Management For Success in eCommerce

Trevor Nesbit

Christchurch Polytechnic Institute of Technology
Christchurch, New Zealand

nesbitt@cpit.ac.nz

ABSTRACT

The purpose of this paper is to further explore the management skills that are needed in eCommerce organisations. Nesbit (2001a, 2001b) began an exploration that was largely based on the work of Davis and Hajnal (1998) who had identified a number of management skills that are perceived as being important.

The main aim of this paper is to identify which skills are perceived as being the most important in a wider range of organisations. This was achieved by conducting a survey of eCommerce organisations in New Zealand, with the aim of answering the following research question: "What are the management skills that a sample of eCommerce organisations perceive to the most critical to success?"

The results of this research point to the most important skills and competencies being of a strategic nature.

The analysis showed that, for the sample of covered by the questionnaire, a group of skills and competencies of a strategic nature are significantly more important than a group of skills and competencies that are of a technical and operational nature.

1. REVIEW OF PREVIOUS WORK

Davis and Hajnal (1998) identified a range of management skills that are seen as being important in eCommerce organisations. The work of Nesbit (2001a and 2001b) looked at the relative importance of these skills, and identified further skills to the list identified by Davis and Hajnal.

Nesbit (2001b) concluded that the management skills identified as being most important include having a broad understanding of IT and issues related to eCommerce, having specialist management skills/ competencies that are strategic in nature and having generic skills in relation to general management and the use of technology.

A number of trends emerged from the work of Nesbit (2001a, 2001b) with these including:

♦ Success in eCommerce is different for different organisations
♦ Significant levels of risk are involved
♦ Issues relating to organisational change, and in particular how people cope with the change, are significant
♦ The need for understanding what a business is all about is paramount

- Commitment and vision are vitally important
- The need for an acceptable return on investment is important
- Speed is important
- Knowledge management is a key ingredient
- Organisations need to know what their customers and suppliers want and need
- Skills and competencies that are more technical or operational in nature appear to be less important.

2. METHOD

The results of the previous pieces of work were used to construct a questionnaire that was sent to a wider sample of eCommerce organisations. The original list of 22 skills that were identified by Davis and Hajnal (1998) was expanded to include those identified by Nesbit (2001a, 2001b), with the final list including a total of 31 skills. These are shown in Table 1.

The questionnaire gathered a wide range of data from the respondents, with the sections that are most relevant to this paper including:

- Asking the respondents to rate the 31 skills using a Likert scale from 1 (vitally important) through to 5 (not important at all).
- Asking the respondents to indicate which of the skills was the most important.

Email contact was used to contact the respondents in the first instance.

3. RESULTS

3.1 DISTRIBUTION OF QUESTIONNAIRE AND RESPONSE RATE

A total of 58 questionnaires were distributed, with 31 responses being received for a 53.4% response rate.

Of the 31 respondents, it was decided to exclude 4 from further analysis, with 3 of these being from organisations that were not involved in eCommerce, and the 4th being from outside of New Zealand.

3.2 RATINGS OF MANAGEMENT SKILLS NEEDED IN ECOMMERCE ORGANISATIONS

The results presented and analysed in this section include:

- The frequency of responses in the rating of the 31 management skills and competencies
- The percentage of respondents rating each skill as "1"
- The percentage of respondents rating each skill as "1" or "2"

Table one shows the frequency of rating from 1 (Vitally Important) through to 5 (Not important) of the 27 respondents.

