Role of Instant Messenger in Turkish People Life

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Abstract

Instant Messaging is being widely adopted in modern people life and a number of IM applications are existing in the market. The number of functions and features increase in IM's make it more popular every single day in human life. There are number of IM's in the market and people prefer to use one or more than one of them according to their usage and preferences. This study focus on 2 aspects of Instant Messenger. The first aspect is the use of IM, including the activities people do with IM, the routines they use it, and collaboration. The second aspect is peoples' preferences, including people's perceived benefits of the application, problems they encounter, and ways in which they handle the problems. This study uses surveys as an evaluation method. The surveys are consisted of a consent form, demographic information part, and the questions part. Moreover, the surveys, which are created and launched by Kwik Surveys, are conducted online. Participants are provided with a link generated by the website to the survey. There are 65 participants in total who have taken part in the survey, and 49 participants have completed it. Most of the participants agree that they use IM frequently, have a good user experience, and it has improve their life. However, they also encounter some problems with IM which raise dissatisfaction. The report gives some key recommendations for redesign, such as improving the quality of service and system robustness, meliorate the current functions, add new functions, and integrate and interoperate with other software.

Keywords: Instant Messenger, IM, Turkish users

1. INTRODUCTION

The goal of the research is to find out the role of the Instant Messengers in Turkish people life. The research is concentrated on ınstant messengers' usage,

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people's likes-dislikes about instant messengers and how frequently people use these applications, what they are waiting from IM and how much instant messenger's effects human life. Getting data about what people do with instant messengers, how frequently they use it, personality and security ıssues and the points they like is the main

Purpose of the research

Instant messenger is a tool that allow people to do synchronous communication between each other. Nowadays most applications provide functionalities like file transfer, video chat, audio chat, offline messaging, offline appearance and buddy list Instant Messenger's start to be popular in middle 90's and starts to have more time in people daily and business life every day and a recent study says that there are about 12 billion instant messages sent everyday As the usage of IM started to become more popular in people daily life, wanted to investigate the on people's usage, preferences and problems of IM.

The purpose of this study to find out the users influences in usage of IM. In Technologic Acceptance Model, the key constructs are considered for technology adaptation as Perceived Usefulness and Perceived Ease of Use. This study focus on these 2 aspects of Instant Messenger. The first aspect is the use of IM, including the activities people do with IM, the routines they use it, and collaboration. The second aspect is peoples' preferences, including people's perceived benefits of the application, problems they encounter, and ways in which they handle the problems. This study uses surveys as an evaluation method. The surveys are consisted of a consent form, demographic information part, and the questions part. Moreover, the surveys, which are created and launched by Kwik Surveys, are conducted online.

There are several studies where the parameters that effect IM usage investigated. The 2 important factors that get a great attention in the studies for usage of IM were age and gender. This study not only focuses on age and gender but also focus on the usage and the preferences of the people.

2. Literature Review

Factors Impact IM

Technology Acceptance Model where it become a widely accepted model in technology world (Davis, 2003). TAM says that, the perceived usefulness and perceived ease of use shows the person intentions t-o use the technology.

Larsen, Lee and Kozar (2003) studied the literature in detail and show that the perceived ease of use and perceived usefulness are significant variables across different settings

In the literature there are researchers who have use the TAM model to discuss the adaptation of IM. Strader, Ramaswami and Houle (2007) had a survey with the undergraduate students and show that perceived ease of use effect the students intent to use IM. Also, Lee, Cheung and Chen (2007), had run a survey for business people and show that both perceived ease of use and perceived usefulness have an important impact on the usage of IM

Gender and IM Applications

Lots of studies had been done to find out the effect of gender on using technology and generally lots of them shows that men are more likely to use the technology when compared to woman. There are number of studies which shows the reason for this like Shashaani and Khalili(2001) says that woman have less self-confidence and in other studies , Liaw(2002), Allyn(2003), Li et al..(2004) have found the same results as well.

There are studies which focused on the gender effect on the usage of IM as well. Illie et al., 2005, found in her study that IM usage of Man is more than woman and the man use more functionalities than woman within IM. In another study, Premkumar et al.(2008), showed that the woman use the IM to get more socialised.

