

User Interface Design for Smes and Neuro Linguistic Programming

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Abstract: Although Small and Medium-sized Enterprises (SMEs) traditionally focus on domestic markets, it is possible to reach global markets easily with the impact of eCommerce. The internationally active SMEs are generally growing faster than the ones that are only targeting domestic markets. However the globalization requires an effective use of information technologies. Some of the barriers of the use of information technologies are complex electronic operations, non-availability of experts, and high initial investment. This study discusses how to identify and understand the customers of SMEs. It is also studied how a business layout of eCommerce is designed based on the needs and interests of our customers. The design issues of eCommerce are analyzed from the perspective of Neuro Linguistic Programming (NLP).

Key words: Ecommerce, small and medium-sized enterprises, neuro linguistic programming, user interface design, visual programming

INTRODUCTION

Small and Medium-sized Enterprises (SMEs) play an important role in the economy of developed and developing countries with their flexibility and ability to adapt^[1,2]. SMEs have significant contribution in the economic progress as well as providing employment opportunities. Although the industrial revolution prioritizes the big companies, the new technologies and globalization reduce the importance of economies of scale (www.oecd.org, Oecd Observer, June 2000). The EU (European Union) declared the year 1983 as the year of SME due to its recognition of the importance of SMEs.

Due to the existence of low technological barriers and the low costs^[3], E Commerce is the technology for the new opportunities of SMEs. The technology of E Commerce provides not only a solution to the problems of SMEs but also a cutting edge for SMEs over the rivals of big corporate^[4-7]. All the sites on the Internet are equal and share the same opportunities^[8].

If other people do not overtake you, technology most certainly will!^[9]. In order to be successful, the challenges of SMEs require fundamental sound business practices that are built on strategic Information Technology^[4]. This technology is smart and is becoming ever more intelligent at knowing, responding to, and even influencing the customers. In a culture so infused with technology, we had better get pretty smart at knowing our clients' needs. If we want to build lifelong relationships in our business lives, we need to learn how to read the customers' styles and needs with ever-increasing sophistication.

The better able we are to identify and understand

our customers, the better able we are to present our products, our services, and ourselves in a way that keeps our customers satisfied. One of the main topics of this paper is how to identify, classify, and understand our customers of SMEs.

It can be tempting to make choices about presenting material in ways that fit our own preferred ways of thinking rather than in ways that suit the preferences of our customers. We often think that we know the best in terms of what our customers "should" have. And we make unconscious as well as conscious choices about the people with whom we choose to do business, depending on how well they skilfully match our needs. But in business, making a "wrong choice" might cost you the investment. Here in this article, we study how an E Commerce strategy can be designed carefully to minimize "wrong choices" as much as possible. Our approach is based on NLP.

DESIGN ISSUES OF E Commerce FOR SMES

Companies talk today about doing much more than keeping customers satisfied – they talk of customer delight. To delight our customers we need to be able to model their thinking and behavior to ensure that we appeal to what really matters to them^[6]. Not only we need to read these styles, but also we need to have the flexibility to respond to them.

Identify and understand the customers of SMEs: Let us consider some of the patterns in the expectations and communications of the customers of SMEs so that we can

relate to what we are promoting and marketing in terms of a language and style they understand. We don't always know what will work in advance, but by having an awareness of what is and what isn't working we give ourselves a choice. Choice is the key of success. Let us explore the characteristics of the customers of SMEs that will lead to the successful choices.

Associated / dissociated customers: When you are listening to a song, you might have observed two different ways of enjoying the song. If it is a "yet another song", then you are just a listener to the song. If it is exceptional and it makes a deep feeling inside your heart, then you become the singer of the song himself. The first one is a dissociated listener and the second one is an associated listener. In the same way, there are two classes of SMEs' customers: associated and dissociated customers. It is the music and the lyrics of the song, which makes a listener associated or dissociated. In the same way, it is the presentation and organization of the website, which makes a customer associated or dissociated. In the dissociated state, the customer will be detached from the feelings. To experience the emotions and feelings of a situation fully, the customers need to be associated. The dissociated customers will distance themselves from commitment and involvement of the business.

