*Full Length Research Paper*

# Factors responsible for the rising trend in teenagers' online purchases

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Previously, the field of e-commerce was only interested in doing business with organizations and adults. However, recently online business owners started to focus on teenagers because the numbers of teenagers that go online increases day by day. If compared to adults, teens usually spend much more time using the internet. Thus, the website designers started to focus on designing e-shopping portals for teenagers. Teens differ from kids and adults in terms of psychology, drifts, and tendencies. As a result, there is a need to understand the factors or attributes that attract them to shop online. The previous literature shows that there is lack of studies that focused on designing online portals concerning teens. Therefore, this paper aims to understand the teens' drifts, tendency and how the harmony of the teens with the portal can be attained. This is obtained through analysis of literature review, investigating some teen shopping portals, and conducting survey. In order to increase the effectiveness and usability of the teen e-shopping portals, this paper investigates the factors that are most likely to attract teenagers to purchase online products. From the results, it is concluded that teens care more about the aesthetics aspects, and entertainment elements in a portal rather than anything else.

**Key words:** Teen shopper, design guidelines, e-commerce portal.

## INTRODUCTION

The introduction of e-commerce has impacted on the traditional means of online exchanges. It is creating a new market place and opportunities for the reorganization of economic processes, in a more efficient way. Online shopping for teenagers is becoming a huge business nowadays. And to establish relationships with online customers, it is imperative that a firm understands the user's experience and how people interact with the web (Nielsen, 1999, Gessler 2001). The features of any website are strongly connected to who the target users are (Spool 1999; Sangwon, 2010).

In any e-commerce portal, the targeted users are the most important factor for an organization's higher profit. Thus, the targeted users' preferences become a priority in the designing phase. Hence, more attention should be given to understand teens', targeted user in this context,

psychology in the designing process. Since teens differ from both adults and kids, certain factors are to be considered. This paper will investigate the different features that are most likely to attract teenagers to an e-commerce portal and encourage them to purchase online products.

## RESEARCH OVERVIEW

### Definition and classification of a website

A web site is an information resource on the World Wide Web (WWW) Head (1999). It can be considered as one complete system and product, thus a web site can be defined as a group of interface and functional attributes that are connected to each other to serve high levels

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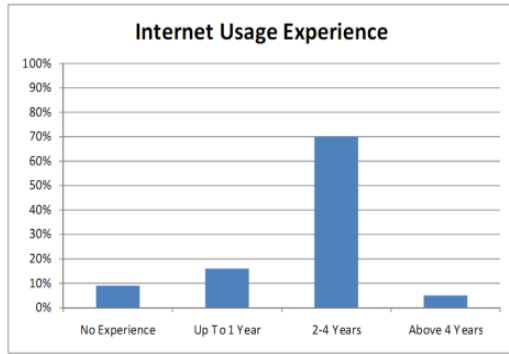
**Figure 1.** Internet usage experience chart.

of usability, wants, and to obtain their satisfaction in a competitive market of online and offline sales and information-services (Nielsen 1993; Sangwon, 2010).

Based on the usage purposes of websites, a website can be classified into four categories: entertainment, information, communication, and commerce (Korgaonkar et al., 1999; Lindgaard et al., 2003). An entertainment website permits people to amuse themselves in their leisure time or to escape from the stressful of reality; an information website provides useful information to the user; a communication website is social interactions where the users mostly share similar interests; while a commerce website provides an online market place where goods and services are purchased. In this context, the commerce portals for teens are selected as the domain of this study.

**Online shopping behaviour and usability of a website**

A study on online shopping behaviour was done by Chung (2009). And 47 articles from 1999 to 2008 were analyzed. As a result of this study, the online shopping behaviour can be classified into three streams, one of the primary stream is the consumer factors (demographics, website attribute, and quality of e-tailer on online purchase or continuous online shopping) (Chung, 2009). What constitutes a good web site was traditionally explained by relating it to user and usability (Sangwon, 2010). Hence, teens are our targeted users. They are considered to be the most difficult demographic group to communicate with because it is rather difficult to predict their behaviours and tendencies. Moreover, it is challenging to engage and entertain them and maintain their focus on the portal because of their short attention span. It is important to evaluate how much are the users actually satisfied with the designed website. For that, researchers always emphasize on usability. Usability is defined as the extent to which the product can be used by specified users to achieve specified goals with effectiveness, efficiency, and satisfaction in a specified context of use and it is an important factor in human-

computer interaction. In this context the usability is defined as "the quality of an interactive computer system with respect to ease of learning, ease-of-use, and user satisfaction (Rosson and Carroll 2002; Sangwon, 2010).

