Investigating Successful Marketing Techniques: The Effects Of Formats, Content Coherence, And Shopping Tasks On Ad Recognition

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ABSTRACT

Both the enhancement of display forms and the substance of advertising have benefited from the growing use of web-based technology. On the Web, animation has developed into a potent presenting format. Animation is not a magic bullet, despite its potential advantages. The study of efficient advertising tactics in the context of e-commerce has gained more interest from academics and practitioners. This study uses a lab experiment to explore the effects of presentation forms, content appropriateness, and shopping activities on ad recognition, drawing on ideas in cognitive psychology. The findings demonstrate that sudden and looming styles are useful for enhancing ad recognition. The forms, content relevance, and shopping tasks have a substantial three-way interaction on ad recognition. In particular, browsing tasks show the interaction of animation types and content relevancy, but searching tasks do not.

Keywords: Effects of Formats, Content Coherence, Shopping Tasks, web-based technology, content appropriateness, three-way interaction

1. INTRODUCTION

Animation has emerged as one of the most popular presentation types used in online advertising as a result of the expansion of Web technological capabilities (such as plug-ins and Flash). Animated advertising offers more potent visual cues than any other format from the perspective of both web developers and marketers, which improves users' click streams and, eventually, their purchasing behaviour.

  Despite the apparent advantages, animation is not a miracle cure. Previous studies on animation have revealed a linguistic paradox. On the one hand, some research contend that animation has a miraculously beneficial effect on user recollection and attention. On the other hand, mobility is also thought of as a bothersome artefact. It is crucial to identify the relevant supporting elements in order to more fully comprehend the effects of the extensive use of Web

computer animation in the e-commerce ecosystem. Every type of motion, for instance, is regarded as an animation. Computer vision, however, has provided evidence that not all motion commands attention. Numerous animations on the web have also been created using web-based technology.In order to fill this research gap, this study broadens the definition of motion to include four basic formats: continuous, sudden, receding, and looming. This will make it easier for viewers to recognise and differentiate between different motion styles.

   Finally, this study attempts to look into how ad recognition is impacted by the triadic link between forms, content relevancy, and shopping tasks. The shopping tasks of online customers must be taken into account in order to accomplish this purpose. This study looks into how different formats, content relevancy, and shopping tasks relate to ad identification in order to provide a thorough grasp of the effects of motion.

2. LITERATURE SURVEY

[1] discusses a few prospective and present marketing trends. The material is based on recently published books and business current happenings. The essay's foundation is secondary data. Online references and recent literature are used to support the article. There have been investigations of the information found on the internet, in newspapers, journals, and other websites, as well as in several articles, reports, and studies. There has been a major shift toward digitalization in India.

[2] Numerous research are currently concentrating on "nudging," also known as "decision making," which modifies the environment to promote healthier eating habit. To date, these tactics are either infrequently or infrequently tested in real-world environments, such as cafeterias on the job sites.

[3]The findings of an investigation of the factors supporting effective self-marketing strategies on social media are presented in the current research. Participants included gamers from YouTube. To find major discrepancies in their user-generated Facebook metrics and comments feelings, we concentrate on the material of their Facebook communication.

[4] to examine the nature and scope of marketing for ultra-processed food products (UPP) and their widely used brand pages on Facebook in Brazil.
SettingOn Facebook, 16 UPP brand pages were chosen among the 250 pages that Brazilians liked the most in October 2015.

[5] To the best of our knowledge, there hasn't been a thorough analysis and review of the most recent literature using a marketing perspective. The primary goal of this work is to clearly explain the key ideas and problems surrounding social big data, as well as its characteristics and technology.

[6] The relationship between Chinese internet media outlets and fan clubs when it comes to the distribution of international TV series and other media content is dynamic. This is

because user-generated material is used by media platforms to encourage or develop audience interaction. Through a series of case studies, this article examines the acquisition, distribution, marketing, and curation of international TV shows on Chinese online video platforms.