One of the best-known examples is the video game. The video game software designers have discovered that by developing software that "associates" the children into the role of one of the players so that the children are playing the game as if they are seeing it through their own eyes and hearing it through their own ears, the children feel the game as they were real. Considering those feelings that are the source of motivation to buy, giving the children this emotional experience is a very powerful way of selling not only this video game but also future ones.

We need to be aware of how these tactics can be used on the customers effectively and how they can potentially work for the customers. Do you know that for most people decision-making takes place through a feeling? If your preferred style is to keep the customers dissociated, don't be surprised if the customers struggle to make decisions! If your business depends on supporting the customers in taking decisions, you need to know how to associate them into the business.

Towards / away-from customers: The ability of customers to think about what they really want is known as towards thinking. The ability of customers to think about what they don't want is known as away-from thinking. Suppose

Sony Corporation, Japan is trying to promote its WEGA model. During the promotional campaign, in order to highlight the better performance of WEGA, suppose Sony keeps comparing extensively the respective products of Panasonic and Philips. What kind of an impact would the campaign make on the customers' thinking? According to Sue Knight^[10], when you tell yourself "not" to worry or "not" to make a mistake, you are actually programming yourself to do just that. As a result, the promotion campaign of Sony may result in promoting Panasonic and Philips.

When you mix the statistics and performance of the competitors in your marketing campaign, you may not overdo it. A well-defined positive approach is essential to induce "towards" thinking among customers.

Past / present / future oriented customers: Where in time do the people put their attention? Some people live their lives in the past, thinking about what has gone before. Some people live for the moment, and their attention is on the present. Some are continually planning and thinking about the future. As someone whose attention is more on the present and the future, the thought of reminiscing about the past may not strike him as an attractive proposition. During the marketing campaign, some companies try to attract the customers by highlighting the past achievements and glorious records. Some companies adopt the strategy of focusing the statistics of the present status, sales and profits of products. Some companies influence the customers by broadcasting the future trends, goals, and target of their business. The Cisco's share was as high as Microsoft's share before the product was launched in the market. It was the successful marketing strategy of Cisco, which was able to convince the customers by its future plans. According to the theory of NLP, as far as business is concerned, people are more fascinated by the present and the future trends than the past achievements^[10].

The E Commerce website of SMEs may be designed such that web pages at the immediate level may highlight the present and the future shape of the business and the web pages at the deeper level may concentrate on the past successful records of the business.

Internal / external customers: Externally referenced customers rely on external sources for their evidence of fulfillment. For example, they rely on what other people say and do. They may also rely on external factors such as share value of the products, popularity of the product, or marketing influence. Internally referenced customers use their own internal feelings, images, and voices as their evidence of fulfillment. People who are independent in style are usually internally referenced^[10].

The E Commerce campaign may target the internally referenced customers whereas the conventional marketing campaign may target the externally referenced customers. Thus the E Commerce does not replace the conventional marketing strategies and it only supplements. The E Commerce website is to be designed keeping the internal referenced customers in mind.

Not easily convinced customers: Everyone has a specific means by which they become convinced. According to the theory of NLP^[10], some people need to be told a number of times or have a number of examples before they are convinced. Others need to be convinced over a period of time; time is the deciding factor for them. The principal factor is that a customer needs to have an impact at the bottom of the mind internally before he is convinced the product would work. So part of what makes a customer convinced is how many times he comes across the information again and again.

So it matters how frequently the contents of the E Commerce website are changed. It is important that the same matters may be brought to the notices of customers in different styles and formats for quite a few times. It is challenging for the web designers to bring the content again and again or retain the same content without frustrating the customers.