**HYPOTHESIS**

The current study tries to investigate the features, services, and system usability that attract teens to an e-commerce portal. It focuses on the users' demographic characteristics in assessing the designing attributes. In an effort to achieve the study objectives, four primary hypotheses are proposed.

Hypothesis 1: the targeted customer has short attention span.

As denoted earlier, teens differ from adults and kids. They do not prefer to read anything thoroughly. They also do not prefer to spend much time reading lengthy statements such as rights, or filling in a lot of required information fields.

Hypothesis 2: the targeted customer would like to experience a lot of entertainment while surfing the portal.

Hypothesis 3: the targeted customer's preference is more related to the aesthetics aspects of the portal.

Hypotheses 2 and 3 derived based on the teens' nature and the assumptions of how teens get bored easily in any portal if its contents do not grab their attention. Thus, one of the designing guidelines should be about how to attract teens to the portal.

Hypothesis 4: Actual assessments for the design attributes by random sample of the targeted customers are highly interrelated.

**METHODOLOGY**

In order to test the mentioned hypothesises the research methodology is divided into three sections: extensive literature review, analysis of some of the existing e-commerce portals for teens, and based on the results of the former two sections, a survey for 128 random sample was conducted among Yemeni female teens. The context of the latter was about what features and services that the teens prefer to have in a commercial portal, and the usability of the portal itself.

**RESULTS AND DISCUSSION**

**Demographic data**

Referring to Figure 1 the chart shows that 70% of the surveyed teens have up to 2 to 4 years of experience in
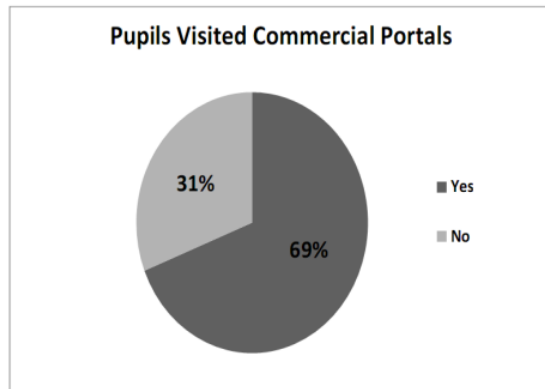
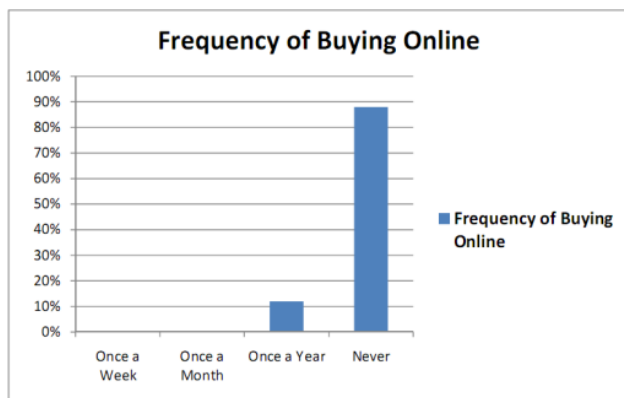**Figure 2.** Pupils visited commercial portals.



**Figure 3.** Frequency of buying online.

using the internet, 15% have only 1 year of experience in using the internet, only 6% have more than 4 years of experience, and 9% have no experience at all in using the internet. In addition, among the 91% of the surveyed teens, only 69% had visited online commercial portals (Figure 2). Only 12% had tried at least once in purchasing item online (Figure 3).

### Services and features in e-commerce portals

If the mean value is high, it means that the feature/service is acceptable. However, if the mean value is low, it means that the feature/service is not preferable. As it is seen in Table1, the feature of the member of registration has a low mean value of 1.48 which declares the undesirable of such feature. This is support Hypothesis 1, in which teens do not like to spend time in a long registration process. Another undesirable feature is sending newsletter to the user email with a mean value of 1.90. Some of the features related to the entertainment factor such as "Playing Newest Songs", "Flash News about Stars and Artist" and "Flash Games

and Current Online Visitors Chat", obtained a high mean value, thus, this supports the research Hypothesis 2 (Table 1).

### Portal usability

Visibility of the system's status means the system should keep users informed about what is going on, through appropriate feedback within reasonable time (Nielsen, 1994, ISO 1998). And since the mean values of Table 2 are considered high, it indicates that teen concern about the system's feedback.