Table 1 - Frequency Of Responses For Each Skill/Competency

		1	2	3	4	5	N/A
1	Possesses general management education	4	10	9	3	1	-
2	Builds relationships	13	12	1	-	-	1
3	Maintains clarity of vision within uncertainty	16	9	1	-	-	1
4	Possesses basic understanding of computers from a non-technical perspective	8	12	4	1	1	1
5	Learns quickly	14	12	1	-	-	-
6	Possesses the ability and/or willingness to support informed risk taking		10	15	2	-	-	-
7	Possesses analytical ability at the strategic level	11	14	1	1	-	-
8	Has collaboration skills	10	13	4	-	-	-
9	Has traditional reporting skills	1	5	15	5	1	-
10	Possesses good marketing skills	10	9	7	1	-	-
11	Possesses knowledge of the industry that the organisation is in	11	12	4	-	-	-
12	Can interact in an IT/business work group	7	14	5	1	-	-
13	Understands the principles of human-computer interaction	3	10	10	2	2	-
14	Has a broad perspective on electronic commerce	6	13	7	-	1	-
15	Possesses operational skills (such as product development)	2	7	10	7	1	-
16	Has the ability to work with IT professionals, data processors	7	12	5	3	-	-
17	Has the ability to manage cultural change	9	10	6	2	-	-
18	Possesses the ability to manage multiple projects	8	8	8	2	1	-
19	Possesses negotiation skills	4	12	10	1	-	-
20	Has the ability to market in a one-to-one environment	6	9	8	3	1	-
21	Openness to change	21	6	-	-	-	-
22	Has the ability to contribute to standards of service to constituents	7	14	4	2	-	-
23	Possesses the ability to use tele-communications & information technologies	7	14	2	4	-	-
24	Has charisma (a leader, enthusiasm generator, problem solver for others)	9	11	4	3	-	-
25	Possesses an attitude that is appropriate for "business and people" management	10	10	7	-	-	-

	1	2	3	4	5	N/A
26 Has an understanding of the business on a business level (eg the cost of transactions and knowledge of business processes)	9	13	4	1	-	-
27 Thinks creatively and is innovative	15	12	-	-	-	-
28 Has a non-technical person's understanding of technological security & perceptions surrounding security	3	15	5	4	-	-
29 Is comfortable with emergent properties – not being a "control freak"	5	14	7	-	1	-
30 Is comfortable interacting with government and regulatory bodies	-	10	7	6	4	-
31 Can operationalise and implement strategic vision	14	8	4	1	-	-

Table 1 - Frequency Of Responses For Each Skill/Competency (Contd)

The data was analysed and sorted in a number of ways. Table 2 shows the skills that were rated at least 10th equal when sorted by how often they were rated "1".

	Percentage
21 Openness to change	77.8%
3 Maintains clarity of vision within uncertainty	61.5%
27 Thinks creatively and is innovative	55.6%
5 Learns quickly	51.9%
31 Can operationalise and implement strategic vision	51.9%
2 Builds relationships	50.0%
7 Possesses analytical ability at the strategic level	40.7%
11 Possesses knowledge of the industry that the organisation is in	40.7%
6 Possesses the ability and/or willingness to support informed risk taking	37.0%
8 Has collaboration skills	37.0%
10 Possesses good marketing skills	37.0%
25 Possesses an attitude that is appropriate for "business and people" management	37.0%

Table 2 - Skills/Competencies By Percentage of Respondents Rating "1"

		Percentage
21	Openness to change	100.0%
27	Thinks creatively and is innovative	100.0%
5	Learns quickly	96.3%
2	Builds relationships	96.2%
3	Maintains clarity of vision within uncertainty	96.2%
6	Possesses the ability and/or willingness to support informed risk taking	92.6%
7	Possesses analytical ability at the strategic level	92.6%
8	Has collaboration skills	85.2%
11	Possesses knowledge of the industry that the organisation is in	85.2%
26	Has an understanding of the business on a business level (eg the cost of transactions and knowledge of business processes)	81.5%
31	Can operationalise and implement strategic vision	81.5%

Table 3 - Skills/Competencies By Percentage of Respondents Rating "1" or "2"

Skill #	Skill/Competency	Frequency as most important
3	Maintains clarity of vision within uncertainty	5
31	Can operationalise and implement strategic vision	4
2	Builds relationships	3
26	Has an understanding of the business on a business level (eg the cost of transactions and knowledge of business processes)	3
5	Learns quickly	2
21	Openness to change	2
27	Thinks creatively and is innovative	2
6	Possesses the ability and/or willingness to support informed risk taking	1
7	Possesses analytical ability at the strategic level	1
11	Possesses knowledge of the industry that the organisation is in	1
13	Understands the principles of human-computer interaction	1
17	Has the ability to manage cultural change	1
24	Has charisma (a leader, enthusiasm generator, problem solver for others)	1

Table 4 - The Most Important Skill/Competency - Frequency of Reponses

Table 3 shows the skills that were rated at least 10th equal when sorted by how often they were rated "1" or "2"

Table 4 shows the skills/competencies that were chosen as being the most important of the 31 listed, and the frequency with which they were chosen.

