A Practical Framework to Guide the Development and Delivery of Small-Medium Enterprise Management Courses by VLEs

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THE MARKET

Key Concepts

T o understand the impact of market considerations on the development and implementation of VLEs for educational purposes, it is pertinent to briefly review relevant contemporary marketing concepts and principles. The most pertinent ones for current purposes may be identified as:

- market;
- product; and
- market segmentation.

Market

"Market" has been defined (Rix & Stanton, 1998) as "(p)eople or organisations with wants to satisfy, money to spend and the willingness to spend it." There are several elements within that definition that warrant further comment.

First, "wants" may be described as the ways in which the human needs of particular people may be satisfied. "Wants" are therefore sensitive

John White, Yeronga Institute of Technical and Further Education, Australia; and University of Innsbruck, Austria E-mail: streamline@ug.net.au to – and vary with – cultural values so that the ways in which particular people or organisations choose to satisfy their needs vary with their culture – including their organisational or peergroup culture.

Second, the idea of a "market" includes the premise that the market exists because it contains people (or organisations) with money in particular but resources in general to spend on the purchase of a product. Those people are, in essence, "fertile ground" for transactions through which they purchase a product that meets their wants. They have a (culturally sensitive) want and they have the required resources: it is these things together which create the demand, the "demand pull" of a market.

Product

However, a suitable product is required for this demand pull to become effective, to be put into action and to lead to a transaction occurring: a product, which is designed and specified to meet those culturally sensitive wants. The key point to be made here is that the "product," which a customer purchases (or decides not to purchase) is made up of more than the most obvious parts.

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For example, when a person purchases a computer, it can be argued that he or she is not buying a piece of technology. Rather, he or she is purchasing an aid to getting something else – whether that be, for example, the achievement of work that needs to be done or access to the Internet and its sources of information, communication, and recreation. In that context, the computer is simply a means to an end: it might be the formal product, but in addition to it, the customer also spends resources to purchase intangibles which may include warranty, expert advice, after-sales service, and the right to pay the purchase price by several instalments.

As a result of these considerations, it can be said that a product (a term which includes both goods and services) must meet the customer's demands at three levels (McColl-Kennedy, 1994):

- the core level the wants that the customer is feeling;
- the formal level the product must have the capacity and attributes to do what it is claimed to do; and
- the augmented level the pre-sale and aftersale elements that complement and complete the formal product and facilitate satisfaction of the core level aspiration.

It is these three levels which together comprise the total product that the customer is offered.

It is also worth noting that various components of these three levels are experienced over three phases:

- anticipation the period between when a decision to purchase is made and the actual purchase takes place;
- participation the experience that customer has while the purchase is being made; and
- memories the recollections and experience that the customer has while consuming (or "utilising" the product).

Segments

It is now timely to consider the matter of market segmentation – and to do that in the context of "the market" and "the product" as previously outlined.

Given the scope of the market in general, the impact of cultural values (including those of organisations, peers, and role-models) and the variety of elements at the core, formal, and augmented levels, it is clear that the total market would demand an almost unlimited range of products.

It is evident in practice that no one product can satisfy all elements of the total market – as is evident even in the case of the computer operating systems and software market where huge resources have been accumulated and applied to achieving market preeminence or dominance.

Therefore, if it is impossible for the one product to satisfy the total market, it makes sense for products to be designed to meet the wants and demand of a part of the total. The technique used to identify the "part" is market segmentation. The term "market segmentation" has been defined (Rix & Stanton, 1998) as meaning "(t)he process of dividing the total market into one or more parts (submarkets or segments), each of which tends to be homogenous in all significant aspects."

Market research, at both the secondary and primary levels, is the foundation of segmentation – research that commonly addresses both demographic and psychographic factors and so seeks to identify not only "who and how many" buy or would buy a product but also "why" those clients do so.

Identification of one or more market segments in which the customers have unfulfilled wants and demand provides a basis for product design and specification as well as for how to present the product and to communicate in the market.

However, for a market segment to be valid, it must meet three conditions (Stanton, Miller, & Layton, 1994). A segment must be:

- measurable;
- accessible to the provider of the product; and
- profitable that is, of sufficient size to provide the economies of scale required by the costs of production that are incurred in producing and delivering the product.