[7] The only path to business success in the current economic climate, which is characterised by intense competition aimed at winning or keeping different consumer segments and also by an unprecedented technological breakthrough, is for marketers to work on implementing new methods of communication and bidding.

[8] In today's digitally dominant economic environment, publishers confront a number of issues specific to the children's book sector, necessitating the creation of comprehensive marketing campaigns with a variety of complimentary strategies. Children's books frequently face marketing challenges unique to them, such as an abundance of content, competition, accessibility to the library market, the gap between digital and print media, challenges in reaching young readers online, and more.

[9] Social media gives marketers and businesses a new channel for communication with their clients and business partners, and they can include this medium into their company plan. Social media's rapid expansion and rising user base have ushered in a new era of marketing for companies. However, as social media and other internet outlets have grown significantly, so has global rivalry. Customer satisfaction and retention have consequently emerged as the greatest challenges.

[10]Without a doubt, social networks have altered how business is conducted in the modern day, particularly in terms of communication and marketing strategies. Despite the fact that there have been numerous studies on the effects of social networks on firm performance, no research has been done on the potential for innovation that results from interactions on social media between business employees and clients, vendors, societies, or scholars.

The purpose of this exploratory study is to gauge the power of social networks.

- Development of Theories and Hypotheses
- Animation Presentation Formats
- static ads versus animated ads

Animation is characterized as any motion in IS literature. Motion, one of the basic characteristics of the physical environment, typically signals to humans engaging in adaptive actions threats or possibilities. The underlying principles of animation have been widely studied using the motion effect theory, which operates under the presumption that people are inherently sensitive to motion. Therefore, it is reasonable to assume that what sets animated ads apart from static ones and improves users' recognition performance is their ability to move. Figure 1 shows the research methodology for this investigation. According to cognitive psychology, when items are given more focus, their processing is improved in terms of a deeper memory trace. Numerous studies frequently utilise recognition as an indication of

attention because it has been well documented that more attention allocation results in better recognition rate. Additionally, because both greater attention acquisition and identification are significant advertising objectives, ad recognition is quite significant and crucial for online practitioners. To investigate the effects of motion, we therefore use ad identification in this study and propose the following hypotheses:
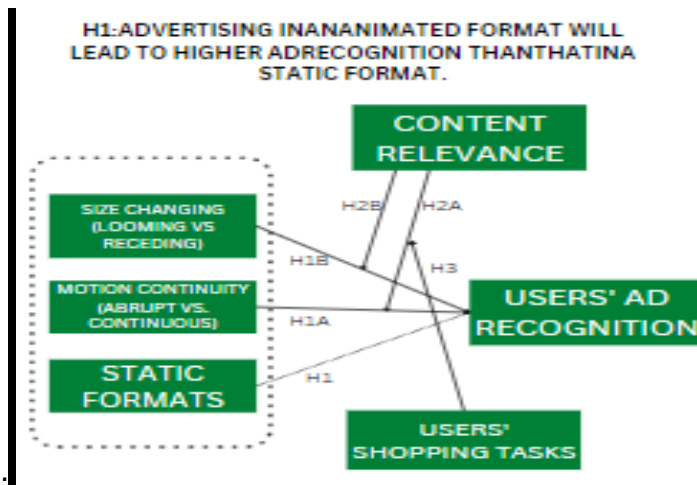

Figure 1.Research Model

3. ABRUPT VERSUS CONTINUOUS ADS

Advertising that appears out of nowhere is generally seen in the e-commerce sector as an effective advertisement for attracting consumers' attention. The object-based paradigm of visual focus holds that the distribution of attention is based on things. A new "object" is formed when a new stimulus enters the field of vision; this new "object" then focuses attention to the new item. It is advantageous for evolution to focus on "new" objects since they "are likely to have behavioural value and need fast responsiveness." There is a lot of evidence from the psychology literature that supports the effective impact of abrupt motion on focus priority.