3.3 THE MOST IMPORTANT MANAGEMENT SKILL

The results presented and analysed in this section include:

♦ The frequency with which each skill/competency was rated as the most important

♦ The frequency with which each verb was chosen as best describing the actions that take place when the most important skill/competency is being carried out.

♦ The relationship between the verbs that were chosen and the skill/competency that they relate to.

3.4 GROUPING OF SKILLS/ COMPETENCIES

The emerging trends that were identified by Nesbit (2001a and 2001b) are reproduced below:

♦ Success in eCommerce is different for different organisations

♦ Significant levels of risk are involved

♦ Issues relating to organisational change, and in particular how people cope with the change, are significant

♦ The need for understanding what a business is all about is paramount

♦ Commitment and vision are vitally important

♦ There is a need for an acceptable return on investment

♦ Speed is important

♦ Knowledge management is a key ingredient

♦ Organisations need to know what their customers and suppliers want and need.

Of the 31 skills/competencies that were being rated in the survey, the following group could be classed as being consistent with the emerging trends, and are referred to as Group A in Table 5.

In the summary of the interviews, an emerging trend was that skills/competencies that are more of an operational or technical nature were seen as being less important. The skills/competencies in the following table are seen as being of an operational or technical nature.

3 Maintains clarity of vision within uncertainty

5 Learns quickly

6 Possesses the ability and/or willingness to support informed risk taking

7 Possesses analytical ability at the strategic level

8 Has collaboration skills

11 Possesses knowledge of the industry that the organisation is in

17 Has the ability to manage cultural change

21 Openness to change

26 Has an understanding of the business on a business level (eg the cost of transactions and knowledge of business processes)

27 Thinks creatively and is innovative

31 Can operationalise and implement strategic vision

Table 5 - Group A Skills/Competencies

4	Possesses basic understanding of computers from a non-technical perspective
9	Has traditional reporting skills
13	Understands the principles of human-computer interaction
15	Possesses operational skills (such as product development)
16	Has the ability to work with IT professionals, data processors
28	Has a non-technical person's understanding of technological security & perceptions surrounding security
30	Is comfortable interacting with government and regulatory bodies

Table 6 - Group B Skills/Competencies

The remaining skills are shown below, and are referred to as Group C. These skills as a group do not conform to a particular pattern, and as such, analysis of this group of skills will not be done in as much depth as for Group A and Group B.

For the purposes of this report, the skills and competencies will not be broken down into further groups for analysis.

3.5 ANALYSIS OF SKILL RATINGS BY GROUPS

The results presented and analysed in this section are all based on the groupings of skills/competencies from the previous section.

Table 7 shows the percentage of "1" ratings given to the skills/competencies in each of the three groups.

Table 8 shows the percentage of "1" or "2" ratings given to the skills/competencies in each of the three groups.

The data shown in the tables below would appear to be consistent with the trend of the skills and competencies in Group A being seen as being more important than the skills and competencies in Group B.

Figure 1 shows Box and Whisker Plots for each of the three groups. The pattern shows that the ratings for the skills/competencies in Group A have typically lower values (and are therefore more important) than those in Group B, with those in Group C not conforming to any particular pattern.

	Frequency of being rated "1"	Number of Responses	Percentage
Group A	140	296	47.3%
Group B	24	188	12.8%
Group C	96	350	27.4%

Table 7 - Percentage of Skills/Competencies Rated "1" By Group

	Frequency of being rated "1" or "2"	Number of Responses	Percentage
Group A	264	296	89.2%
Group B	95	188	50.5%
Group C	246	350	70.2%