On the other side, they are some studies which show that he effect off gender on usage of IM is getting smaller (Rainer R. K., 2003). However the number of studies is still limited.

Number of studies show that the gender effects the perceptions as well and shows that the visibility is more in woman. Ilie et al.(2005) had a research on

undergraduate students and shows that the visibility is more important for women and on the other hand the relative advantage is more important for man. In another study Premkumar et al.(2008), shows that the female have shown more interest on social outcomes of the IM

Age and IM Applications

Age can be accepted as an important parameter that can affect the usage of technology however, Morris and Venkatesh (2000) says that there are limited studies which are focus on the impact of the age for using technology.

3. METHOD

3.1. Method Used To Conduct the Evaluation

A survey was used to conduct this evaluation. A survey can be defined as a set of questions to which an individual is asked to respond to. Compared to methods like ethnography the data collected in surveys is not as in-depth but the strengths of surveys is the ease of collecting large amount of responses from a population with no geographical boundaries. It is also a great tool to generate statistical estimates and hypothesis.

Different types of surveys are actually composed of several research techniques, developed by a variety of disciplines. For instance, interview began as a tool primarily for psychologists and anthropologists, while sampling got its start in the field of agricultural economics (CAMPBELL, A. Angus &KATONA, George, 1953).

Survey research does not belong to any one field and it can be employed by almost any discipline. In HCI surveys are a useful tool to analyse user behaviour Surveys were our chosen because of its ease in collecting data from a big number of users at a relatively low cost. Surveys can be used to easily get a very big number of responses very quickly from respondents regardless of their location. Allowing us to getting very quick opinion about how individuals can interact with technology. Surveys are also very good for doing statistical analysis.

There is a very large sample of our target population, (over a billion). Random sampling was used to get a subset of the population. All the respondents were randomly selected.

To ensure that we had a fair amount of responses from different subsets of the user population of Im applications After defining the goal of the survey, what we did next was to develop the survey tool. We had to develop very well written, non-biased questions. We decided to use a combination of closed-ended with ordered response and open ended questions to get both qualitative and quantitative data

This was very useful in getting qualitative data and gave flexibility for the respondents to give unrestricted answers. We carefully worded this to allow the answers have some form of pattern that can be used for good data analysis

Combinations of the 2 types of closed questions were used in the survey. The first type has ordered response categories. "An ordered response is when a number of choices can be given, which have same logical order" (Dillman, 2000). In our Survey we used scales like "strongly agree to strongly disagree".

The other type of closed questions were with an unordered response, it allowed the user choose from the available options. This was most appropriate for collecting demographic information, gender and preferences. The users were in some questions given the choice to select more than one answer.

An online tool www.surveymonkey.com was used a tool to administer the survey

3.2. Design and Administration of the Method

Format of survey

The overall structure of the survey was then organised to ensure that there was a consistent flow to the survey and questions being asked.

The survey will be consisted of three pages in this format;

- The consent; explained why the survey was been done about objectives, data and risks about the survey and informed content for participant to take part information and allow user to make an agreement for the survey

- User instructions which made it very clear how the respondent was to interact with the survey
- The survey was separated into multiple headings allowing the users to understand what the question was trying to achieve before filling out the answers
- Navigation was provided to the users, using back and forward buttons allowing users to move from section to section

Topics perceived as relevant to elaboration of goals

The questions in the survey are divided into topics perceived as relevant to elaboration of goals. The topics can be clarified as benefits of IM, People influence of using IM, Personality, how often people use IM, satisfaction of users and people problems about IM. Also, nowadays there are different types of Instant Messengers and each of them has different properties as it is like that find out the Instant Messenger type that people use most is important to reach the goal of the research.

Survey questions

In the questionnaire there are different types of questions. Matrix Rating Typed Questions are used to survey the frequency of the like behaviour. The rating scale is in a consistent scale in order to make sense to order the rating of choices from low to high (e.g. Strongly Disagree to Strongly Agree going from left to right).The first 7 questions in IM questionnaire is in this type and the questions are grouped according to the topics in order to make the user easy to fill the survey and also make analysing the results easier.