We propose that advertising in real-world e-commerce environments can benefit from the attention bias toward sudden movements. A drastic shift in an online user's visual field caused by abrupt movement in online ad results in a fresh representation of the advertisement and necessitates an instant reaction. Previous research has been done in well regulated lab settings that have no use in a real-world e-commerce setting. The purpose of this study is to determine whether advertising with abrupt movement is perceived more favourably than advertising with static or constantly moving formats. We believe the following to be true:

H1a: Advertising in a format with abrupt motion will increase ad recognition more than advertising in a format with continuous motion.

4. LOOMING VERSUS RECEDING ADS

A crucial aspect of animated advertisements, in addition to consistency of motion, is altering animation size. The size of an item serves as a basic cue to indicate its significance in the visual world. Ads of a larger size could be more efficient since larger objects typically draw more noticed than small particles. Some designers think that altering size could be a useful design element for drawing users' attention. For instance, the user interface layout of Microsoft's most recent operating system, Windows Xp, incorporates the ability to change the size of elements.

In this study, we'll also investigate how well animated ads with varying sizes affect recognition accuracy. The term "looming format" describes animated advertising on a website where the size is growing dynamically, i.e., when the size extends in a way that gives the impression that it is moving closer to the user's eyes. Receding format describes animated advertising that appears to be moving away from the user's sight by shrinking in size on the webpage. The body of research on cognitive psychology indicates that impending items have a stronger ability to draw attention than ones that are receding. As a result, it is reasonable to assume that advertising using a looming format in an e-commerce environment will attract more attention than marketing using a receding format.

H1b: Advertising that uses a looming format gets more attention from consumers than advertising that uses a receding style.

5. THE MODE RATING ROLE OF CONTENT RELEVANCE

Relevance is a successful marketing tactic for the promotion of products. For instance, to persuade customers to buy more products, a store that sells CDs can also offer specific connected products, such earbuds or CD writers. Prior research has demonstrated the significance of relevance and has led to the concept of relevance being considered the "basic and central" concept in information science. The extent to which the advertising material is related to the text of the website in which it is placed is known as content relevance. Lower recognition ability will result from processing the advertising with less cognitive effort as a result of the elaboration's reduction. In conclusion, we also predict that these differences would be amplified when the advertisement's content is relevant to the webpage, in addition to our hypothesis that advertisements with abrupt or looming motion could be processed more favourably than those with constantly moving or receding motion. Therefore, we anticipate that the interaction between content relevance and animation forms will influence ad recognition.

H2a: The relevance of the content affects the effect of animated forms on ad recognition. There

is a greater distinction between sudden commercials, moving ads, and static ads when the content is related to the webpage as opposed to when it is irrelevant.

H2b: The gap in ad identification between looming advertisements, receding movement, and static ads is bigger when the content is appropriate to the webpage as opposed to when it is unrelated.

Effects of Formats, Relevance of Content, and Shopping Activities on Ad Recognition

We should take into account user factors in addition to format and content to better understand how animation affects ad recognition. Delivering the appropriate content in the appropriate format to the appropriate audience is the goal of the service. Users' shopping tasks must be taken into account in order to do this. There are two main categories of shopping chores, according to e-commerce literature: researching and browsing. While the latter is less goal-oriented, information-surfing without a specific objective in mind, and behaving according to one's own personal tastes, the former is goal-oriented, has a mission in mind, and deliberately seeks out specific purchasing targets.

It is typically believed that a user's attentional resources never change. The allocation of attentional resources to information about secondary tasks and primarytasks trades off. A user may concentrate on the main job, which would deplete their attentional for the secondary task. Given that consumers devote the majority of their attentional resources to processing information pertinent to their main tasks, it stands to reason that attentional available resources for analyzing advertising are limited during searching tasks. Although users may commit fewer attentional resources to core activities when doing browsing tasks since they don't have a specific objective in mind, there could be more attentional things available for analyzing ad content. This explanation is in line with the report's results that browsers and not searchers were more likely to remember adverts. They suggested that "banner blindness" might happen, particularly in a goal-directed seeking effort when information seekers often overlook animation, leading them to forget the details from advertisements. In a similar line, it is possible to anticipate that "banner blindness" may happen while performing search operations.

