Factors that influence the adoption of e-commerce in SMEs

Key research findings

By Sandy Chong

Verity Consulting

Creativity | Passion | Growth

Electronic commerce (e-commerce) has changed and is still changing the way business is conducted around the world. The commercialisation of the Internet and the World Wide Web (WWW) has driven e-commerce to become one of the most important mediums that facilitates the sharing of business information – both within and between organisations.

As many researchers and practitioners have shown, e-commerce has reshaped the traditional value chain and has revolutionised business processes, creating phenomenal value for businesses worldwide. Thus, in a globalised economy with less and less opportunities for regional and niche market positions, it is necessary that small and medium enterprises (SMEs) take advantage of what e-commerce can offer.

Yet, the remarkable value and growth of e-commerce do not come without these practical questions: What exactly are the reasons behind e-commerce adoption? What factors hinder the adoption a*nd* implementation of e-commerce?

What kinds of benefits are business leaders expecting from its adoption? And in practice, how optimally is the Internet being used for this purpose?

To investigate these questions, we conducted a research on SMEs between October and December 2000. The research consisted of preliminary interviews and a cross-country survey in Australia.
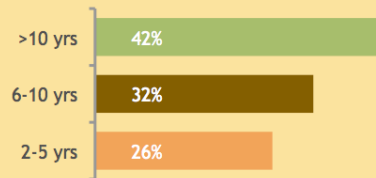
In the following pages, we have summarised our key findings in graphical forms, and we hope they will provide useful insights for our readers.
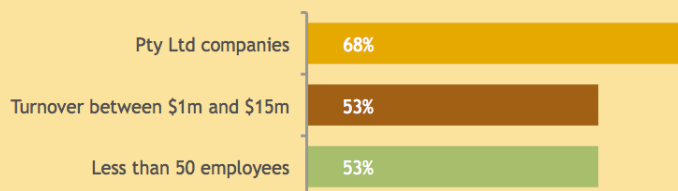
The Research

Fig. 1: Profile of SMEs who participated in the study

Age of company

>10 yrs	42%
6-10 yrs	32%
2-5 yrs	26%

Other characteristics

Pty Ltd companies	68%
Turnover between $1m and $15m	53%
Less than 50 employees	53%

Most of the SMEs have been in operation for more than 10 years, a majority of participating firms are registered as Proprietary Limited companies, with a modest turnover of between $1m and $15m, and with less than 50 employees.
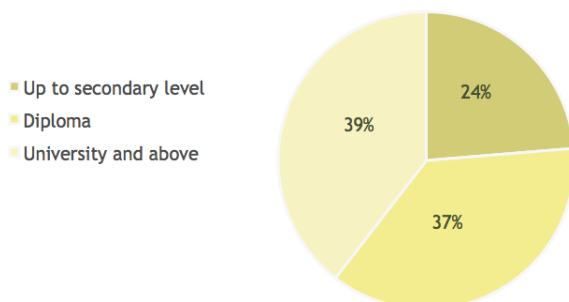
Industry Sectors

- Manufacturing
- Retail
- Wholesale
- Export & Import trade
- Others

37% | 21% | 21% | 16% | 5%
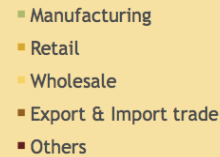
As can be seen, a majority of participating SMEs was from the manufacturing industry (37%), with retailers and wholesalers forming 21% of all respondents.

Fig. 2: Profile of respondents

Education level of SME owners

- Up to secondary level
- Diploma
- University and above

24% | 37% | 39%

Most of our respondents had formal education of up to diploma, while about a quarter of them received university education and above.

Fig. 3: Level of adoption in SMEs

Experience with e-commerce

- Less than 6 mths
- Between 6 mths & 5 yrs
- More than 5 yrs

38% | 36% | 26%
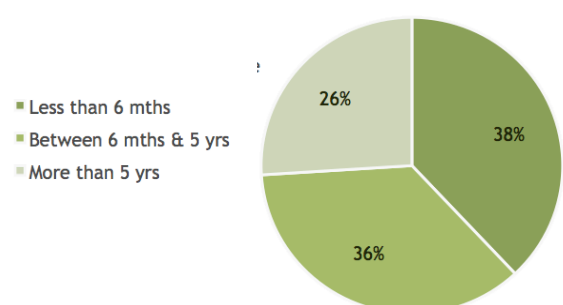
The responding firms had varying lengths of experience with e-commerce adoption and implementation. A high percentage of late adopters is consistent with the expectation that e-commerce was a relatively new and growing business practice at the time of the study.