Business is interesting and exciting because it brings different people with different tastes under one umbrella. After discussing about “different people” with “different tastes”, we shall move on to discuss an important issue of E Commerce, which is the User Interface Design^[11,12]. The success of SMEs lies in the design of E Commerce. Though this topic has been extensively studied over the years^[11-15], we discuss and analyze this interesting subject from the perspective of NLP.

Customize user interface design for SMEs : Having a beautiful Web site with all the latest sales technology won't help the business of SMEs if visitors can't find their way around. But how can you fix navigation problems when exploring the Web sites of SMEs? It seems to be as confusing as tracing a single strand in a plate of spaghetti.

This paper concentrates on a business, which is involved by 5-10 SMEs^[6]. In these cases, usability experts gather a representative from each SME in a room to observe their activities on the site. The representatives of SMEs are given assignments to represent a task that would typically be performed on a site, such as placing an order or looking up some information.

Then, the experts observe how quickly the representatives of respective SMEs are able to

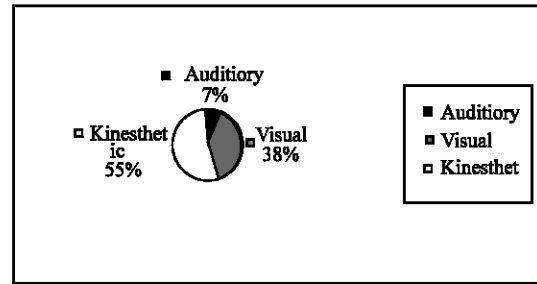


Fig. 1: Auditory, Visual and Kinesthetic role in visual programming

perform the tasks. The business objectives and the future goals of SMEs also are interviewed. Then a collective decision on the design of site is taken.

Depth of the site: Our research indicates that deep sites are better for major corporations whereas shallow sites are more appropriate for SMEs. This is because most of the users and the customers of SMEs are unregistered browsers. There are hundreds of similar products in front of them. The customers have less time to spare on a single site. In the choices we make about how to present ourselves to our customers, the margin for error has become significantly smaller. If you haven't grabbed your potential clients' interest by relating to the way they think within six seconds of their logging on to your E Commerce web site, research^[9] shows that they will not wait to make sense of what you are saying – they will move on.

The deep sites are also better for training, taking users step-by-step through a process. Any E Commerce site is a tree structure^[11,12]. The recommendation here for the SMEs is to keep the height of the tree is small as possible.

Sequential order of the visual programming: Joseph O'Connor and Ian McDermott^[3] emphasize three aspects of visual programming:

- Auditory
- Visual
- Kinesthetic

Even though all three parameters play a significant role in the process of message transfer, the last two are predominant in the business aspects of SMEs. According to^[9], the auditory influence on human mind constitutes 7%, the visual influence constitutes 38% and the kinesthetic influence constitutes 55% Fig 1.

Here we introduce a concept called sequential order of visual programming. When a concept or a message is conveyed to a customer through web pages, it is

presented with a mix of visual, auditory and kinesthetic expressions. When a statement is visually displayed in a web page, the same statement is aired as an auditory background simultaneously in a different format. That is, a customer reads and hears the same thing together. The principle of sequential order of visual programming is to tell you how the visual and auditory expressions of a message are expressed together.

Here the sets we consider are ordered sets. As ordered sets, the ordered set $\{a, b, c\}$ is different from $\{c, a, b\}$. Let A and B be two ordered subsets. We define X is a sequential subset of Y if and only if X is a subset of Y and the order of X is the same as that of Y. Let us explain this concept by an example. Consider the following ordered sets:

$$\begin{aligned}Y &= \{p, q, r, s, t, u, v, w\} \\A &= \{q, s, v, w\} \\B &= \{q, s, w, v\}\end{aligned}$$

The subset A is a sequential subset of Y whereas B is not a sequential subset of Y. Notice that the order of the members of the subset $\{q, s, w, v\}$ is different from the order of the members of Y (In Y, "v" is before "w" whereas in B "v" is after "w". This is what we call order of elements in a set.). Let us look at one more example.

