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Working Paper Series

Empirical Evidence For a Relationship Between Business Growth and the Use of Structured Marketing Information Amongst Food and Drink SMEs

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Empirical evidence for a relationship between business growth and the use of structured marketing information amongst food and drink SMEs

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Abstract

SMEs present peculiar characteristics that make their marketing distinctive from larger companies. We suggest the lack of resources in SMEs is a barrier to effective marketing and therefore to business growth. SMEs marketing decision-making is affected by whether the SME manages to acquire, analyse and utilise formalised marketing information. This paper analyses the relationship between business growth potential and the use of marketing information in food and drink SMEs. The analysis was conducted using multivariate data analysis techniques, specifically PCA and binary logistic regression, on a sample of approximately 300 food and drink SMEs. The logistic regression was significant for both a model ($R^2=0.18$) using the predictors direct effect on growth probability and a model ($R^2=0.30$) using interaction terms. The hypothesised relationships on business growth probability and the use of information have been tested and significant effects have been identified on the interaction amongst the predictors of growth (23% of correlations were significant).

Use of formalised marketing information was found to play an important role in generating SME growth in food and drink SMEs. However, SME characteristics played an important role in the way information was used and this affected

business growth. Better use of information by SMEs focused their marketing activities. Therefore owner-managers should be trained to make the best use out of formalised marketing information.

Keywords

entrepreneurial marketing, food and drink SMEs, marketing information, logistic regression, multivariate data analysis

Introduction

This paper aims to understand whether there is a relationship between the types and amounts of marketing information used by a business and its rate of growth.

In some cases, the scale of marketing activities increases simply because of business expansion. Therefore we do not imply that an increase in the scale of SMEs' marketing activity necessarily leads to business growth. However, in some other cases, an increase of the scale of marketing activity leads to business growth. However, SMEs often lack of resources and this may be a barrier to effective marketing and therefore to business growth. If this is the case SMEs using the most effective market information mix and investing in this mix at the most appropriate level for their particular characteristics will be at a competitive advantage and grow more rapidly than those that use other amounts and mixes. Put simply, how well do SMEs make marketing decisions based on the acquisition, analysis and use of structured marketing information? The impact of this analysis and use on growth is not straight-forward due to complex interactions among growth, market intelligence and SME characteristics. This paper therefore addresses the use of structured marketing information in SMEs and its relationship with growth. It builds on the SME Entrepreneurial Marketing Orientation Conceptualized Model described by

Jones and Rowley (2011: 31) and it contributes to the 'market intelligence generation' sub-construct proposed by the authors. This research adds evidence that the use of structured marketing information in SMEs impacts on growth. However, our research shows the association with growth (positive or negative) depends on SME characteristics both directly and through complex interactions as described by the proposed mathematical model.

Theoretical underpinning

The market intelligence generation sub-construct is part of the market orientation construct (Jones and Rowley, 2011). The latter is one of four intersecting constructs which depict the entrepreneurial marketing conceptual model. SMEs with a well developed market orientation are more prone to engage in gathering market intelligence. However, the engagement with market intelligence gathering may be hampered by the owner-managers' learning style, that is mainly based on informal 'methods and routines' (Ekanem and Smallbone, 2007). Furthermore, market intelligence activities require marketing skills and the lack of marketing skills often leads to lower performance (Alpkan et al., 2007). Thus, if the aim of gathering market intelligence is to provide information that better informs the marketing decision-making process, then marketing decision-making in SMEs will benefit from skilled owner-managers as they are 'alert to information and opportunities' (Westhead et al., 2009: 664).

Performance in SMEs is generally measured by their turnover, however, other methods may be better (Jones and Rowley, 2011). For instance, Huggins and Johnston (2009) measure performance with a composite variable made of turnover and profitability. SMEs that are growing contribute positively to local and national economy growth (Kuratko, 2008), hence the importance of measuring growth in