H3: Formats, content relevancy, and shopping tasks will interact in a three-way fashion with regard to ad recognition. Depending on the kind of purchase task, content relevance will reduce the impact of animated formats on recognition in a different way. Combining relevant content with animation formats when customers are browsing rather than seeking can increase ad recognition.

6. METHODOLOGY

7790 | Narendra Singh Bohra   Investigating Successful Marketing Techniques: The Effects Of Formats, Content Coherence, And Shopping Tasks On Ad Recognition

Design of the Experiment and Subjects

Two levels of shopping tasks were also present. browsing and searching activities. 292 disciplines in all were chosen from Hong Kong institutions. The experimental setups were given to the patients at random. Each participant received HK$50 as payment for their time.

Designing an experimental website

In order to conduct this research, a digital goods e-commerce website was created. Java and ASP were used for programming. On the website, there were 3 types of digital goods: Given that individuals will participate in nine shopping excursions throughout the trial, nine banners were chosen. Each time a customer went shopping, a new banner was shown to avoid ad repetition.

According to marketing literature, consumers' online purchasing behaviour may be influenced by familiarity with a brand, pricing, and the sequence in which things are presented. A set of preparatory experiments were carried out to prevent these biases. To assess these materials' popularity, we used the inter-rater reliability approach. Two raters were requested to complete a survey about their acquaintance with digital items and advertisements. According to psychometrics literature, inter-rater reliability is the level of agreement between two or more raters. The brand name, image, logo, font size, and colour of digital products and advertisements were also kept on the test website to prevent any confusion. In order to balance the effects of the website's banners and products on the display order, Latin square design was employed.

Experimental Technique

Computer software used a random selection process to place subjects in either a researching or a surfing task.The subjects were given the task of imagining themselves conducting online shopping by the experiment's administrator. They made nine online purchases: the first three were practise purchases to make sure the subjects were comfortable with their tasks, and the remaining six were experimental purchases. Six trips are thought to be the ideal number to study respondents' purchasing habits, according to earlier studies.

Independent factors

Animated media Nine relevant advertising and nine unrelated ads were chosen during the pre-test phase. We concentrate on four different animated forms depending on the animation design used in this study: continuous,abrupt, receding, looming, and a static version that serves as a background comparison control. These five distinct animated forms were used to create each of the 18 banner advertisements. The banners were designed and built using Macromedia Flash (version 8).

By placing relevant or unrelated ad banners on the page, the website altered the relevancy of the content (Figure 2). For instance, the individuals were exposed to situations where the advertisements' content was pertinent to that of the shopping website. Five elements were used to gauge the relevance of the manipulation check.

By giving alternative directions at the beginning of the trial, shopping tasks were altered. The participants were instructed to try their hardest to perform their parts in a realistic online buying situation. The searching task's instructions were as follows: "Consider that you wish to purchase six distinct digital items for your relatives as holiday gifts. You have a grocery list with six items on it, including two mobile phones, two mp3 players, and two digital cameras. You select internet shopping because it is convenient and time-saving.

7. DependentVariable

Ad recognition

Online retailers want a high level of ad recognition since it is a reliable indicator of successful ad distribution. Twelve banners were shown during the recognition test, including six advertising that had previously shown up during the shopping visits and another six that had not. The instructions asked the participants to name the precise adverts they had seen during prior shopping visits. The use of ad recognition has various restrictions. In a recognition task, the data that a person must access from memory is provided to them in written form..