It is worth noting that even in governmentprovided services (which includes a significant part of the education field) matters of profitability, economies of scale and sustainability have a significant – and perhaps growing – part, given the increasing range of social areas which demand government attention and which compete for public resources. A similar observation may be made in relation to not-for-profit organizations, which also play a significant part, globally, in education.

This outline of key marketing considerations emphasises the importance of identifying a viable target market segment (or segments) which has both the wants and the resources to create a demand for a particular product. This emphasis extends to include the principle of designing particular products which, at all three levels of core, formal, and augmented, take account of the identified and targeted wants and demands.

Finally, it should be noted that if more than one segment is targeted, then it may well be that more than one total product will be required and that each market segment will need a different presentation of the product and a different approach to communication. Each of these aspects will increase costs, decrease the profitability (or viability) of each of the separate products and/or make it more difficult to achieve economies of scale.

ILLUSTRATION – AN SME OWNER'S PROFILE

The explanation of market considerations is now illustrated by the following profile of a market segment for management education courses for SME owners in Australia. This profile has been developed from informal research over several years: the writer's experience, discussions with SME owners, and various studies and reports relating to this sector of the economy in this country.

It should also be noted that the following elements describe one segment of the total SME sector – a segment which may be a fruitful target for management education courses delivered by way of the Internet or an organisation's intranet. It represents, therefore, a part of the total SME market and others in that total market can be expected to have different characteristics.

Geographic

• Australia nationally, western economy but otherwise culturally diverse

Demographic

- both female and male
- age from 25 to 55 years
- limited and/or hard-won financial resources

Attitudinal

- innovators and early adoptors of new products and methods
- contemporary minded and prepared to be adventurous to try the "new"
- motivated by personal goals
- recognise the need to reduce the risk associated with employment/business/life
- may lack confidence in their own learning ability
- see themselves as being "focused" and as "commercially aware and well-informed"

Level and Scope of Participants' Course Content Knowledge

• across a wide spectrum from non-existent to rudimentary and on to unstructured and/or "sectional" capabilities that are only loosely grouped for the various business disciplines

Level and Character of Prior Formal Learning Experience

• lower secondary schooling through to tertiary qualified

- often trade or occupational "production/hands on" qualification/experience/orientation
- skilled and competent in their field
- motivated for success
- educated under "behaviouralist/sage on stage" methods
- not accomplished at self-paced, exploratory, learning
- may lack confidence in own learning ability
- not skilled in life-long learning

LITERACY

Language

• sound capability in English (the language of instruction) in all four skill areas (aural, oral reading, and writing)

Computer

- motivated and literate in use of PC for computation
- not familiar with their use for communication or, in particular, for structured learning

Computer System and Internet Connection

The technology systems of prospective customers in the identified segment can be expected to exhibit, as a minimum, the following characteristics:

- stand-alone PC
- lower level Pentium
- Win95+
- Word processor, spreadsheet and power point (a "reader" as a minimum)
- 28.8kps modem with Plain Old Telephone System (POTS) connection to an Internet Service Provider (ISP) operating on the TCP/IP protocol
- IE4+ or Netscape 4+ (or equivalent) browser
- need guidance on how to use the File Transfer Protocol (FTP) if required for video or audio files
- may need instructions on how to download and where to store files – and possibly on setting up folder/directory structure for purposes of the course
- may be paying significant amounts for internet access and for long-distance telephone charges

Motivation

- success or greater success in their prospective or current business
- seek understanding of the principles, practices and tools of business – perhaps proactively but more often in response to a current situation (i.e., reactively).

• want to identify and avoid of pitfalls/dangers in smaller business environments

MARKET SIZE

Based on 1989-90 Australian Bureau of Statistics data (Meredith, 1993), it may be estimated that there are now approximately 900,000 small businesses in Australia which are distributed quite evenly (in proportion to total businesses) throughout the nation. Reynolds, Savage, and Williams (1994) estimate that there are approximately 35,000 new small businesses each year. Of these, around 85% are non-agricultural (Meredith, 1993) and each has 2.2 owner/managers (Reynolds, Savage, & Williams, 1994).