terms of turnover increase. However, the desire for growth in specific individual SMEs should not be assumed. Hansen and Hamilton (Hansen and Hamilton, 2011) have shown not all owner-managers have a willingness to foster growth as often personal choices rather than prospective business growth drive owner-managers' business decisions. Nonetheless our research focuses only on those SMEs who seek growth, because these are the businesses that are relevant to policy makers, as the latter's aim is to grow local and national economies and companies that do not grow ultimately do not contribute to national economic growth. Growth can be fostered through better marketing (Fornell et al., 2010), however, SMEs have limited resources which often restrict their marketing activities (Gilmore et al., 2001). Other factors found being related to difficulties in achieving growth in SMEs are often related to the SME internal environment (eg internal objectives (Davidsson, 1989; Storey, 1994; Hogarth-Scott et al., 1996), resource limitations (Gilmore et al., 2001; McCartan-Quinn and Carson, 2003), skill levels (Hoque and Bacon, 2006) . SME growth barriers can also be identified in the SMEs external environment (Rosa, 1998). These external limitations include: competition (Hogarth-Scott et al., 1996), relationships with their suppliers (Baker et al., 1999; Kaplan and Norton, 1992) and understanding of their consumers (Hayward, 2005). Thus efficient use of resources is paramount if business growth is sought. SMEs cannot afford to ignore the importance of obtaining the right information to support the owner-managers decision making. The importance of marketing information to companies in general as a driver of growth, has been highlighted by several authors (Dunn, 2006; Hayward, 2005; Humby, 2005). The more in-tune businesses are with customers' (who buys the product) needs (e.g. rates of sale, profit margins, waste levels) and consumers' (who consumes the product) wants (e.g. product attributes and availability) the more likely they are to improve the marketing mix

(Dunn, 2006). This in turn will generate higher consumer appeal, potentially better sales performance and will increase the chances of growth.

However, limited resources mean SMEs have limited ability to identify, collect and analyse information. Not only is the limitation in marketing skills a barrier to the identification of information needs, but companies may also lack the marketing expertise to effectively use structured marketing information. Together these issues could hamper business growth.

A better understanding of the SME use of structured marketing information can bring benefits to both practitioners and policy makers. With this understanding the SME can develop those skills which allow a more effective use of structured marketing information. The understanding will also help policy makers identify the characteristics of SMEs that are more likely to grow and thereby better focus their use of public expenditure.

Previous Studies on Marketing Information and SME growth

Previous studies on marketing information focused on (I) the definition of information, (II) the importance of structured marketing information to companies, (III) structured marketing information as SME growth catalyst, and (IV) the types and sources of structured marketing information used by companies.

With regards to the definition of information (I), for the purpose of this paper we define structured marketing information as: 'structured data usable within a marketing context'. This includes the internal (related to the organisation, the marketing mix, business and marketing strategies and tactics adopted and internal resources available) and external information (related to the customers, competitors, other stakeholders as well as external resources available and the

market dynamics and economic trends). Previous studies offer other definitions, both more and less general, as found in Glazer (1992), and Moorman (1995).

The most recent studies on marketing information deal with the efforts in information acquisition (Yeoh, 2005), the increase of customer base (Lohrke et al., 2006) and information search aimed to opportunities identification (Westhead et al., 2009).

With regards to the importance of structured marketing information to companies (II) with more available data on the market companies can inform their decisions (Spender and Kessler, 1995), reduce uncertainty in their business activities and add value to their supply chains (Kaplan and Warren, 2007). While SMEs tend not to plan their business activities formally (Perry, 2000) it has been proven that those companies that are engaged with formal planning tend to have higher success than those companies that do not engage with formal planning (Perry, 2001).

With regards to whether information is a catalyst for growth (III), while a high usage of information may foster growth, SMEs at different stages of development are likely to have different management styles, different levels of resource available for their marketing activities (Wong and Merrilees, 2005; Gilmore et al., 2001; Hill, 2001) and different levels of capability to develop and execute the marketing strategy (Gilmore et al., 2001) with different marketing orientations (Becherer et al., 2001; Dyer and Ross, 2007). All this may impact on the importance attached to different types of information as well as the choice of the different types of information available.

Presently it is not clear whether marketing information per se is directly instrumental to growth. Companies with different marketing strategies and skills may approach market intelligence in different ways, and achieve similar or different outcomes. The interaction between growth factors and the use of structured

marketing information may ultimately generate different effects on companies' growth. The lack of evidence in the extant entrepreneurial marketing literature indicates a need to determine whether structured marketing may be a powerful catalyst for growth.