Theory of signal detection
A way for assessing one's capacity to distinguish between signals and noise is signal detection theory (SDT). It is used to discriminate between weak and extremely faint signals, as well as background noise, and to comprehend various elements of human behaviour. SDT for measuring recognition is well-established in the psychological literature. SDT integration was initially thought to be important to improve ad recognition in marketing and consumer research. It generates a precise and trustworthy assessment of the user's recollection of a particular advertisement (memory sensitivity). A combination of signal (advertising) and noise makes up an e-commerce website, much like a traditional SDT paradigm (background). The normalised difference between the medians of the signal current and signal absence distributions, or d', is the most popular SDT sensitivity statistic. The constant d' calculates the signal's intensity (ads). We need to know the hit and false alarm rates for each respondent in order to calculate d'.

Figure2.ExperimentalWebInterface

Control Variables

Several methods were used to decrease confounding variables and improve the experiment's internal validity. First, demographic factors including age, gender, and educational level were kept under control by randomly assigning the subjects to different experimental conditions. Additionally, parts of the questionnaire included questions about criteria like personal PC experience, online shopping experience, familiarity with products, and cognitive style; these aspects were also taken into account when gathering data.

8. DATA ANALYSISANDRESULTS

Personal Demographics

292 subjects in all were chosen from various academic divisions. 182 (or 56%) of the participants were women, while 97 (or 28%) were men. All of the subjects had prior online buying experience, with around 80% of the subjects having used the Internet for at least 6 years and over 56% having used it for at least 20 hours per week.

ControlandManipulationChecks

In all experimental procedures, there was no discernible difference in the subjects' PC, Internet, or online shopping experiences. It appears that randomization was successful in controlling the respondents' personal traits and prior experiences. Checks are made to see if shopping and content relevance are being manipulated. The pre-test phase has seen manipulation tests on animated forms and ad familiarity (digital goods and snack foods). For shopping tasks, the

Cronbach's alpha is.792, whereas it is.905 for content relevance.

HypothesesTesting

Table 1 displays the averages and standard deviations of the experimental treatments for the dependent variable (d'). The ANOVA results on ad recognition revealed that ad presentation formats significantly influenced ad recognition [$F_{(4, 287)}$ = 4.42, p.05]. LSD post hoc analysis yields the following conclusions: H1 is supported by the findings that motion continuity and changing size are both significantly associated with higher ad recognition than the static ad format conditions; H1a is weakly supported by the finding that the abrupt format condition is significantly associated with higher ad recognition (1.2) than the continuous format condition (0.8); and H3 is strongly associated with higher ad recognition (1.0) than the receding format (0.8).

Formats	Browsing		Searching	
	Relevant	Irrelevant	Relevant	Irrelevant
Abrupt	3.47(1.34)	1.50(1.38)	2.26(1.34)	1.77(1.34)
Continuous	2.28(1.30)	1.93(1.34)	1.50(1.32)	1.71(1.30)
Looming	2.20(1.32)	2.64(1.31)	2.14(1.34)	1.59(1.28)
Receding	2.04(1.25)	1.63(1.32)	1.67(1.35)	1.38(1.27)
Static	1.29(1.31)	2.13(1.41)	1.73(1.37)	1.14(1.28)
d' valueisshownintable1.N=292.*p<.05;**p<.01;***p<.001				

Table1. DescriptiveStatistics(MeansandStandardDeviations)

The effects of forms, content relevance, and shopping activities on ad recognition are shown in Table 2 using ANOVA results. According to the substantial interaction effect [$F_{(4, 282)}$ = 2.80, P.05], the impacts of ad formats are tempered by the importance of the content. Ad formats had a considerable impact on ad recognition in the pertinent circumstances. According to a second post hoc analysis, the abrupt format's (1.80) recognition score is significantly higher than that of the continuous (0.95), looming (1.13), receding (0.85), and static (0.93) forms (0.22). So, just a portion of H2 was supported.

