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A Staged Approach to Identifying Web Site Features for Small Businesses

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ABSTRACT

An increasing number of small businesses are experimenting with setting up web sites, most of them with little thought as to how they will go about it. This paper proposes a method that may be used by small businesses to assist in determining the actual web site features that they should implement on their web sites in a staged approach. It is based upon the premise that:

- *Small businesses will generally develop their web sites in stages (refer previous section)*
- *There will be a number of different costs associated with the setup and ongoing maintenance of the web site.*
- *A small business manager is going to have to need to have some idea of the level of these costs, but is likely to be confused by all of the options available and will find it difficult to identify all of the associated costs.*

The proposed method simplifies the decisions that need to be made by small business managers down to two major questions – What is the business value of a feature? How often does it need to be updated? Combined with predetermined values for the setup cost and maintenance cost of each feature, the method provides a recommendation as to when a feature should be implemented, based upon the perceived value of the feature to the business, the setup cost and the cost of ongoing maintenance. Recommendations made by the method tend to follow the traditional methods of web site development for small businesses, from the simple web site to the more complex over time.

INTRODUCTION

Most small businesses are now aware of the Internet and electronic commerce. An increasing amount of them are experimenting with setting up web sites, most of them with little thought as to how they will go about it. This paper proposes a method by which small businesses can develop a staged approach to identifying the web site features that they should have on their web site and when they should implement them.

BACKGROUND

Limitations for Small Business

The literature around the area of small business (businesses with 1-20 employees) and information technology is rife with what is now a fairly accepted list of 'barriers' to the successful implementation of IT in small businesses. They are constrained by a lack of resources (time, money and expertise) and the strategic, longer-term focus necessary to plan the proper use of IT. The barriers facing small business adoption and use of e-commerce virtually match those listed above for IT (Burgess, 2002a).

Dell and Rose (2001, p.55) suggest that small businesses should use the web to "find solutions based on specific industries that are getting people together, and offering services to ease a key process – be it buying and selling, shipping or communication". Whatever solutions they choose to adopt, they should ensure that they fit in with the overall strategy of the business and take into account the limitations that small businesses face.

Small Business Web Site Options

A previous study involving the author (Burgess and Schauder, 2002) examined various options available to small businesses to develop, host and maintain a web site. Options for hosting a web service were basically limited to 'doing it yourself' or getting someone else to do it (remote hosting). For many small businesses the upfront cost of self-hosting would be too prohibitive. For instance, Alexander (1999) reports that a small online accounting business in the US spent $US50,000 on the infrastructure of an 'in-house' e-commerce web site. This included the cost of the server, a router, a high-speed connection line and a custom application. There are also problems in many small businesses in relation to having suitably skilled staff to operate the 'technology' side. Realistically, self-hosting is generally the domain of larger businesses with suitably skilled staff (Mehta and Shah, 2001).

Costs

There can be great variations in the costs of setting up a business presence on the Internet. The cost of setting up a web site can be considerable for small businesses if they choose to self-design and self-host the web site (Hormozi and Harding, 1998).

Initially, most small businesses are confined to using some type of package for web site development with the web site being hosted remotely (Mehta and Shah, 2001). Complications start to arise when the business looks to integrate its online activities with its existing business systems. Even something seemingly as simple as linking a company's product database with its online catalogue may be complicated if the web site is hosted remotely. The cost can be a function of variables such as the size of the web page, how often updates need to occur, the costs of labour associated with these activities, the method the business chooses to adopt to host the site. Other costs may include the need for employee training if the solution requires in-house expertise that is not available (Hormozi and Harding, 1998).

Alexander (1999) has identified a number of other costs that may be easily overlooked:

- Costs of transactions
- Customer service representatives – because all customer service cannot be handled solely by email
- Hardware
- High speed communications
- Promotion of the web site
- Security
- Web site design.

DIST (1998) identified a number of costs associated with developing a web site:

- Initial or upgraded hardware and software
- Training
- Loss of efficiency in the short term
- Lack of familiarity with new forms of marketing
- Access fees
- Cost and/or expense in the development of Web sites.

In summary, the costs involved in operating a web site not only include the actual dollar cost involved in setup and maintenance of the site, but also the other costs where the web site affects the operation of the business (such as staff training, staff time used in site maintenance, impacts on the efficiency of the business as resources may be reallocated from the existing business to the web site, the need to respond to extra product queries, and so forth). Think of the difficulties that a small business will have in trying to identify all of these costs!

