

EFFECTIVE FREQUENCY IN ADVERTISING: INFLUENCE OF NUMBER OF  
EXPOSURES OF ADVERTISEMENT MESSAGE ON ADVERTISING EFFECTIVENESS  
THROUGH COGNITION AND AFFECT

A Research Dissertation submitted to  
Kathmandu University School of Management  
in partial fulfillment of the requirements for the  
Degree of Master of Philosophy (MPhil) in Management

Amod Niroula

KU Registration Number: 009212-00

Kathmandu, Nepal

September, 2020

© Copyright Amod Niroula, 2020

September, 2020

## DECLARATION

I hereby declare that this research work entitled *Effective frequency in advertising: influence of number of exposures of advertisement message on advertising effectiveness through cognition and affect* embodies the result of an original research work I carried out in partial fulfillment of the requirements for the degree of Master of Philosophy (MPhil) in Management of the Kathmandu University and that this report has not been submitted for any other purpose.



.....  
Amod Niroula

September, 2020

## RECOMMENDATION

This is to certify that *Amod Niroula* has completed his dissertation work on *Effective frequency in advertising: influence of number of exposures of advertisement message on advertising effectiveness through cognition and affect* under my supervision and that his dissertation embodies the result of his investigation conducted during the period he worked as an MPhil candidate of the School of Management. The dissertation is of the standard expected of a candidate for the degree of MPhil in Management and has been prepared in the prescribed format of the School of Management. The dissertation is forwarded for evaluation.

### **Dissertation Advisory Committee**

Prof. Dr. Binod Krishna Shrestha

September, 2020



### APPROVAL

We have conducted the viva-voce examination of the dissertation *Effective frequency in advertising: influence of number of exposures of advertisement message on advertising effectiveness through cognition and affect* submitted by Amod Niroula and found the dissertation to be original work of the candidate and written according to the prescribed format of the School of Management. We approve the dissertation as the partial fulfilment of the requirements for the degree of Master of Philosophy (MPhil) in Management.

#### Evaluation Committee

- |                                     |                            |  |
|-------------------------------------|----------------------------|--|
| 1. Prof. Dr. Bijay K.C.             | Chair, Research Committee  |  |
| 2. Prof. Dr. Devi Prasad Bedari     | Member, Research Committee |  |
| 3. Prof. Dr. Binod Krishna Shrestha | Member, Research Committee |  |
| 4. Prof. Dr. Achyut Wagle           | Member, Research Committee |  |
| 5. Prof. Dr. Arhan Sthapit          | External Examiner          |  |

October, 2020

## ACKNOWLEDGEMENTS

I would like to express my sincere gratitude to Prof. Dr. Binod Krishna Shrestha of Kathmandu University School of Management for the continuous support, advice, guidance, encouragement and support throughout the Research.

This study has helped me to explore my potential and enhance my capabilities. I, here, would like to give special thanks to Prof. Dr. Bijay K.C., Prof. Dr. Devi Prasad Bedari and Hari Gopal Risal for their continuous encouragement in addition to their insightful guidance in my study throughout my study period.

My heartfelt thanks to Mr. Tenzing Samdup (Director at ACT Three Sixty Pvt Ltd.), Mr. Rajeem Shrestha (Graphics Designer, ACT Three Sixty Pvt. Ltd.) for their help to design and run the advertisement. Special mention also goes to my sister Ms. Ashika Sharma for helping with the coding of the variables.

I would also like to thank my colleagues especially Mr. Tank Neupane and Mr. Brijendra Kayastha who have continuously given precious inputs and feedback to make this work better. A special thank you goes out to my family support system – Mr. Bodh Raj Niroula (Father), Mrs. Bijaya Niroula (Mother) and Mrs. Prakriti Bhattarai (Wife) who have always given me confidence and made sure that my deadlines are met.

Lastly, I am forever indebted to all the volunteers of the experiment without whose enthusiastic participation this study would not have been possible.

Amod Niroula

September, 2020

## ABSTRACT

Advertising has always been a vital part of any marketing program. A good advertising program needs to get three core decisions right – the content of the message, the channel used for the communication and the frequency of the advertising message. The ideal frequency of Advertising message in print and traditional media has been studied extensively and a rule of thumb of three exposures for an advertising message has been a rule of thumb in the industry.

In this context, modern communication channels, in one hand, offer a much more engaging platforms, they also suffer from the lack of attention from the users. Hence, it is important to revisit the effective frequency for advertising messages on online platforms, specifically in modern messaging platforms. This study sets up an experiment to validate the models used for advertising information processing and in the process also establish the effective frequency of advertising messages in WhatsApp messaging platform.

Using a sample of 349 data points received from 54 volunteers, the experimental study was able to validate the advertising information processing model in WhatsApp messaging platform. The study also showed that the advertising campaign is most effective after 9-10 exposures of the advertisement in the platform. It was also found that Attitude towards Ad mediates the relationship between Ad Recall (cognition) and Attitude toward Brand (Affect) and Attitude toward Brand in turn mediates the relationship between Attitude towards Ad and Purchase Intention.

*Keywords:* effective frequency of advertisement, information processing model, two-factor theory, experimental research, WhatsApp.

## TABLE OF CONTENTS

ACKNOWLEDGEMENTS.....	I
ABSTRACT.....	II
TABLE OF CONTENTS.....	III
LIST OF TABLES.....	V
LIST OF FIGURES.....	VII
CHAPTER 1 INTRODUCTION.....	1
Problem Statement.....	3
Significance of the Study.....	6
Research Objectives.....	7
Research Question.....	8
Organization of the Study.....	8
CHAPTER 2 THEORETICAL FRAMEWORK.....	10
Elaboration Likelihood Model.....	10
Hierarchy Effects Model.....	12
Information Processing Model.....	13
The Two Factor Theory (Wear In and Wear Out).....	15
The Effective Frequency.....	16
Effective Frequency and Online Advertisement in Nepal.....	20
Conceptual Framework.....	21
Research Hypothesis.....	23
CHAPTER 3 RESEARCH METHODOLOGY.....	25
Research Approach.....	25

Research Design.....	26
Experiment Design.....	26
Variables of the study .....	33
Data Collection .....	34
Sampling Design.....	34
Data Analysis.....	40
<b>CHAPTER 4 RESULTS.....</b>	<b>41</b>
Total Samples used in Analysis.....	44
Internal Consistency Analysis.....	46
ANOVA Test.....	47
Regression Tests .....	53
Tests for mediation effects.....	57
Curve Fitting Analysis .....	58
Curve Fitting between Exposure and Ad Recall.....	59
Results of Hypothesis Tests.....	64
<b>CHAPTER 5 SUMMARY, DISCUSSION AND IMPLICATIONS .....</b>	<b>67</b>
Summary of the Findings.....	67
Discussions .....	70
Implications.....	73
<i>Theoretical Implication and contribution.....</i>	<i>74</i>
<i>Managerial Implication.....</i>	<i>75</i>
Limitations and further Research.....	76
<b>REFERENCES .....</b>	<b>79</b>
<b>ANNEX.....</b>	<b>1</b>

## LIST OF TABLES

Table 3.1 Number of initial volunteer signups and possible data points .....	35
Table 3.2 Coding Criteria for Ad Recall Computation.....	38
Table 3.3 Original Sources of Measurement .....	39
Table 4.1 Education Level of Volunteers .....	41
Table 4.2 Device Type used by the volunteers.....	42
Table 4.3 Primary Occupation of the Volunteers .....	42
Table 4.4 Age of the Volunteers.....	43
Table 4.5 Annual Income of the Volunteers.....	44
Table 4.6 Number of volunteers Exposed to ads and number of data points per exposure .....	45
Table 4.7 Cronbach's Alpha values for the scales.....	47
Table 4.8 ANOVA test for dependent variables with respect to Advertisements used .....	48
Table 4.9 One Way ANOVA for Effect of Exposures on Dependent Variables.....	49
Table 4.10 Results of Correlation Test .....	52
Table 4.11 Regression Result for Effect of Exposure on Ad Recall .....	53
Table 4.12 Regression Result for Effect of Exposure on Attitude toward Ad .....	54
Table 4.13 Regression Result for Effect of Ad Recall on Attitude toward Ad .....	54
Table 4.14 Regression Result for Effect of Ad Recall on Attitude toward Brand.....	55
Table 4.15 Regression Result for Effect of Attitude toward Ad on Attitude toward Brand.....	55

Table 4.16 Regression result for Effect of Attitude toward Ad on Purchase Intention .....	56
Table 4.17 Regression result for Effect of Attitude toward Brand on Purchase Intention .....	56
Table 4.18 Model Fit result for Attitude toward Brand .....	57
Table 4.19 Model Fit result for Purchase Intention .....	58
Table 4.20 Curve Fitting Result for Effect of Exposure on Ad Recall.....	59
Table 4.21 Curve Fitting Result for Effect of Exposure Attitude toward Ad.....	61
Table 4.22 Results of Hypotheses tests.....	64

## LIST OF FIGURES

Figure 2.1 Information Processing Model .....	14
Figure 2.2 Conceptual Framework .....	21
Figure 3.1 Advertisement used for the Experiment .....	30
Figure 3.2 Experimental Design of the Study .....	33
Figure 4.1 Number of data points per exposure.....	46
Figure 4.2 Mean Ad Recall per Exposure.....	50
Figure 4.3 Mean Attitude towards Ad per Exposure .....	51
Figure 4.4 Curve Fitting of Ad Recall against number of exposures. ....	60
Figure 4.5 Power Curve fitting of Attitude toward ad values against number of Exposures.....	62
Figure 4.6 Quadratic Curve fitting between mean Attitude toward ad against number of exposures. ....	63

## ABBREVIATIONS

Aad	Attitude toward Advertisement
Ab	Attitude toward Brand
AR	Ad Recall
BPR	Brand Promise Recall
BR	Brand Recall
DAGMAR	Defining advertising goals for measured advertising results
d.f.	Degrees of freedom
DMP	Decision Making Process
ELM	Elaboration Likelihood Model
F	Fisher's Statistics
GFI	Goodness of Fit Index
HEM	Hierarchy Effects Model
PI	Purchase Intention
PR	Product Recall
RMSEA	Root Mean square Error of Approximation
SPSS	Statistical Package for Social Science

## CHAPTER 1

### INTRODUCTION

Advertising has always been a vital part of any marketing programs. In academics and in practice, it often gets featured in the promotion construct of the 4Ps - Price, Product, Promotion and Place (Jerome, 1960) and the extended 7Ps -Price, Product, Promotion, Place, Physical Evidence, Process and People of the marketing programs (Booms, 1981).

From time to time though, pessimism around the effectiveness of advertising surfaces like in 1988 when in a conference attended by academics and industry professionals by the Marketing Science Institute raised a question about whether there were any benefits of advertising (Pechmann & Stewart, 1988).

Since then, both academicians and practitioners have consistently agreed and argued that the role of advertising is vital for any marketing programs and hence the profitability of the firm (Burton et al., 2019; Pechmann & Stewart, 1988; Schmidt & Eisend, 2015). This agreement however is not without lots of ambiguities about the implementation and understanding of the advertising programs (Pechmann & Stewart, 1988). While some of the confusions are related to the most effective theoretical constructs to study the phenomena, other debates in the area stems from understanding the effects of repetition of advertisements and if there are any carryover effects from an advertisement exposure.

This thesis focuses on the issue of effective frequency of the advertising message. Advertising repetition or frequency of advertising in itself is a well-researched topic where most of the researchers have tried to find out the effective

frequency (the most effective number of repetitions of an advertisement to get a desired output) for various desired outputs like attention, advertisement recall (immediate or delayed, cued or added), Brand Attitude (immediate or delayed) and cognitive responses (positive or negative) (Pechmann & Stewart, 1988).

There is a general consensus in the literature that the optimal number of times an advertisement is to be shown (the effective frequency) to a consumer should be seen as an outcome of a two factor theory, which states that there are two forces at work (Cacioppo & Petty, 1979; Pechmann & Stewart, 1988; Schmidt & Eisend, 2015; Stang, 1975). The first force or an effect that takes place with multiple repetition of an advertisement is seemingly to help a message sink in. This positive effect, which as per the research increases positive attitude and behaviour towards the advertisement and the brand, has come to be known as an wear-in effect in the literature of advertisement repetition (Burton et al., 2019; Cacioppo & Petty, 1979; Pechmann & Stewart, 1988; Schmidt & Eisend, 2015; Stang, 1975). The second and the opposing force, which is negative, inhibits the consumers' likelihood to have a positive attitude towards the brand and is called wear-out (Cacioppo & Petty, 1979; Pechmann & Stewart, 1988; Stang, 1975).

Social Media Marketing has become a very effective medium to reach prospective customers in Nepal, especially for the smaller businesses (Prasain, 2018). This has meant that even smaller businesses who did not participate in advertisements before because of cost consideration can now advertise to their customers and hence increasing the average number of ads that an average consumer is subjected to. Hence the effectiveness of advertising messages in this changed context needs to be deliberated upon.

### Problem Statement

In early studies of the two factor theory (also called WIWO: Wear In - Wear Out), which were done predominantly in an experimental setting, it was argued that after three exposures, the number of negative thoughts about an advertisement surpassed the number of positive thoughts that was able to generate (Belch, 1982; Pechmann & Stewart, 1988). This “rule of three” is still persistent in some of the advertising agencies today when they plan for effective frequency of a media plan (Burton et al., 2019).

However, later studies in the field setting, which were prone to several moderating variables like low/high involvement, emotional vs factual content in the advertisement, delay in measurement, etc., found that the wear-out only occurred between 3-10 exposures and hence it was argued that perhaps a higher number of repetitions of advertisement was needed (Burton et al., 2019; Pechmann & Stewart, 1988; Schmidt & Eisend, 2015). It was also noted that the advertisements could also have a carryover effect and although wear-out may occur temporarily, the wear-out effect itself could wear-out in the long run (Kronrod & Huber, 2019). It could therefore be a good strategy to continue advertisement repetition as a means to enforce the learning the consumers had about the brand / product from their previous exposure.

As most of the research on advertising repetition happened before the proliferation of the Internet, very few studies have been carried out to understand any change in effective frequency when advertising online or digital media (Burton et al., 2019; Facebook, 2016). Even the more recent meta-analysis (Schmidt & Eisend, 2015) had reference to only one study of advertising in the online world. The more recent studies that have pointed out a higher advertisement repetition before wear out

occur (Burton et al., 2019) and that wear out may fade away in itself with time require much attention (Kronrod & Huber, 2019).

Online brand marketers usually put three important aspects of any advertising campaigns: how many people can we reach (targeted or broad) with this campaign, what should be the optimum frequency (effective frequency) for the advertisement campaign, and how should the creative be designed (Facebook, 2016). Although there has been several studies about the content of the advertisement and on reach, very few studies (Burton et al., 2019; Kronrod & Huber, 2019) have focused on the effective frequency and hence is a noteworthy subject to research further.

Many exposures in the real world and also in the social media setting (platforms like Facebook) are not completed and higher exposure rates are necessary to reach optimum response. Could this mean that a higher level of advertising message exposures is now needed more than ever to run an effective advertising campaign?

Burton et al. (2019) examined the influence of repeated exposure to online banner advertisements on purchase intentions and found that consumers who saw an advertisement 10 or more times had greater purchase intentions than consumers with less exposure. They also found that wear-out of an advertisement happens only after 10 or more exposures.

They attribute this seemingly higher exposure to wear-out phenomena, which is contrary to previous research (Pechmann & Stewart, 1988), to media proliferation in society today. This argument seemingly has its merit because in a recent meta-analysis (Schmidt & Eisend, 2015) examining the influence of advertising repetition on multiple variables, more than half of the studies in the sample occurred before 1991. And hence, the meta-analysis provides a compelling argument of effective

(optimal) frequency being between 3-10 repeated exposures, (Burton et al., 2019) acknowledge that this might have been because not many studies have been performed for more than 10 exposures. As such, there is a research gap in the current literature that needs to be explored.

The research carried out internally by Facebook certainly points in this direction (Facebook, 2016). The research found that for known brands even a repetition of advertisement by 1-2 times per week (up to 8 exposures in a month) can lift the brand-lift. Brand lift is Facebook's metrics that it uses to communicate success or failure of their campaigns and is available to major spenders in the platform through their account representative. The research also points out that there may be cases where higher frequency may be needed for brands that are not very well known.