To these figures must be added "medium businesses" because, for official statistical purposes in Australia, a nonagricultural "small business" is defined as one employing less than 20 people (except in manufacturing, where the figure is 100). There is no commonly recognised definition of a "medium business." However, since the 900,000 small businesses represent around 96% of all businesses (Australian Commonwealth, Department of Industry, Science, and Tourism, 1996) the remaining 4% represents a total of only 37,500 businesses – and this latter figure is inclusive of large businesses.

For these reasons, the estimation of the size of the market for SME management education is derived with reference to "small business" data. However, the courses offered are to provide for "start-up" situations, continuing small businesses and growing organisations. On this basis, and given an informal insight that owners and managers may commit to undertaking educational programs approximately once in two years, then the market for the SME management education courses may be estimated (Figure 1).

This gross, national, figure might be further segmented on bases such as:

- state;
- region;

- industry sector; or
- course discipline (e.g., marketing, financial management, human resources, law, management).

Such segmentation should also take account of the technological and educational resources and capabilities of the education provider in order to underpin the delivery of a total product which at least meets all the wants and demands of the targeted market segment.

THE COURSE DISTRIBUTION CHANNEL (WHERE TECHNOLOGY MEETS EDUCATION)

Background

The following conceptual framework was originally presented in a article written by John White (Australia) and Miriam Fries (Germany) as part of their work for Group Project 1 in Online Seminar 2000. It is reproduced here because it seeks to identify and organise aspects/elements/options which are part of the broad (and often confusing...!) field of tele-education.

Elements of a Framework

The following elements have been identified and developed from diverse sources of information that have been accessed over a period of several years along with independent reflection. Readers who may recognise unattributed materials are asked to notify the author so that such oversights may be corrected.

The elements of the distribution channel that have been identified are:

- synchronosity;
- the format of the course presentation;
- flexibility in time and/or place; and
- assessment of the participants' achievement.

Each of these is explained and illustrated in the following sections of this article and a framework is developed in which each element may be seen in the context of the other elements.

| Number of small and medium businesses at any point in time | 900,000 |
|--|---------|
| Number of businesses in the education market in any one year | 450,000 |
| Proportion of businesses which fulfill the attitudinal, computer literacy and equipment profile (assumed but based on informal research and observation) | 15% |
| Number of businesses in the VLE education market in any one year | 67,500 |
| Number of business owners in the VLE education market in any one year | 148,500 |

Figure 1. Estimated annual market for SME owner/mamager education

Synchronosity

Tele-education may be provided:

- synchronously; or
- asynchronously; or
- through a combination of both,

using an extensive (and potentially unlimited) range of combinations of technological capabilities and tools.

These capabilities and tools may be incorporated into commercial VLE products which may be made available either "free of charge" or on payment of a fee. Alternatively, they may be assembled from individual elements (which again may be free of charge) into a customised "package" that is closely aligned to the requirements of the particular course and target market.

On this basis and from a technological delivery-channel perspective, tele-education may be offered and provided along a continuum from totally synchronous (with "real time" communication) to totally asynchronous ("deferred" communication between those involved).

Format of Course Presentation

Further and from an educational perspective, tele-education can use formats across a continuum but which may be characterised as having the following identifiable sequence of points:

- lecturing;
- teaching;
- tutoring;
- public sites; and
- CD-ROM.

Following is a brief outline of the meaning assigned to each of these. In each case, some form of telematic mediation is assumed in the accessing of the materials being used in the educational process.

First, a lecturing format means the delivery of material to a large audience of consumers, in "real time" (or live), but where there is no real opportunity for members of the audience to interact directly with the presenter or with each other (as a formal part of the learning process).

Second, a teaching format means the delivery of material to a medium sized assembly of consumers (a class), at least partly "live" and with some real *opportunity* for members of the class to interact directly with the presenter and with each other.

Third, a tutoring format means the delivery of material to a small group of participants, at least partly "live" and with real *opportunity and requirement* for members of the group to interact directly with the presenter and with each other.