Another question type is that Closed–Ended Types (Multiple Choice – One Answer).The questions between 8 and 12 are in this type. In these questions, the answers are selected to include all expected answers from that question. Choices are designed exclusive in order to make the participant to choose the best possible answer. Last two questions are text questions.

All the questions in the survey are required to answer except the last two questions. This two questions are not required cause people do not like to write texts in the surveys.

Results of pilot

The survey was piloted in person with 5 users before the eventual survey was published. The users were monitored in a controlled environment, where we measured how long it took the user to complete the survey (4 minutes on average); we then interviewed the participants on the questions to get feedback on what was unclear. This were the results of the pilot; the users preferred closed questions as it was a lot quicker, users didn't like the open ended question as some left the space blank. It was clear that the open ended questions where very unclear as the responses were not the answers that we needed. We then used this feedback also with feedback from the group members to revise the wording of the questions and use more closed questions

Form factor used to administer the method

Online survey was used to conduct our survey, this was chosen in preference to paper based surveys. The population of our targeted users are all over the world, using a paper based survey would have restricted us to only a geographical subset of the population thereby making the results biased. Online surveys solve that problem and allow users from different countries participate given us thereby giving us a better subset of the targeted population. Online surveys have faster delivery, ability to track results and are cost efficient

Online based surveys also allow for the responses be automatically saved in a database format, which eliminates the time consuming data entry. This ultimately leads to better data analysis.

How participants were recruited

Through the online tool a link to the survey was generated and we had to get users to fill out the survey through that link. The participants we used for the survey were recruited from a variety of sources. The link was posted on news groups and Facebook. Turkish people were randomly invited to fill out the survey by asking politely, majority of our eventual participants were targeted users who volunteered to take part by allowing us to send them the link via email and for them to complete

in their own time. After the recruitment efforts, we successfully gathered 24 respondents with the highest respondents from the emails sent out

Participant demographics

The population of interest for this study was Turkish and Turkish Cypriot users of IM applications.

According to mobilemarketingmagazine.co.uk the about of IM users is estimated at over 1.6billion. The targeted demographic was an age bracket of(14-60) who are 95% of the users, therefore we have limited the survey to this particular demographic and also limited the survey to only users of IM applications i.e. the results from people who don't satisfy that condition will not from part of the analysis

We collect the demographic information about our users to ensure that the responses represented a diverse, cross-section of the population.

Age

▽	14-19	%10,71
▼	20-29	%50,00
▽	30-59	%39,29
▽	more than 60	%0,00

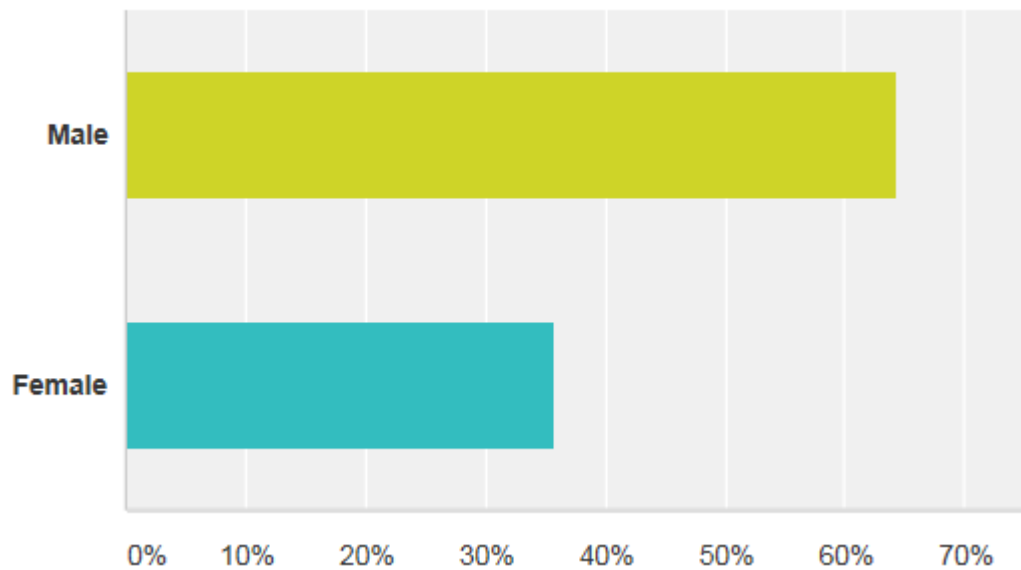**Figure 1: Age of participants**

Gender

Figure 2: Gender of participants

How informed consent was addressed—Privacy of Data

As part of the guidelines every participant who takes part in any study conducted as part of university study will have to agree to the university policy. A template which included the policy was made available to each participant at the start of the questionnaire and users were able to tick a box as well as including their name and date.