Having said that, these results were observed in the United States where advertising spends is one of the highest in the world (Facebook, 2016). It will be interesting to test if the same results in ad recall and purchase intention can be replicated in a developing country like Nepal where digital ad spend is very low (both in comparison to the developed countries and in terms of their spend in the traditional channels). Also, because the brand lift measure is not available and not very relevant in Nepalese context, could we see a similar influence of advertising repetition on ad recall and brand recall?

The 2019 study by Burton et al. showed that perhaps it makes sense to have more than 10 repetitions, our experiment entailed getting more than 10 exposures of the advertisement to the respondents.

These latest studies have hence cast some doubt on whether:

1. there is an effective frequency beyond which the effectiveness of advertisement reverses.

2. if the relationship between advertising frequency and Ad recall, Attitude towards Ad (Aad), Attitude towards Brand and Purchase Intention is indeed non-linear as described in the wear in wear out theory (Cacioppo & Petty, 1979, 1981).
3. or the relationship between advertising frequency and Ad recall, Attitude towards Ad (Aad), Attitude towards Brand and Purchase intention are linear as described in several Aad mediation models (Gardner, 1985).

### **Significance of the Study**

Most of the research in effective frequency happened before the Internet Era, when advertising exposure was not as much as today. 40 years ago, an average city dweller in a developed economy was exposed to about 2,000 ads per day which was at 5,000 ads per day in 2007 (Story, 2007). In today's context, one can safely say that these advertisement exposures would be much higher.

Because most of the learnings in this field tend to be influenced by research which was done in the traditional setting (Schmidt & Eisend, 2015), very few researchers have been carried out to understand the effective frequency in an online setting (Burton et al., 2019; Facebook, 2016; Yaveroglu & Donthu, 2008).

Burton et al. (2019) recommend that it is essential to see the effectiveness of advertising campaigns in terms of ad recall and brand recall at a frequency higher than 10 exposures in the online world. The argument presented is that because of the number of competing brands fighting for customers cognitive space, a higher number of exposures may have a positive impact which needs to be studied.

If the above claim by Burton et al. (2019) is replicated to more exposures, it may be possible that perhaps effective frequency does not exist and that more the exposures of a particular advertisement better its effectiveness. In such a situation, it is important to test the type of relationship between advertising frequency and Ad Recall, Attitude towards Ad (Aad), Attitude towards Brand (Ab) and Purchase Intention.

Zha et al. (2015) mention that the platform are an important consideration because Attitude towards website / platform (Aws) is also a consideration factor in determining the effectiveness of the advertisement campaign, this study sheds light into if effective frequency exists and the ideal advertising frequency that could make the advertising campaigns in social media messaging platforms more effective is discussed. The study is more significant because such phenomenon has not been studied in a social media messaging platform before. The study also describes the type relationship between various constructs that are influenced by the frequency of advertisement.

### **Research Objectives**

The objective of this research is to investigate if there is a difference in cognitive and affective measures of advertisement effectiveness due to the number of exposures of the advertising message in social media and if this effect is same with each repetition of the exposure. The overall objective of the research is to establish effective frequency as defined by Wear In and Wear Out effect theory in the social media setting (particularly in Social messaging platform) in a developing country.

### Research Question

On the basis of the above discussion, the general research questions are as follows:

- Does number of exposures of an advertising message in an social media messaging platform influence Advertising Effectiveness for cognitive and affective measures in the same manner as exposures increase?

Specifically, this research tries to answer the following specific research questions:

- Does number of exposures of an advertising message influence ad recall in the same manner as exposures increase?
- Does number of exposures of an advertising message influence attitude toward ad in the same manner as exposures increase?
- Does number of exposures of an advertising message influence attitude toward brand in the same manner as exposures increase?

### Organization of the Study

This study is divided into five chapters. The first chapter contains an overview of the literature on effective frequency and advertising effectiveness. The main research problems, objectives of the study, research questions and organization of the study have been presented in this introduction chapter. In the second chapter a literature review, definitions and theories regarding the research topic are presented. The research variables are explained in this chapter.

In the third chapter the research methods are discussed. It contains the details about the research methods, approach, techniques, measures, reliability and validity, sampling methods, sample, data collection and analysis procedure.

The fourth chapter of the subsequent dissertation will contain the data presentation and analysis by using descriptive and statistical tools. The fifth chapter will contain results, discussion, conclusion, limitations and further implications that are discussed.

## CHAPTER 2

### THEORETICAL FRAMEWORK

This chapter presents an overview of both theoretical and research-based literature about advertising effectiveness, especially on the issue of advertising exposure or effective frequency. This chapter is concerned with the relationship of number of advertising exposure to cognitive and affective measures like ad recall and purchase intention.

There are several theoretical models that are associated with understanding the effectiveness of advertising campaigns and hence effective frequency. To begin with, the researcher will explore some of the learning theories that are used to explain advertising effectiveness.

As mentioned in the introduction of this paper, the ambiguities around advertising effectiveness is as much around the theoretical construct to be used as it is around the implementation and planning of the advertisement program. While this paper primarily focuses on effective frequency of advertising campaigns (an issue related to the implementation and planning), it is necessary to understand and appreciate the diverse theoretical, methodological and technical approaches to the question.

#### **Elaboration Likelihood Model**

Elaboration Likelihood Model (ELM) which is generally used as a framework to study persuasion in the field of social psychology (Cacioppo et al., 1983; Petty & Cacioppo, 1986) has also been applied as an underlying theory to understand

advertising communications (Cacioppo et al., 1983). The model also enjoys very good popularity in the field of consumer behavior.

The ELM predicts changes in attitude towards an advertised brand, where an attitude refers to a global evaluation of the brand. The model identifies two distinct routes toward attitude change. One is the central route, along which the consumer changes his attitude on the basis of elaboration of arguments. The other is the peripheral route, along which the consumer may change their attitude on the basis of a variety of processes, e.g. through heuristic inference of brand quality from message elements, through association of message elements with the brand, or through mere exposure to the brand.

The model gets its name because it tries to come up with a probabilistic solution to how likely people are to take the central route. The arguments refer to a message element considered relevant for assessing the true merits of the communicating brand whereas elaboration refers to the learning of arguments, the generation of thoughts about these arguments which are cognitive responses and finally integration of these thoughts on to one's attitude structure.

The ELM assumes that the probability of someone following the central route depends on whether the consumer wants to assess the true merits of the advertised brand (whether the consumer has the needed motivation) and whether they have an ability to truly assess its true merits. In order to deal with the possibility that a consumer may not be motivated and have varying levels of ability to assess the true merits of the brand through their communication, the ELM assumes that there is an elaboration-likelihood continuum.

The ELM assumes several consequences on attitude change based on the route the learning follows. Attitudes changed along the central route are thought to be more

persistent, more resistant to counter persuasion, and more predictive of behavior than attitudes changed along the peripheral route.

For the purpose of this study, it is imperative that the advertisement design be made such that the learning would follow mostly one of the learning paths as following different routes may have consequences on effects that are to be measured. That being said, because of complicating factors (Petty & Cacioppo, 1986), it might not always be possible to avoid the cross route for attitude change. The research design chapter will consider this to minimize the complicating factor by creating advertisements that are more factual and are more likely to follow the central route as defined by ELM.

### **Hierarchy Effects Model**

There are two conflicting views on how advertising effectiveness should be measured (Barry, 1987). One view argues that advertising is only effective when it results in a purchase whereas the other view argues that because the demand (sell) is the end result of several stages a buyer goes through before sell, the effectiveness of advertisements must be measured in each stage and hence hierarchy of stages and adverts effectiveness in its progression is a key component while evaluating whether an advertising campaign was effective.

Several stage models have been developed in the past by researchers. One of the first of these models was Defining Advertising Goals for Measured Advertising Results (DAGMAR) model described by Colley in 1961. This model assumes that a consumer usually follows a sequence of awareness, comprehension, conviction and action. While the Information Processing Model assumes that these sequences are

presentation, attention, comprehension, yielding, retention and behavior or purchase (McGuire, 1978).

Burton et al. (2019) established that advertisement repetition (i.e. no. of times a person sees an advertisement) can be used as a proxy for consumers' stage in the consumer decision making process (Engel et al., 1968) or the Information processing model (McGuire, 1978). However, they do not point out exact stages that the user would be in after a certain number of exposures.

### **Information Processing Model**

Like the Elaboration Likelihood Model (ELM), Information Processing Model (IPM) has also been used to study persuasion in the field of social psychology (McGuire, 1978). However, due to the popularity of ELM, the application of the IPM in the advertising communication field has received limited attention (McGuire, 1978). There have been efforts to use Information Processing Model (IPM) in some research works in the past (Scholten, 1996).

The IPM classifies the antecedents of advertising effects into the following factors (Scholten, 1996):

1. Source Factors which looks at several factors of the source of communication. This is often referred to as sender factors in more common communication theories.
2. Message Factors which looks at what is being communicated and how the communication is taking place.
3. Receiver Factors which looks at whom the communication is targeted to.

4. Channel Factors which looks at where, when and how the communication is transmitted.
5. Destination Factors which looks at what is the target effect of the communication.

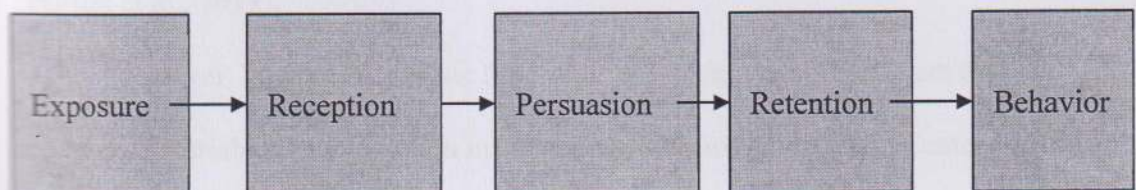
Consistent to hierarchy of effects model discussed earlier, IPM also identifies advertising effects in terms of six hierarchically ordered stages as listed below:

1. Presentation of Communication
2. Attention to the communication
3. Comprehension of the arguments
4. Conclusion of the arguments
5. Retention of the new attitude
6. Behaviour on the basis of the new attitude.

Scholten M (1996) has suggested revisions to IPM (Information Processing Model) such that the model could be applied as a general framework for advertising research. The framework then becomes very similar to Hierarchy of effects model as well as incorporating theories of Elaboration Likelihood model. It is this model that is taken as the theoretical base for this study.

Figure 2.1

*Information Processing Model*



### The Two Factor Theory (Wear In and Wear Out)

There is a general consensus in the literature that the optimal number of times an advertisement is to be shown (the effective frequency) to a consumer should be seen as an outcome of a two factor theory, which states that there are two forces at work (Cacioppo & Petty, 1979; Pechmann & Stewart, 1988; Schmidt & Eisend, 2015; Stang, 1975). The first force or an effect that takes place with multiple repetition of an advertisement is seemingly to help a message sink in. This positive effect, which as per the research increases positive attitude and behaviour towards the advertisement and the brand, has come to be known as an wear-in effect in the literature of advertisement repetition (Burton et al., 2019; Cacioppo & Petty, 1979; Pechmann & Stewart, 1988; Schmidt & Eisend, 2015; Stang, 1975). The second and the opposing force, which is negative, inhibits the consumers' likelihood to have a positive attitude towards the brand and is called wear-out (Cacioppo & Petty, 1979; Pechmann & Stewart, 1988; Stang, 1975).

In early studies of the two factor theory (also called WIWO: Wear In - Wear Out), which were done predominantly in an experimental setting, it was argued that after three exposures, the number of negative thoughts about an advertisement surpassed the number of positive thoughts that was able to generate (Belch, 1982; Pechmann & Stewart, 1988). This "rule of three" is still persistent in some of the advertising agencies today when they plan for effective frequency of a media plan (Burton et al., 2019).

However, later studies in the field setting, which were prone to several moderating variables like low/high involvement, emotional vs factual content in the advertisement, delay in measurement, etc., found that the wear-out only occurred between 3-10 exposures and hence it was argued that perhaps a higher number of

repetitions of advertisement was needed (Burton et al., 2019; Pechmann & Stewart, 1988; Schmidt & Eisend, 2015). It was also noted that the advertisements could also have a carryover effect and although wear-out may occur temporarily, the wear-out effect itself could wear-out in the long run (Kronrod & Huber, 2019). It could therefore be a good strategy to continue advertisement repetition as a means to enforce the learning the consumers had about the brand / product from their previous exposure.

### **The Effective Frequency**

There are several shortcomings in the literature on effective frequency and advertising effectiveness: old media planning benchmarks of 3 to 10 exposures may no longer be valid due to several key reasons. To begin with, the consumers today live in a very different world in terms of advertising. According to a New York Times article, 40 years ago, an average city dweller in a developed economy was exposed to about 2,000 ads per day which was at 5,000 ads per day in 2007 (Story, 2007). This should have definitely increased to around 6,000 ads per day in today's world. It is argued that in such a competitive environment, repetition of ads helps brand recognition and ad recall (Yaveroglu & Donthu, 2008).

Another point to note, as pointed out in the Information Processing model (McGuire, 1978), getting consumers to pay attention to an advertisement is the first step of persuasion. This has become incrementally difficult in a very cluttered and competitive setting and consumers go to great lengths to avoid commercials (Burton et al., 2019). Some of them even use ad blockers to focus on the content they are trying to consume.

Although it is generally accepted that consumers' attitudes are shaped by a wear-in and wear-out process, studies have arrived at different conclusions as to the optimal number of exposures to result in strongest brand attitudes (Kohli et al., 2005; Nordhielm, 2002). Two comprehensive meta-analyses (Pechmann & Stewart, 1988; Schmidt & Eisend, 2015) have reconciled these findings to identify different dependent variables (eg. cognitive responses, affective responses, and recall). These studies have concluded that more repetition is needed to achieve optimal brand attitudes in the following conditions:

1. Low versus high involvement (Cauberghe & De Pelsmacker, 2010)
2. Measurement delay (Pechmann & Stewart, 1988; Schmidt & Eisend, 2015)
3. New versus known Brand (Dahlen, 2001)
4. Embedded versus non-embedded (Schmidt & Eisend, 2015)
5. Emotional versus factual advertisements (Hitchon et al., 1988)
6. Field studies versus laboratory studies (Pechmann & Stewart, 1988)

### **Cognition and Affective Measures**

As stated in the theoretical framework of Hierarchy Effects Model, DAGMAR and other staged models of effect of advertisement, an advertisement or corporate communication first has a cognitive effect, which leads to a formation of affective influence which contributes to what behavior the consumer shows (Barry, 1987).

As stated earlier, although the most important factor in study of advertisement effectiveness could be purchase behavior (a behavioral measure), researchers also believe that studying the effect of an advertisement campaign on earlier stages (cognition and affect) of this process is also necessary to understand the phenomenon (Colley, 1961).

Hence, effectiveness at different stages contributes to the overall effectiveness of the advertising campaign. In this particular research, we were concerned on the effectiveness of advertising at the cognition stage and the affective stage of the process. To measure the effectiveness at cognition, we looked at Ad recall (unaided) and to measure the effectiveness at the affective stage, we looked at two attitude variables (Attitude towards Ad and Attitude towards Brand).

### **Ad Recall**

Ad recall is the measure of how much cognition the advertising stimulus was able to develop in an individual. In most of the early experiments with effective frequency, immediate ad recall (asking for cognition response immediately after showing the advertisement) were measured and hence these field experiments showed that wear-in occurred immediately (Cacioppo & Petty, 1979). However, one could also measure delayed Ad recall as well. In these experiments, it was found that ad recall level although increases with number of exposures in the beginning, it levels off due to a ceiling effect (Gorn et al., 1980). Ad recall can also be aided and unaided. In this research we will look at unaided ad recall.

### **Attitude towards Ad**

According to Gardner (1985), it is important to understand the role of attitude towards the advertisement (Aad) on the overall attitude formation process on the brand or the product the advertisement is trying to present to its customers. Attitude toward the ad (Aad) is defined as a "...predisposition to respond in a favourable or unfavourable manner to a particular advertising stimulus during a particular exposure occasion.." (MacKenzie et al., 1986). Attitude towards ad (Aad) is recognized as an important mediating variable regardless of how the mediation occurs (affect transfer,

dual mediation, reciprocal mediation of independent influences) in the advertising stimulus process (MacKenzie et al., 1986).

