TECHNOLOGY ACCEPTANCE: PERCEPTION OF PEOPLE TOWARDS GOOGLE PLUS

Kamaldeep Kaur* Abha Grover**
* New Delhi Institution of Management, Okhla
Email id:kamaldeepkaurkalsi@gmail.com
**New Delhi Institution of Management, Okhla
Email id:groverabha@yahoo.co.in

ABSTRACT

Recently there has been a tremendous increase in the users of social networking sites. One example of this revolution is the launch of Google plus. Google called its new social networking Google + on 28th June as a new tool to bring the fine distinction and affluence of real-life sharing to software. This paper illuminates some preliminary findings from an ongoing study about Google plus technology Acceptance Model is used in the paper to study the usage and acceptance behaviors, with emphasis laid on studying Perceived Usefulness, Perceived Ease of Use, and user's attitude.

The comprehensive study is based on varying perception and preference of people towards Google plus .A sampling size of 100 respondents was chosen. The sampling unit consists of people from the age group of 18 to 55 years. The technique adopted for sampling was stratified random sampling. The different strata collected for the same included people from all age groups, different occupational background and social class. The data collected was primary in nature and a field survey was conducted through a structured questionnaire. The study was carried out in South Delhi .the survey was carried out through Personal interviews and Email and internet surveys which are useful in getting in-depth and comprehensive information. The study includes the perception of people about various Google plus features like hangouts, sparks, circles etc.

Keywords: *Google plus, TAM (technology acceptance model), perceived usefulness, perceived ease of use, attitude.*

TECHNOLOGY

The term "Technology" is derived from the Greek word "Technologia" where "techne" means "craft" and "logia" means the "study of something". Technology acceptance is an ongoing process which gradually leads to enabling tentative users to effectively approve and employ technology. It has no definitive boundaries and spreads around continuously at all possible times .Technology has become faster, smaller and ever more affordable through time. As technology has developed throughout the years, it has greatly affected society and the way we live in many aspects from everyday activities. There is no uniform pattern at which technology is adopted, due to the remarkable unevenness in types of technology and situation under which people adopt them. The attitudes towards technology and level of skills, bears an impact on technology acceptance., innovators at one end of the continuum who will master even the most complicated technology and laggard and non adopters at the other end.

The technology adoption as a 5 step process:

- Awareness – prospective users discover adequate information concerning the technology and its payback to come to a decision whether they want to scrutinize further
- Assessment – prospective users assess the efficacy and usability of the technology, and the ease or difficulty of adopting

- Acceptance – prospective users choose to attain and use the technology, or decide not to adopt
- Learning – users widen the skills and information required to use the technology effectively
- Usage – users reveal apt and efficient use of the technology
- The Technology Acceptance Model

TECHNOLOGY ACCEPTANCE MODEL (TAM)

The Technology Acceptance Model (TAM) is used to elucidate computer-usage performance. The objective of TAM is to offer a justification of the determinants of computer acceptance transversely an extensive range of end-user computing technologies and user populations. According to the model, the factors affecting acceptance of any technology include:

- Perceived Usefulness
- Perceived Ease of Use
- User's attitude
- Behavioral intentions
- Actual computer usage behavior.

Perceived usefulness is the increase in performance of the user after using that technology. Perceived ease of use refers to the amount to which the user anticipates the end system to be free of effort. Both the above factors predict attitude toward using the system, defined as the user's desirability of his or her using the system. Attitude and perceived usefulness affect the individual's behavioral intention to make use of the system.