Fourth, a public sites format means the deliv-

ery of material which has been placed on a network (of which one possibility is the Internet) to potentially a mass of consumers but with each one working in isolation, without any "live" component and with no requirement or opportunity for any consumer to interact directly with the presenter or with each other.

Fifth, a CD-ROM means the delivery of material which has been loaded onto compressed disk (and distributed, for example, by file transfer, hand or normal mail) to potentially a mass of participants but with each one working in isolation, without any "live" component and with no requirement or opportunity for the individual to interact directly with the presenter or with other individuals.

Flexibility in Time and/or Place

Next (and from the perspective of the amount of flexibility there is for the participant in terms of the time and place at which the material is accessed), tele-education can be characterised as offering options across a continuum ranging from:

- rigid; to
- flexible.

However, it should be recognised that flexibility of place will be particularly influenced by the extent to which, first, the appropriate technology is available to tele-education providers and, second, is deployed and accessible to participants. This is a significant marketing consideration.

Assessment

Finally and again from an educational perspective, assessment (of the total outcomes attained by the participant in a tele-education offering) may be achieved through techniques that constitute a continuum and range from:

- techniques that are externally imposed; to
- those which are internally developed by the participant.

An Interim Summary

This analysis suggests that the characteristics of tele-education may be illuminated by reference to four continua:

- mode: synchronous ← → asynchronous;
- format: lecturing ← → CD-ROM;
- time and place: rigid ← → flexible; and
- assessment: external ← → internal.

THE FRAMEWORK Structure

Characteristics

The four continua identified above and the relationship between them can be illustrated in Table 2. The matrix in the table also labels the nature or level of the participants' experience under the identified conditions.

Learning Environment Elements

That outline of characteristics of tele-education provides a basis for considering the learning environment elements that participants can experience in telematics. This aspect is explored now.

In tele-education, the experience which the participants will have of:

- interaction;
- group learning;
- coaching/guiding; and
- content customisation

is influenced by the selection made by the provider with reference to each of the options available in the characteristics presented in Table 1. (To reinforce the marketing perspective: the designer must take account of market considerations such as the participants educational experience and capabilities, their expectations about the total product they are to "consume" and the technology they have available.)

Each of the four elements listed offers a range of levels and these are illustrated in Table 2. In this table they are put in the context of "synchronous – asynchronous" and the "formats of course presentation" as identified in Table 1.

Combining Characteristics and Elements

Tables 1 and 2 may now be combined, resulting in Table 3.

USING THE FRAMEWORK

This framework is intended to assist providers (including specialists in such areas as marketing, financial management and costing, educational design, and computer technology) to identify and develop a delivery channel system that provides an effective pathway through the maze of aspects that are listed in the left-hand column of Table 3.

While, clearly, this pathway should align as closely as possible with the characteristics and the wants and demands of the identified target market, there are a number of further points to be made.

First, limits on the financial and human resources of the provider will place constraints on the level of investment which can be made. However, that level of investment must be sufficient to provide for and meet, the underlying wants and demands of the customer.

Second, in arriving at decisions about the particular combination of characteristics and elements that are to be employed, compromise (and preferably, consensus) will inevitably be required.

Third (and in arriving at that resolution), where it is necessary to dilute or surrender a characteristic or element which is desired by the market, then a special effort should be made to compensate by enhancing another, related, characteristic, or element. For example, if a "teaching" format which is moderately rigid in time and place is required and there is a large number of participants, then special efforts should be made to "build in" participant-participant communication requirements and opportunities.

Further, under these last circumstances (and provided the additional costs are able to be recovered from the target-market), it may be beneficial to supplement the teaching format with tutorial support from experienced, informed and capable people to enhance the level and quality of interpersonal interaction that the course participant experiences.

By way of an interim summary, this framework provides an approach through which the tele-education provider can identify, combine, and use VLE products and/or other software,

| TELE-EDUCATION | Synchronou | S | | | Asynchronous |
|---------------------|-------------|------------------|---------------------|----------------|-----------------|
| FORMATS | Lecture | Teach | Tutor | Public sites | CD-ROM |
| TIME & PLACE | very rigid | moderately rigid | moderately flexible | quite flexible | highly flexible |
| ASSESSMENT EMPHASIS | • • • | | | | |
| Of total: | | | | | |
| External | low | medium | high | low | low (if any) |
| Internal | high | medium | medium | high | high |

Table 1. Relationship of Tele-education Characteristics

utilities and peripherals that "fit" with and respond to the expectations and capabilities (both personal and technological) of the identified market segment.