### **Attitude towards Brand**

Another important factor (and stage) in the advertising process is Attitude towards brand (Aab). As mentioned earlier, Attitude towards brand is an antecedent to attitude towards Ad and forms a vital precursor to the purchase intention of the product or the brand (MacKenzie et al., 1986). One thing to note about Attitude towards Brand is generally developed more when the product is consumed. During this research, as we will use a hypothetical product, it could be difficult to observe a higher level (or even significant level) of Attitude towards brand. Nevertheless, we will keep this in the research consideration as it is the vital stage as described in the Information Processing Model (Gardner, 1985; MacKenzie et al., 1986; McGuire, 1978).

In several studies Attitude towards Ad (Aad) has been shown to mediate the ad-related cognitive (Ad Recall) and affective responses (Attitudes). In particular, ad-related cognitive and affective responses are thought to be important stages for brand related cognition and attitudes measures. The mediation of Aad can be in any of the four possible ways (Gardner, 1985; MacKenzie et al., 1986; MacKenzie & Lutz, 1989):

1. Affect Transfer of cognition (Ad recall) to Attitude towards brand which subsequently transfer the effect to purchase intention
2. Dual mediation by attitude towards ad for both affect (attitude towards brand) and cognition (brand recall) of the brand

3. Reciprocal mediation hypothesis where both attitude towards brand and ad reinforces each other's effect.
4. Independent influences where all variables individually mediated through their own altitudinal counter parts effect Purchase intention.

This study uses affect transfer and independent influences hypotheses to form the conceptual framework needed research.

### **Effective Frequency and Online Advertisement in Nepal**

One of the best things about advertising / marketing on the Internet is that it is much more measurable and readily available in platforms like Facebook Ads, Google Ads or any other advertisement platforms. The measures these platforms usually prove are mostly behavioural parameters, e.g. click through rate (CTR), Conversion, views, impressions, clicks, etc.

However, Bruner et al. (2000) use not only behavioural but also cognition and affect to measure the effectiveness of web-based advertisement. For cognition they looked at attention (measured through reaction time) and awareness (including recognition, cued or free recall) while for affect they looked at attitude towards ad and purchase intention (intention to buy). Briggs and Hollis (1997) also state that behaviour measures alone may not explain advertisements effectiveness for products of advertising campaigns focusing on achieving memory rather than instant response.

Especially in Nepal, necessary infrastructure to measure even the behavioural outcomes are not present. There are no reliable payment gateways. Online users in Nepal don't often purchase online but use the online experience to inform and shape

their shopping behavior. Most of the sites are also not e-commerce ready. It is therefore hard to quantify and hence give any meaning to behavioral measures in the Nepali context.

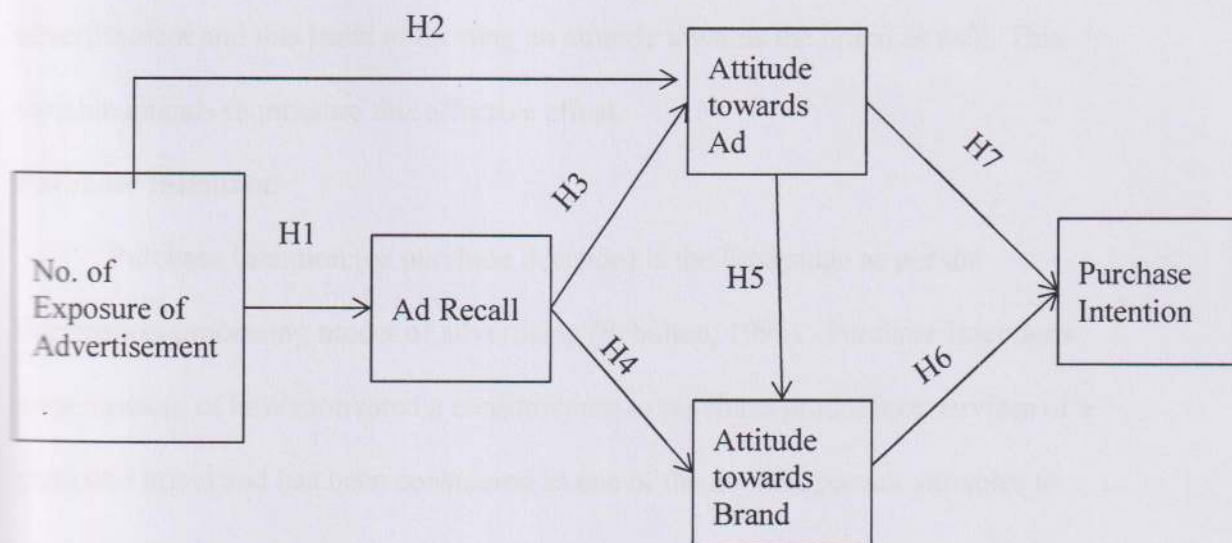
Apart from the above, messaging platforms like WhatsApp (Viber, WeChat, etc.) are gaining in acceptance for business communications lately. As businesses start to have their presence in these platforms through groups and communities, it will be important for them to understand how to effectively leverage these platforms.

### Conceptual Framework

This conceptual framework was formulated on the basis of the research framework and referenced literature. The objective of the study is to examine the effect of the number of advertising exposure to Ad / Brand Recall and Purchase Intention. The framework for the same is given below.

Figure 2.2

#### Conceptual Framework



For this research variables are operationalized as below:

**Exposure of advertisement:**

When a consumer (respondent in the case of our study) is exposed to an advertisement message, an exposure of advertisement will be considered. Because the survey will take place in embedded settings, the exposure is considered even if the consumer did not put any attention to it.

**Ad recall:**

Advertisement recall may refer to aided and unaided memory of the stimulus. In our case, we will measure ad recall with an unaided memory test. There may be varying levels of delay in measuring the same due to the nature of the experiment as described in the next chapter. This is the cognitive effect of the exposure.

**Attitude toward Ad:**

When a consumer is subjected to an advertisement and some sort of cognition effect is established, it contributes to forming an attitude with regards to the advertisement. This variable intends to measure this affective effect.

**Attitude toward Brand:**

When a consumer is subjected to an advertisement and some sort of cognition effect is established, it contributes to forming an attitude with regards to the advertisement and this leads to forming an attitude towards the brand as well. This variable intends to measure this affective effect.

**Purchase Intention:**

Purchase Intention (or purchase decision) is the final stage as per the information-processing model of advertising (Scholten, 1996) . Purchase Intentions are a measure of how motivated a consumer are to purchase products or services of a particular brand and has been considered as one of the most important variables to

measure advertising effectiveness (Burton et al., 2019; McGuire, 1978; Schmidt & Eisend, 2015).

### **Research Hypothesis**

A hypothesis is only an assumption or some supposition to be proved or disproved (Bougie & Sekaran, 2016) and it brings clarity and specificity in a research problem. To address research questions and to test the relationships among independent and dependent variables based on theoretical and empirical evidence, it is necessary to assume the relationship and accordingly formulate hypothesis for the study.

Based on the research and theoretical framework following hypotheses are proposed and summarized below. While testing the hypothesis, the independent variable (number of advertisement exposures) were tested to find deviations in dependent variables (ad recall and purchase intentions). The research hypotheses for this study are as below:

**Hypothesis 1 a:** Number of exposures of an advertising message has no effect on Ad Recall.

**Hypothesis 1 b:** The relationship between number of exposures of an advertising message and Ad recall is linear.

**Hypothesis 2 a :** Number of exposures of an advertising message has no effect on the Attitude towards Ad.

**Hypothesis 2 b:** The relationship between number of exposures of an advertising message and Attitude towards Ad is linear.

**Hypothesis 3:** Ad Recall has no effect on the Attitude towards Ad.

**Hypothesis 4:** Ad Recall has no effect on the Attitude towards Brand.

**Hypothesis 5 a:** Attitude towards Ad has no effect on the Attitude towards Brand.

**Hypothesis 5 b:** Attitude towards Ad does not mediate the relationship between Ad Recall and Attitude towards Brand.

**Hypothesis 6:** Attitude towards Brand has no effect on the Purchase Intention.

**Hypothesis 7 a:** Attitude towards Ad has no effect on the Purchase Intention.

**Hypothesis 7 b:** Attitude towards Brand does not mediate the relationship between Attitude towards Ad and Purchase Intention.

## CHAPTER 3

### RESEARCH METHODOLOGY

The purpose of this study is to examine the effect of number of advertising exposures on cognitive and affective measures of advertising effectiveness. In particular, the study is trying to find an effective frequency to maximize ad recall and purchase intention.

#### Research Approach

The purpose of this study was to test the effect of incremental exposures on the cognitive and affective measures of advertising effectiveness.

Quantitative and qualitative measures have been used for this study. The qualitative measures have been coded to quantitative scales to facilitate quantitative analysis.

The purpose of selection of quantitative analysis is to develop and find out the research objectives through empirical evaluation that involve numerical measurement and analysis. Quantitative scales were applied to measure attitude towards ad, attitude towards brand and purchase intention for the brand associated with the ad. The number of advertising exposures by default is a quantitative measure. Qualitative questions (open ended) questions were used to test ad recall (non-aided) for the product / brand presented in the ad.

The quantitative approach takes the stand on establishing or assessing the relationship between the variables with the help of numerical assignments (Adcock & Collier, 2001). Hence the approach of this study is set in the positivistic epistemological tradition. Positivism is the research philosophy in which the

phenomena are experienced in empiricism (Thacker et al., 1989). It holds that social and physical phenomena operates as defined by a general law.

### **Research Design**

Research design is a blue-print for the collection, measurement, and analysis of data, based on the research questions (Bougie & Sekaran, 2016). Kerlinger (1966) further supports that research design is the plan and design of a study to obtain answers to research questions. The plan includes the outline of the overall program from writing of the hypotheses and the operational implication for the final analysis of data.

### **Experiment Design**

Because the researchers intend to measure the effect of number of exposures on the volunteers cognitive and affective effects, it is important for the researcher to be able to measure the exact number of exposures.

Experiments by definition need a degree of control that the researcher seeks to administer. This need of control makes experimental research quite different from other research methods. Typical experiments try to control all other relationships by either eliminating or controlling such relationships so that the effect of one independent variable on the dependent variable can be properly studied (Bougie & Sekaran, 2016). To achieve this, Bougie & Sekaran (2016) state that “..the experimenter can either create an artificial situation or deliberately manipulate a situation.”

In order to do this, a researcher must look into four basic issues in experimental design so that a true reflection of the relationships between the variables are observed:

### 1. Manipulation of the independent variable

In an experimental design, the researcher (or the experimenter) needs to have some sort of control over the independent variable (Bougie & Sekaran, 2016). This is the case because, it is from the manipulation of the independent variable that researcher seeks to examine the effect of the particular relationship.

In some experiments, it is important to have control and experimental groups so that the input variables are manipulated as per the group. But in some setting, e.g. when incremental effect of one input variable is to be studied, control and experimental group do not suffice the need of the experiment. In such cases, several treatment levels are administered to understand the effects of such incremental levels (Bougie & Sekaran, 2016).

In this experiment, several levels of exposures of the advertisements was administered to the participants (volunteers).

### 2. Selection and measurement of the dependent variable

According to Bougie and Sekaran (2016) “selection of the dependent variable is a crucial decision in the design of an experiment” (p. 261). The dependent variable is expected to change its values as per the change in the independent variable. Hence, it is the criterion on the basis of which the results are understood and analyzed by the researcher.

In this experiment, our aim is to understand the effective frequency of an advertisement. In order to measure the effectiveness of the advertisement, we have

taken one cognitive measure (ad recall) and 2 affective measures (Attitude towards the Ad and Attitude towards the Brand).

### 3. Selection and assignment of test units

Bougie and Sekaran (2016) explain that selection and assignment of test units is also another important decision that the experimental researcher needs to consider. In experiments, because the researcher tries to see the differential effect of a treatment to the independent variable, it is important to select appropriate test units that would be subjected to the treatment. Care should also be taken that the treatment is assigned to the selected test units only. In this experiment, because the independent variable is number of exposures, we will get data from all volunteers on number of exposures they would have seen and the subsequent data points. Hence, all the participating volunteers are the test units.

### 4. Control over extraneous variables

The design of the research is quasi-experimental in nature as we will expose the respondents with our controlled treatment in the form of ads in social messaging platforms. However, each of the respondents could be subjected to a different kind of environment within the social messaging platforms and their surroundings at the time of the experiment.

The experiment was a simple post-test type and was designed as follows:

#### **Volunteers**

Volunteers were asked to participate in the experiment via a social media post on LinkedIn and Facebook. This enabled the researcher to reach his family and friends and hence get access to a much more controlled group who would genuinely participate in the experiment and get the needed number of form fill ups.

The volunteers would sign up using a google form which helped the researcher get the demographic information of the volunteers as well as no. of days the volunteers wanted to participate in the experiment.

Volunteers were then divided into 4 experimental groups in WhatsApp as per their preference for willingness to participate in the experiment. The form was open throughout the life of the experiment and hence volunteers could join the experiment even after the beginning of the experiment.

The four exposure groups formed were:

1. Group 1: Volunteers who signed up to 15 exposures
2. Group 2: Volunteers who signed up to 10 exposures
3. Group 3: Volunteers who signed up to 5 exposures
4. Group 4: Volunteers who signed up to 2 exposures

The respondents were based all around the world with most of them Nepali citizens residing in Nepal. However, there were one volunteer from Bhutan (Bhutanese national), USA, Australia and India (all Nepalese citizens)

### **Brand**

For the experiment, the researcher decided to create one fictitious noodle brand. This is important, as prior familiarity with an advertised brand could potentially confound the results (Dahlen, 2001). Noodles is selected because the noodles industry in Nepal has one big player and other temporary brands which come and go and hence the introduction of a different noodle brand will seem natural.

### **Advertisement**

Each of the advertisements were operationalized with a brand name, a product claim and a product image(s). This was important to make sure that the ads are fact

based so that all of them register with the user through the central route and not the peripheral route (Petty & Cacioppo, 1986).

Figure 3.1

*Advertisement used for the Experiment*



Used for Group 1 Volunteers



Used for Group 2 Volunteers



Used for Group 3 Volunteers



Used for Group 4 Volunteers

**Platform**

Because it was essential for us to note not only the number of exposures (guaranteed), we will use the messaging platform WhatsApp to run our experiment.

The WhatsApp messaging platform gives us the following controls:

1. An ability to send messages at specified times.
2. An ability to note the exact times of when the message was delivered, and when the message was seen (exact time of exposure).
3. An ability to delete the message (within an hour of the message being sent).

Ability to delete message allows us:

- a. Limit the real number of exposures as close to our experiment's noted exposure number.
- b. Limit respondents' ability to refer to the image later when answering the survey.

### **Treatment**

Each ad (as per their groups) was sent at 8 PM (Nepal Standard Time) every day. The advertisement exposure was recorded via statistics of the messages (provided by WhatsApp) on the exact time the advertisement was seen by the volunteer. This not only confirmed the time of the exposure, but also confirmed that the volunteers saw the ad in that exposure.

The advertising images were deleted exactly after 30-45 minutes after noting down if exposure did take place or not for a particular volunteer. This gave us a group of people who would have been exposed to the advertisement with different frequency. This also gave the researcher with a control group to analyze the incremental effect on the dependent variables.

Four different ad sets were created to operationalize the number of advertising exposures:

1. Low Frequency Ad set:

The ad on this ad set will deliver the image of one noodle brand once daily for 2 days. i.e. two intended exposures. But we also got data from people who would have had less than 2 exposures.

2. Medium Frequency Ad set:

The ad on this ad set will deliver the image of one noodle brand once daily for 5 days. i.e. 5 intended exposures. But we also got data from people who would have had less than 5 exposures.

3. Medium - High Frequency Ad set:

The ad on this ad set will deliver the image of one noodle brand once daily for 10 days. i.e. 10 intended exposures. But we also got data from people who would have had less than 10 exposures.

4. Highest Frequency Ad set:

The ad on this ad set will deliver the image of one noodle brand once daily for 15 days. i.e. 15 intended exposures. But we also got data from people who would have had less than 15 exposures.