Furthermore, we should consider what types and sources of information (IV) may have beneficial effects on SME growth through a higher focus on marketing processes. Structured marketing information includes data on: suppliers, buyers, competitors and trends (i.e., national, global, economic, socio-cultural and technological) (Peters and Brush, 1996: 81). The main types, market channels and sources of marketing information used by SMEs are discussed by Johnson & Kuehn (1987). The most used sources of information/advice being family and friends (Cooper et al., 1989) customers (Smeltzer et al., 1988) and competitors (Brush, 1992; Brush and Peters, 1992). Thus type of information identified and the use of a source of information may impact SME growth, because of their accuracy and influence on the decision making process. The funds allocated to the collection and analysis of structured marketing information as well as to SME analytical capability may affect the importance attached to different sources of information. However, current literature on this topic dates back a decade ago and this shows structured marketing information has been neglected as an area of study, focusing more on the definition of the entrepreneurial marketing domain (Jones and Rowley, 2011). In view of the existing literature, we propose the business-owner needs a systematic, skilful way of collecting, analysing and monitoring large amounts of quality information from the marketplace to minimise risk when planning marketing activities and implementing ideas.

Research Hypotheses

As a result of the information provided in the introduction three research hypotheses were generated:

H1: Business Growth probability is positively related to the frequency of use of the information used

H2: Business Growth probability is positively related to the importance given to the type of information used

H3: Business Growth probability is positively related to the importance given to the source of information used

Data Collection

Sampling Adequacy and Response Bias

A non-probability sampling technique, i.e. snowball sampling, was adopted for this research. Non-probability samples are a proposed solution to the lack of applicability of probability samples (Bryman and Bell, 2007; Collis and Hussey, 2003; Crotty, 2004) as often in business research it is not possible to obtain probability samples. Snowball sampling allowed capitalising on the existence of established food and drink networks for the recruitment of the respondents. In order to grant representativeness of the different sectors of the food and drink industry an invitation to take part in the survey was sent by the main Scottish food and drink networks to their network members. Furthermore, to complement the sample, 755 food and drink SMEs in Scotland (classified by their SIC, Standard

Industrial Classification) were contacted from a list purchased from Market Location.

Both online based questionnaires (N=1450) and hard-copies of questionnaires (N=113) were sent to key informants (i.e., the owner-manager or marketing manager; as recommended by Kumar et al. (1993) of 1563 food and drink SMEs.

Of these 1563 questionnaires 298 emails bounced back and 169 online respondents were uncontactable making 1096 questionnaires reaching the respondents. Of these questionnaires, 797 were returned incomplete and unusable and were therefore eliminated. In addition 3 complete responses that were not completed by key informants but rather by the key informants' secretaries were eliminated. The final sample consisted of 296 complete responses from key informants, setting the response rate¹ at 25.6%. The response rate is in line with published expectations for a web and mail administered survey, as indicated by Kaplowitz et al. (Kaplowitz et al., 2004). Furthermore, sampling adequacy is measured by the ratio of (complete-responses)/(variables number). This ratio should not fall below 5 as indicated by Hair et al. (2009). The responses/variables ratio² for this sample was 11 well above the minimum expected value for reliable statistical modelling.

A Mann-Whitney test was run to check response consistency between respondents and non-respondents. The test showed from a total of 27 variables, 82% of them showed no differences that were statistically significant (P<0.05). These results indicate there is no substantial difference between respondents and non-respondents, thus suggesting the sample is not affected by response biases.

¹ Calculated as $\frac{\text{number of usable questionnaires}}{\text{(total sample-unsuitable or uncontactable members of the sample)}} \times 100$; Bryman A and Bell E. (2007) *Business Research Methods*, Bath: Oxford University Press.

² Responses/variables ratio: $\frac{\text{number of complete responses}}{\text{number of variables}} = \frac{296}{27}$

Measures

Probability of growth is the dependent variable.

Predictors were identified in the following variables: whether the company has a specific targeting strategy, how many channels of distribution and the type of geographical extension the company include in their distribution strategy, whether they are aware of the existence of different market segments for their market. Other predictors of growth were identified in the type and source of information and their importance to the company as well as the use of information.

Moderators were grouped in two categories: SME related and owner-manager related. The SME related moderators are: size, business experience, available budgets and existence of a brand supporting business communication. As well as the number of employees dedicated to marketing and whether the company uses consultants to support marketing and product decisions. The following table summarises the variables that were used:

Table 1: Summary of the characteristics of the variables collected by the questionnaires and used to model growth of SMEs using PCA and logistic regression models.

OR=Ordinal, NO=Nominal, CO=Continuous, (N) indicates N variables scaled 1-10 went into a PCA analysis to create the variable.