EDUCATION CONSIDERATIONS

Implications of the Market Profile for Course Design and Materials

To provide an appropriate response to the characteristics of the market profile previously identified, a management course for SME owners should:

- provide flexibility and for varied backgrounds – in the way in which knowledge and tools are interpreted and applied by individual participants;
- provide a framework of information, knowledge, and skill in content areas, which is useful in its own right, and which could be further developed through subsequent additional use and learning after and/or outside the course;
- illustrate application of knowledge and tools to a range of industries and business sizes;
- be made up of short content elements / segments;
- evidence a low (rather than high) level of technological "load";
- provide for those living in a remote locality where participants may not have ready or easy access to text books or other "non-Internet" learning resources; and

• provide opportunities for participants to experience success and to receive recognition and positive feedback.

DESIGNING AND BUILDING THE MATERIALS

Design of the Course

In their work as managers of organisations, the fundamental characteristic which differentiates owners of SMEs from managers in larger organisations lies in the fact that SME owner/managers must routinely make decisions without access to other specialists or managers from within their organisation. By contrast, managers of larger organisations typically have routine and ready access to specialist functional managers who are employed within the organisation.

As a consequence, a course developed for SME owner/managers should evidence the following characteristics:

- philosophy: "the whole is greater than the sum of the parts" that is, an "expansionist" approach (as opposed to a "reductionist" one which would present, separately, each functional element of knowledge or skill); and
- put another way, the course may be based on "integrating" rather than "separating" areas of knowledge and skill;

Further, the course should be illustrated through a series of maps which would enable a

| TELE-EDUCATION | Synchronous | | | | Asynchronou |
|--|-------------|--------|--------|--------------|---|
| FORMATS | Lecture | Teach | Tutor | Public sites | CD-ROM |
| OPPORTUNITIES FOR: | | | | | |
| INTERACTION | | | | | |
| Presenter to Participant | low | medium | high | low (if any) | low (if any) |
| • Participant to Participant | low | medium | high | low | low |
| • Participant to Computer/ | | | | | |
| Technology | low | medium | medium | high | medium |
| GROUP LEARNING | low | high | medium | low | low (if any) |
| COACHING/GUIDING | low | medium | high | low | low |
| CONTENT CUSTOMISATION | low | medium | high | medium | medium (if medium opportunities for participant to computer interaction) |

Table 2. Learning Environment Elements in Telematics

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student to locate themselves at any time, relative to the whole course and also the variation in the experience-level of participants should be recognised in the materials.

Challenges Which Arise for Course Writers

Given the "expansionist" approach referred to under the previous heading, course developers (or instructional designers) and material writers are challenged to not allow the "sum" (the full scope of the SME owner's required knowledge and skill) to overwhelm the "parts" (the depth and the detail in particular discipline areas).

If instructional designers and information designers do not meet this challenge (i.e., they focus too heavily on the overall framework) it is likely that there would be an unacceptable reduction in the depth of knowledge and skill in the subject matter of the disciplines.

Further, in course activities and assessment, flexibility is required for the "application" of the knowledge and skill in a context or way that is relevant for the participant. Consistent with this theme of diversity it becomes important to make the materials live, descriptive/indicative and evolutionary rather than prescriptive and limited.

As an integral part of their contribution to a course, the instructional and information design components need to adopt the roles of:

- "translator" between the established knowledge and techniques of the subject or discipline area of the course and, on the other hand, the needs or reasons that have led the participant to take part in the course, and
- "interpreter" to aid understanding and application within the participants' specific and individual contexts.