Each of these ads ran from the same date and ended on the same date. The volunteers were asked to leave the group after their intended exposures were complete and new volunteers joined the experiment if they volunteered after the experiment started. Some members of the lesser exposure groups did stay in the group and hence did get a higher number of exposures than previously agreed upon.

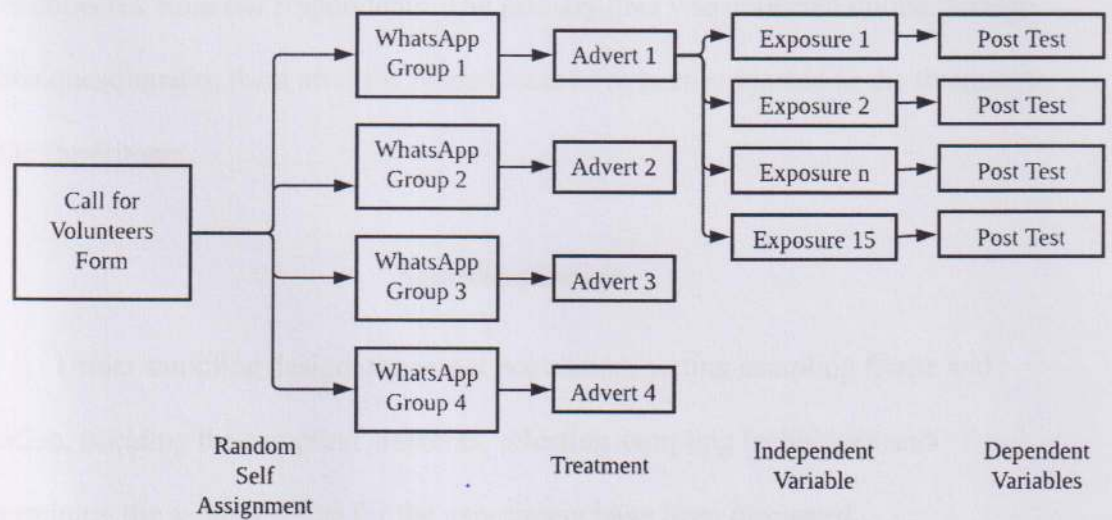
### Post Test

After the respondents are subjected to the treatment (after administration of each exposure of the advertising image), they were asked to fill up one set of questionnaires. The questionnaire was automatically manipulated so that we know which volunteer was filling up the form. The form was not available during the course of the exposure to make it a certainty that the forms were being filled up through recall and not by looking at the image.

In summary, the entire experiment design can be conceptualized through the following diagrammatic view.

Figure 3.2

*Experimental Design of the Study*



**Variables of the study**

In this study, the number of advertising exposure is the independent variable.

The dependent variables for study are ad recall, attitude towards ad and attitude towards brand. All of these variables have been operationalized (defined for the context of this research) in Chapter 2.

### **Unit of Analysis**

The unit of analysis for this study is the response of each volunteer after each exposure. The data was collected over the period of 15 days as per the experiment schedule. As proposed, the objective of the study was to assess the variation in dependent variables according to each incremental exposure, hence the data was collected after each exposure was completed from each of the volunteers.

### **Data Collection**

There are two types of data for research purposes - primary data and secondary data. According to Burns and Bush (2003) the type of data required and the research design determines the method of data collection. For this study, primary data were collected from our respondents. The primary data was collected online through online questionnaire form after the respondents have been subjected to the treatment of the experiment.

### **Sampling Design**

Under sampling design, the target population, setting sampling frame and location, deciding the sampling elements, selecting sampling techniques and determining the sampling size for the experiment have been discussed.

### **Target Population and Sample**

Target population is a group of people where researchers are interested in analyzing to get relevant information for research. In essence, the population for this study was all consumers who use any kind of social messaging platform. However, for the purpose of this study, because we chose WhatsApp messaging platform, the population size would be limited to the users of WhatsApp messaging platform only.

That being said, as the experiment required volunteers and call for volunteers were made through the researchers' social media presence – Facebook Network (~1900 connections), LinkedIn (~720 connections) and few WhatsApp Groups (~800), we can safely attribute around 3420 connections who would have been reached by the call for volunteers. Not only this, because the call for volunteers was done as a public post, the post would also have been seen in the network of other connections when they shared the posts.

Hence, it can be stated that a convenient sample from the population of friends, family and professional network of researchers and their networks including Facebook and LinkedIn connections were selected from an opt-in list of volunteers who wanted to participate in the research. Bougie and Sekaran (2016) state that opt-in method is a widely used technique in sampling design for internet-based studies.

The volunteers inducted signed up to the research program by filling up a survey form. The researcher inducted 61 volunteers with 691 possible units of analysis (data points) as per their choice of participation in the experiment.

Table 3.1

*Number of initial volunteer signups and possible data points*

Expressed interest to participate for X days	No. of Volunteers	
	Signed up	Possible Data Points
2	3	6
5	17	85
10	3	30
15	38	570

Total	61	691
-------	----	-----

### **Sampling Technique**

In this study, the researcher selected a convenience sampling technique. In a convenience sampling technique, researcher uses most convenient or the most economical sample. Convenience sampling is used regularly for experimental designs because it provides more control for the researcher to administer test units. For this research, although convenience sampling technique was used, all users within the social graph of the researcher in the Facebook and Linked platform could participate in the study. The selection was done voluntary and the researcher had no control over who would participate in the experiment from within the sample population.

### **Sampling Size**

There are several methods to determine appropriate sample size. While some researchers state that a minimum of five respondents per variable to be analysed is necessary (Hair et al., 1998), most researchers state that 10 samples for one variable being studied is more acceptable (Schreiber et al., 2006). Similarly, as a rule of a thumb, sample size larger than 30 and less than 500 (Roscoe, 1975) are appropriate provided the sample size is several times (at least 10 times as mentioned above) is generally accepted (Bougie & Sekaran, 2016).

Using the above criteria, the minimum sample size needed for the study would be 110 as there were 11 different questions posed to the respondents of the study. The researcher collected 358 filled questionnaires (out of 691 possible fill ups) from the respondents after they were subjected to the experiment. Out of this, 349 usable entries were used for analysis.

### **Research Instrument**

Questionnaire will be used as an instrument for the study. Apart from the questionnaire, the researcher separately noted down number of exposures of a particular volunteer based on the time stamp of WhatsApp seen statuses. This was maintained in a separate sheet. When the form fill ups were received, the latest number of exposures were appended to the data.

### **Questionnaire Design**

For this study, a previously developed questionnaire was used to capture variables related to this study. The questionnaires were used by several researchers in previous research and have been found to be valid to capture the variables under investigation. Responses were captured in seven-point Likert scale for Attitude towards Ad (Aad) and Attitude towards Brand (Aab) as advised in (Gardner, 1985; MacKenzie et al., 1986). Three open ended qualitative questions were used to capture Ad-Recall as advised in different literature (Grube & Wallack, 1994).

### **Computation of Ad Recall for Analysis**

As specified previously, this study uses unaided ad recall to measure the cognitive effect of the advertising message. In order to do the same, the study followed qualitative open-ended questions guidelines as outlined by Grube and Wallack (1994). As per the guidelines, three questions were used to assess Ad recall as a composite of Brand Recall, Product Recall and Brand Promise Recall (Grube & Wallack, 1994). The answers to these questions assessed on the basis of sub-questions and a marking grid which was used to convert the quantitative data to the qualitative data. These questions were further split into different questions for the ease of coding.

Table 3.2

*Coding Criteria for Ad Recall Computation*

	Component	Question	Min - Max Value	Coding criteria
Brand Recall	BR1	Recalls the name of the brand?	0-1	Khusi, Instant, Noodles. All three words needs to be recalled. 1/3 points for each word
	BR2	Recalls the elements of the brand?	0-1	1 point each for number of elements of the brand remembered divided by total number of brand elements. Advertisement 1 and 2 had 2 total elements, while Advertisement 3 and 4 had 3 total elements.
	BR Total = (BR1+BR2)/2		0-1	
Product Recall	PR1	Recalls number of flavours?	0,1	if the respondents recall exactly, then 1 else 0
	PR2	Recalls names of the flavours correctly?	0-3	if the respondents recall the name of all three flavours correctly 1, 0.5 for partial recalls

	PR3	Any extra recalls	0 - 4	1 point for each extra recall (4 was the highest number of extra recall)
	$PR = (PR1+PR2 + PR3)/\text{Max}(PR1+PR2+PR3)$		0-1	
Brand Promise Recall	BPR1	Recalls the meaning	0-1	1 if the respondents recalls the meaning, 0 if otherwise
	BPR2	percentage of exact phrase recall	0-1	percentage of words reproduced of the slogan used in the ad
	$BPR = (BPR1+BPR2)/2$		0-1	
Ad Recall	$AR = (BR+PR+BPR)/3$		0-1	

### Reliability and Validity

Previously developed and used measures have been used to measure the variables in this study. Internal consistency of the items in an instrument was measured using the score of reliability using Cronbach Alpha (Bougie & Sekaran, 2016). If the value is greater than 0.7, it is said that the constructs are consistent. However, some researchers also say that a Cronbach Alpha value of 0.6 could also be acceptable in some cases (Bougie & Sekaran, 2016).

Table 3.3

#### *Original Sources of Measurement*

Construct	Adapted From	Cronbach Alpha
Ad Recall	Qualitative open-ended questions as per the advertisement design as advised in Grube & Wallack (1994)	N/A

Attitude towards ad (7 Point Scale)	(Gardner, 1985; MacKenzie et al., 1986)	0.79, 0.85
Attitude towards Brand (7 Point Scale)	(Gardner, 1985; MacKenzie et al., 1986)	0.82, 0.85

---

### Data Analysis

The collected data was analyzed through the IBM SPSS 26.0 software. Descriptive statistics of socio-demographic variables as well as other variables was calculated. Analysis of Variance (ANOVA) test was conducted to see if there are significant differences in the values of dependent variables within the different exposure levels of advertisements. Similarly, correlation analysis, regression analysis and curve-fitting analysis was performed to assess the existence of different relationship and to establish an effective frequency.

## CHAPTER 4

## RESULTS

This chapter contains the results obtained from the analysis of the experiment data. First, respondent demographics have been determined and it is followed by the internal – consistency test using Cronbach’s alpha for all the variables used in the research. This is followed by ANOVA of the dependent variables with respect to the independent variables.

Correlation, regression analysis and curve fitting analysis were done to further investigate the relationships between the research variables. Both descriptive and inferential statistics were used for the analysis of data to get answers to the research questions, and also to test the proposed hypotheses for this study.

**Volunteers’ Profile**

In this study, a total of 61 volunteers signed up for participation initially. However, as the experiments progressed, the researcher managed to collect data points from 54 of these signed up volunteers. The profile of these 54 volunteers are now described in the tables and analyses below.

Table 4.1

*Education Level of Volunteers*

Highest Education Level	No. of Volunteers
10 + 2 (high school or less)	3
Bachelor’s degree	19
Masters’ Degree	32

Total	54
-------	----

Most of the volunteers seem to have done a post-graduate degree. When I combine the two large sets of people, 93.7% of the sample for this experiment have completed at-least Bachelor's degree. This is a stark contrast from Nepal's overall population where only 3.82% of the population have completed a Bachelor's degree according to 2011 statistics (MOEST, 2017).

Table 4.2

*Device Type used by the volunteers*

Device Type	No. of Volunteers
Android Device	35
iOS device (iPhone)	18
Laptop	1
Total	54

Most of the devices used by the volunteers for this experiment is mobile devices. This is understandable because WhatsApp is an application predominantly built for mobile platforms. Out of these volunteers who used mobile platforms, only around 33.96% of volunteers had an iOS device with the remaining taking part in this experiment on an Android device.

Table 4.3

*Primary Occupation of the Volunteers*

What is your primary occupation?	No. of volunteers
----------------------------------	-------------------

Business Owner	4
Homemaker	2
Professional / Service Provider	43
Student	5
<b>Grand Total</b>	<b>54</b>

As we can see from the above table, most of the volunteers of the experiments were professional / Service provider. There were some volunteers who preferred to call themselves students (five), Business Owner (four) and Homemaker (2).

Table 4.4

*Age of the Volunteers*

What is your age?	No. of Volunteers
18-24 years	12
25-34 years	26
35-44 years	14
45 and older	2
<b>Grand Total</b>	<b>54</b>

Most of the volunteers (~77%) are between the age group of 25-44. These 20 years in a person's life is not only the one where they have significant disposable income, but also the timeframe when they start to invest and save for the future.

No wonder then that this is one of the most important age groups for a marketer and fighting for the share of their wallets is what competition is for

marketers. So, how they reacted in the experiment could be of immense value to a marketing mind.

Table 4.5

*Annual Income of the Volunteers*

What is your annual income?	No. of volunteers
1.5 Million NRs. and higher	13
1-1.5 Million NRs.	7
0.5-1 Million NRs.	20
300-500 Thousand NRs.	4
Less than 300 Thousand NRs.	10
<b>Total</b>	<b>54</b>

In line with the age group analysis with respect to the disposable income, the above table states that more than 74% of people who volunteered for the experiment said they earn more than 5 Lakhs per annum per month which is a mid-level manager's salary in most companies in Nepal.

#### **Total Samples used in Analysis**

Out of 691 possible data points (as per the volunteer onboarding), during the course of the experiment, the researcher was able to gather 358 data points for the research. Only 54 out of the 61 volunteers participated in the experiment as outlined in volunteers' profile above. The experiment had maximum data points on the second exposure (51) and the lowest data points on the fourteenth exposure (1). Interestingly, some volunteers had filled out the form, without getting exposure to the advertisement as well as some of them did not understand the modality of the experiment on the first

day of the experiment. Total data points collected for each exposure are listed in the table below.

Table 4.6

*Number of volunteers Exposed to ads and number of data points per exposure*

Exposures	Number of volunteers	Number of Data Points
	Exposed	
0	N/A	4
1	54	44
2	52	51
3	46	50
4	41	49
5	37	35
6	31	29
7	21	16
8	17	20
9	16	19
10	14	13
11	13	14
12	9	9
13	5	4
14	4	1
Total	54	358

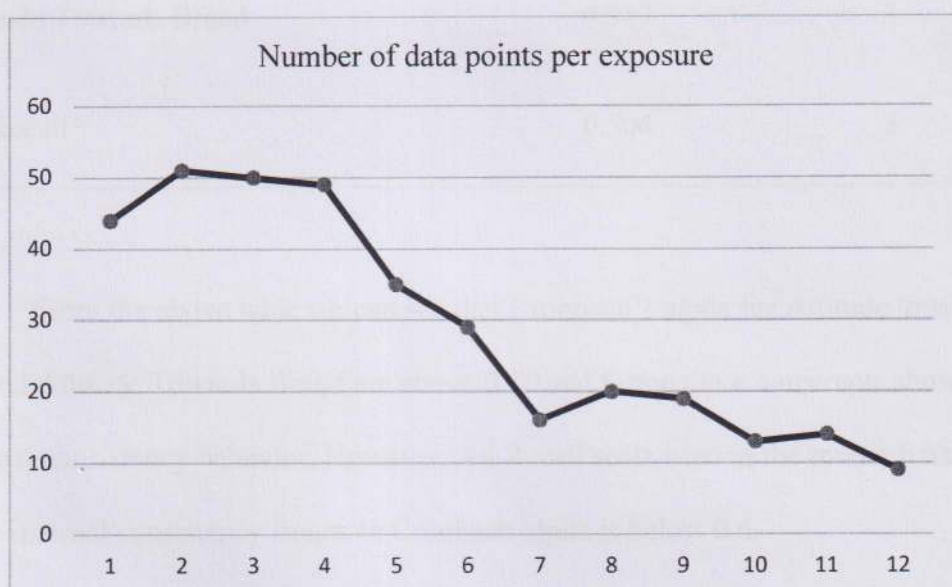
For robustness of the findings, the researcher decided to leave out data points from some of the exposures. Four data points received for zero exposure were

removed for obvious reasons. Similarly, four data points from thirteenth exposure and one data point from the fourteenth exposure were also removed as these would be statistically insignificant for the study.

Hence, total Samples used for analysis was 349. The figure below shows number of data points recorded for each exposure.

Figure 4.1

*Number of data points per exposure*



### Internal Consistency Analysis

Internal consistency of the variables used in the research needs to be tested. To test internal consistency, Cronbach's alpha test was used and the result of the same has been shown in the table below.