If users did not agree to the policy the survey was terminated and the results were ineligible. At the end of our survey all the users accept the terms and conditions

4. Results

This survey was made using www.surveymonkey.com and also this website was used to analysis the result along with Microsoft Word and Microsoft Excel to arrange the data and create graphs.

Survey starts with a simple question asking what IM application that participants mostly use, with the result show in Figure 3.
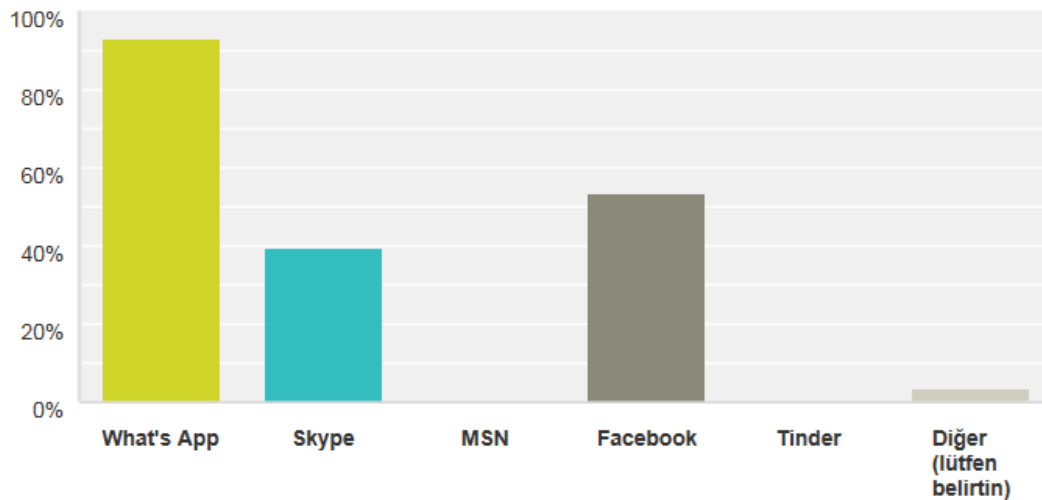

Figure 3: Usage of IM Applications

As can be seen from Figure 3, it can be said that what's App was mostly used by participants, followed by Facebook and Skype. The least used application is MSN talk. From the result it seems that participants seem to use an application that is on the main-stream. This question helps team to categorize what style of application that users use most.

The second question ask about how long participants using IM. This question aims to distinguish experience users from new users. The result is shown in Figure 4.

How Long Have you been using it ?

Yanıtlanan: 28   Atlanan: 0
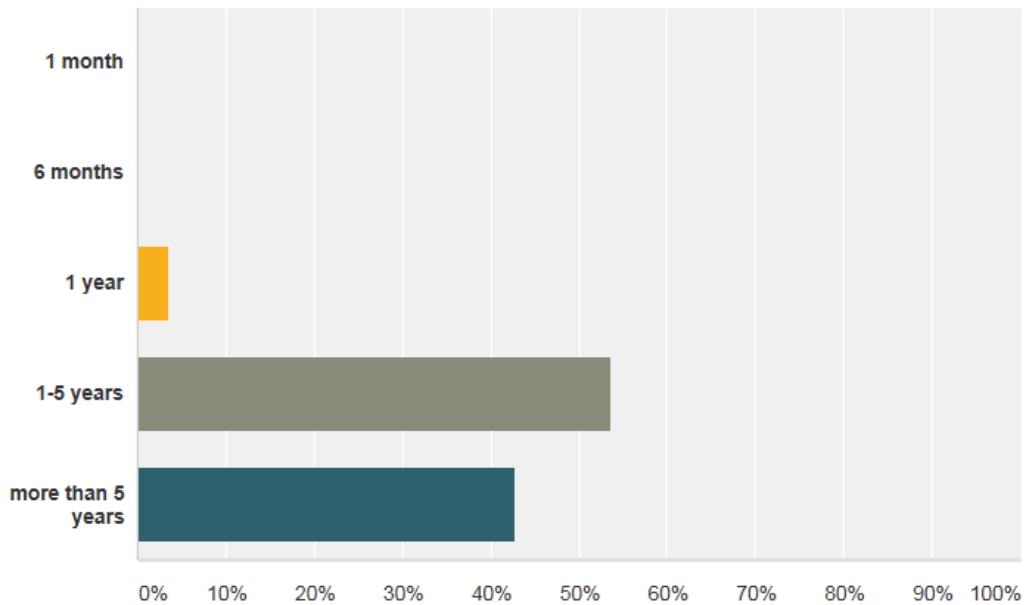
Figure 4: How long user use IM