ID	Variable name	Description	Type	Categories	Reference
	<i>Dependent Variable</i>				
Gr	GROWTH	Growth over the last 3 years (2007-2010)	OR	0=growth<20%; 1=growth>20%	Hausmann et al. (2005)

					Niosi (2003) Littunen and Hyrsky (2000) Schutjens and Wever (2000) Srinivasan et al. (1994) Kutty (1990) Delmar et al. (2003)
<i>Independent Variables</i>					
A	TARGET	Whether the company targets specific consumer segments	OR	0=no; 1=yes	
B	SEGMENTAWARE	Whether the company has awareness of different market segments	OR	0=there is no awareness; 1=there is awareness	
C	DISTR_CH	Whether the company distributes through one single channel or multiple channels	OR	0=mono channel; 1=multichannel	
D	GEOMARK	Whether the company distributes locally or in multiple geographical markets (e.g., national, international)	OR	0=local; 1=multimarket	
E	INFOTYPE	Importance level of the proposed types of information to the company	CO (8)	low value = non-important high value = important	O'Reilly (1982) Cacciolatti (2011)
F	INFOSOURCE	Importance level of the	CO	low value = non-	

		proposed sources of information to the company	(10)	important high value = important	
G	INFOUSE	Company use frequency of the proposed types of information	CO (8)	low value = infrequent high value = frequent	
H	CUST_OR	Customer orientation level in the company	CO (6)	low value = no customer orientation high value = high customer orientation	Deshpande, Farley and Webster (1993) Cacciolatti (2011)
I	COMPET	Competitive orientation of the company	CO (4)	low value = uncompetitive high value = competitive	Narver and Slater's (1990) Zhou et al. (2007) Cacciolatti (2011)
L	SUPPLIER	Level of commitment in the relationship with key suppliers	CO (5)	low value = low commitment high value = high commitment	Anderson and Barton (1992) Cacciolatti (2011)
<i>Moderating Variables</i>					
M	POSITION	Key respondent's position in the company	OR	3=managing director, owner, general manager; 2=marketing manager, sales manager, operations manager, BD manager; 1=secretary/finance officer	
N	GENDER	Owner-manager's	NO	0=female; 1=male	

		gender			
O	AGE	Key respondent's age	OR	1=up to 29; 2=30-39; 3=40-49; 4=50-59; 5=60-69; 6=+70	
P	EDU	Key respondent's education level	OR	1=secondary education; 2=further education; 3=higher education	
Q	MAQUAL	Whether key respondent has a formal marketing qualification	OR	0=no; 1=yes	
R	OWNEXP	Whether key respondent has previous managerial experience	OR	0=no; 1=yes	
S	BRAND	Whether the company has a brand	OR	0=no; 1=yes	
T	BUSEXP	The number of year the company has been trading for	OR	1=1; 2=2-3; 3=4-6; 4=7-12; 5=13-30 ; 6=+30	
U	RESOURCES	The percentage of turnover allocated to market research, advertising, promotion and PR	CO (4)	low value = no investment high value = high investment	Cacciolatti (2011)
V	BUSINSIZE	Indication of the company size	CO (3)	low value = small company (turnover <£500k, employees<100, little or no personnel dealing with marketing and no use of consultants to develop products), high value = medium	Cacciolatti (2011)

				sized (£500k< turnover<£10m, 100<employees<500, few staff dealing with marketing and use of consultants to develop products)	
W	MCONSTR_PROACT	Proactive behaviour attitude when facing marketing constraints	CO (4)	low value = lack of proactivity high value = proactivity	Weinrauch et al. (1991) Hill (2001)
X	MCONSTR_POSIT	Positive and reactive behaviour when facing marketing constraints	CO (4)	low value = negative attitude high value = positive attitude	Hills and La Forge (1992) Hooley et al. (1990)
Y	MCONSTR_ABIL	Overall ability in dealing with marketing constraints	CO (4)	low value = little ability high value = high ability	Cacciolatti (2011)
Z	MANSTYLE	Whether the key respondent is an entrepreneur rather than a manager in his/her management style	CO (8)	low value = managerial style high value = entrepreneurial	Robinson et al. (1991) Cacciolatti (2011)

Data Analysis

A control analysis of the frequencies and descriptive statistics as well as a non-parametric correlation amongst the variables through the Spearman Rho took place in order to minimise the risk of multicollinearity. Despite several variables (23%) showing significant correlations, the p values reported were very small therefore not causing concern for multicollinearity.