Table 8 - Percentage of Skills/Competencies Rated "1" or "2" By Group
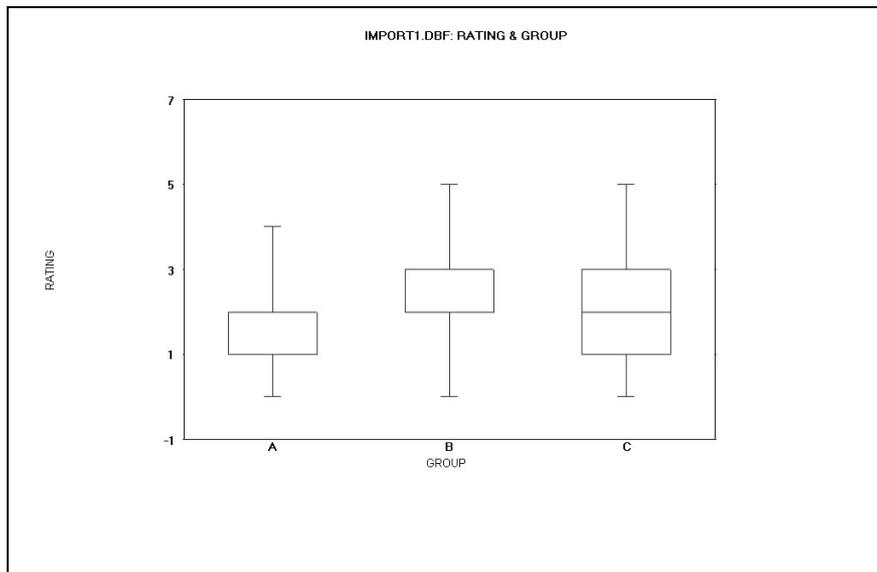
Figure 1 - Box And Whisker Plots By Group

To test the significance of this, a Kruskal-Wallis test was carried out using the WINKS Statistical Software Package, to determine if there is a significant difference between any of the groups. The results of this test showed, that a 5% level, there is a significant difference between the skills in Group A and Group C, and a significant difference between the skills in Group C and Group B. This suggests that for the sample used, the skills and competencies in Group A are the most important and the skills and competencies in Group B are the least important.

To determine the significance of the difference between Group A and Group B, a Mann-Whitney test was conducted using the WINKS Statistical Software Package. The results of this test showed that with a Z-Statistic of 9.65, there is a very significant difference between the two groups for this sample. The significance is at a level of less than 0.1% (P < 0.001).

3.6 ANALYSIS OF MOST IMPORTANT SKILL BY GROUP

The table below shows the skill/competency that was rated the most important, broken down by the 3 groups, and shows that the vast majority of the most important skills are in Group A.

Of the 27 responses, 22 are for skills/competencies in Group A, 1 for those in Group B, and 4 for those in Group C.

It should also be noted that the four skills/competencies that are ranked in at least fifth equal place using three different criteria were all in Group A.

3.7 FURTHER MANAGEMENT SKILLS

In looking at the question of "Are there any further management skills/competencies that you see as being crucial....?" a number of additional skills and competencies were identified, with these being shown in table 9:

Strive for perfection

Have global perspective

Ability to source finance

Customer focus

Manage technologists and technologies

Ability to stick with things

Research

Ability to sort reality from hype

Table 9 - Additional skills/competencies identified by questionnaire respondents

Skill #	Skill/Competency	Frequency	A	B	C
3	Maintains clarity of vision within uncertainty	5		X	
31	Can operationalise and implement strategic vision	4		X	
2	Builds relationships	3			X
26	Has an understanding of the business on a business level (eg the cost of transactions and knowledge of business processes)	3	X		
5	Learns quickly	2	X		
21	Openness to change	2	X		
27	Thinks creatively and is innovative	2	X		
6	Possesses the ability and/or willingness to support informed risk taking	1	X		
7	Possesses analytical ability at the strategic level	1	X		
11	Possesses knowledge of the industry that the organisation is in	1	X		
13	Understands the principles of human-computer interaction	1		X	
17	Has the ability to manage cultural change	1	X		
24	Has charisma (a leader, enthusiasm generator, problem solver for others)	1			X

Table 10: The Most Important Skill By Group

These skills reflect the wide range of skills needed for success in eCommerce as identified by Davis and Hajnal (1998), including both technical and business related skills, with the business related skills ranging from operational through to strategic.

4. DISCUSSION

There are many views as to what constitutes success in eCommerce/eBusiness. This to a large extent stems from the multidisciplinary nature of eCommerce/eBusiness as described by Chan and Swatman (2000) and Turban et al (2000). That there are many views also stems from the work of Schneider and Perry (2000) in identifying a number of objectives for eCommerce ventures, as well as from the interviews conducted and from the results of the questionnaires.

