TO IDENTIFY PERFORMANCE MEASUREMENT PRIORITIES AND ASSOCIATED DECISION-MAKING SCENARIOS IN THE SME.

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Abstract

The purpose of this paper is to outline a framework, whereby academic and small to medium sized enterprise owner-managers can interact and learn more from each other in an environment of mutual collaboration. This paper outlines a methodology, which identifies a set of critical performance measures, common to SMEs, and thus allows the marketing function to be put in context within the overall organisational priorities. Decision-making scenarios, it can be argued are the only practical means by which one can influence or achieve a performance measure target. The outlined methodology also identifies the decision scenarios, which are significant to each of these critical performance measures and their relative impact on marketing performance measures.

Keywords: Methodology, Small and Medium Enterprise (SME), Performance Measures, Decision-making scenarios, Marketing Priority.

1. INTRODUCTION

The research related to this paper was undertaken as partnership in an EU Sixth Framework Programme, FP6, Horizontal Research Activitites involving SMEs project. The project is entitled Enterprise Modelling and Performance Optimisation for Small and Medium Enterprises (EMPOSME). This paper outlines

a methodology that was successfully used to identify performance measures and related decision-making scenarios within the SME. A primary objective was to facilitate the extraction of information from SME owner-managers in relation to their view on important performance measures and related decision-making scenarios. This format allows the key marketing performance measures, to be put into context with related decision scenarios also highlighted.

A considerable amount of research has focussed on the temperament and characteristics of SME owner-managers (Busenitz, 1998). There has been a lot of focus on the pressures of the SME environment, the multi-tasking required and the shortage of resources often experienced by decision makers in the role of an SME owner-manager (Garcia-Melon, 2006). It was confirmed by the SMEs involved, in both the survey and workshop that academic research does not normally feature among their top priorities.

Methodology Outline

The methodology consists of two primary components; an initial structured interview using a detailed survey entitled "Performance Measures and Decisions Survey", followed by an expert workshop entitled "Performance Orientated Decisions in the Irish Enterprise". The structured interview using a detailed survey will for the purposes of this document be referred to as a survey. Surveys are seen to be the traditional method of gathering quantitative information from SMEs in the pursuit of research. However, this traditional method was insufficient in the pursuit of performance measures or decision-making scenarios due to the large volume of information. Five hundred and sixty eight performance measures were identified through literature review for use within the survey. At no point in the process were the measures relating to the marketing functions highlighted above any other department within the organisation. The survey examines the performance measures by asking the owner-managers and practitioners to indicate the performance measures, which they consider vital to their organisation at an operational level. This was carried out in fifty companies both nationally and internationally, with owner-managers, company heads and/or company founders. The findings were subsequently compiled in order of importance. However, it was not possible to successfully apply the granularity necessary in the questioning in order to extract a definitive group of top measures.

The workshop was introduced at this point in order to create an environment in which SME owner-managers could identify these performance measures. The workshop confirmed the top measures and also validated the results from the survey. The workshop was also used to further explore the decision-making process behind these top performance measures. The results collated from this process were then analysed to detail the relative significance placed on marketing functions compared to the other major management disciplines within an SME. The survey format, the definition of an expert, the workshop format, the methodologies used and the results found from our research, will all be outlined later in this paper.

2. THE SME AND ITS ENVIRONMENT

SMEs are different to large multinational organisations. The limits on resources, time and manpower mean that the owner-manager role can be multi-facetted and seemingly impractical from a normal decision theory viewpoint (Yau and Sculli, 1990). The circumstances faced by such a manager are severe in comparison to a mid-level manager in a multi-national organisation (Busenitz, 1998). Often decisions are made without full awareness of information and with risk to the overall survival of the company. In these circumstances, it is increasingly important for the SME owner-manager to focus on a set of well-understood performance measures, which allow him/her to assess how the business is performing. There is a tendency to extrapolate research carried out on larger companies to cover areas of research on the SME sector (Fernandes et al., 2006). This approach is under increased pressure in the "real-world", particularly in the area of enterprise management and decision-making.