INFORMATION DESIGN

The Framework

From the early sections of this article, the point has been made or implied, on several occasions, that the structure, content and delivery channels adopted for a course should be based in and responsive to the characteristics of the identified market segment – while also taking account of

| TELE-EDUCATION | Synchronous | | | | Asynchronous |
|----------------------------|-------------|------------------|---------------------|----------------|---|
| FORMATS | Lecture | Teach | Tutor | Public sites | CD-ROM |
| TIME & PLACE | very rigid | moderately rigid | moderately flexible | quite flexible | highly flexible |
| ASSESSMENT EMPHASIS | | | | | |
| Of total: | | | | | |
| External | low | medium | high | low | low (if any) |
| Internal | high | medium | medium | high | high |
| OPPORTUNITIES FOR: | | | | | |
| INTERACTION | | | | | |
| Presenter to Participant | low | medium | high | low (if any) | low (if any) |
| Participant to Participant | low | medium | high | low | low |
| Participant to Computer/ | | | | | |
| Technology | low | medium | medium | high | medium |
| GROUP LEARNING | low | high | medium | low | low (if any) |
| COACHING/GUIDING | low | medium | high | low | low |
| CONTENT CUSTOMISATION | low | medium | high | medium | medium (if medium opportunities for participant to computer interaction) |

Table 3. A Charting of Relationships Among Characteristics and Learning Environment Elements in Telematics

sound educational strategies and techniques.

Consistent with this principle and in particular with the characteristics and capabilities of the identified SME owners, the following phases should be included in the "roll out" of information:

- "know what" and
- "know why"

in order for the learner to demonstrate (through both formal and informal assessment)

- "know how" (the evidenced capability to use/apply the knowledge or skill at a level appropriate to the course and the target market) and
- "know who" (the capacity to identify and access – as and when required – additional resources and expertise in order to support "life-long learning" by participants)

In implementing this approach, it is likely that a collaborative approach will be required between:

- instructional designers;
- information designers;
- subject-matter experts; and
- computer system technologists.

This collaboration will typically be required to:

- use/incorporate multiple sources of information, stimulation and experience (especially ones available through internet links and multi- or multiple-media);
- build in recognisable situations or problems as examples for analysis and discussion (even if the discussion is limited to formative assessment and to the use of asynchronous communication);
- where possible and to an extent consistent with the course purpose, select, organise, and develop participants' knowledge and skills in a "whole of life" context;
- make the appropriate linkages between the course materials and "real life" explicit or readily recognisable; and
- assist participants to continually know (or to be able to find) their location on a course map which is to be provided as part of the overall materials and technology structure of the course.

The Spirit

Again in the context of the identified target market segment, the information designers and subject-matter experts in particular are challenged to:

• provide for alternative points of view, approaches and methods within each discipline area, particularly in terms of "know how" which is strongly culture and background based;

- provide for the participants' preconceived ideas and prior experience to be brought to bear on the content;
- select and structure content to lead to conclusions and useful outcomes, through the information and other materials (including assessment instruments) provided;
- recognise that utilising an active and exploratory approach to finding information and developing knowledge requires participation – and that participants who have come from a traditional educational background may resist direct participation – so be selective and provide clear guidance;
- support techniques of life-long learning; and
- convey the writer's excitement and interest with – and immersion in – the topic (in order to build the confidence, commitment and "can do" attitudes of the participants).

INSTRUCTIONAL DESIGN

Foundation

Again based on the profile of the target market segment, the following assumption is made: participants do not have a structured framework for the knowledge and skill contained in the discipline areas of the course, nor are they experienced in use of that knowledge and skill.

As a consequence, instructional design needs to recognise and take account of the following:

- philosophy: include exploratory and developmental activities (with room for context) in a direct instruction approach (which leans more to an "objectivist" approach than to a "constructivist" one);
- the aim: to achieve an active and learning response within established boundaries, with success for the participant; and
- constraints of the distribution channel: bandwidth and client-computer system and internet connection considerations which require succinctness in content rather than expansiveness.

Elements

Against this background, the following elements and practices are recognised for a direct instruction approach:

- break the total content down into manageable chunks;
- direct specification of the learning objectives the knowledge/skill to be attained;
- "up-front" orientation of the learner to the content and where the topic fits into the overall knowledge/skill of the course (to both integrate and motivate);

- presentation of content information (linked to prior knowledge areas and providing for varied learning styles);
- guided practice towards and/or demonstration of the course learning objectives (requiring active involvement);
- evaluation of independent practice and possibly re-teaching (provide guidance, use coaching questions, sample and/or "correct" answers and feedback synchronous and/or asynchronous); and
- support retention and transfer of learning to the current or future context of the participant.