APPROACHES TO SMALL BUSINESS WEB SITE DEVELOPMENT

It is quite common for small businesses to adopt a 'start simple and then grow' approach to web site development. For example, two approaches to gradual web site development are described here:

Liflander (2000) has identified five general types of Web site:

- *Online Business Card.* A basic information site.
- *Online Brochure.* This includes product details.
- *Online Sales Presentation.* This is virtually an online version of a sales pitch, using a combination of text, video, audio and other special effects.
- *Online Store.*
- *Interactive E-Commerce.* This integrates the online and business information systems.
- Bickerton et al (1999) have proposed three stages of development of web sites. These stages are:
- *Internet presentation.* This is where information is published and can only be viewed.
- *Internet interaction.* This allows for two-way communication between an organisation and its customers.
- *Internet representation.* This is where the organisation uses Internet technologies to replace elements of its business processes.

In each of these cases, the initial web site being developed is inexpensive and simple to set up. As the business becomes more confident with the operation of the web site the level of functionality can be increased. Other sources (such as Yellow Pages Australia (1998) and Quelch and Klein (1996)) have also suggested a staged approach to web site development. None of these authors, however, offer a means by which a small business can decide what features the business could incorporate on the web site that are tailored to the individual business.

AN APPROACH TO ISOLATING WEB SITE COSTS

In this section, the author proposes a method that may be used by small businesses to assist in determining the actual web site features that they should implement on their web sites. It is based upon the premise that:

- Small businesses will generally develop their web sites in stages (refer previous section).
- There will be a number of different costs associated with the setup and ongoing maintenance of the web site.
- A small business manager will need to have some idea of the level of these costs, but is likely to be confused by the options available and will find it difficult to identify associated costs.

Note that the following method suggests what web site features a business will wish to implement at particular stages of its web site development. It assumes that the business will generally opt for a packaged solution, hosted remotely and the use of an external consultant (which may be the business hosting the web site) if advanced features (requiring expertise) are required on the web site. Future considerations can include where the business sets up a site internally, or uses an external consultant to set up even a simple web site.

The Method

It is suggested that the decision for whether (and when) to include a particular feature on a web site will be determined by:

- The 'perceived value' of the feature to the business (50%)
- The setup cost (20%)
- The ongoing cost to maintain the feature (30%).

The author has allocated weightings based upon the impact of the weighting of the decision. This has initially been established after interviewing a group of eight information systems academics in the same school as the author (results rounded to the nearest ten percent). It would be easy to alter these weightings if the business felt it necessary. Each factor is then given a score relative to its weighting.

1.1.1 Business Value (50%)

The purpose of this section is to make it as easy as possible for the business to determine the 'business value' of a particular web site feature here. The author has developed a number of text-based selections that the business could make based upon a particular feature. Different scores could be allocated based upon the benefit that a business would perceive (refer Table 1). This is where this model differs from other 'staged' web site development options, as individual business opinion is noted.

If a business viewed a particular web site function as 'vital', it would be allocated a score of 50/50. If its usefulness were perceived as being 'nice to have', its score would be 20. To see how this may operate for different web site functions refer to the two columns labelled 'Business Impact' in Table 5.

1.1.2 Setup Costs (20%)

Using the proposed method, there is no need for a business to have to make a judgement as to the setup cost of a particular feature. Based on the overall weighting allocated to setup costs (20%), Table 2 outlines a number of different setup options, with an associated score attached. The author has allocated one of these options to each of the web site features identified in Table 5. These scores were developed and refined with small business counsellors in the PhD thesis of the author (Burgess, 2002b). Refer to the columns labeled 'Setup Cost' in that table. The cheapest option available is a static feature that can be entered as text, either into a package or even directly into HTML. The next two available options are specifically targetted towards online catalogues, where

Table 1: Perceived Business Value and Associated Score

Perceived Business Value	Score
Vital	50
Should have it	40
Useful	30
Nice to Have	20
Marginal	10

Table 2: Setup Cost Description and Associated Score

Setup Cost Description	Score
Static – inexpensive	20
Static - may rise with products	16
Static - may rise with sales	14
Interactive - standard feature	10
Relies on number of products	8
Relies on products and sales	6
Needs IT expertise	3

Table 3: Update Frequency Description and Associated Score

Update Frequency	Score
Infrequent	6
Monthly	4
Weekly	2
Daily	1

Table 4:Update Cost Description and Associated Score

Update Cost	Score
Inexpensive (1 hour or less)	5
Medium (2-5 hours)	3
Expensive (>5 hours)	1

prices tend rise with the number of products and the number of sales involved (Burgess and Schauder, 2002). Some interactive features, although difficult to setup, are offered as standard features in some packaged solutions. An example of this would be to implement a shopping cart facility. Although this would be difficult to program for an individual business, some packaged solutions offer a shopping cart as part of their online catalogue, for a fee. The most expensive type of option would require the business to use the services of a consultant to tailor (program) the feature for the particular business. That option is the most expensive and thus is allocated the lowest 'score'.