Being aware of the critical success factors would equip SMEs to address adoption issues effectively and hence progress in the global marketplace.

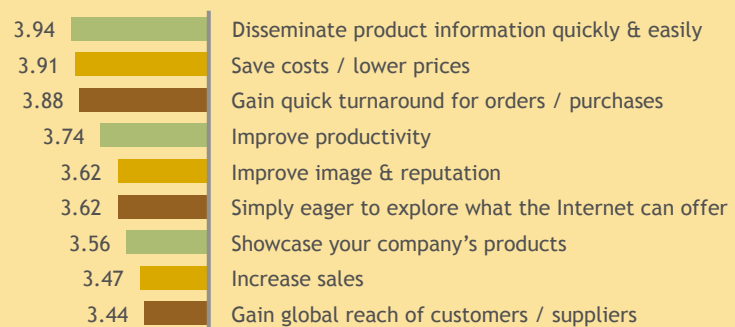# Adopting e-commerce in SMEs

The respondents' reasons for adopting e-commerce are reported in Fig. 4. It is apparent that the ability to disseminate product information easily and quickly is the main reason why SMEs adopt e-commerce, followed by cost savings and a quick turnaround for orders and purchases. On the other hand, increasing their sales and gaining global business access were the least important reasons.

Respondents were also asked to rate the concerns they had to deal with *before* adopting e-commerce. The greatest barrier to adoption was the high initial costs whereas on-going costs ranked significantly lower in importance. This possibly indicates an ignorance that on-going maintenance costs are, in practice, much higher than initial outlays, as in most IT investment.

Fig. 4: Reasons for & barriers of adoption

Reasons for adopting e-commerce

Value	Reason
3.94	Disseminate product information quickly & easily
3.91	Save costs / lower prices
3.88	Gain quick turnaround for orders / purchases
3.74	Improve productivity
3.62	Improve image & reputation
3.62	Simply eager to explore what the Internet can offer
3.56	Showcase your company's products
3.47	Increase sales
3.44	Gain global reach of customers / suppliers

Barriers to adopting e-commerce

Value	Barrier
3.47	Initial set-up costs
3.38	Lack of in-house expertise or competence
3.35	Security issues
3.26	Customers and/or suppliers not EC ready
3.26	Company not ready
3.26	On-going operational costs
3.21	Lack critical mass among business partners
3.09	Reliability of the Internet
3.09	Lack of perceived needs
2.91	Don't know enough about EC
2.79	Unfamiliar with IT in general
2.62	Legal issues and standards
2.56	Wait and see mindset
2.26	Currently VAN-based, no need to migrate to Internet

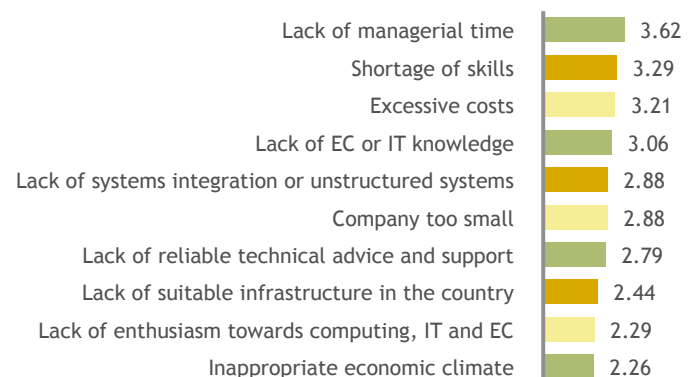1: Very unimportant
5: Very important

The lack of managerial time is expected, as e-commerce facilitators in SMEs are mostly directors or owners themselves, who are –inevitably – busy executives.

Implementing e-commerce in SMEs

We also investigated the problems faced by companies while implementing e-commerce. The lack of resources, particularly managerial time, skills and finances, were significant obstacles. This indicates the need for technical and management training within the company. Morale and more technical issues appear to be less important once these SMEs have decided to adopt e-commerce.