Table 4.7

*Cronbach's Alpha values for the scales*

	Cronbach's Alpha	N of Items
Attitude Towards Ad	0.771	4
Attitude Towards Brand	0.917	3
Ad Recall*	0.504	3

From the above table we can see that Cronbach's alpha for Attitude towards Ad and Attitude Towards Brand are above 0.70 and hence these constructs show internal consistency behavior. However, Ad Recall scale used in the research has some internal consistency issues as Cronbach alpha is below 0.6.

Ad Recall is a measure which was converted to Quantitative measure from the qualitative data. Also, it is to be noted that after 47 data points, a volunteer was used to remove bias from the data. Reliability analysis using only these first 47 data points shows Cronbach alpha of 0.601.

#### ANOVA Test

The experiment used four advertisements based on the number of exposure WhatsApp groups. So, the effect seen for higher exposures may have been due to the different advertisement treatment effect. To eliminate this, the researchers tested to

see if significant difference between mean value of variables and advertisement used for each exposure. The results of the same is shown in the table below.

Table 4.8

*ANOVA test for dependent variables with respect to Advertisements used*

Exp	Measures					
	AR		Aad Mean		Ab Mean	
	F	Sig.	F	Sig.	F	Sig.
1	1.050	0.381	0.459	0.713	1.104	0.359
2	2.910	0.044	2.371	0.820	1.477	0.233
3	2.800	0.050	1.540	0.217	1.539	0.217
4	1.520	0.229	0.974	0.385	0.410	0.666
5	3.389	0.075	0.000	0.994	0.188	0.667
6	2.583	0.950	1.786	0.188	2.726	0.840
7	3.054	0.102	0.022	0.884	0.354	0.561
8	0.839	0.372	4.260	0.054	4.962	0.039
9	0.121	0.732	13.140	0.002	6.500	0.021
11	0.500	0.493	3.440	0.088	3.594	0.082

Mostly, the table shows no significant difference in means in between the advertisement groups. However, in some cases where there is a significant difference in means, there are only 1 or 2 observation of ad groups from the other advertisement groups.

It should also be noted that significant differences in exposures if present are not present in all the measures but only in 2 measures at most. Hence, we can safely say that there is no effect of advertisement used in the study.

The purpose of the research was to see if there is effect on Ad Recall, Attitude towards Ad, Attitude towards Brand and Purchase Intention due to number of exposures. Therefore, a test to see significant differences between mean value of dependent variables and exposures was done using One-way ANOVA. The results of the same are presented in the table below.

Table 4.9

*One Way ANOVA for Effect of Exposures on Dependent Variables*

		Sum of Squares	df	Mean Square	F	Sig.
AR	Between Groups	1.721	11	0.156	3.799	0
	Within Groups	13.874	337	0.041		
	Total	15.595	348			
Aad Mean	Between Groups	42.509	11	3.864	3.884	0
	Within Groups	335.29	337	0.995		
	Total	377.799	348			
Ab Mean	Between Groups	18.266	11	1.661	1.137	0.331
	Within Groups	492.2	337	1.461		
	Total	510.467	348			

PI	Between Groups	20.753	11	1.887	1.245	0.256
	Within Groups	510.732	337	1.516		
	Total	531.484	348			

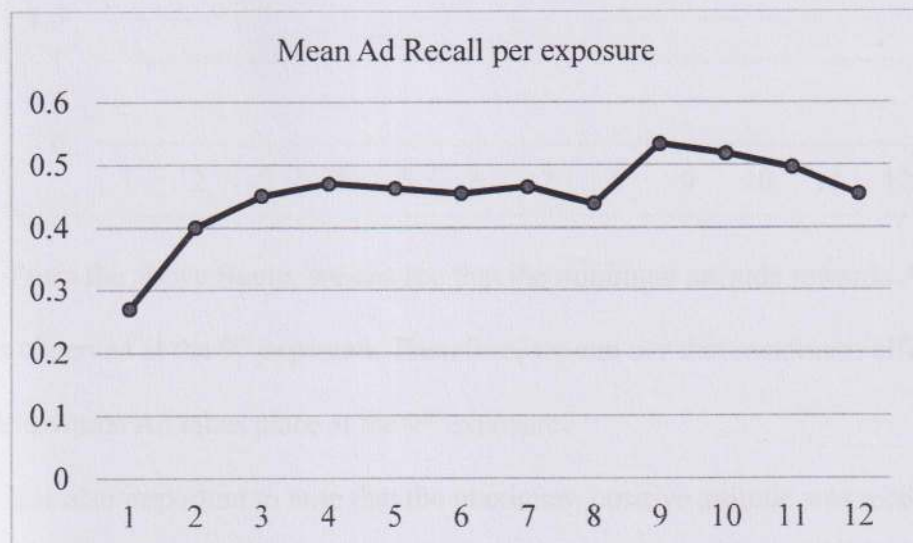
From the above, it is illustrated that there is significant difference in means along the exposures for Attitude towards ad and Ad Recall, but the difference in means between Attitude towards brand and Purchase intention are not significant. Next the mean values for Ad Recall and Attitude towards Ad are populated.

#### Mean of the Variables and the variation across different exposures

As the One-Way ANOVA analysis showed a significant difference in mean on Ad Recall and Attitude towards Ad values, the mean values for the same are plotted against number of exposures in the graphs below.

Figure 4.2

#### *Mean Ad Recall per Exposure*



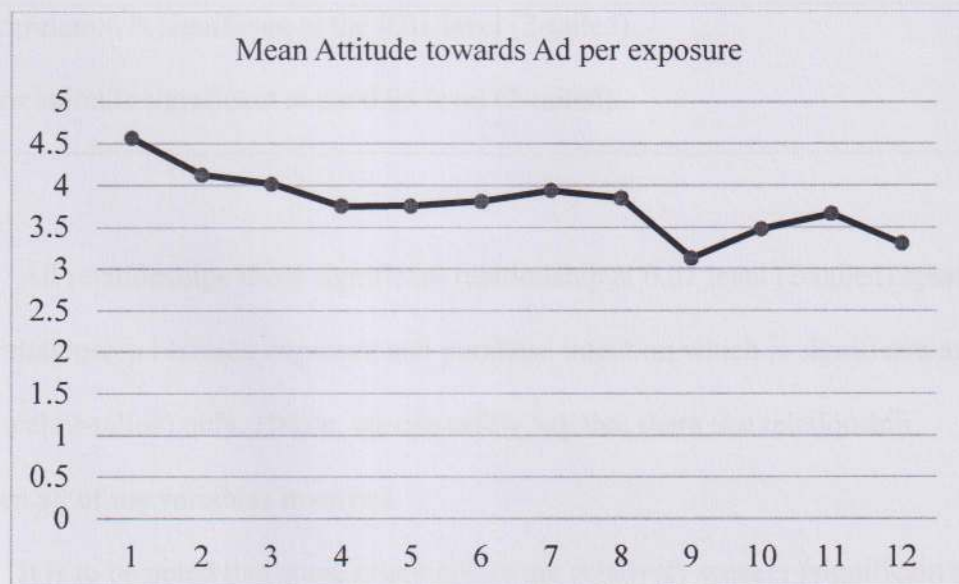
From the above figure, we can see that the maximum ad recall happened at the 9<sup>th</sup> exposure where the recall jumps up abruptly. Therefore, we can say that maximum recall happens at the 9<sup>th</sup> exposure.

There is also a ceiling effect that we can see due to repetition. We see this effect at two places- first after the 4<sup>th</sup> exposure and the second after the 9<sup>th</sup> exposure when learning after the 9<sup>th</sup> exposure drops off to the level of previous ceiling level (observed after the 4<sup>th</sup> exposure) in subsequent repetition.

A slightly different trend is seen in the mean values difference in the case of Attitude towards Ad as shown in the chart below.

Figure 4.3

*Mean Attitude towards Ad per Exposure*



From the above figure, we can see that the minimum attitude towards Ad value is observed at the 9<sup>th</sup> exposure. Therefore, we can say that maximum effect of Attitude towards Ad takes place at the 9<sup>th</sup> exposure.

It is also important to note that the maximum positive attitude was recorded after the first exposure itself.

### Correlation Test

Correlation test was conducted to show relationships between the several variables used in the research. The results of the correlation test are shown below:

Table 4.10

#### Results of Correlation Test

S.No.	Constructs	1	2	3	4	5
1	Aad Mean	1				
2	Ab Mean	.775**	1			
3	PI	.475**	.599**	1		
4	AR	-.152**	-.107*	-.183**	1	
5	E	-.275**	-.149**	-.132*	.231**	1

\*\* Correlation is significant at the 0.01 level (2-tailed).

\* Correlation is significant at the 0.05 level (2-tailed).

All relationships show significant relationship at 0.01 level (2-tailed) apart from relationship between exposure and purchase intention which is significant at 0.05 level (2-tailed) only. Hence, we can safely say that there is a relationship between all of the variables involved.

It is to be noted that some relationships are relatively weaker (significant at 0.05 level of significance) to other relationships (significant at 0.01 level of significance) e.g. the relationship between Attitude towards ad and attitude towards brand are pretty strong, whereas relationship between attitude towards ad and ad recall are pretty weak.

Interestingly, the relationship between Ad recall and Attitude towards ad have an inverse relationship. This has been discussed in detail in the discussion chapter.

### Regression Tests

To test the relationship between several components, several regression tests were carried out. The table 4.11 below shows the regression result of Ad recall as dependent variable and number of exposures as the independent variable. Here, we can see that there is a significant relationship between number of Exposures and Ad Recall and that with each subsequent exposure of the advertisement, Ad Recall improves by 0.231 base points.

Table 4.11

#### *Regression Result for Effect of Exposure on Ad Recall*

Independent Variable	Standardized Coefficients $\beta$	Sig.	Sum of Squares	d. f.	Mean Square	F	Sig.
(Constant)		0	0.833	1	0.833	19.58	.000
E	0.231	0	14.762	347	0.043		
			15.595	348			

In the table 4.12, the regression result of Attitude toward Ad as dependent variable and number of exposures as the independent variable is shown. The relationship between the two variables is shown as significant as well. The regression results show that with every subsequent exposure of the advertisement, Attitude toward Ad reduces by 0.275 base points.

Table 4.12

*Regression Result for Effect of Exposure on Attitude toward Ad*

Independent Variable	Standardized Coefficients $\beta$	Sig.	Sum of Squares	df	Mean Square	F	Sig.
(Constant)		0	28.528	1	28.528	28.343	.000
E	-0.275	0	349.271	347	1.007		
			377.799	348			

Similarly, Table 4.13 shows the regression result for effect of Ad Recall on Attitude toward Ad. The results show that there is a significant relationship between the two variable and that with each unit increment on Ad Recall, Attitude towards Ad decreases by 0.152 base points as well.

Table 4.13

*Regression Result for Effect of Ad Recall on Attitude toward Ad*

Independent Variable	Standardized Coefficients $\beta$	Sig.	Sum of Squares	df	Mean Square	F	Sig.
(Constant)		0	8.678	1	8.678	8.158	0.005
AR	-0.152	0.005	369.121	347	1.064		
			377.799	348			

In the regression analysis conducted for Ad Recall's effect on Attitude toward brand, the results indicate that there is a significant relationship between the two variables as well. Table 4.14 shows that for each increment in unit base point for Ad Recall, there is a decrease of 0.107 in the Attitude toward Brand base point value.

Table 4.14

*Regression Result for Effect of Ad Recall on Attitude toward Brand*

Independent Variable	Standardized Coefficients $\beta$	Sig.	Sum of Squares	df	Mean Square	F	Sig.
(Constant)		0	5.891	1	5.891	4.051	0.045
AR	-0.107	0.045	504.576	347	1.454		
			510.467	348			

Similarly, table 4.15 shows that there is a significant effect of Attitude toward Ad on Attitude toward Brand. From the results, we can state that for every base point increase in Attitude toward Ad, Attitude toward Brand increases by 0.775 base points as well.

Table 4.15

*Regression Result for Effect of Attitude toward Ad on Attitude toward Brand*

Independent Variable	Standardized Coefficients $\beta$	Sig.	Sum of Squares	df	Mean Square	F	Sig.
(Constant)		0.012	306.662	1	306.662	522.125	.000
Aad mean	0.775	0	203.805	347	0.587		
			510.467	348			

Table 4.16 tested the effect of Attitude toward Ad on Purchase intention and the relationship between the two variables were found significant with per unit base point increment in Attitude toward Ad value leading to 0.475 base point increment on Purchase Intention values.

Table 4.16

*Regression result for Effect of Attitude toward Ad on Purchase Intention*

Independent Variable	Standardized Coefficients $\beta$	Sig.	Sum of Squares	df	Mean Square	F	Sig.
(Constant)	0	0.001	119.983	1	119.983	101.177	.000
Aad mean	0.475	0	411.501	347	1.186		
			531.484	348			

Similarly, Table 4.17 tested the effect of Attitude toward Brand on Purchase intention and the relationship between the two variables were found significant with per unit base point increment in Attitude toward Brand value leading to 0.599 base point increment on Purchase Intention values.

Table 4.17

*Regression result for Effect of Attitude toward Brand on Purchase Intention*

Independent Variable	Standardized Coefficients $\beta$	Sig.	Sum of Squares	df	Mean Square	F	Sig.
(Constant)	0	0.003	190.55	1	190.6	193.95	.000b

Ab mean	0.599	0	340.92	347	0.9
			531.484	348	

### Tests for mediation effects

A mediation model is used to identify and explain the path variable (called mediator variable) through which most of the effect of independent variable is transferred to a dependent variable (Baron & Kenny, 1986). As opposed to a simple causal relationship between independent and dependent variable, the independent variable influences the mediator variable (which is often unobservable) which in turn influences the dependent variable (Baron & Kenny, 1986). To test for mediation effects, Born and Kenny method for mediation test was used (Baron & Kenny, 1986).

Table 4.18

*Model Fit result for Attitude toward Brand*

Independent Variable	Standardized Coefficients $\beta$	Sig.	Sum of Squares	df	Mean		
					Squar e	F	Sig.
(Constant)		0.058	306.71	2	153.3	260.4	.000b
AR	0.01	0.765	203.75	346	0.6		
Aadmean	0.777	0	510.46	348			

Table 4.14 and Table 4.15 have already shown significant effect on Attitude toward brand with Ad recall and Attitude toward Ad. Table 4.18 tests the mediation path for the variables and as the coefficient for Ad recall shows no significant effect,

we can say that Attitude toward Ad mediates the relationship between Ad Recall and Attitude towards Ad (Baron & Kenny, 1986).

The relationship between Attitude toward Ad and purchase intention and the relationship between Attitude toward Brand and Purchase intention was already shown significant through Table 4.16 and Table 4.17, to test the mediation between the variables, Table 4.19 tested the total model fit for Purchase Intention with Attitude toward Ad and Attitude toward Brand as dependent variables. Although the model was found to significantly define Purchase intention, the coefficient for Attitude toward brand was found to be insignificant. This implies that the relationship between Attitude towards Ad and Purchase Intention is mediated through Attitude towards Brand Ab (Baron & Kenny, 1986).

Table 4.19

*Model Fit result for Purchase Intention*

Independent Variable	Standardized Coefficients $\beta$	Sig.	Sum of Squares	df	Mean Square	F	Sig.
(Constant)		0.02	190.72	2	95.4	96.8	.000
Ab mean	0.577	0	340.76	346	0.9		
Aad mean	0.028	0.68	531.48	348			

### Curve Fitting Analysis

Although all of the above regression results show that most of the linear relationships are significant, the theory guides that the relationship between Exposure and Ad recall and hence Attitude towards ad could be nonlinear in nature (Cacioppo

& Petty, 1981; Gardner, 1985). Hence, the research also explored these relationships using curve fitting techniques as well.

