educators (IM).

It is possible that any pedagogical and technological deficiencies in the learning environment may be revealed by taking a look at things from the perspective of the instructors, who would then be alerted to the areas that could use improvement (Seet, & Quek, 2010).

We did this in the hopes that it will encourage more teachers to use Telegram (IM) for professional purposes, where its many features could be useful. If the results of this study have any real-world implications, it will show that teachers' desire to utilise IM as a means of communication is heavily influenced by the degree to which they are given discretion over their own time. In addition, educators will have the knowledge and tools they need to shift away from the standard teaching model. Instead of being the original sources of information, teachers disseminate it to their students. In today's dynamic workplace, educators are encouraged to actively participate in their students' education by developing their own materials and expertise through teamwork and environmental observation.

Today's educators need higher levels of critical and creative thinking skills, as well as proficiency in ICT (information and communication technology). Providing regular training and getting students involved with the classroom electronics will further improve this. For instance, Telegram (IM) represents the use of an IM service for a semester or more in a classroom setting. As educators gain experience with the IM client, they will grow more comfortable with its use and more receptive to its adoption in the classroom.

6.3 limitations of The Study

As a result of this inquiry, a number of significant limitations and constraints were uncovered. The primary limitation was that there were not enough people to reliably draw any conclusions from the study. To ensure a representative sample, this research was limited to Tamil school educators. Moreover, the course is delivered in a blended learning approach, which incorporates both face-to-face and online elements of the curriculum, including the Telegram platform, into the overall learning experience. It is also important to distribute resources to persons who will not be attending classes. Results from this study can only be extrapolated to the population of children who are enrolled in formal

education programmes. Because of the challenges in extrapolating the findings of this study, caution is warranted in drawing conclusions from it.

The second limitation of the research concerned a section of the study that had to do with how actively the students participated. Learners self-assessed their weekly participation in the class Session, which means the assessment was based on students' best guesses about how actively they engage in the course's assigned activities. Students may have different opinions and assessments of how much they have contributed each week over the semester based on their own self-evaluations.

This is because some students in the Telegram class may feel like they have contributed significantly, while others may feel like they have contributed little (IM). Nonetheless, it is possible that the amount of input provided in Telegram by students and professors was about the same (IM). So, it is possible that the results of this study do not fairly reflect the participants' actual engagement with and use of the course materials.

The study also did not look into how professors and students interact and collaborate when using Telegram in the classroom, which is a significant omission. As this research was conducted in Malaysia, it's probable that the country's eastern philosophy influenced the researchers' choice of communication style and collaborative norms. Perhaps they employ a kind of communication that is foreign to the West.

As the study did not investigate how people talk to or collaborate with one another, there are some drawbacks to these results as well. According to the fourth limitation, the faculty had to divide the class into three sections, each of which had a different teacher. Students in all three groups used the same course materials and resources like the class telegram

(IM) and class activities, but the teachers may have approached the lessons in quite different ways. Because of these dissimilarities, students may have a wide range of reactions to a given class session. Collaboration through the use of the IM platform Telegram was also essential for this course.

Telegram students were not given the option to use any other platforms; they were required to complete all course work within the app. It was not obvious whether or not students were contributing to the course Wiki out of genuine interest or because they were being forced to do so in order to succeed in the course's various tasks and projects. As telegraph use by students is not mandated but rather optional, these findings need to be extrapolated with considerable caution to other contexts. This is because students from various backgrounds may walk away from the encounter having formed completely new opinions and beliefs.

6.4 Future Directions of The Study

On the basis of the findings and the scope of this study, various suggestions for further research can be made. First, this study was conducted on a small and limited scale, with only one sample of Tamil teachers from Malaysian schools serving as responders.

Therefore, the outcomes of this study are only relevant to Tamil school teachers who are involved in a comparable educational setting and curriculum. It has been suggested that more study be conducted to examine a wider variety of issues and settings. For instance, more investigation may be conducted to get data from a more diverse sample of educators from different backgrounds. Among these responses may be educators from both National and Chinese institutions. This would allow the researcher to extrapolate their findings to a bigger population and increase the size of their sample.

In addition, Telegram was the only instant messaging service used in this study. Telegram (IM) may have capabilities and characteristics that are unique to itself. As a result, the pros and cons of using this specific IM service, which may vary from those of using other IM services that are also widely available on the web. Therefore, it is suggested that a future study be undertaken with a different type of online instant messenger, such as WeChat or Whatsapp, with the same aims as this one.

As a next step, it is suggested that a future in-depth study be conducted to discover more about whether or not teachers actually put their stated desire to use IM for educational purposes into practise. An intriguing study topic could be the relationship between teachers' objectives and the ways in which they use instant messaging programmes. So, it would be helpful to follow the same people over time in a longitudinal research to see if they truly end up using Telegram (IM) for educational purposes in the future like they said they would.

Also, it is recommended that the institution start using Telegram (IM) as an instant messaging platform for internal communications. The goal is to help teachers become more comfortable with and confident in using the technology in their classrooms and daily work. It would be really interesting to look into how using IM has affected instructors' productivity over time. Learning if there are differences in how teachers view the tool and their plans for its long-term use for IM would be helpful.

6.5 Summary

This study looked into how instructors perceived the benefits of using Telegram (IM), an instant messaging app, in the classroom. Results showed that learners saw Telegram (IM) as advantageous in five (4) different ways, including motivation, group engagement,

knowledge exchange, and confidence that Telegram may help them improve their careers. Researchers also hope to discover what influences instructors' decision to use Telegram (IM) in the classroom. A substantial positive link was observed between attitude, subjective norm, and supposed behavioral controller and educators' behavioral intention to use Telegram using Taylor and Todd's Decomposed Theory of Planned Behaviour (1995) and the Community of Inquiry (CoI) (IM). Teachers' attitude was determined to be the most significant predictor of whether or not teachers intend to use Telegram (IM) in their classrooms for teaching and learning objectives out of the three variables. Only Tamil primary school teachers took part in this survey, so results cannot be extrapolated to represent all teachers or the entire population.

Even though findings could not be generalized, the researcher anticipated that they might assist future administrators and instructional designers create a productive workplace that uses collaborative working techniques like Telegram (IM). Researchers found that fostering a favorable mindset and providing a stimulating social environment for students to utilize Telegram (IM) as a teaching and learning tool in the future is crucial.

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