All of these clearly point to there being a number of different factors constituting success in eCommerce/eBusiness. These factors range from external marketing focuses through internal efficiencies (supply chain management etc), and on to technical issues. Clearly highlighted in both the interviews and the results of the questionnaires was the notion that success in eCommerce/eBusiness largely depends on the nature of the organisation itself. The results of the questionnaire also highlighted the importance of having a strong customer focus.

There are many management issues that arise in eCommerce/eBusiness. The main groupings of these from the literature reviewed are:

♦ The need for change management and commitment
♦ Risk management
♦ Knowledge management
♦ Profitability

These groupings are generally consistent with the results of the interviews and the questionnaire results, with the questionnaire highlighting staffing issues (which in the main relate to knowledge management and change management).

When it comes to the management skills/competencies that are needed to deal with these issues it is evident that those required tend to be strategic in nature. This stems from the work of Davis and Hajnal (1998), the interviews and the results of the questionnaires.

The ranking of the skills/competencies based on the following showed this when based on the three groups of skills.

♦ By percentage of skills/competencies rated "1"
♦ By percentage of skills/competencies rated "1" or "2"
♦ By number of times chosen as being the most important skill/competency.

When the skills/competencies are ranked based on the above three criteria, four of the skills/competencies were ranked in at least fifth equal place using all three rankings, with these being shown in the following table:

3	Maintains clarity of vision within uncertainty
5	Learns quickly
21	Openness to change
27	Thinks creatively and is innovative

Table 11: Skills/Competencies Ranked At Least Fifth Equal On All Three Criteria

As the results of the interviews pointed to the most important skills and competencies being strategic in nature, the skills and competencies were placed in three groups with Group A being those that are strategic in nature, Group B being those that are technical or operational in nature, with the remaining skills/competencies being placed in Group C. In comparing the ratings of the skills/competencies of the three groups it was established that among the sample of respondents, the skills and competencies in Group A were significantly more important than those in Group B.

The concept of the important skills/competencies being strategic in nature is consistent with the ideas of Patel and McCarthy (2000) and others in highlighting the need for organisations to be totally committed in their adoption of eCommerce/eBusiness.

The four skills /competencies identified above that were ranked in at least fifth equal place using the three different methods of ranking were also all part of Group A and are all related to the management issues of change management and commitment, risk management and knowledge management.

Additional vitally important skills/competencies highlighted in the questionnaire results included:

♦ Strive for perfection
♦ Have global perspective
♦ Ability to source finance
♦ Customer focus
♦ Manage technologists and technologies
♦ Ability to stick with things
♦ Research
♦ Ability to sort reality from hype.

In summary, the analysis of the results does point to the notion that the most important management skills needed in eCommerce/eBusiness organisations are those of a strategic nature, with those management skills of a technical or operational nature being less important. This is based on a small sample size, and as a result it is not possible to make generalisations about the entire population of eCommerce organisations.

Further analysis that could be conducted on the data that has been gathered includes:

♦ Analysis based on the nature of the organisations involvement in eCommerce/eBusiness (adopters or providing consultancy services)
♦ Analysis based on the role of the respondent in the organisation (management or technical role)
♦ Further analysis of the relationship between the skills/competencies and the actions that are carried out
♦ Further groupings of the skills/competencies and analysis of data by these groups.

Further analysis that could be carried out, but for which more data needs to be gathered includes:

♦ An expansion of the sample size
♦ Analysis by nature of eCommerce/eBusiness the organisation is engaged in (business to consumer, business to business, electronic marketing).

5. CONCLUSIONS

Factors that constitute success in eCommerce/eBusiness will vary from organisation to organisation. This is an issue that is largely due to the multidisciplinary nature of eCommerce/eBusiness.

The most important management skills and competencies needed in eCommerce organisations tend to be strategic in nature, with the following appearing to be the most important:

♦ Maintains clarity of vision within uncertainty
♦ Learns quickly
♦ Openness to change
♦ Thinks creatively and is innovative.

The results of the research, in pointing to the most critical management skills being of a strategic nature, may suggest that an organisation's decision to adopt eCommerce/eBusiness is a strategic decision, a concept which is consistent with the need for total commitment as described by Patel and McCarthy (2000) and a number of other writers.

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