Measuring the Effect of **Culture** on Usage of **Encrypted** Communication in India

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Introduction

- Considered Instant Messaging as the mode for encrypted communication

- Effect of culture can be measured through the social influence variable on user acceptance

Research Questions

1. What is the <u>relative impact</u> of social influence compared to others on the usage of encrypted communication systems?

2. Is the impact of social influence on the usage of encrypted communication systems correlated to the <u>different variables of</u> <u>culture</u>?

Study Design

- Consists of 3 variables

1. Social Influence

2. Individualism-Collectivism

3. Uncertainty Avoidance

- Find correlation between at least 2 variables by data analysis

- Conducting the survey on students at IITs, and their parents

(to have a heterogeneous blend of different cultural backgrounds & ages)

- Survey circulation via email and through outreach from college

  groups and notice-boards to target a larger audience.

Recruitment Process

- Representatives from multiple demographic and social backgrounds to ensure sufficient variance in the dimensions of culture.

- Based on social and cultural differences, and previous study results we wish to recruit students from IITs and their parents for the survey, short-listing a sample space of around 50 individuals.

- For the initial pilot run to check the integrity of the survey, current plans are to test the survey on the authors' network circle.

UTAUT Model

4 Pillars of UTAUT – Unified Theory of Acceptance and Use of Technology

1. Effort Expectancy – Perceived Usefulness

2. Performance expectancy – Perceived ease of use

3. Social Influence – Subjective Norm

4. Facilitating conditions influence – Behavioural Control

Survey Questions for UTAUT

Facilitating Conditions :

1. At what age did you start using the messaging app?

2. Do you use WhatsApp or FB Messenger as your primary messaging platform?

3. Do most of your close friends and family use the same messaging platform as you?

Social Influence :

1. Which of WhatsApp and FB Messenger do you prefer using while chatting with family and other relatives ?

2. Which of WhatsApp and FB Messenger do you prefer using while chatting with friends ?

3. Which of WhatsApp and FB Messenger do you prefer using for professional conversations?

4. Which app would you prefer using for chatting with a person of the opposite sex?

Survey Questions for UTAUT

Effort Expectancy :

1. Do you find it easier to use messenger than WhatsApp?

2. Do you trust WhatsApp more than FB Messenger ?

3. Do you find FB Messenger to be safer than WhatsApp ?

Performance Expectancy :

1. How scared are you about the privacy of your chat messages?

2. Do you care about the privacy of your chat messages?

3. Are you aware that the unencrypted chats can be read and used by anyone ?

4. If we tell you that FB is constantly reading your personal chats on messenger, would you still use it as much?

Measuring Culture

Target Region = INDIA

Demographics = CROSS – CULTURAL Research principles

Hofstede's 5 – dimensional framework

1. Power Distance

2. Uncertainty Avoidance

3. Individualism – Collectivism

4. Masculinity – Femineity

5. Time Orientation

How to measure cultural parameters?

- ~~Face – to – Face interviews~~

- ~~Pen & Paper report~~ (Essay writing)

- Self – Report questionnaires

  - ~~Rankings~~

  - ~~Scenarios~~

  - Ratings

    - ✓ Likert Scales (5 pointer)

    - ✓ Agreement with a certain set of statements

    - ✓ Importance of each value

Error possibilities

- Extreme response bias: Systematic tendency to over express agreement or disagreement by choosing anchors towards the ends

- Acquiescence bias: promptness to agreement

Solutions

1. Consider both ends while framing questions.

2. Set weights for questions in each parameter

Power Distance

Measures

- Accepted Inequality
- Hierarchical Preference

People tending to maximize Power Distance would agree:

1. Employees should not talk to their bosses about personal matters
2. Power and wealth are evil

People tending to minimize Power Distance would agree:

1. It is all right for employees to disagree openly with their bosses.
2. It is important for me to be able to work independently.

Uncertainty Avoidance

Measures

- Risk avoidance
- Ambiguity avoidance

Low-risk-takers would agree:

1. A manager must be an expert in the field in which he or she manages.

2. Rules and regulations are important and its customary to abide by them.

Risk-takers would agree:

1. Change in my life is important to me.

2. It is important to be flexible during negotiations

Individualism – Collectivism

Measures

- Teamwork and loyalty
- Self-perception

- Personal independence & Family integration

Individuals would agree:

1. When children become 21 years of age, they should be encouraged to move away from home.

2. If an individual thinks of a different way to perform a task, that person should be encouraged to do it that way, even if there is a chance of failure visible in that way.

Risk-takers would agree:

1. I would always cooperate to keep group harmony.

2. It is important that people conform to the group's norms to reach goals.

Masculinity – Femineity

Measures

- Assertiveness
- Confrontation avoidance
- Competitiveness

Masculine perspective would agree:

1. It is very important for me to receive recognition for my work.

2. The most important things to my career are a good salary and a job that I do well and like.

Feminine perspective would agree :

1. My job is only one of many parts of my life.

2. It is important to finish one interaction before rushing off to another.

Time Orientation

Measures

- Tradition
- Decision-making approach

Short – term perspective would agree:

1. I have the approach of "Taking one step at a time"

Long – term perspective would disagree :

1. Short Term goals collectively align your interests and careers more effectively than long term goals.

Hypotheses

1. Social influence has the highest impact on the usage of encrypted communication when compared to effort expectancy, performance expectancy, facilitating conditions' influence.

2. There exists a very high correlation between Social influence on the usage of encrypted communication and the cultural dimension of Individualism-Collectivism, where collectivistic people stipulate strong social influence.

3. Measure of Uncertainty avoidance is directly proportional to the usage of encrypted communication.

Future Works

- Pilot the survey on 3 to 4 participants

- Modify the survey questions based on the feedback from participants

- Deploy the survey

- Analyse via Quantitative Analysis