As predicted, a three-way interaction between formats, content relevance, and shopping tasks is produced by an ANOVA on ad recognition, supporting H3. According to the evidence, the relationship between forms and content relevancy differs depending on the type of buying an internet customer is doing. More research is done on it. Online users who are doing browsing tasks—tasks that are less goal-oriented—show a substantial interaction impact between content relevance and formats on recognition, but not users who are actively seeking. The impact of formats and content relevance combined on ad recognition is thought

to have an effect on search tasks (Figure 3 and Figure 4).

Table2.ANOVAResultsonAdRecognition				
Source	df	Mean Square	F	Sig.
ContentRelevance	2	6.43	4.67	1.056
ContentRelevance×ShoppingTasks	2	1.27	1.18	1.668
Formats	2	6.33	4.61	1.007
Formats×ContentRelevance	5	5.14	3.8	1.026
Formats×ContentRelevance×ShoppingTasks	5	6.26	4.56	1.008
Formats×ShoppingTasks	5	1.47	1.31	1.866
ShoppingTasks	2	6.35	4.62	1.058

Table3.MultipleComparisonsofFormatsforModerateContentrelevant(BrowsingTasks)				
		MeanDifference		
(I)Formats	(J)Formats	(I-J)	Std.Error	Sig.
1.Abrupt	3	1.49	1.39	1.21
	4	1.18	1.39	1.63
	5	1.73	1.37	1.05
	6	2.23*	1.41	1
2. Motion	2	-1.49	1.39	1.21
	4	-1.3	1.37	1.4
	5	1.24	1.35	1.49
	6	1.73	1.39	1.06
3.Looming	2	-1.18	1.39	1.63
	3	1.3	1.37	1.4
	5	1.54	1.35	1.12
	6	1.04*	1.39	1
4.Receding	2	-1.73	1.37	1.05
	3	-1.24	1.35	1.49
	4	-1.54	1.35	1.12
	6	1.49	1.37	1.18
5.Static	2	-1.73	1.41	1
	3	-1.73	1.39	1.06
	4	-1.04*	1.39	1
	5	-1.49	1.37	1.18

Table4.HypothesesTestingResults		
Hypotheses		Results
H1	Animated>Static	Supported
H1a	Abrupt>Continuous	PartiallySupported
H1b	Looming>Receding	Supported
H2	Formats×Relevance	PartiallySupported
H2a	MotionContinuity× Relevance	Supported
H2b	ChangingSize×Relevance	Rejected
H3	Formats×Relevance×ShoppingTask	Supported