### Curve Fitting between Exposure and Ad Recall

Table 4.20

*Curve Fitting Result for Effect of Exposure on Ad Recall*

Equation	Model Summary					Parameter Estimates			
	Adj. R Square	F	df1	df2	Sig.	Constant	b1	b2	b3
Linear	0.051	19.58	1	347	0	0.357	0.016		
Logarithmic	0.081	31.557	1	347	0	0.321	0.084		
Inverse	0.098	38.818	1	347	0	0.516	-0.24		
Quadratic	0.075	15.186	2	346	0	0.267	0.06	-0.004	
Cubic	0.084	11.634	3	345	0	0.181	0.131	-0.018	0.001
Compound	.	.	.	.	.	.	.	.	.
Power	.	.	.	.	.	.	.	.	.
S	.	.	.	.	.	.	.	.	.
Growth	.	.	.	.	.	.	.	.	.
Exponential	.	.	.	.	.	.	.	.	.

The independent variable is E.

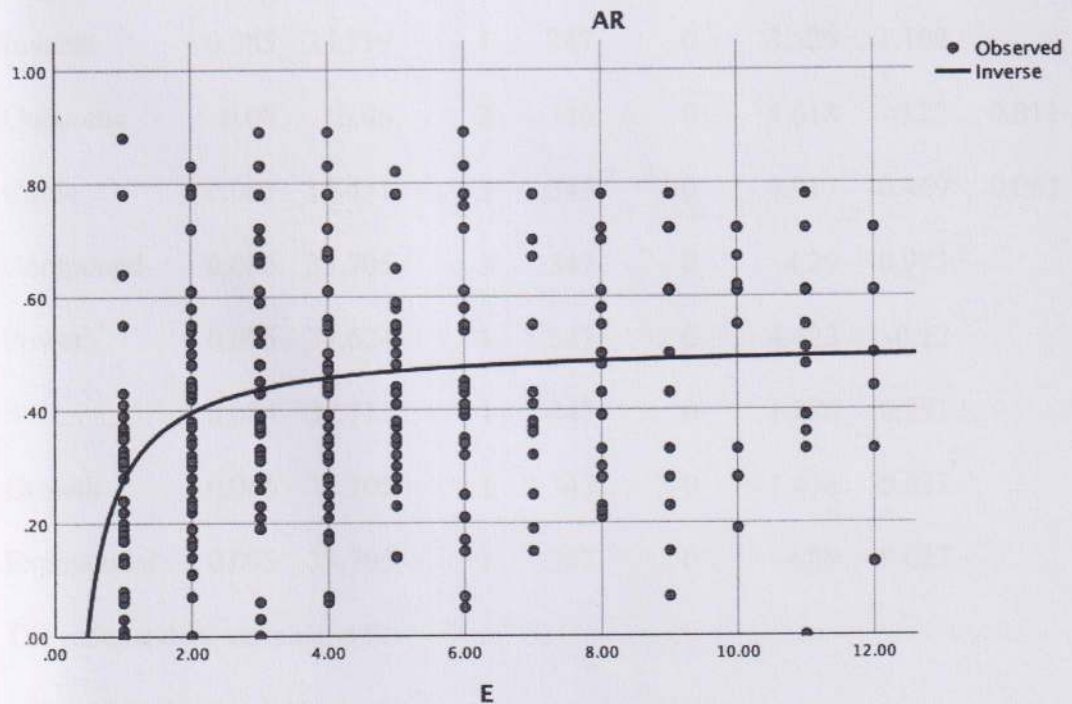
a The dependent variable (AR) contains non-positive values. The minimum value is .00. Log transform cannot be applied. The Compound, Power, S, Growth and Exponential models cannot be calculated for this variable.

As shown, the linear curve estimations have the least adjusted R square values and hence running a non-linear modelling is validated in this context. Although the curve estimates show significant linear, logarithmic, quadratic and cubic relationships as significant, the model with the best adjusted R square values is taken as the best fit model (Cameron & Windmeijer, 1997).

In this case, the inverse model has the highest Adjusted R square value, and hence this analysis considers the relationship between exposure and Ad recall as inverse function with a negative coefficient.

Figure 4.4

*Curve Fitting of Ad Recall against number of exposures.*



Using the coefficients from inverse curve fitting, the estimated model is  $AR = 0.516 - 0.24/E$ . It is interesting to note that the model predicts that the maximum learning that can take place is 51.6%. This is discussed in detail in the discussion chapter, but this could be because of how the ad recall was computed and that it

would be impossible for a respondent to record more than 50% (reaching of a ceiling effect) of the ad while filling up their survey questionnaire.

### Curve Fitting between Exposure and Attitude towards Ad

Table 4.21

*Curve Fitting Result for Effect of Exposure Attitude toward Ad*

Equation	Model Summary					Parameter Estimates			
	Adj. R Square	F	df1	df2	Sig.	Constant	b1	b2	b3
Linear	0.073	28.343	1	347	0	4.359	-0.094		
Logarithmic	0.088	34.616	1	347	0	4.489	-0.434		
Inverse	0.085	33.219	1	347	0	3.529	1.102		
Quadratic	0.08	16.06	2	346	0	4.618	-0.22	0.011	
Cubic	0.083	11.451	3	345	0	4.917	-0.469	0.061	-0.003
Compound	0.086	33.705	1	347	0	4.29	0.973		
Power	0.095	37.624	1	347	0	4.423	-0.12		
S	0.084	32.711	1	347	0	1.226	0.291		
Growth	0.086	33.705	1	347	0	1.456	-0.027		
Exponential	0.095	33.705	1	347	0	4.29	-0.027		

The independent variable is E.

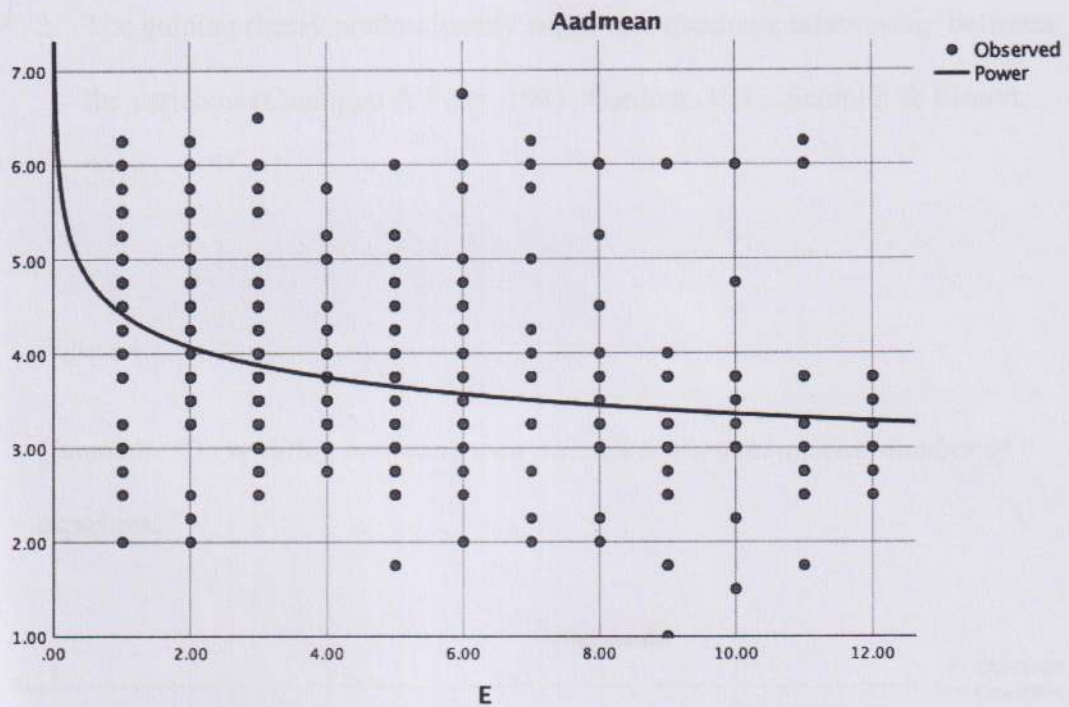
a The dependent variable is AR

Here again, the linear regression model has the least R square value and hence adds impetus to the need to run non-linear regression models. As discussed earlier,

taking the model with the highest adjusted R square value (Power) as the relationship between the two variables here.

Figure 4.5

Power Curve fitting of Attitude toward ad values against number of Exposures



From the above graph, we can see that the Attitude towards the Ad keeps on decreasing with subsequent exposure. This is an opposite observation from what was expected from the theory. This could be because the product in the advertisement had a negative connotation. Regardless, in this experiment we were concerned about the effect of the exposure (in any direction). From the graph it is noted that the effect keeps on rising (on a negative axes) with the subsequent exposure.

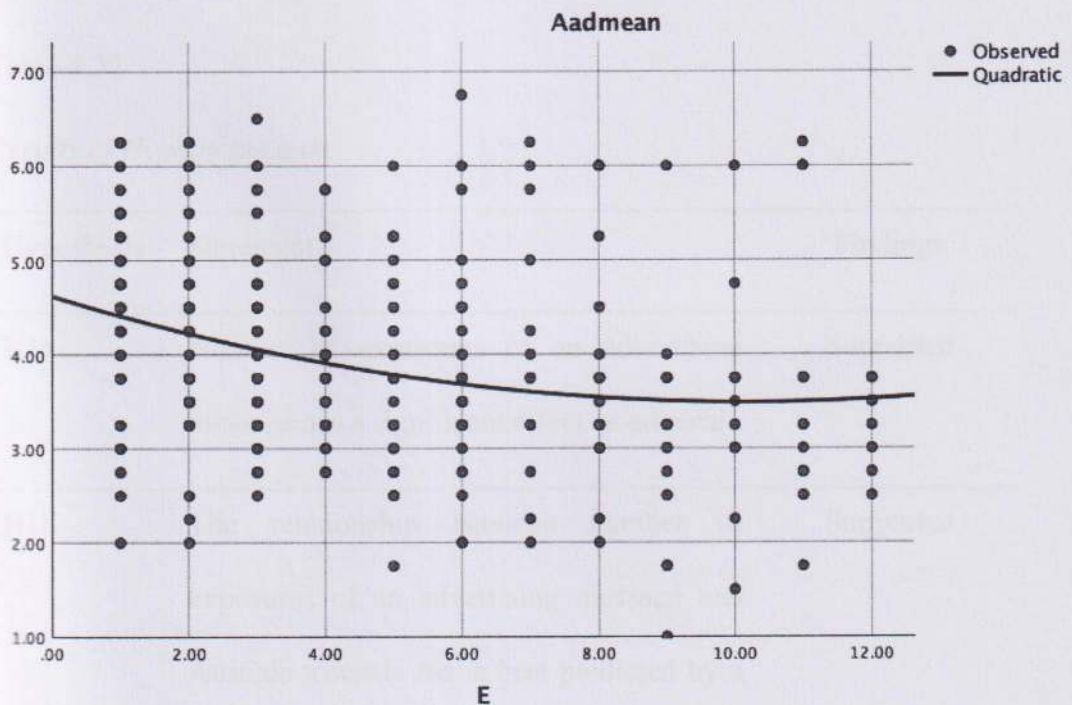
The model predicted from this analysis is  $Aadmean = 4.423 + (E)^{-0.12}$ .

Although the analysis shows an inverse relationship (best fit) between these two variables, this analysis also considers the quadratic model for the discussion purposes. The researcher feels a necessity to include this analysis because:

1. Quadratic model does significantly explain the variations in the dependent variable with respect to independent variables as shown in the results.
2. The guiding theory predominantly suggests a quadratic relationship between the variables (Cacioppo & Petty, 1981; Gardner, 1985; Schmidt & Eisend, 2015).

Figure 4.6

*Quadratic Curve fitting between mean Attitude toward ad against number of exposures.*



An interesting thing to note here is, the quadratic relationship here is not that of an U and not an inverted U. As noted in the correlation analysis, this may be

because of the product used which may have had a negative connotation towards the ad.

Hence, if we assume that if the product used was neutral (or even positively perceived), the relationship could be as expected. Taking this assumption, we proceed to solve the quadratic function for the maximum effect (in this case minimum Attitude towards Ad).

From the analysis, the quadratic function takes the form of  $4.618 - 0.22E + 0.011 E^2 = 0$ . Solving the equation for minimum value, we get  $E = 10$ .

From this we can say that, in the experiment, Attitude towards ad continuously decreased till the 10th exposure, but increased after the 10th exposure making this the inflection point. Hence from the effect point of view, we can say that the maximum effect on the dependent variable occurs on the 10th exposure.

### Results of Hypothesis Tests

Table 4.22

#### *Results of Hypotheses tests*

Hypothesis	Statement	Findings
H1a	Number of exposures of an advertising message has a significant effect on ad recall.	Supported
H1b	The relationship between number of exposures of an advertising message and Attitude towards Ad is best predicted by a nonlinear equation.	Supported

---

H2a	Number of exposures of an advertising message has a significant effect on the Attitude towards Ad.	Supported
H2b	The relationship between number of exposures of an advertising message and Attitude towards Ad is best predicted by a nonlinear equation.	Supported
H3	Ad Recall has a significant effect on the Attitude towards Ad.	Supported
H4	Ad Recall has a significant effect on the Attitude towards Brand.	Supported
H5a	Attitude towards Ad has a significant effect on the Attitude towards Brand.	Supported
H5b	Attitude towards Ad mediates the relationship between Ad Recall and Attitude towards Brand	Supported
H6	Attitude towards Brand has a significant effect on the Purchase Intention.	Supported
H7a	Attitude towards Ad has a significant effect on the Purchase Intention.	Supported
H7b	Attitude towards Brand mediates the	Supported

---

---

relationship between Attitude towards Ad  
and Purchase Intention.

---

The chapter presents a summary of the major findings and how they may be applied to the theoretical base of knowledge and the practical situation of such decisions as the advertising program.

The chapter will first discuss the necessity of the findings. A discussion of these findings will follow and then the conclusions of the study will be discussed. A body of knowledge and practical will be given. A critical evaluation of the study will be given at the end of the chapter.

#### Summary of the Findings

This study was designed to find out the attitude towards an advertisement in the field of marketing activities. The study also focused on the effect of the exposure on Ad Recall, Attitude towards Ad. The last part of study focused on validating the effect of Ad Recall on purchase intention. Ad Recall was measured and also the effect of these two variables on purchase intention including mediation effects on the variables. The results of the study are beyond findings from the study. Major of the major findings are listed below.

1. Although the respondents expressed a positive attitude toward

advertisement, there was a significant difference in the attitude toward Ad Recall.

2. Attitude toward Ad and Ad Recall toward Ad had a positive effect on purchase

intention and Ad Recall had a significant effect on purchase intention.

3. There was a significant difference between the attitude toward Ad Recall and

## CHAPTER 5

### SUMMARY, DISCUSSION AND IMPLICATIONS

This chapter presents a summary of the major findings and how they translate to implications to both the theoretical body of knowledge and for managers who have to make decisions about their advertising programs.

The chapter will first provide a summary of the findings. A discussion on these findings will follow and then the implication of the results to the theoretical body of knowledge and practitioner will be done. A critique and limitation of the studies are present at the end of the chapter.

#### **Summary of the Findings**

This study was intended to find out the effective frequency of an advertisement in the social messaging platform. The study also focused on the effect of the exposure on Ad Recall, Attitude towards Ad. The later part of study focused on validating the effects of Ad Recall on Attitude towards Ad, Attitude towards Brand and also the effect of these two variables (Aad and Aab) on Purchase Intention including mediation effects on the variables. The results of the tests gave several findings from the study. Some of the major findings are listed below:

1. Although there were some exposures where use of different advertisements caused a significant difference in the values of Ad Recall, Attitude toward Ad and Attitude toward brand, none of these particular cases had statistically significant sample size. Overall, the research found no significant difference between the mean values within groups and hence

it was found that there is no effect on the study variables due to the advertisement used in the study.

2. The number of exposures of an advertisement has a significant effect on Ad recall and Attitude towards Ad values. However, it has no significant effect on Attitude toward Brand and Purchase Intention values.
3. The mean analysis of Ad Recall and Attitude toward Ad suggests that the maximum effect of the advertisement is seen at the ninth exposure. While, a ceiling effect is observed after the fourth and ninth exposure for Ad recall, an inverse relationship is observed for Attitude toward Ad.
4. The correlation test suggests that there is a significant relationship between all the variables. It is also noted that some relationships are relatively weaker (significant at 0.05 level of significance) to other relationships (significant at 0.01 level of significance) e.g. the relationship between Attitude towards ad and attitude towards brand are pretty strong, whereas relationship between attitude towards ad and ad recall are pretty weak. The relationship between Ad recall and Attitude towards ad has an inverse relationship.
5. There is a significant relationship between number of Exposures and Ad Recall and that with each subsequent exposure of the advertisement, Ad Recall improves by 0.231 base points.
6. There is a significant relationship between number of exposures and Attitude toward Ad. The regression results show that with every subsequent exposure of the advertisement, Attitude toward Ad reduces by 0.275 base points.