### System and real world matching

Teens' reaction on matching between system and the real world is high when language used in the portal is easy to understand. The designer should avoid using difficult terms that may confuse the targeted users (Table 3).

### User control and freedom

User control and freedom means that users often choose system functions by mistake. Thus, they will need a clearly marked "emergency exit" to leave the unwanted state without having to go through an extended dialogue. Support undo and redo (Nielsen, 1994). All the elements of this part have a very high mean value. This clarifies that teens definitely insist on having these elements in the portal in order to give them control in the portal (Table 4).

### Consistency and standards

Consistency and standards mean that users should not have to wonder whether different words, situations, or actions mean the same thing. Follow platform conventions (Nielsen, 1994). Based on Table 5, it can be noticed that the mean values of the elements are diverse. This is because of the interests and characteristics of the user himself.

### Error prevention

Error prevention means even better than good error messages is a careful design which prevents a problem from occurring in the first place. It either eliminates error-prone conditions or checks for them or presents users with a confirmation option before they commit to the action (Nielsen, 1994). Teens are not aware of the importance of such elements, and this can be seen clearly from the obtained mean values in Table 6.

Table 1. Services and features in e-commerce portals.

| Item | Mean | Item | Mean |
|---|---|---|---|
| Downloading products catalogue | 4.27 | Display customer testimonials | 4.29 |
| Back to previous page | 4.59 | FAQ | 4.57 |
| Breadcrumb | 4.55 | About us page | 4.2 |
| Member registration | 1.48 | Selling statistics for each product | 3.42 |
| Search | 4.61 | Order history for members | 4.34 |
| Sorting by preferences | 4.63 | Members can maintain their accounts easily | 4.01 |
| Wish List | 3.2 | Multiple billing and shipping addresses | 4.76 |
| | | | |
| Show price up front the product | 4.92 | Best seller list | 4.3 |
| Play newest songs | 4.89 | Product detailed view | 4.57 |
| Newsletter for members | 1.90 | Flash news about stars and artist | 4.52 |
| Buying without registration | 4.76 | The top selling products | 3.95 |
| Invoice generation | 3.20 | Promotions | 4.87 |
| Order confirmation | 3.90 | Flash games and current online visitors chat | 4.97 |
| Shopping cart | 3.2 | Product category browsing | 4.43 |

Table 2. Portal usability.

| Item | Mean |
|---|---|
| The portal should provide visual feedback in menus or dialog box | 3.93 |
| Feedback message must appear at appropriate action | 4.04 |
| Each page must be labelled to show its relation to others | 3.55 |

Table 3. System and real world matching.

| Item | Mean |
|---|---|
| The language use in the portal must be easy to understand | 4.79 |
| Icons used in portal should be relevant to its function and familiar to user | 4.04 |

Table 4. User control and freedom.

| Item | Mean |
|---|---|
| Mistakes in data entries must easily to be corrected | 4.24 |
| There is an "undo" function in data entry | 4.27 |
| Menu must be simple but complete | 4.35 |
| The portal allows users to go back to previous menus | 4.35 |
| The portal should have ability to cancel tasks | 4.35 |
| A "home" and "Undo" buttons must be provided in every page | 4.9 |
| Wish list | 3.2 |

**Recognition rather than recall**

This part can be explained as minimizing the user's memory load by making objects, actions, and options visible. The user should not have to remember information from one part of the dialogue to another. Instructions for use of the system should be visible or easily retrievable whenever appropriate (Nielsen, 1994). The results reflect

**Table 5.** Consistency and standards.

| Item | Mean |
|------|------|
| The content should use the same font text | 3 |
| All icons in the portal must have label | 4.11 |
| Each window must have a title | 4.67 |
| Menu titles should be centred | 2.92 |
| Menu titles should be left-justified | 3.23 |
| In the portal, wording and buttons must consistent | 3.97 |
| All instructions, prompts, and error messages must appear in the same place | 4.11 |
| Wording in link must consistent with the wording of page title or page header | 3.85 |

**Table 6.** Error prevention.

| Item | Mean |
|------|------|
| Potential errors can be recognized before becoming a problem | 4.62 |
| Data entry screens and dialog boxes must indicate the number of character spaces available in a field | 2.75 |
| Fields in data entry screens and dialog boxes must contain default values | 2.85 |
| The portal should not have broken link | 4.49 |

**Table 7.** Recognition rather than recall.

| Item | Mean |
|------|------|
| The instructions in the portal should be retrieve easily | 4.23 |
| Prompts should use white space, justification, and visual element | 2.9 |
| White space should be used to create symmetry and guide the eye in appropriate direction | 4.48 |
| The portal should use colour highlighting to get the user's attention | 3.98 |
| The same colour must be use to group related elements | 3.89 |
| There must have brightness contrast between image and background colours | 4.29 |
| Light and bright colours should been use to highlight data, darker and duller colours for un highlighted data | 4.16 |
| The portal should have good labels and descriptive links | 4.93 |
| All relevant information must be on the same page | 4.23 |
| The icons must easily recognizable | 4.9 |

the choices of the teens, but it does not reflect the necessity of such elements in a real portal (Table 7).