1: Very unimportant
5: Very important

Fig. 5: Barriers faced during the implementation of e-commerce

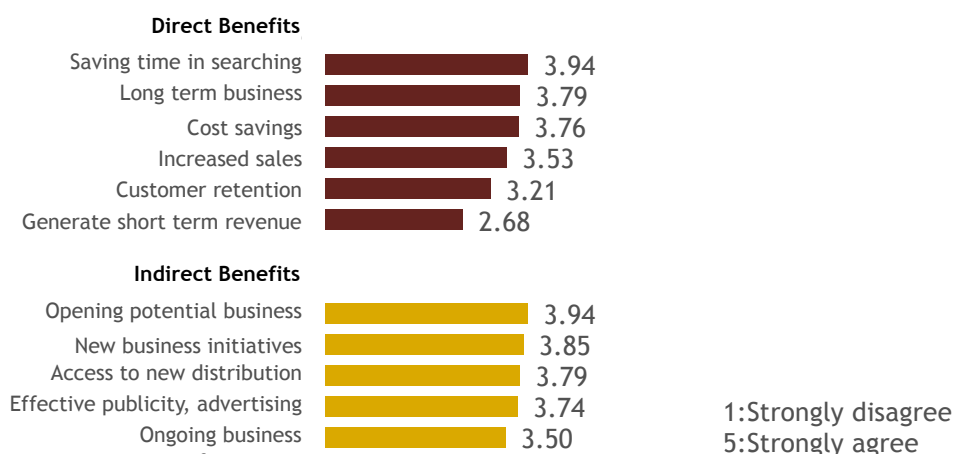| Barrier	Score
Lack of managerial time	3.62
Shortage of skills	3.29
Excessive costs	3.21
Lack of EC or IT knowledge	3.06
Lack of systems integration or unstructured systems	2.88
Company too small	2.88
Lack of reliable technical advice and support	2.79
Lack of suitable infrastructure in the country	2.44
Lack of enthusiasm towards computing, IT and EC	2.29
Inappropriate economic climate	2.26

Perceived benefits of e-commerce

Respondents were asked to rate direct and indirect benefits, as perceived at the time e-commerce was being adopted at their firm.

Concerning direct benefits, there was less agreement that generating sales and retaining customers were benefits of e-commerce. This suggests that responding SMEs were unable to generate more short-term revenue and improve customer retention from adopting e-commerce.

As for indirect benefits, most respondents felt that more potential business opportunities and initiatives resulted, and they also had better access to new distribution channels.

Though short-term sales generation may be moderate, SMEs are generally optimistic that future business opportunities and long-term revenues will increase.

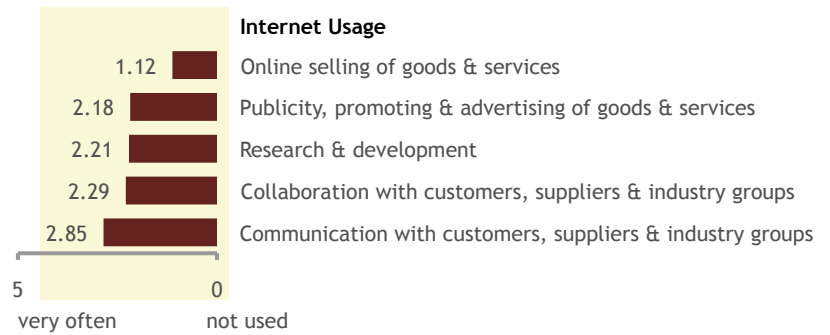Fig. 6: Direct and indirect benefits of e-commerce, as perceived by adopting firms

Direct Benefits

Saving time in searching	3.94
Long term business	3.79
Cost savings	3.76
Increased sales	3.53
Customer retention	3.21
Generate short term revenue	2.68

Indirect Benefits

Opening potential business	3.94
New business initiatives	3.85
Access to new distribution	3.79
Effective publicity, advertising	3.74
Ongoing business	3.50

1:Strongly disagree
5:Strongly agree

Leveraging on the Internet

To understand how the Internet was to conduct business, respondents were asked to rate usage on a scale of 1-5, with 1 = "very little", 5 = "very often" and 0 = "not used" (see Fig. 7). The Internet was used mostly to facilitate cross-company communication and collaboration, than for online sales of goods and services. These results are expected because a majority of the respondents are from the manufacturing industry. Although overall usage was not high, it is expected to increase over time.