7. There is a significant relationship between number of exposure and that with each unit increment on Ad Recall, Attitude towards Ad decreases by 0.152 base points as well.
8. There is a significant effect of Ad recall on Attitude toward brand and for each increment in unit base point for Ad Recall, there is a decrease of 0.107 in the Attitude toward Brand base point value.
9. There is a significant effect of Attitude toward Ad on Attitude toward Brand and for every base point increase in Attitude toward Ad, Attitude toward Brand increases by 0.775 base points as well.
10. There is a significant effect of Attitude toward Ad on Purchase intention with per unit base point increment in Attitude toward Ad value leading to 0.475 base point increment on Purchase Intention values.
11. There is a significant effect of Attitude toward Brand on Purchase Intention with per unit base point increment in Attitude toward Brand value leading to 0.599 base point increment on Purchase Intention values.
12. The model fit results showed that the coefficients of Ad recall had no significant effect on the model that predicts Attitude toward brand. However, the coefficient of attitude toward Ad had a significant effect on Attitude toward brand. Hence, the relationship between Ad Recall and Attitude toward Brand is mediated through Attitude toward Ad.
13. Similarly, the model fit results showed that the coefficients of Attitude toward Ad had no significant effect on the model that predicts Purchase Intention. However, the coefficient of Attitude toward Brand had a significant effect on Purchase Intention. Hence, the relationship between

Attitude toward Ad and Purchase Intention is mediated through Attitude toward Ad.

14. The relationship between number of exposure and Ad Recall is best predicted through an inverse function written as  $AR = 0.516 - 0.24/E$ .
15. The relationship between number of exposure and Attitude toward Ad is best predicted through a power function written as  $Aadmean = 4.423 + (E)^{-0.12}$ .
16. The quadratic relationship between number of exposure and Attitude toward Ad can be written as  $4.618 - 0.22E + 0.011 E^2 = 0$ . This indicates that the maximum effect of the advertisement occurs at the tenth exposure.

### Discussions

As presented in the analysis, all three dependent variables (Ad Recall, Attitude towards Ad) that were tested have been shown to have a significant relationship with the independent variable (Exposure). This is in line with the previous observations (Cacioppo & Petty, 1979; Gardner, 1985; Schmidt & Eisend, 2015; Scholten, 1996).

The results show that Attitude towards Ad mediates the relationship between Ad Recall and Attitude towards Ad. Similarly, the results also show that Attitude towards brand mediates the relationship between Attitude toward Ad and Purchase intention. This result is expected as per the two-stage cognitive response model which states that the cognitive responses (Ad Recall) evoked by an ad mediate brand attitudes and purchase intension (Cacioppo & Petty, 1979, 1981; Gorn et al., 1980). The research therefore validates the Advertisement (Information) processing model (Belch, 1982; Gardner, 1985; MacKenzie et al., 1986; Scholten, 1996) with one of the

four structural specifications of the mediating role of Attitude toward Ad. This results show that Affect Transfer Hypothesis best describes the mediating role of Attitude towards Ad as per the model (Gardner, 1985) in social media messaging platforms.

It is hence important to note that with each increasing exposure, Ad recall keeps on increasing. Also, even for a simple advertisement like that was used in the experiment, the researcher notes that the learning can never be complete as there will always be some learning taking place with each new exposure that was not in cognition before.

The mean analysis shows that the maximum effect of advertisement for both Ad Recall and Attitude towards Ad occurs at the ninth exposure. So, from this mean analysis, we can say that the effective frequency in social messaging setting is 9 exposures.

The analysis from curve estimation also puts the maximum effect on Ad recall and Attitude towards Ad at 10 exposures (close to 9 exposures). This result was expected as there have been several studies pointing out that more than the traditionally believed (3-5 exposures) would probably yield higher effectiveness in modern time and in online settings (Schmidt & Eisend, 2015).

This also establishes that rules of the games in online and social media advertisements are different and more is always better unlike in print media where 5-8 exposures are considered good for effectiveness of the advertisement program (Cacioppo & Petty, 1979, 1981; Pechmann & Stewart, 1988).

The decreasing effect of exposure on Attitude towards Ad (as predicted by the power function) could be interpreted in two different ways:

1. As an incremental effect:

We could consider that the product that was used (instant noodles) may have a slightly negative vibes among the volunteer population. At least 5 volunteers from the experiment (~10%) told the researcher that no matter how much they saw the ad, they could never like the product, because the product was instant noodles.

In such context, we could consider that the effect on exposure actually worked to elevate this negative connotation and hence if the same experiment is used on a product with a positive connotation, we could see a reverse in results (Cacioppo & Petty, 1979, 1981). Regardless, we can argue that with each subsequent exposure, we do see a sustained increment on the effect of exposure on the attitude towards ad. If we take this assumption, it may make sense to look at the no. of times exposure can be repeated after which the learning and attitude effects are negligible. This analysis suggests 10 exposures.

2. Attitude towards ad is highest with the first exposure.

We could also interpret that the attitude towards ad in a social messaging platform is highest in the first exposure only. This is in line with the findings by Cacioppo & Petty (1981) for products which arouse a negative cognitive feeling the maximum effect on attitude to could happen between 1-3 exposures. The effect could have been amplified because of the platform that was used for this experiment.

In line with the learning theory (Hillary et al., 2003) that learning improves with each successive repetition regardless of number of repetitions, It is interesting to

note that the model predicts that the maximum learning that can take place is 51.6%. This could be because of how the ad recall was computed and that it would be impossible for a respondent to record more than 50% of the ad while filling up their survey questionnaire. This behavior however is expected and there are numerous references to ceiling effect on learning from an advertisement recorded (Pechmann & Stewart, 1988; Schmidt & Eisend, 2015).

Hence from the two analysis, (curve fitting between Ad recall vs. exposure and quadratic curve fitting between attitude towards ad and Exposure), we can say that the effective frequency is either 10 when the effect on attitude towards ad starts to reverse. This can be interpreted as per the “two-factor” theory which says that two opposing forces contribute to the information processing model and often effective frequency is found when effect of one force (that induces positive thoughts) is taken over by the opposing force (that induces irritation and negative thoughts) (Cacioppo & Petty, 1979, 1981; Petty & Cacioppo, 1986; Scholten, 1996).

Furthermore, the study validates that the relationship between number of exposure of advertising message and Ad recall and that between number of exposure of advertising message and Attitude towards Ad is nonlinear and not linear. However, contrary to the Wear In Wear Out theory, this study found that the best predictor of the relationship between advertising frequency and Ad Recall is an inverse function while the relationship between advertising frequency and Attitude toward Ad is best predicted by a power function.

### **Implications**

The findings of this study have implications to managers (practitioners) and researchers. The implications for practicing managers and researchers are discussed in detail in the following sections.

### **Theoretical Implication and contribution**

This research is important because there had been very little research that looks at the number of exposures (one of the three factors considered by advertising managers including content and reach) effect on ad recall on social media platforms and none so far in the social messaging platforms.

Social media platforms (and social messaging platforms) have become unique for advertisers because unlike any other advertising platforms, it suffers from a lot of noise at the same time allowing for highest engagement on ads.

In this context, the age old rule of 3 exposures of one ad (that most advertising managers follow till now) needed to be tested specially because recent study on online settings have tended to challenge this notion and have presented cases for higher number of exposures.

The research also validates the Advertisement (Information) processing model (Belch, 1982; Gardner, 1985; MacKenzie et al., 1986; Scholten, 1996) with one of the four structural specifications of the mediating role of Attitude toward Ad. This results show that Affect Transfer Hypothesis best describes the mediating role of Attitude towards Ad in the model (Gardner, 1985).

It is also to be noted that although the experiment tried hard to replicate the real world scenario with a known product and a usual branding message (as detailed in the experiment), the advertisements were sent by the researcher and hence can be perceived as a message or an endorsement from an influencer. As such, this research could also shed light on influencer marketing in social messaging platforms. It is to be noted that the researcher does not claim to be a social media influencer, but just points out that the experimental setting could be interpreted as such. Therefore, in future, an

experiment of a similar kind with an actual social media influencer and its effect of advertising effectiveness could shed interesting knowledge in this field.

### **Managerial Implication**

As we can note from the age groups distribution, most of the volunteers (~77%) are between the age group of 25-44. These 20 years in a person's life is not only the one where they have significant disposable income, but also the timeframe when they start to invest and save for the future.

No wonder then that this is one of the most important age groups for a marketer and fighting for the share of their wallets is what competition is for marketers. So, how they reacted in the experiment will surely be of immense value to a marketing mind.

Managers should note that even if the ad is repeated for more than 12 times, there is always some incremental learning happening in terms of Advertisement and the product although a ceiling (decreasing rate of learning) would have been reached around 9 exposure as per the study. Same is the effect with Attitude towards Ad. That being said, the incremental effect of repetition is very less and hence may not make sense to repeat the same advertisement after 9-10 exposures. It is also to be noted that the attitude about the Ad is formed during the first few exposures (when Recall also improves drastically). Therefore, although attitude may change ever slightly with each subsequent exposure, exposures beyond 9-10 should not drastically change the Attitude of Ad for a consumer.

Also, it is to be noted that the Ad recall does effect Attitude toward brand but is mediated through the Attitude toward the Advertisement. It is therefore important to create good advertisements so that Attitude toward Brands developed through Attitude toward Ad are always positive.

### **Limitations and further Research**

The effort to minimize errors in the study was implemented as much as possible. However, like any research, errors and practical considerations has had an effect on the results of this study as well. The study was conducted from a pool of researcher's social media contacts. This could have had an effect on the results. Therefore, in future it would be good to conduct the experiment from a wider pool of volunteers. Conducting the experiment as a part of the Facebook Research program (Facebook Inc, 2020) could be a good option while repeating this experiment in the future.

It is also to be noted that although the experiment tried hard to replicate the real world scenario with a known product and a usual branding message (as detailed in the experiment), the advertisements were sent by the researcher and hence can be perceived as a message or an endorsement from an influencer (Ong & Ito, 2019). As such, this research could also shed light on influencer marketing in social messaging platforms. It is to be noted that the researcher does not claim to be a social media influencer, but just points out that the experimental setting could be interpreted as such. Therefore, in future, an experiment of a similar kind with an actual social media influencer and its effect of advertising effectiveness could shed interesting knowledge in this field.

It is noted in past works that the results from Ad Recall measurement differ depending on whether the ad recall is immediate or delayed (Pechmann & Stewart, 1988). In this experiment, Ad Recall and other variables were not measured in a time-bound fashion and hence the data may have both immediate and delayed Ad Recall

values. Future research should focus on measuring Ad Recall in specified times so that the effect of advertisement exposure on both delayed and immediate Ad Recall could be understood better.

Although Ad Recall could be measured as aided, partially aided or fully unaided recalls, the research opted to use unaided Recalls. This meant that open ended qualitative questionnaire had to be used. This has caused an issue of internal consistency (Cronbach's alpha value of 0.501) in the scale. In future, either a pilot tested questionnaire should be used or aided recall for which a pre-tested scale would be available should be used.

The experiment was designed to run for 15 days straight, which meant that the volunteers were exposed to the advertisement every day by design. This is unlike in the practical scenario. Hence, to extend the generalizability of the results, an experiment with spaced exposures (both random or distinct spacing) could be pursued in future researches.

Researchers in the past have pointed out that depending on whether the participants of the experiment have positive or negative cognition about the product in the advertisement, its effect is different on Ad Recall and subsequent stages (Cacioppo & Petty, 1979) of the Advertisement communication model. This experiment did not ask respondents for their perception of the product. It is noted in discussion that this could be responsible for few effects in our research. Therefore, it is recommended that perception of the product being advertised be recorded when carrying out a similar research in the future. It is to be noted that there has been no research on influencer marketing and effective frequency.

The experiment was designed for and run in the WhatsApp platform. This needs to be tested in other messaging platforms (e.g. Viber, WeChat, Line, etc.) for the wider generalization of the model.

Although the study was able to validate Affect Transfer hypothesis of the mediating role of Attitude towards Ad, the tests were done without a cognition component of the brand. Further research should introduce this component and see if the mediating role is better explained by affect transfer hypothesis or dual mediation hypothesis (Gardner, 1985; MacKenzie et al., 1986).

## REFERENCES

- Adcock, R., & Collier, D. (2001). Measurement validity: A shared standard for qualitative and quantitative research. *American Political Science Review*, 529–546.
- Baron, R. M., & Kenny, D. A. (1986). The moderator–mediator variable distinction in social psychological research: Conceptual, strategic, and statistical considerations. *Journal of Personality and Social Psychology*, 51(6), 1173.
- Barry, T. E. (1987). The development of the hierarchy of effects: An historical perspective. *Current Issues and Research in Advertising*, 10(1–2), 251–295.  
<https://doi.org/10.1080/01633392.1987.10504921>
- Belch, G. E. (1982). The Effects of Television Commercial Repetition on Cognitive Response and Message Acceptance. *Journal of Consumer Research*, 9(1), 56–65.  
<https://doi.org/10.1086/208896>
- Booms, B. (1981). Marketing strategies and organizational structures for service firms. *Marketing of Services*.
- Bougie, R., & Sekaran, U. (2016). *Research Methods For Business: A Skill Building 7 ed.* Wily.
- Briggs, R., & Hollis, N. (1997). Advertising on the web: Is there response before click-through? *Journal of Advertising Research*, 37(2), 33–46.
- Burns & Bush, Marketing Research | Pearson.* (2003).  
<https://www.pearson.com/us/higher-education/product/Burns-Marketing-Research-7th-Edition/9780133074673.html>
- Burton, J. L., Gollins, J., McNeely, L. E., & Walls, D. M. (2019). Revisiting the relationship between ad frequency and purchase intentions how affect and cognition mediate outcomes at different levels of advertising frequency. *Journal*

- of Advertising Research*, 59(1), 27–39. <https://doi.org/10.2501/JAR-2018-031>
- Cacioppo, J. T., & Petty, R. E. (1979). Effects of message repetition and position on cognitive response, recall, and persuasion. *Journal of Personality and Social Psychology*, 37(1), 3–12. <https://doi.org/10.1037/0022-3514.37.1.97>
- Cacioppo, J. T., & Petty, R. E. (1981). Electromyograms as measures of extent and affectivity of information processing. *American Psychologist*, 36(5), 441. <https://doi.org/10.1037/0003-066X.36.5.441>
- Cacioppo, J. T., Petty, R. E., & Morris, K. J. (1983). Effects of need for cognition on message evaluation, recall, and persuasion. *Journal of Personality and Social Psychology*, 45(4), 805. <https://doi.org/10.1037/0022-3514.45.4.805>
- Cameron, A. C., & Windmeijer, F. A. G. (1997). An R-squared measure of goodness of fit for some common nonlinear regression models. *Journal of Econometrics*, 77(2), 329–342. [https://doi.org/10.1016/s0304-4076\(96\)01818-0](https://doi.org/10.1016/s0304-4076(96)01818-0)
- Cauberghe, V., & De Pelsmacker, P. (2010). Advergaming. *Journal of Advertising*, 39(1), 5–12. <https://doi.org/10.2753/JOA0091-3367390101>
- Colley, R. H. (1961). *Defining Advertising Goals for Measured Advertising Results*. Association of National Advertisers. Inc., New York, NY.
- Dahlen, M. (2001). Banner advertisements through a new lens. *Journal of Advertising Research*, 41(4), 23–30. <https://doi.org/10.2501/JAR-41-4-23-30>
- Engel, J. F., Kollat, D. T., & Blackwell, R. D. (1968). A model of consumer motivation and behavior. In *Research in Consumer Behavior* (pp. 3–20). Holt, Rinehart, and Winston.
- Facebook. (2016). *Effective Frequency - Reaching full campaign potential*. Facebook IQ Whitepaper. <https://www.facebook.com/business/news/insights/effective-frequency-reaching-full-campaign-potential>