There is evidence to suggest that SME owner-managers are largely unaware of current research, best practice or even commercial tools, which are available in this area (Wilson and Sheahan, 2006). That is not to suggest that SME senior management structures do not have performance measures in their companies; however, the measures they have are not in a formal structure. Company specific operational performance measures appear well understood by owner-managers. Quick measures are relied upon to keep management informed as to the state of the company at any particular time. These measures tend to be easily retrieved and understood by persons providing the information (example, sales units per time frame, sales per product line, cash in bank, etc). Such measures are seen as being company specific, measurable and key to the management of the company.

Performance measures tend to exist in a haphazard, unstructured environment, without ordered support at an organisational or strategic level. Often these measures are so ingrained within the organisation, that when asked in a 'cold' interview situation, to identify company performance measures, the SME owner/manager may overlook them completely. This poses a challenge for the academic when looking to develop ways of extracting valid information from the SME environment.

3. PERFORMANCE MEASURES

The literature on performance measurement is primarily based on strategy with minimal focus on tactical or operational measures. Much academic research focuses on the strategic performance measures in larger multinational sectors, with SME viewpoints being explored as an after-thought. "The Balanced Scorecard" is the key framework when considering strategy in larger multi-nationals (Kaplan and Norton, 2006) along with a more recent example such as "The Performance Prism"

(Neely et al., 2002). Other frameworks such as Medori and Steeples, and Laitinens dynamic system are more suitable for SMEs but they have not grabbed the attention of SME owner-managers in the "real-world".

Sheahan states that the majority of the research in relation to manufacturing is focused on idealised models that bear little relation to the volatile and highly constrained problems that are experienced in the actual manufacturing enterprise (Sheahan, 1996). The area of performance measurement research appears to be one of the few areas in which an attempt is made to complete the research with a view to applying it in an actual manufacturing or service environment (Neely et al., 2002). However, a major problem exists in that few of these developments are inter-changeable amongst companies and less are suitable for SME's at an operational level.

According to participants in this project SME's spend less time dealing with strategy in comparison to larger enterprises. The primary reasons are a lack of time, money and resources. An opportunity exists within this research field to explore, the operational performance measures that exist within SMEs, focusing on the development of an operational set of generic performance measures, which are applicable to SMEs. There is an argument to be made, that regardless of the enterprise context a set of operational generic performance measures need to be addressed if the organisation is to be successfully run. The challenge here isn't to provide an exhaustive list of all performance measures, but rather the elimination of most, to reveal the most significant set. When this list of measures is identified, further analysis will reveal the focus a typical owner manager will have on the marketing function, relative to the other primary functions within such an organisation.

4. DECISION-MAKING

Research on decision-making has focused on the leadership qualities of the SME owner-manager. For example, it has been demonstrated that in a smaller family run enterprise, there is an over-dependence on this type of decision maker (Feltham and Barnett, 2005). This is in line with earlier observations on the SME, where this decision maker will act in a 'different manner' to that proposed by much of the accepted concepts and rules within decision theory. Decision theory has a poor regard for decisions where all or a significant number of options are not taken into account and weighed up before a decision is made (Yau and Sculli 1990; Simon, 1955). The owner-manager continuously makes 'poor' decisions in this sense, but he/she judges that they have to for the venture to succeed (Dillon, 1998). It is open to question if this form of decision-making is suited to the strategic development of a maturing organisation (Brouthers, 1998).

A key consideration is the relationship between performance measures and the decision-making process. It has already been discussed that a set of performance measures appear to exist in enterprises of this size, whether

acknowledged formally within a system or not. These performance measures form the basis of control of the senior management on processes or the business as a whole. Significantly, the performance measures are influenced/changed/improved upon, by a manager's ability to make decisions in relation to the enterprise process. The scenarios, within which decisions are made, form a key element in understanding the dynamics within the enterprise. This methodology considers two key aspects of enquiry performance measures and decision-making scenarios.