**Flexibility and efficiency of use**

Accelerators, unseen by the novice user, may often speed up the interaction for the expert user so that the system can cater to both inexperienced and experienced users. It also allows users to tailor frequent actions (Nielsen, 1994). It is obvious from the results above that teens do not care about the site map of the portal since it only obtained a mean value of 2.55 if compared to the other elements (Table 8).

**Aesthetic and minimalist design**

Aesthetic and minimalist design means dialogues should not contain information which is irrelevant or rarely needed. Every extra unit of information in a dialogue competes with the relevant units of information and diminishes their relative visibility (Nielsen, 1994). Comparing the elements' mean value of this portion, it is found that teens have a low interest on the first and last elements. This reflects that teens are more concern about the look and the usability of the portal rather than just answering the survey questions. This supports the Hypothesis 3. Hence, the aesthetic aspects are the most important factor to attract teens to any portal; Hypothesis

**Table 8.** Flexibility and efficiency of use.

| Item | Mean |
|------|------|
| On first use of the portal, it must be easy to navigate | 4.71 |
| The portal must provide search engines | 4.98 |
| The portal should provide site map | 2.55 |

**Table 9.** Aesthetic and minimalist design.

| Item | Mean |
|------|------|
| Meaningful groups of items must be separated by white space | 2.73 |
| Each data entry screen must have a short, simple, clear, and unique title | 4.65 |
| Field labels must be brief, familiar, and descriptive | 4.92 |
| Extra information on a page brings distraction and makes system slow down | 3.77 |
| Less needed information can be accessible via a link | 4.09 |
| The information should be break into chunks (break into small parts) and use links to connect the relevant chunks | 4.65 |
| The information must in hierarchy form | 1.67 |

**Table 10.** Help and online documentation.

| Item | Mean |
|------|------|
| The portal should have online help | 4.54 |
| The instructions in help should easily retrieved and relevant | 4.49 |
| Instructions in help must follow the sequence of user actions | 4.46 |
| In online help, it should be links from main sections into specific help | 4.34 |
| The portal must has help icons in form filing dialog | 4.36 |

**Table 11.** Help user recognize, diagnose, and recover from errors.

| Item | Mean |
|------|------|
| I should not encounter many system errors | 4.95 |
| The error messages should be display in a plain and understandable language and suggest a solution | 4.98 |
| Error messages should suggest the cause of the problem | 4.98 |

4 becomes a crucial before launching the portal officially (Table 9).

## Help and online documentation

Help and online documentation elements are very important for teens regarding using e-commerce portal because of the high mean values as shown in Table 10.

## Help user recognize, diagnose, and recover from errors

Teens are aware of the importance of recognizing, diagnosing, and recovering from errors elements. Because the produced error message precisely indicates the problem, and constructively suggests a solution to the user (Table 11).

## Use chunking

It appears from the results in Table 12, teens prefer to have the information in the portal presented in chunks, as previously mentioned, because of their short attention span. Instead of confusing them by many ideas in one paragraph, it is better to use only one idea per paragraph to ensure their understanding, and retention in the portal.

**Table 12.** Use chunking.

| Item | Mean |
|---|---|
| The idea should be in one idea per paragraph | 3.98 |
| The portal should be in short paragraph, subheadings, and bulleted lists | 3.89 |
| The idea should be in one idea per paragraph | 3.98 |

## Conclusion

As a conclusion from the discussions above, it shows that teens do not care about the standards or the structural organization of a website. On the other hand teens only care about the usability and the aesthetics aspects of the portal. In other words they are concerned more about the layout of the portal and the entertainment aspect of it. Based on the results of the survey, it can be seen that all four hypothesizes are true, thus a designer may need to start considering the different elements that was discussed earlier when designing a portal. In addition, the best way to test a portal is during the early test stage for website usability by actual targeted users before launching the portal on the web.

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