$$\begin{aligned}Y &= \{1, 3, 5, 7, 9\} \\A &= \{3, 7, 9\} \\B &= \{7, 3, 9\}\end{aligned}$$

Even though A and B are subsets of Y, A is a sequential subset of Y whereas B is not a sequential subset of Y. Here the order of the members of the subset $\{3, 7, 9\}$ preserves the order of the members of Y. On the other hand, the members of the set $B = \{7, 3, 9\}$ does not preserve the order of the members of Y.

A visual programming is in sequential order if the set of contents of video clip is a sequential subset of the corresponding audio clip. Now we illustrate this with examples.

Here is the first example:

Visual:	Mark younger to Peter
Auditory:	Peter is elder to Mark

Notice that the orders of the visual and auditory statements are different. Thus, this visual programming does not follow the principle of sequential order of visual programming. Let us look at an alternative one.

Visual:	Mark younger to Peter
Auditory:	Indeed Mark is younger to Peter

Here the orders of the visual and auditory statements are the same and thus it follows the principle of sequential order of visual programming.

Here is another example:

Visual:	get two; pay one
Auditory:	If you pay for one, you will get two CDs.

Notice that the orders of the visual and auditory statements are different. Thus, this visual programming does not follow the principle of sequential order of visual programming. Let us look at an alternative one.

Visual:	get two; pay one
Auditory:	You will get two CDs; but you just pay for one.

Here the audio clip and the video clip are in the same order and thus it follows the principle of sequential order of visual programming.

The principle of sequential order of visual programming is important to the synchronization of the eyes and the mind. The first one will slow down the process of grasping the contents of the site because the orders of the visual and auditory statements are different. Since the customers of SMEs are quick browsers of the sites, it is important to follow the principle of sequential order of visual programming, which will speed up the absorption of the contents.

Eye accessing cues: Joseph O'Connor and Ian McDermott^[16] have studied NLP that goes with visualizing and reading. Eye movements are known as eye accessing cues in NLP literatures^[16]. Joseph O'Connor and Ian McDermott have classified the cues as follows:

- Visual eye accessing cues
- Auditory eye accessing cues
- Kinesthetic eye accessing cues

According to the theory of NLP^[10,16],

- Visual eye accessing cues – eyes focused straight
- Auditory eye accessing cues – eyes focused to the left or right
- Kinesthetic eye accessing cues – eyes focused to down

As it is mentioned earlier, SMEs' web applications involve visual eye accessing cues, auditory eye accessing

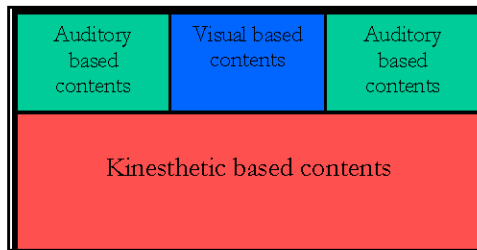


Fig. 2: An eye accessing cues systems

cues and kinesthetic eye accessing cues. Applying the principles of NLP^[3,9], the customers typically look first in the center for visual contents, then look to the left and the right side of the web page for the audio contents and then look at the bottom for the kinesthetic contents.

This concept of physiology is important in the design of SMEs' business web applications. The conventional reading pattern is left-center-right sequence whereas the browsing pattern is center-left-right sequence. Our research findings confirm that new and experienced web users scan essentially the same way in the center-left-right sequence. Here in this article, we suggest the following design model of the screen:

By some recent usability studies we conducted using an eye-accessing cues system, we now have real evidence of where customers of SMEs actually look when they view a web page. The visual dominated contents will be preferred in the central area; the audio dominated contents will be preferred in the left and right panel and the kinesthetic dominated contents will be preferred in the bottom of the web page Fig 2.