5. QUALITATIVE AND QUANTITATIVE RESEARCH

Qualitative research involves "the studied use and collection of a variety of empirical materials – case study, personal experience, introspective, life story, interview, observational and visual texts – that describe routine and problematic moments and meanings in individual lives. Accordingly, qualitative researchers deploy a wide range of interconnected methods, hoping to get a better fix on the subject matter at hand" (Denzin and Lincoln, 2003). In contrast, quantitative research is "an enquiry into a social or human problem, based on testing a theory composed of variables, measured with numbers and analysed with statistical procedures in order to determine whether the predictive generalisations of the theory are true" (Creswell, 2003). The research carried-out in this paper is statistically based and quantitative in nature. Both the survey and the workshop methodologies were designed to operate from statistically based research objectives. All of the significant results are obtained through the examination of the number of SME owner-managers suggesting a particular answer.

6. INTERVIEW AND SURVEY

The first step in this methodology was a comprehensive structured interview with a detailed survey amongst SME owner-managers and senior managers. The focus of this survey was to determine how these practitioners view performance measures within the context of running and controlling their own business. There is considerable resistance to academically derived performance measures within this section of the business world (Wilson and Sheahan, 2006). As discussed earlier, the poor take up of such systems at SME level is well documented. The companies involved in the project acknowledged that performance measure systems are a positive development and should be applied to the smaller enterprise. The practical implications of this expression of interest are a challenge for both the owner-managers and academics.

The survey was designed to allow a discussion to evolve between the subject and the analyst, throughout the session. Each enterprise has a way of controlling key systems and the focus was to ascertain how and where SME owner-

managers gather their information. A list of five hundred and sixty eight performance measures was presented to the survey participants; each session took between two and three hours. During this period the interviewer got a sense of the organisation, the key controls and recorded various anecdotes. The initial questions helped the interviewer contextualise the company. The remainder of the questions involved the SME owner-managers going through a list of possible measures, and rating them as either important, very important or vital, no answer indicated no importance.

A sample of forty-seven contributors was used in the survey, where the respondents were primarily SME owner-managers. It was determined by the EPRG (Enterprise Performance Research Group) that the SME owner-managers would have a better perspective of the enterprise and would be more capable of providing enterprise performance measures.

Owner-manager is the term that has been used in the text, but owner-manager could also be substituted with entrepreneur, managing director or business owner because the measures being developed would be of relevance and interest to all of the above. The sample used in this research included companies as diverse as electronic suppliers, door manufacturers and regional co-ops. 20% of the sample was executed outside the country, with surveys completed in Italy, China, England, Germany, Switzerland, Holland, Australia, Sweden and the USA.

The data received from the survey was analysed statistically using the SPSS software package. Each performance measure was given a weighting between 1-3 and each time a response for that measure was recorded, the score reflecting the weighting was added to that measure. Finally the measures with the most responses were collated into a list and a top weighting was subsequently achieved. The data was collected and assessed and used as an integral aspect of this overall methodology. The next step was to set up a workshop consisting of both experts and academics to validate the findings. If a performance measure was thought to be important by both an individual SME owner-manager and by a workshop of experts, it could be considered significant.

7. WORKSHOP OVERVIEW

An important aspect of undertaking this workshop was to understand the nature of the participants involved. This method is designed specifically for the SME owner-manager and is tailored to both assure and provoke the participant. There are two viewpoints that had to be addressed when using this methodology, the participant's owner-managers, service suppliers, semi-state representatives, etc, and the academic team. Each side can learn from the other, but it is helpful to outline the requirements of both viewpoints.

A sample of the owner-managers were consulted and found to have both concerns and hopes for the process. The concerns existed at a number of levels;

confidentiality of company specific information, costs associated with the process, making the right impression and finally concerns that it will end up merely being an exercise in wasting valuable time. However, the owners were also found to have hopes. The strongest of which was to discover what academics and other practitioners see as being important to measure within the enterprise and why. They also looked forward to meeting other like-minded individuals to discuss industry climates and to network at a business level.