From Figure 4, it seems most of participants are experience user which have an experience on IM more than between 1 to 5 years. This result helps team to know that responses that taken from this survey is mostly come from experienced user which will be helpful.

Question 3 asking about number of contacts that participants have on IM which aims to study about a collaboration that participants make over an IM application. The result is shown in Figure 3.

How many contacts do you have on your IM application ?

Yanıtlanan: 27   Atlanan: 1
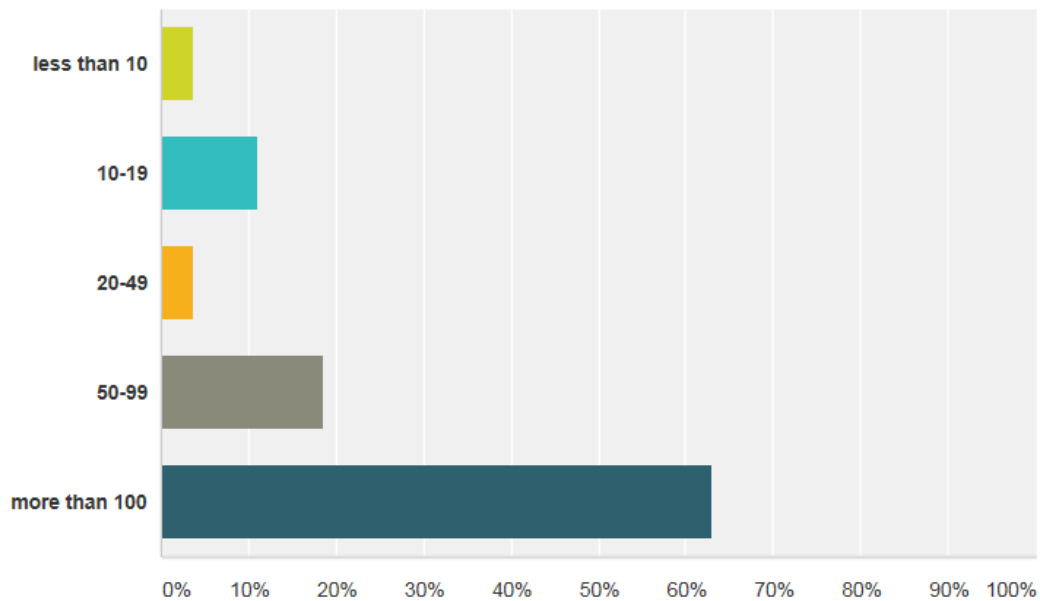
Figure 5 : Number of contacts

As Figure 5 shown, about 60% of participants have more than 100 contacts on their IM, which can be said that almost more than half of participants have a high collaboration activities through IM application. It is also worth noticing that there are a notable number of participants who have few contacts on their IM with 10% have only 10-19 contacts and about %15 users have less than 20 contacts.

Next question asking participants what benefits they think they can get from IM as the result is shown in Figure 6. This question is a key question to study a reason why uses think they should use IM.