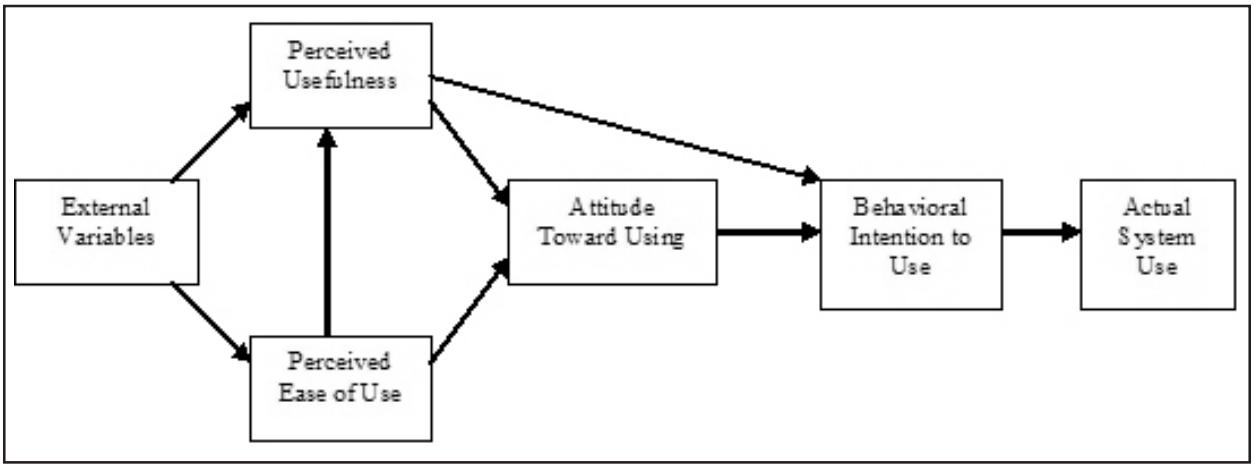

Figure 1: Technology Acceptance Model [Source: Park, N., Lee, K. M., & Cheong, P. H. (2007). University instructors' acceptance of electronic courseware: An application of the technology acceptance model. Journal of Computer-Mediated Communication, 13(1), article 9. http://jcmc.indiana.edu/vol13/issue1/park.html]

GOOGLE PLUS

Google plus is Google's newest endeavor to gain footing in the social networking world. Google Plus is very effortless to use and has a short learning curve. The new social networking site has many interesting features as well. Google called its new social networking Google plus on 28th June as a new tool to bring the nuance and richness of real-life sharing to software. The California-based company said it wants to make Google better by including user, their relationships and interests. The major grumble among users up

to this position was the helplessness to invite anyone new to the service, beyond an initial 10 or 15 people. Google recently altered that policy, giving all accessible users a presently unknown number of new invites. They warn that these invitations are not unlimited, however.

Today, the connections between people increasingly happen online. Yet the subtlety and substance of real-world interactions are lost in the rigidness of our online tools. In this basic, human way, online sharing is awkward. Even broken and we aim to fix it," Google said in its blog.