The academic team also had a number of concerns. This was an exercise in the gathering of SME specific data and was a challenge to get correct (Hills and LaForge, 1992). It was important to consider the opinionated and talkative nature of the owner-manager (Niehouse, 1986) and to contain these opinions without curtailing the free flow of information from the owner-manager to the academic (and indeed the reverse flow, where applicable). Both sides invested time and money in the exercise and it was important to strike a balance between creating a solid, reputable impression on the outside world and keeping the expenses at a reasonable level. The academic benefits are obvious with a great deal of performance measure and decision scenario data gathered and theory gap analysis being carried out.

Some of the approaches that were adopted to facilitate a more cohesive undertaking are outlined below:

The workshop was run on a University campus, which was seen as being an 'honest broker' in facilitating interaction. The practitioners were not put in a compromised position such as being 'sold' a product. The participants were put up in a local hotel the night before to allow for an early morning start and to encourage networking. People from both sides of the process were able to network, which allowed some of the frenzy one can sometimes see at 'events' centring on networking, to dissipate. A brochure was published carrying a profile of the participants including contact details and company background. This again allowed the SME owner-manager to relax somewhat on the networking front, when participating in the workshop process proper. The workshop was run over a period of a morning to encourage the participants to apply themselves over a sustainable period, and this schedule also allowed them to organise meetings within the locality or on the trip home. Considerations of this nature were found to facilitate participants and made the process more accessible and enjoyable as a result.

7.1. GROUPS

One of the basic characteristics of the workshop was the selection of suitable candidates to populate the different group sessions. It was essential that these candidates could be considered experts in their field. An expert is "a person who has extensive skill or knowledge in a particular field" (Richardson, 1999). In this case, experts are those people who have a considerable knowledge of the enterprise management process and for the purposes of the workshop methodology would be required to fit one of the following profiles (Spool, 2004).

Owner manager of an established SME	–for more than 5 years
Service provider owner-General Manager	–for more than 10 years
Senior Financial Manager (CFO) within an SME	–over 10 years
Senior Consultant to industry	–more than 10 years
Senior Semi-State Advisor to industry	–more than 10 years
Academic	–Published author in the area

It is unrealistic to expect a sample of experts to be taken from a target population of all industries, however; the opinions of those experts should reflect the target population. The participants were randomly selected as a sample of SME's in various industries (Richardson, 1999). They were approached in person, by email or by telephone, requesting them to take part in the survey or workshop.

As well as the selection of the experts, it was important to get the mix of personnel right and the group profile was an essential aspect to this methodology. This along with the KJ method (see below) is a solid construct in facilitating the flow of information. It is important that each member is allowed to express their opinion, without the group losing focus. The participants, as previously outlined included practitioners and academics. The practitioners consisted of owner-managers of SMEs and their service providers. The group also included state representatives (from a national strategic viewpoint) and general service providers training, accountants, certification bodies, etc. This gave a more rounded view of the SME priorities than a singular SME owner-manager. Each group also had at least one academic member not involved in the design of the process. This was to allow an academic viewpoint to mix in with the process, while not allowing the group to be steered in any direction.

Three groups of ten participants were used in the study undertaken at the University of Limerick (November 2007). Each group was structured to allow a mix of owner-managers, semi-state representatives, consultants, suppliers of services to the SME and academics. The mix profile that was adopted was as follows:

Facilitator	(1 per group of no more than 10 participants)
Participants	Owner-Managers (60%)
Consultants	(20%)
Academics	(10%)
Semi-State	(10%)

7.2. KJ METHODOLOGY

"The KJ-Method is a fascinating mix of independent brainstorming, group dynamics, and democracy. It allows a team to be creative and critical in a

productive manner, where strong personalities and politics play second fiddle to the independent perspectives of the team" (Richardson, 1999).

Jiro Kawakita developed the KJ method in the 1960s with the method being well synopsised in recent years (Scupin, 1997). This method focuses on delivering harmony from the chaos of data, which a meeting of different interests might deliver. It is particularly effective when there is a duplication of ideas and helps focus a group session in a time effective manner. This methodology has been utilised in applications as diverse as land occupancy in Japan to problem solving in modern business environments. Its use in the workshop is to facilitate interaction without domination. The facilitators are trained in leading meetings (experience suffices) and the KJ method itself.