1.1.3 Maintenance Costs (30%)

Using this method, the cost of maintaining the web site is dependent upon two factors: how often the feature needs to be updated and the cost of updating it each time. The business owner makes a judgement on the length of time between updates. These are allocated a score (refer Table 3). Examples of the types of judgements to be made are in the column labelled 'Need to Update' in Table 5.

The score taken for the frequency of update a particular web site feature is then multiplied by the cost of updating the web site feature, which has been predetermined (refer Table 4). Refer to the column labelled 'Cost of Updating' in Table 5.

In order to determine the maintenance score for a particular web site, it is necessary to calculate the update frequency score by the update cost score. For instance, in Table 5, it is judged that a static product catalogue would need to be updated weekly and would take 2-5 hours to update. Its 'maintenance' score is 2x3 = 6. An 'interactive' product catalogue (linked to a product database) would take less time to update (say, less than one hour). Its 'maintenance' score is 2x5 = 10. Note that the interactive product catalogue has a higher setup cost than the static product catalogue.

Description of Features

Before moving onto the analysis of Table 5, the following sections briefly describe each of the categories of web site features that are included in this method.

- Basic Information: These features cover the areas of a website where a business can tell their existing or potential customers about themselves.
- Web Site Navigation
- Contact Details
- Basic Product Details: Some description of that business' products or services.
- Transaction Details: Placing orders and paying for them.
- Product Support
- Personalisation: Identify and treat a customer on an individual basis.
- Sense of Community/ Entertainment: People visit the website of the business because it is entertaining, or provides a social experience for them.
- Other Web Site Features.

The Method in Action

Table 5 shows the method in action. In reality, the model would probably be set up on a spreadsheet or database, where the business manager would make selections and the scores would be automatically calculated. This would mean that the manager would only have to make two judgements for each website feature:

- What is the business value of the feature?
- How often would it need to be updated?

These 'decisions' have already been made in Table 5 for a fictional small business that is investigating selling its products over the Internet to supplement its current sales in its retail outlets. The columns where the manager has made a decision have been shaded.

Note that the resulting 'score' is calculated for each web site feature.

These results are now applied in the following way:

- Web site features with a score of between 80-100 would be implemented immediately. These are features that the business manager has identified as being important and have a reasonable combination of setup and maintenance costs.
- The business should plan to implement features with a score of 60-79 at the next 'stage' of its web site development: be it six, twelve or eighteen months down the track.

At the conclusion of this period of time (after implementation and use of features in the second stage) it would be prudent of the business to completely re-evaluate its web site performance.

Summary of results

According to the table results, the business would include the following features (with an overall score of 80 or higher) when initially setting up the web site:

- Basic information
  - About the business
  - Company history
  - Location of retail outlets
- Web site navigation
  - Buttons
  - Navigation map
- Contact details
  - Email address
  - Telephone/ fax numbers
- Product Details
  - General product details
- Other features
  - Business related links
  - Link to industry webring

In six or twelve month's time, if the business is happy with the operation of the web site, they should consider expanding the number of features on the site (score: 60-79) to include:

- Basic information
  - Testimonials
  - Trade shows/ coming events
  - What's new?
- Product details
  - Static product catalogue
  - Customer or expert reviews
  - Online ordering by email or form
  - Shopping cart facility

- Product Support
  - o Frequently asked questions
  - o Directions on using the product.

After this particular stage has been reached, it is probably prudent for the company to reassess it web presence and perhaps perform the analysis again, based on its 12 or 18 month experience.

Limited space precludes a lengthy discussion on the features that are being recommended. It is easy to see, however, how the method introduces the web site features on a gradual basis, with all of the features recommended for the initial implementation being easy to implement. The features identified here are typical of the 'online brochure' type of site identified earlier.