7795 | Narendra Singh Bohra   Investigating Successful Marketing Techniques: The Effects Of Formats, Content Coherence, And Shopping Tasks On Ad Recognition
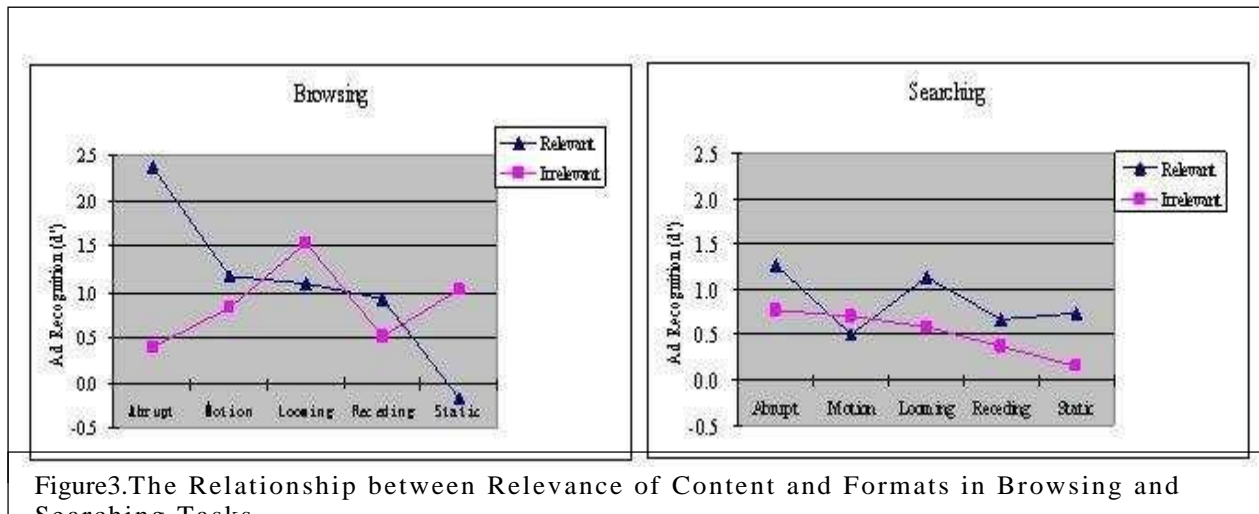
Figure3.The Relationship between Relevance of Content and Formats in Browsing and Searching Tasks
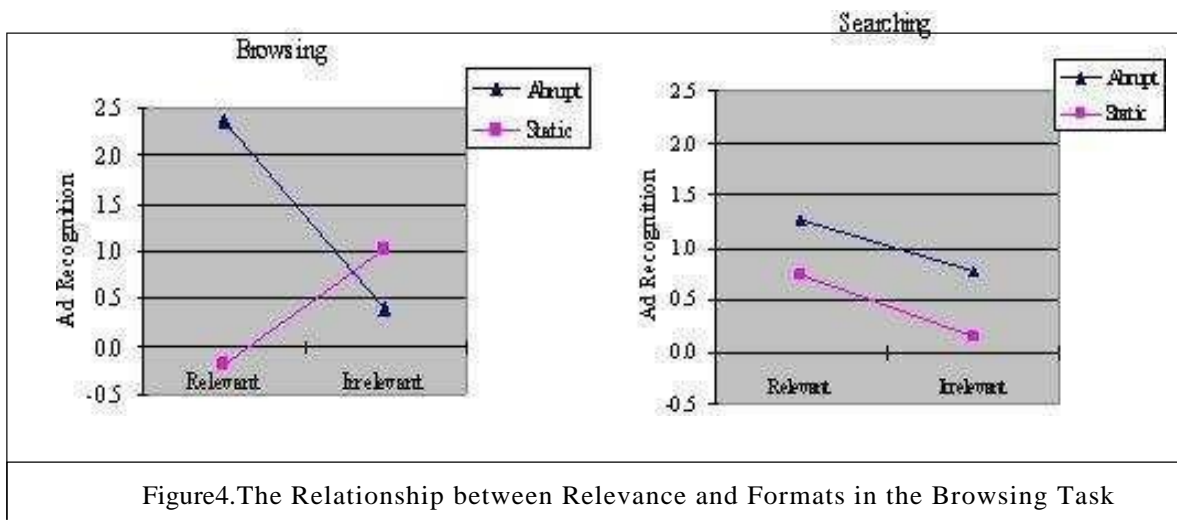

Figure4.The Relationship between Relevance and Formats in the Browsing Task

CONCLUSION

Bu focusing on these three contingent elements, this study develops a more complete and integrated framework for understanding animation delivery tactics in the e-commerce market. According to the research, ads that are both abrupt and menacing are more likely to be recognised. Additionally, it was discovered that abrupt advertising increases ad recognition when there is content appropriateness, which is known as the robust combining impact of ad forms and content significance. Those just performing browsing tasks will experience this combinatorial effect; users performing searching tasks will not. The impact of content relevance's moderation of motion format on ad recognition is said to vary depending on the various shopping jobs.

7796 | Narendra Singh Bohra Investigating Successful Marketing Techniques: The Effects Of Formats, Content Coherence, And Shopping Tasks On Ad Recognition

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