Having been introduced to the topic under consideration each participant was instructed to put down only one idea (or concept) on a supplied post-it. The results were collected and randomly placed on one side of the white board. Each concept was discussed by the group and collated into similar categories.

The initial session focused on the performance measures, which were considered essential to their company by the expert group for running an SME operation. The second session used these performance measures and determined the related decision-making scenarios. The KJ method was applied to each of the sessions. There were also two sets of results to consider: The significant performance measures and the related decision making scenarios

7.3.   SESSION 1 – PERFORMANCE MEASURES

The performance measures session was broken into three groups of ten and each group dealt with the same topic (namely the performance measures considered essential for an SME to be successful). It was determined by the EPRG (Enterprise Performance Research Group) that a session of this nature involving ten people or less could deal with an issue of this magnitude within a timeframe of an hour and a half. It was determined that when structuring the group sessions it was best to outline the topic in writing to the group and then focus on this subject for a period within the allotted timeframe.

At the end of this initial session the results were collated and presented by each group facilitator to the entire set of participants before the coffee break. This break allowed participants to provide feedback in an informal manner and the academic team was able to assess how the session had been perceived to date. The data from the session was then correlated against the top findings in the survey and six significant generic performance measures were identified.

A significant performance measure was defined as one, which occurred in the top twenty of the initial survey and existed as an overlapping performance measure across the three groups of workshop experts. The six performance measures outlined below satisfied these parameters. There were significant results from the workshop process for human resource type measures. However, the group

was not successful in identifying these in a measurable form. The main set of Performance Measures, are outlined below:

- Cash flow

- On time in full (OTIF)

- Profit (per product)

- Right first time

- Sales generated (order book)

- Sales per month (past)

The marketing function was represented in a jargon free context through this process. Sales generated represents the order book as it stands, while sales per month is a past tense look at how the marketing function has performed in the a defined timeframe (usually a month). Of the six generic performance measures unearthed by this methodology, 30% can be linked directly to the sales and marketing function within an SME. The research then turned to how the marketing role would be perceived in relation to the decision scenarios, which were identified as being significant to each of the six generic performance measures.

7.4.   SESSION 2 – DECISION-MAKING SCENARIOS

The make up of the second session was significantly different. This session was broken into smaller (new) groups and rooms. It was important that the overall make up of the group profile be maintained, as far as possible with equal skills and qualifications dispersed across the groups. Six performance measures of significance were identified in the first session and as a result six groups of five were required so each group could deal with two distinct performance measures. If more or less topics had been identified from the initial session, the number of groups would have been varied accordingly. However, it was important to try and keep the group profile as consistent as possible.

This decision-making scenario topic is a lot more difficult to penetrate than the initial performance measure topic. The group of experts was asked to assess the decisions that one associates with a given performance measure. If a decision-making scenario was thought to be significant by both groups considering a particular performance measure, then that decision scenario was considered significant.

The significant decision-making scenarios were more difficult to identify. Each performance measure from the above listing was put before the expert groups and the KJ method was applied. Two separate groups considered each performance measure and identified related decision-making scenarios. The significant decision scenarios were those identified by all groups. A synopsis of the findings is outlined below:

8. RESULTS

Performance measure	Related Decision-making Scenario	Performance measure	Related Decision-making Scenario
Right 1st time	Product specification **Client feedback** Vendor appraisal Training Process procedures Production cost Scrap/rework	OTIF (On-Time-In-Full)	**Client feedback** Process/lead time **Communication** **Customer priority** Material availability
Sales per month	**Customer profitability** **Sales forecast** Process/Lead times **Product Position – market** **Sales order process** **Sales performance**	Cash Flow	Debtor days Bad debts **Terms & conditions** Inventory WIP Training **Client management**
Profit	**Experienced staff** Raw material costs Make/buy Production costs **Product mix**	**Sales Generated**	Production costs **Marketing** **Promotion** **Client management** **Distribution channels** **Market research info** Currency flux

Note: **Bold text** *indicates relationship with marketing function*

9. DISCUSSION

The structuring of a workshop to validate survey findings is a method of ensuring that the gathering and analysis of the data is solution focused dealing with issues experienced by the practitioners. The interaction between the practitioner and the academic can be a challenge, as both tend to view the business world from different points of view. The practitioner academic interaction during the workshop gave rise to an acknowledgement of the roles of the academic and business worlds in making enterprises more successful. The results are considered positive in terms of the performance measures found in the SME owner-manager survey and the subsequent correlation between these results and those identified by the workshop groups.