Table 5: Web Site Feature Analysis

Category	Web Site Feature	Business Impact	Set up Cost	Need to Update	Cost of Updating	Business Impact	Set up Cost	Mainten ance	Score
Basic Information	About the business	Should have it	Static – inexpensive	Infrequent	Inexpensive	40	20	30	**90**
	Company History	Useful	Static – inexpensive	Infrequent	Inexpensive	30	20	30	**80**
	Annual Reports, etc.	Marginal	Static – inexpensive	Infrequent	Medium	10	20	18	**48**
	Testimonials	Useful	Static – inexpensive	Monthly	Inexpensive	30	20	20	**70**
	Location of Retail outlets	Vital	Static – inexpensive	Infrequent	Inexpensive	50	20	30	**100**
	Trade Shows/ Coming Events	Nice to Have	Static – inexpensive	Monthly?	Inexpensive	20	20	20	**60**
	What's New ??	Useful	Static – inexpensive	Weekly?	Inexpensive	30	20	10	**60**
Web site Navigation	Buttons	Vital	Static – inexpensive	Monthly	Inexpensive	50	20	20	**90**
	Navigation Map	Should have it	Static – inexpensive	Monthly	Inexpensive	40	20	20	**80**
	Web Site Search Facility	Nice to have	Interactive – standard feature	Infrequently	Medium	20	10	18	**48**
Contact Details	Email address	Vital	Static – inexpensive	Infrequent	Inexpensive	50	20	30	**100**
	Phone number/ Fax number	Vital	Static – inexpensive	Infrequent	Inexpensive	50	20	30	**100**
Product Details	General Product Details	Vital	Static – inexpensive	Infrequent	Inexpensive	50	20	30	**100**
	Product Catalogue	Vital	Static – may rise with products	Weekly?	Medium	50	16	6	**72**
	Product Catalogue (Interactive)	Nice to have	Relies on number of products	Weekly	Inexpensive	20	8	10	**38**
	Customer or Expert Reviews	Useful	Static – may rise with products	Monthly	Inexpensive	30	16	20	**66**
Transactions	Online Ordering by email or form	Vital	Static – may rise with sales	Infrequent	Medium	50	16	18	**84**
	Online Ordering – interactive	Nice to have	Relies on products and sales	Infrequent	Medium	20	6	18	**44**
	Online Payment	Nice to have	Relies on products and sales	Infrequent	Inexpensive	20	6	30	**56**
	Shopping Cart Facility	Nice to have	Interactive – standard feature	Infrequent	Inexpensive	20	10	30	**60**
	Direct Product Download	Marginal	Needs IT Expertise	Monthly?	Medium	10	3	12	**25**
Product Support	Frequently Asked Questions	Should have it	Static – inexpensive	Weekly	Medium	40	20	6	**66**
	Searchable Product Support	Nice to have	Needs IT Expertise	Weekly	Inexpensive	20	3	10	**33**
	Directions on using the Product	Useful	Static – inexpensive	Monthly	Inexpensive	30	20	20	**70**
	E-mail Based Product Support	Nice to have	Static – inexpensive	Daily	Medium	20	20	3	**43**
Personalisation	Customer details stored	Nice to have	Needs IT expertise	Infrequent	Medium	20	3	18	**41**
	Customer identified by website	Nice to have	Needs IT expertise	Infrequent	Medium	20	3	18	**41**
	Product/Service tailored to individual	Nice to have	Needs IT expertise	Infrequent	Medium	20	3	18	**41**
Category	**Web Site Feature**	**Business Impact**	**Set up Cost**	**Need to Update**	**Cost of Updating**	**Business Impact**	**Set up Cost**	**Mainten ance**	**Score**
Sense of Community/ Entertainment	Bulletin Board	Useful	Needs IT expertise	Weekly?	Inexpensive	30	3	10	**43**
	Chat Group	Marginal	Needs IT expertise	Weekly	Inexpensive	10	3	10	**23**
	Special Member's Club	Nice to have	Needs IT expertise	Weekly?	Medium	20	3	6	**29**
	Games	Marginal	Needs IT expertise	Infrequent	Medium	10	3	18	**31**
	Newsletters	Useful	Static – inexpensive	Weekly?	Medium	30	20	6	**56**
Other features	Business related links	Should have it	Static – inexpensive	Monthly	Inexpensive	40	20	20	**80**
	Link to industry webring	Useful	Static – inexpensive	Infrequent	Inexpensive	30	20	30	**80**

HOW ARBITRARY?

It is necessary to consider the value of the arbitrary weightings that have been assigned in the method. They are based on the author's experience and opinion of the time, effort and cost needed to implement and update these web site features, interviews with information systems academics and some feedback from small business counsellors. The next phase of the study will involve testing the weightings of the method with actual small businesses for the purpose of questioning and modifying the weighting values where there is obvious deviation between the 'reality' and the recommendations of the method.

CONCLUSION

Limitations that most small businesses face in relation to available resources, time and IT expertise mean that their choices for developing web sites are typically limited to packaged solutions. Within these packaged solutions they are still required to make many decisions as to the appropriate features they will have on their sites and when they will implement them. The proposed method simplifies the decisions that need to be made by small business managers down to two major questions – what is the business value of a feature? How often does it need to be updated? Combined with predetermined values for the setup cost and maintenance cost of each feature, the method provides a recommendation as to when a feature should be implemented, based upon the perceived value of the feature to the business, the setup cost and the cost of ongoing maintenance. The recommendations made by the method tend to follow the traditional methods of web site development for small businesses, from the simple to the more complex over time.

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