Giving and Receiving Feedback: We can no longer plan in advance: Life and business have become increasingly unpredictable and chaotic. What we have to learn to do is present our ideas and products partly formed and develop them through the involvement of and feedback from our customers^[17]. We can only do this if we have developed all the skills of giving and receiving feedback. The E Commerce is the most powerful tool to handle this. Thus, one of the important aspects of the design issue is how to interact with the customers by giving and receiving feedback.

Peripheral vision: Normally bright colors and animation attract users' eyes^[11]. But this is contrary in the SME business applications. According to the survey, the customers of SME do not prefer dark and bright colors. The personal websites and other non-commercial sites use bright colors and attractive pictures. Bright colors and animations make the eyes of the customers tired fast.

Since the customers of SMEs may visit the site often, it is preferable to have light pleasing colors with mild background effects.

CONCLUSION

SMEs normally target a small number of customers. We discussed the barriers of SMEs to reach the global markets. E Commerce not only helps to overcome these barriers but also provides a cutting edge over the competitors. We discussed how to identify, classify, and understand the customers of SMEs. We also analyzed the design techniques of the screen layout of E Commerce based on the interests of the SME customers.

REFERENCES

1. Gunasekaran, A., L. Forker and B. Kobu, 2000. Improving Operations performance in a small company: A Case Study, Intl. J. Operations and Production Manag., pp: 316-336.
2. Narendam, P., J. Strom and D. Whileley, 1995. An analysis of electronic markets in the context of SMEs, 3rd European Conference on Information Systems, Athens.
3. Vescovi, T., 2000. Internet Communication: the Italian SME Case, Corporate Communications: An Intl. J., pp: 107-112.
4. Emery, D., 1999. The mists and fruitfulness of electronic Commerce, Innovation Through Electronic Commerce: 2nd Intl. Conference leC '99, Manchester, pp: 81-89.
5. Lissack, M. and J. Roos, 2000. The next common sense: An E-Manager's guide to complexity, Nicholas Brealey Publications, London.
6. Whileley, D. and K. Miller, 1999. E-commerce: Flying in the face of Competition, BIT World '99, Cape Town, South Africa.
7. Whileley, D., 1999. Learning to drive e-commerce, Innovation Through Electronic Commerce: 2nd Intl. Conference leC '99, Manchester, pp: 286-299.
8. Hsieh, C. and B. Lin, 1998. Internet Commerce for Small Businesses, Industrial Management and Data Systems.
9. Siegel, D., 1999. Futurize your Enterprise: Business Strategy in the age of the E-Customer, John Wiley, Knight, S., (Edstors). NLP at Work Neuro Linguistic Programming, Nicholas Brealey Publications, London.

10. Krutz, R.L. and R.D. Vines, 2003. The CISSP Prep Guide, Golden Edition, Wiley Publishing inc.
11. Niederst, J., Web Design in a nutshell, O Reilly, Sebastopol, CA.
12. Reynolds, M., 2000. Beginning E-Commerce, Wrox Press.
13. Baecker, R.M., K. Booth, S. Jovicic, J. McGrenere and G. Moore, 2000. Reducing the Gap Between What Users Know and What They Need to Know, ACM Conference on Universal Usability, pp: 17-23.
14. Heeter, C. and N. Lownds, 2002. Design Discussion, Professional Interaction Design Portfolio Panel, International CHI Conference (Computer-Human Interaction), Minneapolis.
15. Myers, B.A., 2003. Graphical User Interface Programming, CRC Handbook of Computer Science and Engineering - 2nd Edition. Allen B. Tucker, editor in chief. Boca Raton, FL: CRC Press, Inc.,
16. O'Connor, J. and I. McDermott, 2001. Way of NLP, Thorsons Publications, London.
17. Whileley, D., 1998. Merging Electronic Commerce Technologies for Competitive Advantage, Association of Information System 1998 Americas Conference, Baltimore, USA.