The practitioner and academic alike can assess the current state of practice, using the KJ methodology, along with the theory practice gap taking a more central role in general discourse. It was felt that no one group or individual dominated the conversation, all participants got their say and the group as a whole agreed upon

findings in a constructive and timely manner. This partnership in learning is a powerful tool along with the KJ methodology structured in a manner to elicit results from this mutually beneficial relationship.

The location of the workshop at the University of Limerick campus was seen as a necessary aspect of this methodology and the authors believe this for a number of reasons. In general, learning institutions (of note) tend to have beautiful surroundings and are conducive to learning and knowledge sharing.

SME owner-managers and indeed all practitioners tend to be suspicious of people trying to 'sell' them something; the university was seen as a neutral honest broker.

The experience was found to be particularly positive from the SME owner-managers point of view – predominantly in relation to seeing the current common state. At the final discussion between all participants, a number of contributors stated that this type of shared experience was very difficult for them to find in their daily lives. The SME owner-manager is often isolated from like-minded individuals and this was seen as a positive step in addressing this isolation. As a result, a significant number of participants requested to have some level of interaction on a regular basis and the research team is currently exploring this possibility.

The methodologies used in the workshop and survey indicates there is a generic set of performance measures, which exist across a broad spectrum of SMEs. There are also a finite number of decision-making scenarios, which the practitioner must interact with, when striving to influence performance measures. This knowledge would appear to have practical applications in industry, particularly when one considers the time constraints under which the modern manager operates.

Facilitator training and the availability of statistics experts facilitated the manner in which the results were assessed and re-distributed for the second session. The area of decision-making scenarios was more difficult to deal with, but substantial academic findings were uncovered. The group set up was structured to allow the decision-making scenario topic to be considered by a number of separate and distinct expert groups. The overlap between what the separate groups identified demonstrated the outputs of significance from each workshop session.

Thirty percent (30%) of the generic performance measures uncovered can be said to relate directly to the marketing function within an SME. As you would expect, the decision scenarios within these two performance scenarios are heavily influenced by this function. Perhaps a more interesting finding is that the key decision scenarios within all the generic performance measures had at least one significant scenario, which related directly to the marketing function within the SME.

10. CONCLUSION

In this paper the authors demonstrated methodologies to facilitate university industry interaction in the development of relevant practical research to advance the state of performance measurement in SMEs. These methodologies allowed practitioners and academics to meet on neutral ground and review the state of common practice in relation to performance measures and decision-making scenarios. The use of the methodologies allowed the authors to take the data gathered and establish a formal structured method to introduce generic operational performance measures in SMEs and examine the decision-making scenarios surrounding those measures.

It was established that in the development of new knowledge and overcoming the theory practice gap academics are searching for something new while practitioners want something tried and tested. This methodology in particular the workshop, provided an arena in which academics and practitioners can learn from one another with mutual respect. This learning and sharing of ideas provided concepts, which practitioners universally use on a day-to-day basis, but that have not been captured by the academics in a formal structure. The methodologies allowed the range of performance measures and decision-making scenarios that they use empirically on a day-to-day basis, to be identified. The methodologies outlined, demonstrate methods of interaction with respect to the complexity and characteristics of the people involved. The methodologies the authors used are quite flexible and could be used to interact with owner-managers in relation to a variety of other topics.

A significant outcome was the fact that the workshop groups independently identified six generic operational performance measures needed to successfully run an SME. Another was the identification of the related decision scenarios, which are the drivers of change within these performance measures. The final key finding was that a significant number of both the generic measures and the related decision scenarios can be directly related to the marketing function within an SME. Future research will seek to further quantity the significance of marketing considerations across the overall performance measures employed by a typical SME owner.

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