Fig. 7: Aspects of the business the Internet was used for

Internet Usage

Value	Aspect
1.12	Online selling of goods & services
2.18	Publicity, promoting & advertising of goods & services
2.21	Research & development
2.29	Collaboration with customers, suppliers & industry groups
2.85	Communication with customers, suppliers & industry groups

5 — very often   0 — not used

As with the adoption of most new technologies, there will tend to be two distinct groups of users: one that knows how to take full advantage of it, and the other that under-utilises it because of their lack of expertise.

Fig. 8: Total distribution of Internet usage

The individual scores were added to give an indication of how optimally the Internet was being used as a whole. The chart in Fig. 8 appears to peak thrice. If however, the two extremes (lower and upper modes) were ignored, the graph would reflect a normal distribution, which is expected. Nevertheless, the lower peak suggests marked under-utilisation of the Internet, and the upper peak represents a group with a good understanding of the Internet's potential. Overall, the normal distribution shows that Internet utilisation is moderate.
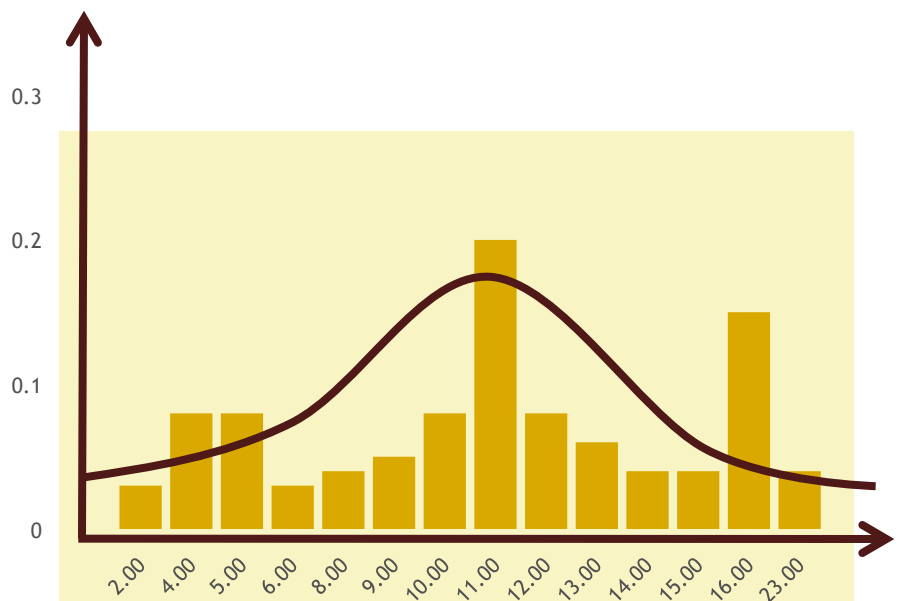
Managerial Implications

The exploratory nature of this research has identified some of the issues commonly faced by practitioners in various phases of the e-commerce adoption process – particularly, *before* adoption and *during* implementation.

Though the full potential of e-commerce and the Internet has yet to be realised, it seems that the inability to expend resources in the short term (such as initial financial outlays and managerial time) severely impedes progress. Knowledge of these issues would certainly help SMEs to preempt problems or mitigate the effects of these problems.

In many instances where new technologies are being adopted, top management support seems to have a strong influence over the success of these initiatives.

Our findings reiterate this, as the "lack of managerial time" seemed to be the greatest barrier to successful e-commerce implementations. It is thus necessary for top management to participate in this phase of adoption; not only does this serve as a form of support and encouragement to employees, critical decisions (that could potentially accelerate progress) can also be made and acted upon promptly.

The significance of "shortage of skills" and "lack of EC or IT knowledge" as barriers to success certainly suggests that of all the resources required, human resources are more critical than technical resources and infrastructure. This disputes the common misconception that e-commerce adoption is more "technical-oriented" than it is "human-oriented". Again, the importance of top management involvement is emphasized here; policies that address these "human" issues need to be formulated to govern the new system and steer the e-commerce initiative towards its intended objectives. Policies could include technical or management training, or assigning key staff to drive the development of these projects. ∎

About the Author

Dr. Sandy Chong
Principal consultant
Verity Consulting Pty Ltd
dr.sandychong@verityconsult.com
linkedin.com/in/sandychong

About Us

Verity Consulting is a boutique international marketing & communication consultancy specializing in corporate training, senior executive coaching and business advisory services.

For more information about Verity's global services and innovative business solutions, contact us at:
+61 4 02211373 (Australia)
+65 8337 7178   (Singapore)
info@verityconsult.com