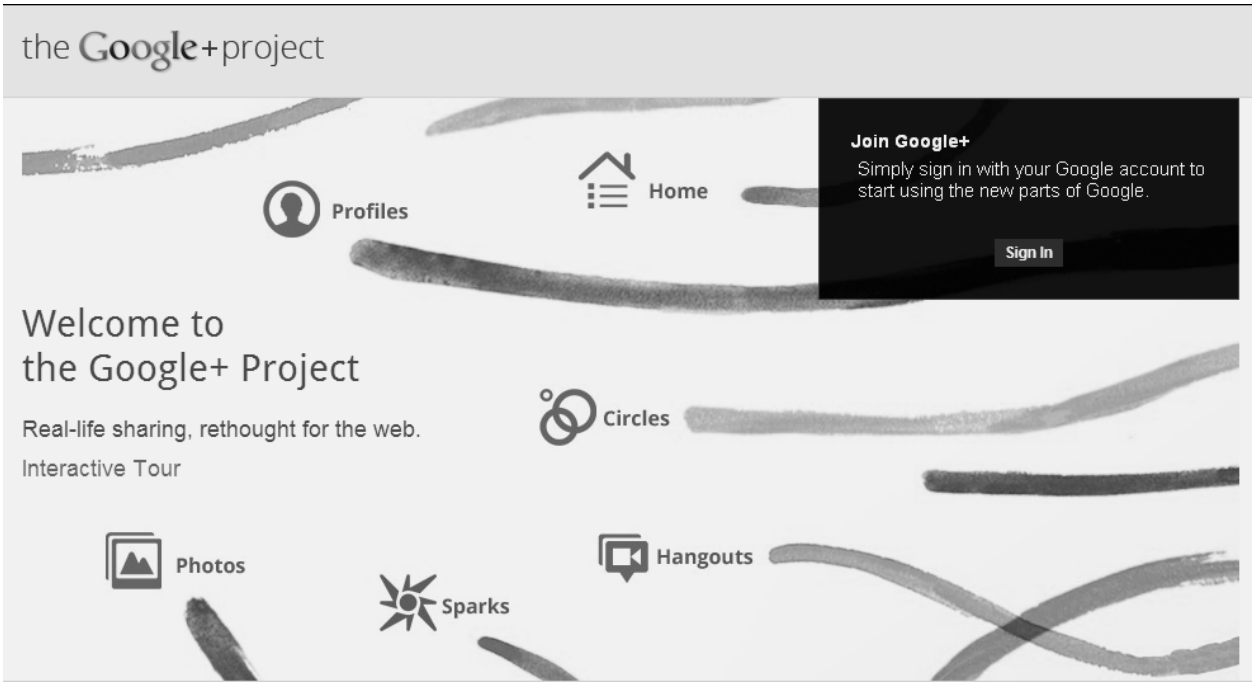

Image 1: Google plus interface

Circles: Google has come up with the concept of circles — you can create a circle of contacts that are family, friends, work friends, former co-workers and so on. With these groups or circles you can define who gets to see what kind of updates.

Hangout: This seems to be the USP of Google + effort. It is basically group video chat. By clicking on the Hangout button and sending them a notification, the members could be invited.

Instant Uploads: It is a new approach to mobile photos & videos. Photos can be shared via Google+ to specific "circles

Huddle: This is a mobile group-chat service.

Sparks – sparks is a feature used to gather and enjoy content based on your interests and likes. Sparks collects the content based on what you're interested in, so that you always have a steady stream of content to enjoy and share.

Missing Features of Google Plus

The field trial of Google plus seems popular but there are some features that are missing, how so ever following improvisations Google plus should make:

Mute option

The one feature Google plus lacks is to mute a person from the Stream. Individual posts can be muted from the Stream, not a person. This

is desirable to be connected to interesting people but not the undesirable monopolize the Stream.

Display Listing Of +1 Items

There's no way to see a list of the things which have been clicked +1. The items from Google+ itself need to be added to this list. Therefore one feature that needs to add is the list of +1 item.

Put in additional applications to mobile

Google could deliver the mobile Google+ experience a lot better by adding key functionality — e.g. the ability to +1 a comment, the ability to join a hangout, the ability to easily flip between the big stream and circle streams, etc. While they're at it, Google should add more core functionality to its HTML app as well. That would be a great way to drive more participation and get a jump on Facebook, which still doesn't have a great mobile experience.

Extended services of Google plus

A Gmail address is a prerequisite to have a Google + account. At the moment it does not work for the Google Apps domains, which are business accounts where the company is using a corporate version of Gmail, Google Calendar, Google Docs, and other Google web apps. Google+ should extend its services beyond and benefit potential users.

Incorporate private messaging

One of the issues Google+ is missing is its ability to send a private message to a mutual contact. Google needs to incorporate this as one of its key functions.

Avoid falsification of accounts

Google should take adequate measures to verify the accounts so that fake people are not impersonating celebrities.

User interaction list

Google should add the ability to go to a user's profile page and view all of that person's interactions with himself and their +1s and comments on your posts, as well as your +1s and comments on their posts.It would help in creation of circles as well as placing them in various circles.

DESIGN OF THE STUDY

The present research is Descriptive in nature. **Descriptive research** elucidates data and characteristics about the **population** or phenomenon being studied. Descriptive research answers the questions *who*, *what*, *where*, *when* and *how*. Descriptive research is concerned with the present and attempts to determine the status of the phenomena under investigation. Descriptive researchers are oriented towards the description of the present status of a given phenomena. Descriptive research aims to examine the relationships of traits and characteristics.

METHODOLOGY

The present study shall employ the in-depth analysis of the data collected through questionnaires.

TOOLS FOR DATA COLLECTION

The data gathering devices were constructed by the researcher herself. The following data gathering devices were used.

1. Review of literature
2. Personal Interview
3. Questionnaire

TOOLS FOR DATA ANALYSIS

SPSS has been used for data analysis. Frequencies, range, mean and mode has been

calculated for all the variables. *Chi square test* has also been used to decide whether there is any difference between the observed (experimental) value and the expected (theoretical) value.

DATA ANALYSIS AND INTERPRETATION

Data interpretation has been divided into various sections .Table 1 includes the demographics (gender, age, profession) of the respondents. The table indicates that 60% of the respondents were females, while 40% were males. Majority of people (42%) were from the age group of 21-35, 29% of respondents were below 20 and the remaining % were from the age group of 36-55.majority of the respondents were students. Respondents from corporate as well academic background were also chosen for the survey.