Meaning of Terms

In this educational context:

- information is considered to be the facts, theories, opinions, and data which are the raw material from which knowledge is developed;
- knowledge is considered to be what someone knows, and is evidenced by being used effectively in terms of the learning objectives; and
- converting information into knowledge is seen as requiring an active response from and participation by the learner in an environment or context.

Assessment

In the earlier discussion of the elements of a telematic delivery system, it was stated that (a)ssessment (of the total outcomes attained by the participant in a tele-education offering) may be achieved through techniques that constitute a continuum and range from:

- techniques that are externally imposed; to
- those which are internally developed by the participant.

In the SME owner environment, both the writer's experience and the findings of the European Union's "Teleman" Project on Telematics and SME Education (previously available at **www.teleman.org**) indicated that SME owners prefer external assessment and "homework" over internal assessment.

Based on this premise, the assessment for SME owners might be characterised by:

- method and content which arise from the requirements of the defined Learning Outcomes of the course;
- use of brief but frequent formative assessment instruments within content sections or "chunks"; and
- at appropriate stages, more extensive formative assessments along with an "overall

course" summative assessment.

To provide a basis in practice, to link to future use, and to further learning and development, both formative and summative assessments can beneficially have objectives in verifying the participant's:

- know what;
- know why;
- know how; and
- know who.

ASSESSMENT OF THE COURSE STRATEGY

The assessment of students' attainment has long been part of educational practice. In more recent years it has become common for students or participants to be asked to assess their experience in and satisfaction with the course materials, structure and activities. These participant observations (commonly referred to as "feedback") then provide a basis for the review and improvement of the course offering.

However, in contemporary times there is an additional factor: the viability of the course and its effectiveness in the use of organisational resources. It may be said that in any economic or social context, resources are scarce. Increasingly, the effectiveness of the use of these scarce resources is subject to review and evaluation by decision-making bodies – whether those be public authorities or the governing boards of business and not-for-profit organisations.

To take account of these more recent developments, educational products must also be evaluated from the following five perspectives:

- the market;
- technology;
- educationally;
- financially; and
- human resources.

The particular methods adopted for this evaluation will depend on the nature of the organisation concerned (whether governmental, notfor-profit or business), the source and timeframe of its funding and also on the goals, environment, strategies, and objectives of the organisation concerned.

However, the following aspects may be expected to be present in any assessment strategy. In order to develop and have access to pertinent data about the product(s) being offered to the market, education providers will need to define and measure:

 establishment costs (which are then to be amortised over the expected life of the course);

- the recurring or operating costs per course and per student;
- pricing strategy and anticipated revenues under the current and alternative pricing strategies;
- the break-even point under each strategy;
- the human resource capacity required under various (including any preferred) technology and instructional design options;
- methods for measuring and recording key performance indicators for the course in all five of the perspectives mentioned previously; and
- the time-frames and checkpoints for review and further development/improvement of the course, again in the context of all five perspectives listed previously.

These tools, along with a review of the attainments of participants and their assessment of the product, should provide a comprehensive basis for the refinement of the current product, the achievement of a closer alignment with the demands of the market and, ultimately, decisions about the future directions and activities of the organisation. In a nutshell, such an approach provides data which can be harnessed in both strategic and operational theatres.

SUMMARY AND CONCLUSIONS

This article has identified elements and considerations within and across the:

- marketing;
- telematic distribution system;

- educational design;
- information design; and
- evaluation

aspects of developing courses for and presenting them through VLEs.

The premise is that this approach will provide a framework through which a particular VLE may be specified, selected and/or developed, and implemented: a VLE which will, as its focal point and key criteria, meet the demands of an identified market segment.

Such a contemporary market-driven "demand pull" approach is in contrast to a more traditional provider-driven "supply push" strategy and encourages both flexibility and accountability.

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