- Faebook Inc. (2020). *Facebook Research*. Facebook Research.  
<https://research.fb.com/>
- Gardner, M. P. (1985). Does Attitude toward the Ad Affect Brand Attitude under a Brand Evaluation Set? *Journal of Marketing Research*, 22(2), 192.  
<https://doi.org/10.2307/3151364>
- Gorn, G. J., Goldberg, M. E., Journal, S., Mar, N., & Goldberg, M. E. (1980). Children ' s Responses to Repetitive Television Commercials. *Journal of Consumer Research*, 6(4), 421–424.
- Grube, J. W., & Wallack, L. (1994). Television beer advertising and drinking knowledge, beliefs, and intentions among schoolchildren. *American Journal of Public Health*, 84(2), 254–259. <https://doi.org/10.2105/AJPH.84.2.254>
- Hair, J. F., Black, W. C., Babin, B. J., Anderson, R. E., & Tatham, R. L. (1998). *Multivariate data analysis* (Vol. 5, Issue 3). Prentice hall Upper Saddle River, NJ.
- Hillary, F. G., Schultheis, M. T., Challis, B. H., Millis, S. R., Carnevale, G. J., Galshi, T., & DeLuca, J. (2003). Spacing of repetitions improves learning and memory after moderate and severe TBI. *Journal of Clinical and Experimental Neuropsychology*, 25(1), 49–58. <https://doi.org/10.1076/jcen.25.1.49.13631>
- Hitchon, J., Thorson, E., & Zhao, X. (1988). Advertising repetition as a component of the viewing environment: Impact of emotional executions on commercial reception. In *Working paper from the School of Journalism and Mass Communication at the University of Wisconsin at Madison*.
- Jerome, M. E. (1960). *Basic marketing: A managerial approach*.
- Kerlinger, F. N. (1966). *Foundations of behavioral research*.
- Kohli, C. S., Harich, K. R., & Leuthesser, L. (2005). Creating brand identity: a study

- of evaluation of new brand names. *Journal of Business Research*, 58(11), 1506–1515.
- Kronrod, A., & Huber, J. (2019). Ad wearout wearout: How time can reverse the negative effect of frequent advertising repetition on brand preference. *International Journal of Research in Marketing*, 36(2), 306–324.  
<https://doi.org/10.1016/j.ijresmar.2018.11.008>
- MacKenzie, S. B., & Lutz, R. J. (1989). An Empirical Examination of the Structural Antecedents of Attitude toward the Ad in an Advertising Pretesting Context. *Journal of Marketing*, 53(2), 48. <https://doi.org/10.2307/1251413>
- MacKenzie, S. B., Lutz, R. J., & Belch, G. E. (1986). The Role of Attitude toward the Ad as a Mediator of Advertising Effectiveness: A Test of Competing Explanations. *Journal of Marketing Research*, 23(2).  
<https://doi.org/10.2307/3151660>
- McGuire, W. J. (1978). An Information Processing Model of Advertising Effectiveness. In *Behavioral and management science in marketing* (pp. 156–180). New York: Ronald Press.
- Nordhielm, C. L. (2002). The Influence of Level of Processing on Advertising Repetition Effects. *Journal of Consumer Research*, 29(3), 371–382.  
<https://doi.org/10.1086/344428>
- Ong, Y. X., & Ito, N. (2019). "I want to go there too!" Evaluating social media influencer marketing effectiveness: a case study of Hokkaido's DMO. In J. Pesonen & J. Neidhardt (Eds.), *Information and Communication Technologies in Tourism 2019* (pp. 132–144). Springer International Publishing.  
[https://doi.org/10.1007/978-3-030-05940-8\\_11](https://doi.org/10.1007/978-3-030-05940-8_11)
- Pechmann, C., & Stewart, D. W. (1988). Advertising Repetition: A Critical Review of

- Wearin and Wearout. *Current Issues and Research in Advertising*, 11(1–2), 285–329. <https://doi.org/10.1080/01633392.1988.10504936>
- Petty, R. E., & Cacioppo, J. T. (1986). The elaboration likelihood model of persuasion. *Advances in Experimental Social Psychology*, 19(C). [https://doi.org/10.1016/S0065-2601\(08\)60214-2](https://doi.org/10.1016/S0065-2601(08)60214-2)
- Prasain, K. (2018). *Social media marketing shines in Nepal market*. The Kathmandu Post. <https://kathmandupost.com/money/2018/11/27/social-media-marketing-shines-in-nepal-market>
- Roscoe, J. T. (1975). *Fundamental research statistics for the behavioral sciences [by] John T. Roscoe*.
- Schmidt, S., & Eisend, M. (2015). Advertising repetition: A meta-analysis on effective frequency in advertising. In *Journal of Advertising* (Vol. 44, Issue 4). <https://doi.org/10.1080/00913367.2015.1018460>
- Scholten, M. (1996). Lost and found: The information-processing model of advertising effectiveness. *Journal of Business Research*, 37(2). [https://doi.org/10.1016/0148-2963\(96\)00058-6](https://doi.org/10.1016/0148-2963(96)00058-6)
- Schreiber, J. B., Nora, A., Stage, F. K., Barlow, E. A., & King, J. (2006). Reporting structural equation modeling and confirmatory factor analysis results: A review. *The Journal of Educational Research*, 99(6), 323–338.
- Stang, D. J. (1975). Effects of “mere exposure” on learning and affect. *Journal of Personality and Social Psychology*, 31(1). <https://doi.org/10.1037/h0076165>
- Story, L. (2007). *Anywhere The Eye Can See, It's Likely To See An Ad*. The New York Times.
- Thacker, J. W., Fields, M. W., & Tetrick, L. E. (1989). The factor structure of Union Commitment: An application of confirmatory factor analysis. *Journal of Applied*

*Psychology*, 74(2), 228.

Yaveroglu, I., & Donthu, N. (2008). Advertising repetition and placement issues in on-line environments. *Journal of Advertising*, 37(2).

<https://doi.org/10.2753/JOA0091-3367370203>

Zha, X., Li, J., & Yan, Y. (2015). Advertising value and credibility transfer: attitude towards web advertising and online information acquisition. *Behaviour & Information Technology*, 34(5), 520–532.

# Advertising Effective ANNEX - Prescreening

## Form 1-1

1. This form is to be completed by the advertiser as part of the Department's research. The information furnished here is for the Department's use only and is not to be disseminated to the public. It is to be used only for the purpose of determining the effectiveness of advertising.

2. Complete this form for each advertisement or campaign to be tested.

3. Mark Yes or No.

4. Attach to this form a copy of the advertisement to be tested.

5. Return this form to the Department.

6. Do you have any other information to report?

7. The Department will conduct a survey of the public to determine the effectiveness of the advertisement. The results of the survey will be reported to you. The Department will also conduct a survey of the public to determine the effectiveness of the advertisement. The results of the survey will be reported to you. The Department will also conduct a survey of the public to determine the effectiveness of the advertisement. The results of the survey will be reported to you.

8. Mark appropriate.

Yes

No

9. Mark appropriate.

10. What is your name and address?

\_\_\_\_\_

11. What is your telephone number?

12. Please attach to this form a copy of the advertisement to be tested. The Department will conduct a survey of the public to determine the effectiveness of the advertisement. The results of the survey will be reported to you. The Department will also conduct a survey of the public to determine the effectiveness of the advertisement. The results of the survey will be reported to you.

\_\_\_\_\_

# Advertising Effectiveness - Prescreening Form

Hi,

Thank you for volunteering to be a part of this experimental research. This experiment requires you to have some familiarity with messaging platforms and your willingness to fill up at most 15 forms everyday for the period of 15 days (At most).

Please fill up the form below for consent and prescreening formalities.

Thank You.

- Amod Niroula (KUSOM Scholar)

\* Required

1. Do you want to participate in this survey? \*

Your personal details (ie. your phone number, email address, and others) will be accessible to the researcher (or the research team) only. These information are needed for the researcher (or the research team) to reach out to you. By agreeing to participate in this survey, you give the researcher (or the research team) consent to contact you, add you in a Whatsapp group (for the time of the experiment) and send you messages as needed for the purpose of the experiment.

*Mark only one oval.*

Yes

No

## Your Information

2. What is your email address? \*

---

3. What is your Whatsapp number? \*

Please put the number with country code as well. The experiment is being run on the Whatsapp platform. If you don't use whatsapp, you will not be able to be part of this experiment.

---

4. What type of device will you use for this experiment? \*

*Mark only one oval.*

iOS device (iPhone)

Android Device

Other: \_\_\_\_\_

5. How long have you been using Whatsapp for? \*

*Mark only one oval.*

< 1 month

1 - 12 months

12 - 24 months

more than 24 months

6. How long have you been using messaging platforms (like Whatsapp) for? \*

*Mark only one oval.*

< 1 month

1 - 12 months

12 - 24 months

more than 24 months

7. How long will you be able to participate in the experiment? \*

Each day, your commitment for the experiment will be for 10 minutes at max. This includes getting exposed to an advertisement image and then filling up a follow up questionnaire.

*Mark only one oval.*

- Up to 2 days
- Up to 5 days
- Up to 10 days
- Up to 15 days

8. What is your primary occupation? \*

*Mark only one oval.*

- Student
- Business Owner
- Professional / Service Provider
- Home Maker

9. What is your age? \*

*Mark only one oval.*

- less than 18 years
- 18-24 years
- 25-34 years
- 35-44 years
- 45 and older

10. Gender \*

*Mark only one oval.*

- Female
- Male
- Third Gender
- Prefer not to say

11. What is the highest education degree you have attained? \*

*Mark only one oval.*

- 10 + 2 (highschool) or less
- Bachelors degree
- Masters Degree
- PHD

12. Marital Status \*

*Mark only one oval.*

- Married
- Unmarried

13. What is your annual income? \*

*Mark only one oval.*

- Less than 3 Lakhs NRs.
- 3-5 Lakhs NRs.
- 5-10 Lakhs NRs.
- 10-15 Lakhs NRs.
- 15 Lakhs and higher

14. How much time do you spend on social media each day? \*

Mark only one oval.

- less than 1 hour
- 1 - 4 hours
- 4-8 hours
- more than 8 hours

---

This content is neither created nor endorsed by Google.

Google Forms

# Effective Frequency in Advertising (अनलाईन विज्ञापनको प्रभावकारीता)

Hi,

Thank you once again for volunteering to be a part of this experimental research. You will be required to fill up this form every day after exposure to the advertisement. I request you to therefore please BOOKMARK THIS FORM in your browser.

For your convenience, I have pre-filled your whatsapp number in this questionnaire. Please don't change the whatsapp number as this will offset the experiment values.

Thank You.

– Amod Niroula (KUSOM Scholar)

नमस्ते!

यो अनुसन्धानमा सामेल हुनु भएकोमा एक पटक फेरी मुरी मुरी धन्यवाद। यो फारम तपाईंले यो प्रयोग जारी रहे सम्म हरेक दिन भर्नु पर्ने हुन्छ। आफ्नो सहजताका लागि यो फारमलाई BOOKMARK गर्नुहोला।

तपाईंको सहजताको लागि मैले यो फारममा तपाईंको Whatsapp नं राखेको छु। यसलाई परिवर्तन नगर्नुहोला।

धन्यवाद!

- आमोद निरौला (अनुसन्धानकर्ता)

\* Required

## 1. What is your Whatsapp number? \*

This is prefilled [PLEASE DO NOT CHANGE]. यो पहिल्यै भरिएको छ। यसलाई परिवर्तन नगर्नुहोला।

## Advertisement Recall (विज्ञापनको संझना)

In this section, we will ask a few questions about what you recall of advertisement that you have seen in this experiment

यो सेक्सनमा तपाईंले यो प्रयोग (एक्सपेरिमेन्ट)मा देख्नु भएको विज्ञापनको संझना बारे प्रश्न गर्नेछौं।

## 2. What do you remember of the brand logo you saw in the advertisement from the experiment today? (Please provide as many descriptions as possible) \*

आजको प्रयोग (एक्सपेरिमेन्ट)मा देख्नु भएको ब्राण्डको लोगो बारेमा के के कुरा तपाईंलाई संझना छ? (सकेसम्म विस्तारमा लेख्नुहोला)

---

---

---

---

---

---

3. What do you remember of the product you saw in the advertisement from the experiment today? (Please provide as many descriptions as possible) \*

आजको प्रयोग (एक्सपेरिमेन्ट)मा देख्नु भएको बस्तुको बारेमा के के कुरा तपाईंलाई संझना छ? (सकेसम्म विस्तारमा लेख्नुहोला)

---



---



---



---



---

4. Please reproduce the brand promise (copy / slogan) used in the ad that you saw in the experiment today? \*

आजको प्रयोग (एक्सपेरिमेन्ट)मा देख्नु भएको ब्राण्डको ब्राण्ड प्रोमिस (लेखिएको वाचा वा सन्देश) हुबहु लेख्ने प्रयास गर्नुहोस्।

---



---



---



---



---

Attitude towards the ad (विज्ञापन प्रतिको दृष्टिकोण)

In this section, few questions about attitude towards the advertisement used in the experiment will be asked.

यो सेक्सनमा तपाईंले यो प्रयोग (एक्सपेरिमेन्ट)मा देख्नु भएको विज्ञापनको बारेमा तपाईंको दृष्टिकोण बारे प्रश्नहरू गर्ने छौं।

5. How did you find the advertisement? \*

तपाईंलाई यो विज्ञापन कस्तो लाग्यो?

Mark only one oval.

1 2 3 4 5 6 7

Very Bad (एकदमै नराप्रो)        Very Good (एकदमै राम्रो)

- Did you like or dislike the ad? \*

तपाईंलाई यो विज्ञापन कतिको मन पर्यो?

Mark only one oval.

1 2 3 4 5 6 7

Disliked it very much (पटकै मन परेन)        Liked it very much (एकदमै मन पर्यो)

7. Did you find the ad irritating? \*  
के तपाईंलाई यो विज्ञापन देखेर दिक्क लाग्यो (वा मिस उख्यो)?

Mark only one oval.

1 2 3 4 5 6 7

not irritating at all (पटकै दिक्क लागेन)        very irritating (एकदमै दिक्क लाग्यो)

8. Did you find the ad interesting? \*  
के तपाईंलाई यो विज्ञापन रोचक लाग्यो?

Mark only one oval.

1 2 3 4 5 6 7

not interesting at all (पटकै रोचक लागेन)        very interesting (एकदमै रोचक लाग्यो)

Attitude towards the brand (ब्राण्ड  
प्रतिको दृष्टिकोण)

In this section, few questions about attitude towards the brand used in the experiment will be asked.

यो सेक्सनमा तपाईंले यो प्रयोग (एक्सपेरिमेन्ट)मा देख्नु भएको ब्राण्डको बारेमा तपाईंको दृष्टिकोण बारे प्रश्नहरू गर्ने छौं।

9. How do you like this brand? \*  
तपाईंलाई यो ब्राण्ड कतिको मन पर्यो?

Mark only one oval.

1 2 3 4 5 6 7

Disliked it very much (पटकै मन परेन)        Liked it very much (एकदमै मन पर्यो)

10. Do you find the brand appealing? \*  
तपाईंलाई यो ब्राण्ड कतिको आकर्षक लाग्यो?

Mark only one oval.

1 2 3 4 5 6 7

not appealing at all (पटकै आकर्षक लागेन)        very appealing (एकदमै आकर्षक लाग्यो)

11. Do you find the brand interesting? \*

तपाईंलाई यो ब्राण्ड कतिको रोचक लाग्यो?

Mark only one oval.

1 2 3 4 5 6 7

not interesting at all (पटकै रोचक लागेन )        very interesting (एकदमै रोचक लाग्यो )

Purchase Intention (खरिदको चाह)

In this section, we will ask you a question about purchase intention.

यो सेक्सनमा तपाईंले यो प्रयोग (एक्सपेरिमेन्ट)मा देख्नु भएको ब्राण्डको बस्तु किन तपाईंको चाहना बारे प्रश्नहरू गर्नेछौं।

12. Are you more or less likely to buy this product from this brand? \*

सो ब्राण्डको सामान वा वस्तु खरिद गर्न तपाईं कतिको चाहना राख्नुहुन्छ?

Mark only one oval.

1 2 3 4 5

Much less likely (एकदमै कम)      Much more likely (एकदमै धेरै)

This content is neither created nor endorsed by Google.

Google Forms