	Strongly Agree	Agree	Neutral	Disagree	Strongly Disagree	Toplam	Ağırlıklı Ortalama
Reduce Cost	%53,57 15	%42,86 12	%0,00 0	%3,57 1	%0,00 0	28	1,54
Reduce Time	%59,26 16	%25,93 7	%11,11 3	%3,70 1	%0,00 0	27	1,59
More Function	%42,86 12	%57,14 16	%0,00 0	%0,00 0	%0,00 0	28	1,57
Convenience	%29,63 8	%62,96 17	%7,41 2	%0,00 0	%0,00 0	27	1,78
Don't require immediate feedback	%29,63 8	%29,63 8	%25,93 7	%11,11 3	%3,70 1	27	2,30

Figure 6 :Benefits of using IM

As shown on Figure 6, more than %90 on agrees, it can be said that most of the participants feel that using IM will help them safe money. Almost all of participants also agree that IM make them feel more convenient to make a contact. Participants also feel that they have more way to express their thinking by having a contact via IM. Benefits in reduce time to get on contact was recognized by most of participants. However, the benefit of reduce time was concerned by one participant which result of around 3% disagree.

The results of this question help us to know that reducing cost in conversation is the majority benefit that most of users think they got from using IM application.

The next question is about daily activities that effected by using IM of participants. This question aims to study the user's behaviour when they apply IM to their daily life; the result is shown in figure 7.

	Strongly Agree	Agree	Neutral	Disagree	Strongly Disagree	Toplam	Ağırlıklı Ortalama
IM Provide better way to contact	%39,29 11	%50,00 14	%10,71 3	%0,00 0	%0,00 0	28	1,71
IM cheaper for communciate	%51,85 14	%44,44 12	%0,00 0	%3,70 1	%0,00 0	27	1,56
IM increase productivity of work/ study	%48,15 13	%37,04 10	%14,81 4	%0,00 0	%0,00 0	27	1,67
IM reduce real conversation	%33,33 9	%40,74 11	%14,81 4	%7,41 2	%3,70 1	27	2,07
IM can replace face to face conversation	%25,93 7	%14,81 4	%22,22 6	%18,52 5	%18,52 5	27	2,89

Figure 7: Daily activities effected by IM

As shown on Figure 7, it seems that around 90% of participants agree that IM reduce their real conversation, it can be said that most of participants tend to reduce their real conversation and contact people by using IM instead. On the other hand, still more participants do not think that a whole face to face conversation can be replaced by IM, as shown from the result of about %37 disagree and 25.93%strongly agree and 14.81% agree on this question, it is worth saying that more than a quarter of all participants says that IM cannot replace face to face conversation.

The result of this question is also one of key factors that help to contrast the activities of user when they use IM compare to user's previous activities without IM and how IM fits into their activities.

The question about influence for using IM is shown in Figure 8, which ask about 5 characteristic of IM that attract participants. This question aims to study why user decided to use IM.

	Strongly Agree	Agree	Neutral	Disagree	Strongly Disagree	Toplam	Ağırlıklı Ortalama
IM make people keep in touch	%40,74 11	%55,56 15	%3,70 1	%0,00 0	%0,00 0	27	1,63
IM is easier to chat	%46,43 13	%46,43 13	%7,14 2	%0,00 0	%0,00 0	28	1,61
IM enhance work productivity	%40,74 11	%18,52 5	%37,04 10	%3,70 1	%0,00 0	27	2,04
IM provide cheaper way to contact	%37,04 10	%55,56 15	%3,70 1	%3,70 1	%0,00 0	27	1,74
IM provide easier way to flirting	%40,74 11	%37,04 10	%14,81 4	%7,41 2	%0,00 0	27	1,89

Figure 8 :Influence for using IM

From figure 6 can be said that the main reason why almost all of participants use IM is because IM provide cheaper way to contact (94% agree), followed by thinking of using IM make them contact with other people easier. Noticed that most of participants decided to use IM because it make them keep in touch with their friends who live far away. This result helps team to clarify the vital reason why people using IM.

Figure 9 represents the result of question in attractive of IM. This is a key question that aims to study what characteristic of IM that user mostly expect. The goal of this question is somehow related to previous question but on another perspective. The result is shown in Figure 9.