Table 1: Demographic profile of the respondents

Gender

	Gender	Frequency	Percent	Valid Percent	Cumulative Percent
Valid	**1 (male)**	40	40.0	40.0	40.0
	2 (female)	60	60.0	60.0	100.0
	Total	100	100.0	100.0	

Age

	Age	Frequency	Percent	Valid Percent	Cumulative Percent
Valid	1 (below 20)	29	29.0	29.0	29.0
	2 (21-35)	42	42.0	42.0	71.0
	3 (36-55)	29	29.0	29.0	100.0
	Total	100	100.0	100.0	

Profession

	profession	Frequency	Percent	Valid Percent	Cumulative Percent
Valid	**1 (academician)**	29	29.0	29.0	29.0
	2 (student)	42	42.0	42.0	71.0
	3 (corporate)	29	29.0	29.0	100.0
	Total	100	100.0	100.0	

From the data collected it was observed that 49% of the total population consisting of academicians, students and corporate had their Google plus account. [Table 2]

Table 2: people having Google plus account

Google + account					
		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	1 (yes)	49	49.0	49.0	49.0
	2(no)	51	51.0	51.0	100.0
	Total	100	100.0	100.0	

Using SPSS it was observed that 43% of total population found that Google plus was highly useful and were highly satisfied, while 33% were satisfied .on the contrary around 24 % was dissatisfied [table 3].

Table 3: Perceived usefulness of Google plus

	Usefulness	Percent	Cumulative Percent
Valid	1 (Google plus is highly useful)	43.0	43.0
	2 (Google plus is useful)	33.0	76.0
	3 (not useful)	24.0	100.0
	Total	100.0	

Table 4 indicates other factors affecting perceived usefulness and their frequencies. Various factors that influence the perceived usefulness of Google plus include privacy, integrity of communication, content organization, spark, hangouts and notifications.

Table 4 : Other factors influencing the perceived usefulness with the frequencies

S.No	Factor	%
1	Google plus provides high privacy	81.0
2	Google plus provides integrity of communication	76
3	Content organization (circles) is highly satisfactory in Google plus	68
4	Sparks feature of Google plus is very useful	56
5	Hangouts feature of Google plus is very useful	86
6	Notifications feature of Google plus is very useful	79

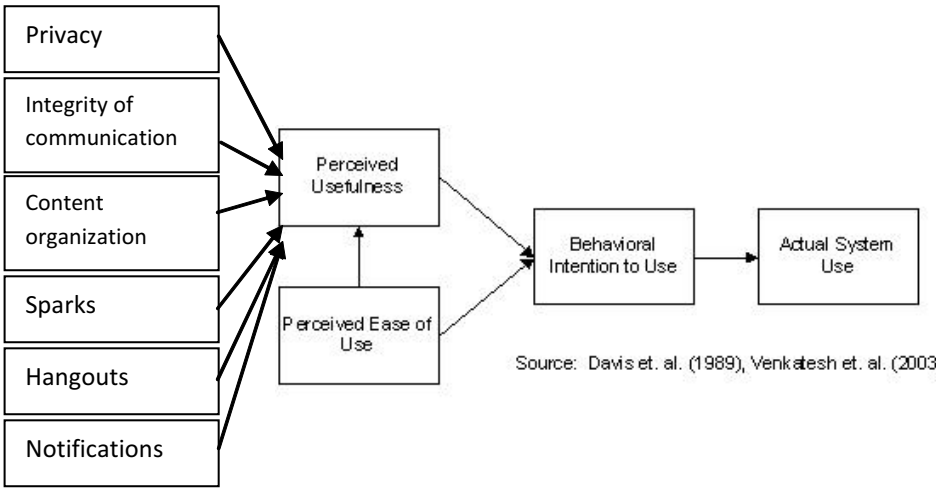

Figure 2: model representing the technology acceptance of Google plus

Data analysis revealed that 44% of the sample finds Google plus easy to learn, 29% feel that it would take some time to adapt; on the other hand 27% feel it is difficult to learn. [Table 5]

Table 5: perceived ease of use of Google plus

	Ease of use	Percent	Cumulative Percent
Valid	1 (easy to learn)	44.0	44.0
	2 (time consuming yet adaptable)	29.0	73.0
	3 (difficult to learn)	27.0	100.0
	Total	100.0	

Data analysis showed that there is urgent requirement of private messaging, followed by account verification and listing of interaction. Further Google needs to look into its share and re share feature, listing of +1 items and muting from stream in the order of preference of the users.