Consequently, factor analysis was used to reduce the number of variables into underlying factors. All the continuous variables indicated in Table 1 were created through Principal Component Analysis, setting the eigenvalue at a more restrictive level (0.8) than the usual one and the solutions were rotated with VARIMAX rotation. These factors are indicated in the table as CO (continuous) variables and the number of items³ composing the factor has been included in brackets.

Two models were then created⁴ (equations ii and iv) to test the hypotheses under two conditions: the first model (Model 1) tested the hypotheses under the assumption of a direct effect of the explanatory variables on growth probabilities (equation i); the second model (Model 2) tested the hypotheses under the assumption that some interactions among explanatory variables may take place (equation iii) impacting on growth probabilities.

Model 1

$$(i) \quad P(Gr) = \frac{1}{1+e^{-Gr}}; \quad Gr = \beta_0 + \sum_j^n (\beta_n x_n) + \epsilon;$$

$$(ii) \quad Gr = 0.276 + \beta_0 x_O + \beta_T x_T + 0.354 * x_F - 0.395 * x_E + 0.269 * x_W + \epsilon;$$

Model 2

$$(iii) \quad P(Gr) = \frac{1}{1+e^{-Gr}}; \quad Gr = \beta_0 + \sum_j^n (\beta_j x_j) + \beta_\zeta \zeta + \epsilon; \quad \zeta = \prod_j^n x_j$$

³ Cacciolatti L. (2011) The Impact of Formalised Marketing Information on the Growth of Small and Medium Sized Enterprises in the Food and Drink Industry. *Kent Business School*. Canterbury, Kent: University of Kent, 258.

⁴ The models were run with the Stepwise Forward Method available in SPSS for the logistic regression. The 'difference' algorithm is the one that were used as contrast for the categorical variables.

$$(iv) \quad Gr = 0.276 + \beta_0 x_O + \beta_T x_T + 0.354 * x_F - 0.395 * x_E + 0.269 * x_W - 0.873 * (x_F * x_Q) - 0.733 * (x_G * x_A) + 0.703 * (x_G * x_D) + 0.505 * (x_G * x_L) - 1.159 * (x_E * x_N) + \epsilon;$$

In both models 1 and 2 (equations ii and iv) the age (O) and business experience (T) coefficients will take on different values depending on the value of x as indicated by β_0 and β_T . Full values and characteristics of the model parameters are given in Table 2.

Results and Discussion

Overall goodness-of-fit

The Nagelkerke pseudo-R² for model 1 is 0.184, while for model 2 it is 0.297 and the improvement of log-likelihood (-2LL) for the two models is by 32.576 and 52.627 respectively. This suggests model 2 shows a better improvement in predictive ability with respect to a constant-only model. The VIF (variance inflation factor) for the two models were 1.225 and 1.422 respectively, which indicate there is no multicollinearity. Both models are able to classify correctly 68% of the predicted probabilities.

In proceeding to the following discussion of the importance of the formal structured marketing information variables INFOTYPE, INFOUSE and INFOSOURCE in the models it is first necessary to be aware that there are no significant correlations among the 3 variables and thus their actions are independent within the two models.

Information Use Frequency

Model 1 in

Table 2 shows the direct effect of the explanatory variables on the probability of growth when no interaction amongst variables is taken into account. 'Information use frequency' is non-significant, thus this variable is not included in the model. The first hypothesis is therefore rejected in its simplest form by model 1 because marketing 'information use frequency' showed no effect on growth probabilities when taken into consideration on its own.

However, model 2 showed a strong relationship with a positive sign on the interaction between 'information use frequency' and geographical distribution' (GEOMARK) and the 'type of relationship with the suppliers' (SUPPLIER). This indicates the probability of growth increases when information is used frequently by companies distributing in different geographical markets rather than local markets only. The probability of growth increases as well if the company is committed in their relationship with suppliers.

Nonetheless, when 'information use frequency' interacts with 'targeting strategy' (TARGET) the relationship is negative, indicating the probability of growth is still high when a specific targeting strategy is in place, even if the company does not use information that often. All the relationships are significant at the 0.05 level. Consequently the first hypothesis was partially accepted by model 2.

Importance given to the type of information used

The level of importance given to the 'type of information' used for Model 1 in

Table 2 is significant at the 0.05 level but presents a negative relationship. This indicates the higher the importance given to the proposed types of information the lower is the probability of growth. Clearly just thinking certain types of information are important is not enough they must also be gathered and used. A possible explanation here is that only the types of information felt to be important are collected and thus other types are omitted and less total information is collected. However, the lack of a correlation between INFOTYPE and INFOUSE in Table 3 apparently goes against this interpretation. The second hypothesis is therefore rejected by model 1, despite its effect was tested on its own.