	Strongly Agree	Agree	Neutral	Disagree	Strongly Disagree
Richness of function in IM attract me	%42,86 12	%42,86 12	%10,71 3	%3,57 1	%0,00 0
IM with no error attract me	%22,22 6	%55,56 15	%14,81 4	%7,41 2	%0,00 0
Widespread of usage in IM attract me	%35,71 10	%53,57 15	%10,71 3	%0,00 0	%0,00 0
IM with easier procedure to chatting attract me	%44,44 12	%44,44 12	%11,11 3	%0,00 0	%0,00 0
Strong data security on IM make me feel safe and attract me	%40,74 11	%37,04 10	%18,52 5	%3,70 1	%0,00 0

Figure 9:Attractivity in IM

As shown on Figure 9, it can be said that most of user expect IM to provide them an easier way to make a contact. Most of participants consider both richness in function and widespread of use in IM to be a second characteristic of IM that attracting them. It is worth notice that most of participants did not care about technical function of IM such as error proneness and data security as a key factor that will attract them to using IM.

Gaining result from this question helps team to verify an attract characteristic of IM, which is help validate user expectation from IM.

Next question ask for the frequency of use in IM, which ask about 6 basic tasks in IM rate from frequently use to never use. This question aims to study the activities and routine of participant's habit on IM, which the result is shown in Figure 10.

	Frequently	Often	Sometimes	Rarely	Never	Toplam	Ağırlıklı Ortalama
Chatting	%62,96 17	% 33,33 9	%3,70 1	%0,00 0	%0,00 0	27	1,41
Share Pictures	%48,15 13	% 29,63 8	%18,52 5	%3,70 1	%0,00 0	27	1,78
Share Music	%14,81 4	% 25,93 7	%11,11 3	%40,74 11	%7,41 2	27	3,00
Share Document	%14,29 4	% 28,57 8	%32,14 9	%17,86 5	%7,14 2	28	2,75
Share videos	%7,41 2	% 22,22 6	%40,74 11	%18,52 5	%11,11 3	27	3,04
Video Conferencing	%11,11 3	% 18,52 5	%29,63 8	%18,52 5	%22,22 6	27	3,22

Figure 10 : Frequency use of functions on IM

From the result in Figure 10, there was no doubt to state that most activities that all participants ever use are to chat and share pictures, which has 0% on "never" response. To be emphasised, almost all of participants often use IM for chatting with only few amount of participants just do this activity sometimes. The interesting point is the result also indicates that IM is not likely to use for performing video conference compare to use for sharing information. This can be concluded that users tend to perform simple activities through IM rather than complex activities. This result helps to clarify the kind of activities that user done through an IM, also the frequency of each activities to be elucidated.

Next question is asking for satisfaction on IM while participants perform each activity through IM. Again, team take result of each function and combine them to be activities. The result is shown in Figure 11.

	Very Satisfied	Satisfied	Neutral	Disatisfied	Very Disatisfied	Toplam	Ağırlıklı Ortalama
Contact	%50,00 14	%42,86 12	%7,14 2	%0,00 0	%0,00 0	28	1,57
Share Music	%7,41 2	%55,56 15	%29,63 8	%3,70 1	%3,70 1	27	2,41
Share Pictures	%18,52 5	%55,56 15	%22,22 6	%3,70 1	%0,00 0	27	2,11
Share videos	%18,52 5	%44,44 12	%25,93 7	%7,41 2	%3,70 1	27	2,33
Video Conferencing	%22,22 6	%18,52 5	%48,15 13	%11,11 3	%0,00 0	27	2,48

Figure 11: Satisfaction on activities through IM

From result on Figure 11, it can obviously state that none of the participants dissatisfy with the way IM provide them to contact, since the result obtain 0% of dissatisfy. It seems that every user is happy as long as they can contact each other through IM application. The result also indicates that almost every user is satisfied in sharing information through an IM, follow by video conferencing. This result enhances previous question that users satisfy to perform less complex activities through an IM.

This question helps to clarify activities that user likely to perform through IM application and classify which activity that user thinks it suits their life while perform through IM.

Last question ask for problems participants have encountered during perform an activity through IM. This question aims to study an unexpected experience that user face during making contact through IM. The result of this question is shown in Figure 12.