Table 6: frequency of various factors required in Google plus

S.No	Desirability of features in Google plus	%
1	Private messaging	92
2	Account verification	85
3	Listing of interaction	83
4	share and reshare	78
5	listing of +1 items	77
6	muting from stream	71

Table 7: Chi Square test table for the estimation of relationship between age and perceived usefulness

Age * perceived usefulness Cross tabulation						
			perceived usefulness			Total
			1 (Google plus is highly useful)	2 (Google plus is useful)	3 (not useful)	
age	1 (below 20)	Count	16	6	7	29
		% within perceived usefulness	37.2%	18.2%	29.2%	29.0%
	2 (21-35)	Count	18	14	10	42
		% within perceived usefulness	41.9%	42.4%	41.7%	42.0%
	3 (35-55)	Count	9	13	7	29
		% within perceived usefulness	20.9%	39.4%	29.2%	29.0%
Total		Count	43	33	24	100
		% within perceived usefulness	100.0%	100.0%	100.0%	100.0%

Hypothesis formulated for the study:

H0: The perception of people of different age groups regarding usefulness of Google plus does not vary significantly.

H1: The perception of people of different age groups regarding usefulness of Google plus vary significantly.

Table 8: Chi – square table

Chi-Square Tests			
	Value	df	Asymp. Sig. (2-sided)
Pearson Chi-Square	4.529[a]	4	.339
Likelihood Ratio	4.631	4	.327
Linear-by-Linear Association	1.319	1	.251
N of Valid Cases	100		
a. 0 cells (.0%) have expected count less than 5. The minimum expected count is 6.96.			

Source: Through SPSS 14.0

The hypothesis was tested using chi square test and the calculated value was 4.529, these results indicate that there is statistically no significant relationship between the type of age and perceived usefulness (chi-square with 4 degree of freedom = 4.529, p = 0.339).

Hypothesis formulated for the study:

H0: The perception of people of different age groups regarding ease of use of Google plus does not vary significantly.

H1: The perception of people of different age groups regarding ease of use of Google plus vary significantly.

Table 9: Chi – square table for the estimation of relationship between age and perceived ease of use

age * perceived ease of use Cross tabulation						
			perceived ease of use			Total
			1 (easy to learn)	2 (time consuming yet adaptable)	3 (difficult to learn)	
age	1 (below 20)	Count	9	10	10	29
		% within perceived ease of use	31.0%	22.7%	37.0%	29.0%
	2 (21-35)	Count	7	23	12	42
		% within perceived ease of use	24.1%	52.3%	44.4%	42.0%
	3 (36-55)	Count	13	11	5	29
		% within perceived ease of use	44.8%	25.0%	18.5%	29.0%
Total		Count	29	44	27	100
		% within perceived ease of use	100.0%	100.0%	100.0%	100.0%

Table 10: Chi – square table

Chi-Square Tests			
	Value	df	Asymp. Sig. (2-sided)
Pearson Chi-Square	8.357[a]	4	.079
Likelihood Ratio	8.480	4	.075
Linear-by-Linear Association	2.471	1	.116
N of Valid Cases	100		
a. 0 cells (.0%) have expected count less than 5. The minimum expected count is 7.83.			

Source: Through SPSS 14.0

The hypothesis was tested using chi square test and the calculated value was 8.357, the data interpretation also reveals that there is no statistically significant relationship between the type of age and perceived ease of use (chi-square with 4 degree of freedom = 4.529, p = 0.339).

CONCLUSION

The study conducted on Google plus for south Delhi reflects the high degree of acceptance by potential users. Hangouts seems to the most demanding feature so far followed by circles. The integrity of communication makes it a desirable option for acceptance. At the same time Google plus needs to ponder on features like private messaging, account verification and listing of interactions. The findings also reveal that there is no significant difference in age and perceived use, age and perceived ease of use.

REFERENCES

Online

[1] IInge M. Klloppiing, Eaarll McKiinneyy," Extending the Technology Acceptance

Model And the Task-Technology Fit Model to Consumer E-Commerce", [Online]. Available: http://www.brint.org/technologyacceptance.pdf

[2] Yogesh Malhotra, Dennis F. Galletta Extending the Technology Acceptance Model to Account for Social Influence: Theoretical Bases and Empirical Validation," [Online]. Available: http://www.brint.org/technologyacceptance.pdf

Website

[3] [Online] Available: https://plus.google.com/

[4] [Online] Available: http://www.google.com/+/demo/