Furthermore, model 2 showed a strong relationship between the importance of the 'information type' with the owner-manager's 'gender' (GENDER). The relationship has a negative sign and indicates those companies managed by males have higher probability of growth even when little importance is given to information types. This relationship was reported as significant at the 0.05 level. Consequently, the second hypothesis was rejected by model 2.

Importance given to the source of information used

Model 1 in

Table 2 shows the level of importance given to the 'source of information' used, when no interaction takes place. This relationship is strong, significant at the 0.05 level and presents a positive sign. This indicates the more importance that is given to what source information is taken from, the higher are the growth probabilities. The third hypothesis was therefore accepted by model 1.

However, model 2 shows the importance of the 'source of information' presented a negative relationship with 'marketing qualification' (MQUAL) and it was significant at the 0.05 level. This means that when owner-managers are qualified in marketing the probability of growth increases regardless of the importance they give to the proposed sources of information. Consequently, the third hypothesis was rejected by model 2.

Table 2: Models comparison showing coefficients, standard error, and exponentiated coefficients (the chances for the occurrence in an increase of growth probability given an increase by one unit in the predictor) Also shown are the confidence intervals for the exponentiated coefficients. Model 1 does not use interaction terms, while model 2 uses interactions amongst predictors.

Variables in the Model	Model 1					Model 2				
	B	S.E.	Exp(B)	95% C.I. for		B	S.E.	Exp(B)	95% C.I. for	
				Lower	Upper				Lower	Upper
AGE										
AGE(1)	.349	.870	1.417	.257	7.804	.438	.905	1.549	.263	9.128
AGE(2)	-.032	.502	.968	.362	2.590	-.400	.523	.670	.241	1.868
AGE(3)	-.799	.413	.450	.200	1.010	-1.226 *	.432	.293	.126	.684
AGE(4)	-.675	.442	.509	.214	1.212	-.746	.462	.474	.192	1.172
BUSEXP										
BUSEXP(1)	.269	1.356	1.309	.092	18.655	.682	1.402	1.978	.127	30.846
BUSEXP(2)	-.692	.815	.500	.101	2.474	-.512	.835	.599	.117	3.077
BUSEXP(3)	-1.163 *	.586	.313	.099	.986	-.958	.614	.384	.115	1.279
BUSEXP(4)	-.856	.454	.425	.175	1.034	-.533	.459	.587	.239	1.442
BUSEXP(5)	-1.148 *	.411	.317	.142	.710	-1.052 *	.423	.349	.152	.800
INFOSOURCE	.354 *	.156	1.425	1.050	1.934					
INFOTYPE	-.395 *	.154	.673	.498	.910					
INFOSOURCE by MQUAL(1)						-.873 *	.323	.418	.222	.787
INFOUSE by TARGET(1)						-.733 *	.335	.480	.249	.926
INFOUSE by GEOMARK(1)						.703 *	.339	2.020	1.038	3.928
INFOUSE by SUPPLIER						.505 *	.204	1.656	1.110	2.471
INFOTYPE by GENDER(1)						-1.159 *	.344	.314	.160	.616
MCONSTR_PROACT	.269	.140	1.309	.995	1.723	.486 *	.167	1.626	1.173	2.254
Constant	.276	.267	1.318			.189	.290	1.208		
Nagerkerke R ²					0.184					0.297
R (classification table)					68.10%					68.10%
VIF					1.225					1.422

* Significant at the 0.05 level

Table 3. Descriptive Statistics of the variables collected in a survey of 300 food and drink SMEs and their Correlation Matrix. Explanations of the variable names are in Table 1