	Frequently	Often	Sometimes	Rarely	Never	Toplam	Ağırlıklı Ortalama
Missing Messages	%0,00 0	% 11,11 3	%22,22 6	%59,26 16	%7,41 2	27	3,63
Delay Messages	%3,57 1	% 10,71 3	%32,14 9	%46,43 13	%7,14 2	28	3,43
Spam information	%3,70 1	% 14,81 4	%22,22 6	%55,56 15	%3,70 1	27	3,41
Security problems	%0,00 0	%7,14 2	%35,71 10	%50,00 14	%7,14 2	28	3,57
System crashes	%0,00 0	%0,00 0	%29,63 8	%55,56 15	%14,81 4	27	3,85
No Customer Support	%3,57 1	% 21,43 6	%28,57 8	%39,29 11	%7,14 2	28	3,25

Figure 12: Problems users most encounter

As shown in Figure 12, Problems that participant most often encounter while using IM is a delay of sent and received message and spamming message, which lack of customer support is the least encountered problem. This give an information that users mostly face the problem of sending and receiving message and also can be state that the problem that not affect main function of IM such as no customer support was not considered to be serious problem.

In conclusion, the remarkable point is peoples of age 30-59 do not think that face to face conversation can replace by IM. The result might be this group of people are familiar to a real face to face conversation and think that new technology is not capable to a conversation in traditional way. Another interesting point is that there is not any gaps between male and female users and can say that   the gender gap on usage of technology is very small.

5. Implications for Design

Some key issues that emerged as the technological implications of our surveys should be considered for the (re)design of the IM application. That implication for design can be elaborated specifically by analysing the common problems, functionality, integration and interoperability.

Common problems and potential solutions

Based on the surveys result in Q7, only 7.41% respondents in average never encountered six detailed problems that we identified and asked to them. This means that IM application should be improved in some parts to minimise the same trouble repeatedly. Furthermore, those six problems can be categorised into two major problems: quality of services (missing messages, delay messages and no customer supports) and system robustness (system crashes, security problems and spam information).

Quality of services (QoS)

The core service of the IM is to deliver messages timely and conveniently. Therefore, to avoid the problem in missing and delay messages IM application should increase its reliability to reach maximum QoS. This should be in conformity with enhancing the availability of its customer supports.

System robustness

System crashes and security problems that often occur can be minimised by upgrading its software patch and security system. Moreover, to protect users from being flooded by spam information IM must redesign its filtering system.

Improvement to current functionality

Q6 describes the respondents' satisfaction with the current IM functionality such as chatting, share pictures, share music, share documents, share videos and video conferencing. Generally, from their answer they tend to meet up with the common functionality of IM application. However, there are small number of respondents who dissatisfied with sharing music and video feature both in sharing and conferencing. Those three functionalities usually involve high size of files, so it means these functionalities need enough bandwidth to support their operation. By this

dissatisfaction, IM application should pay more attention to improve its bandwidth allocation when it handles this function.

New functionality

Resuming respondents' answer from open ended question (Q13) about what extra features they would like IM services to provide that they currently do not, we could propose the possibilities to add some new functionality like below:

- Provide video chat between a certain groups of people, for example four people could see each other through a video chat.
- Provide chat logs which group in to month and year similar to MSN on computer.
- Have personal space that the users could update their information, or picture.
- Provide a mute or offline option so we can appear inactive sometimes.

Integration and interoperability

IM applications generally should have integration and interoperability with other software which these capabilities come up with respondents' desire that expressed clearly in Q13 and Q14 as resume below:

- IM should have ability to do remote access and share desktop even if in conference.
- IM could send messages across different applications.
- IM should have a feature that can full all information from all IM application and store together at the same place (on user's PC). For example, user could upload picture on Facebook, update MSN status, then automatically full their Facebook picture and MSN status, and fill in diary of the day for them.

6. Conclusion

The limitation of this study is the small sample size and all the users are Turkish. Study shows that Turkish people are using Instant messenger to contact each other and they are happy with chatting functionality of IM and shows that the gender is

not a parameter that effects the usage of IM where the age is have an impact on the usage. It is clear that the functionalities that need high technology need to be improved within the IM

Technically, respondents tend to have expectation that all IM applications should have same feature so they could interoperability each other. Therefore, this considerable study should have big implication in redesigning IM applications.

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