Correlations - Spearman Rho (N=296)																															
	Mean	SE	SD	Median	Min	Max	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	
1 POSITION	2.8986	0.0176	0.3023	3	2	3	1.000																								
2 GENDER	0.7872	0.0238	0.4100	1	0	1	.208 **	1.000																							
3 AGE	3.3480	0.0571	0.9832	3	1	5	.220 **	.160 **	1.000																						
4 EDU	2.4493	0.0458	0.7881	3	1	3	-.010	-.077	-.082	1.000																					
5 MQUAL	0.1419	0.0203	0.3495	0	0	1	-.184 **	-.049	-.180 **	.174 **	1.000																				
6 OWNEXP	0.6824	0.0271	0.4663	1	0	1	-.013	.124 *	-.005	.246 **	.194 **	1.000																			
7 BRAND	0.1419	0.0203	0.3495	0	0	1	.008	-.049	-.061	.105	.084	.069	1.000																		
8 TARGET	0.3865	0.0290	0.4878	0	0	1	.061	-.081	.032	.022	.159 **	.082	.044	1.000																	
9 SEGMENTAWARE	0.3953	0.0285	0.4897	0	0	1	.065	-.019	.011	-.104	-.091	-.102	-.032	-.338 **	1.000																
10 BUSEXP	4.5544	0.0797	1.3659	5	1	6	-.130 *	.267 **	.141 *	-.050	-.086	-.139 *	-.138 *	-.092	.035	1.000															
11 DISTR_CH	0.7500	0.0252	0.4337	1	0	1	-.116 *	-.129 *	.010	-.076	.101	-.042	.056	.002	.020	-.093	1.000														
12 GEOMARK	0.6203	0.0283	0.4861	1	0	1	-.240 **	.001	-.045	-.056	.139 *	.050	.059	.052	.001	.110	.305 **	1.000													
13 RESOURCES	0.0000	0.0592	1.0000	-0.1118	-1.4598	4.9885	.003	-.091	-.067	-.023	.133 *	.101	.084	.170 **	-.141 *	-.247 **	.278 **	.138 *	1.000												
14 BUSINSIZE	0.0000	0.0592	1.0000	-0.0056	-2.0219	2.9139	-.345 **	.147 *	-.101	.120 *	.148 *	.122 *	.042	.055	-.077	.358 **	.128 *	.393 **	.013	1.000											
15 INFOSOURCE	0.0000	0.0563	0.9690	0.0000	-2.6376	2.5466	-.224 **	-.041	-.215 **	-.010	.092	.003	.054	.038	.015	.211 **	.080	.204 **	.087	.424 **	1.000										
16 CUST_OR	0.0000	0.0563	0.9690	0.1184	-5.1194	1.9056	.061	-.078	.064	-.062	-.004	-.013	-.120 *	.115	.016	-.056	.013	.040	.051	-.036	-.002	1.000									
17 INFOUSE	0.0000	0.0563	0.9690	0.0295	-3.0122	2.4146	-.151 **	-.063	.008	-.002	.151 **	.032	-.029	.185 **	-.026	.004	.043	-.020	.206 **	.067	.055	.062	1.000								
18 INFOTYPE	0.0000	0.0563	0.9690	0.0592	-4.5050	2.1673	.003	-.163 **	-.113	-.037	.010	.075	.084	.083	-.070	-.198 **	-.030	-.064	.144 *	-.062	.002	-.015	.022	1.000							
19 COMPET	0.0000	0.0563	0.9690	0.0000	-3.9997	2.9274	-.065	.079	.051	.136 *	.030	.038	.012	.032	-.145 *	.080	.129 *	.084	.146 *	.188 **	-.088	.054	-.064	.015	1.000						
20 MCONSTR_PROACT	0.0000	0.0563	0.9690	0.0000	-3.7250	2.5145	.037	-.033	.014	.126 *	.169 **	.168 **	.067	.159 **	-.083	-.105	.044	-.034	.086	.088	.017	.062	-.036	.007	-.030	1.000					
21 MANSTYLE	0.0000	0.0563	0.9690	0.0000	-5.7009	3.2000	-.032	.058	-.042	.038	.068	.104	-.025	.048	.017	.007	-.004	.099	-.010	.038	-.040	.050	-.009	.056	.000	-.014	1.000				
22 MCONSTR_POSIT	0.0000	0.0563	0.9690	0.0224	-3.9572	2.7201	.038	-.070	.071	-.123 *	-.087	-.039	-.070	.020	-.022	-.199 **	.018	.057	.057	-.255 **	-.033	-.051	-.001	.022	-.056	-.007	.056	1.000			
23 SUPPLIER	0.0000	0.0563	0.9690	-0.0135	-3.4486	3.4721	.110	-.014	-.005	.035	-.115 *	-.012	-.039	-.101	.135 *	-.060	-.033	.019	-.051	.034	-.010	-.012	.031	-.031	-.045	-.026	-.004	.017	1.000		
24 MCONSTR_ABIL	0.0000	0.0563	0.9690	0.0000	-3.8816	3.2840	-.010	-.062	.012	.147 *	-.043	.092	.065	-.044	.076	-.031	.098	.055	.004	.020	-.003	-.005	-.030	-.031	.005	.030	-.084	-.029	.003	1.000	

** the relationship is significant at the .01 level; * the relationship is significant at the .05 level

Coefficients Interpretation and discussion

When interactions amongst variables were included in the model a significantly different, more fragmented picture appeared in the model of factors affecting business growth (Model 2 vs Model 1). The two very different models highlight the consistency of significance of some variables across the two models. They both include information-related predictors of growth as significant variables. Conversely they highlighted the lack of explanatory power of Model 1 (looking at direct effects only), which was too simplistic for the complexities emerging from Model 2 (allowing interactions amongst predictors). Both models show the probability of growth increases when SMEs use structured marketing information frequently. However, use of marketing information without a precise aim does not significantly relate to growth. The chances of growth double (see the exponentiated coefficients in

Table 2) when the information is used in an SME that distributes product in multiple geographical markets (not only on the local market) and when the relationship with suppliers is good. Although still significant, the relationship between the use of information and a specific targeting strategy is negative which suggests that once there is a specific targeting strategy in place, the frequent use of information is not needed any longer to increase the chances of growth. Thus this suggests that, SMEs should use marketing information frequently in a marketing planning phase. When the targeting strategy is in place (and they know who their consumers are, what they buy and where they live/shop) a less frequent use of information would not decrease the chances of growth.

The negative relationship between the importance given to the type of marketing information and gender shows that companies lead by males still present higher chances of growth than companies lead by females, despite the fact that males may not attach any value to more formal types of information. An assumption, in line with Granovetter's (2001) institutional embeddedness theory, may be that males do not give importance to structured marketing information because of their ability to link into strong historical existing networks which exchange large amounts of informal information in small social circles (e.g. at the pub, at the match, at the sports' centre and so on). On the contrary, females may give more importance to the type of more formal information used due to exclusion from the informal information that could be gathered through these historical social networks.

Finally, the negative relationship between the importance given to the source of marketing information and the owner-manager's possession of a formal marketing qualification indicates that when the owner-manager has had formal marketing training through a formal marketing qualification his/her company has a higher probability of growth. This happens independently of whether s/he considers specific sources of information as important or unimportant.

Implications for- and beyond SMEs

The 'use of structured marketing information', as well as the importance the SME gives to the 'types' and 'sources' of information, show a significant impact on SMEs' growth probabilities. However, the proposed hypotheses were rejected in four cases out of six in part because the initial expectations were overly simplistic.

These initial results show the complexity involved in capturing the impact of the use of marketing information on growth. This complexity was found to be greater than what hypothesised. Initially all relationships were assumed as positive, on the grounds that an SME that gives high importance to certain types and sources of marketing information, and also uses it, would have higher growth probability than SMEs operating without marketing information.

These findings present implications for practitioners, policy makers and academics. The main implication at the practitioner level is that SMEs making good use of structured marketing information are more likely to grow compared to those SMEs that do not use marketing information.

SME owner-managers need to understand that most of the marketing activities should be designed and related to the SME marketing environment and should not take place in a vacuum. This means owner-managers should try to gain a deeper understanding of their marketing environment and this is possible only through a better use of structured marketing information.

However, the use of marketing information (including in this case also the attitude towards the importance of both the type and the source of information) is affected by other elements. These elements include the relationship with suppliers, targeting and distribution strategies plus the level of marketing expertise within the SME. Thus, it may become difficult to (I) identify what type of information the SME needs, (II) what source of information is most appropriate and (III) how to use the information gathered. This requires both marketing and analytical skills. To meet this requirement, owner-managers will have a need for marketing training.

These conclusions stated above create implications for policy makers' role in society. Policy makers often allocate resources (i.e., taxpayers' money) to the development of SMEs. However, a better understanding of the dynamics of growth in SMEs may contribute to a better focus of those resources. In particular a greater focus on marketing training for SME owner-managers to create those skills that are really important to enhance business growth. Furthermore, in a period of austerity, policy makers may understand better the characteristics of those SMEs that are more likely to grow. This understanding can be used to discriminate between potentially successful companies and potential failures when allocating resources towards marketing training and subsidised access to structured marketing information.

Sociological implications also arise and these may affect policy makers decisions: female entrepreneurship is often given extra resources because of the recognised vulnerability of female entrepreneurs. However, understanding that female entrepreneurs may have higher chances of growth with respect to male entrepreneurs when exposed to structured marketing information may imply a higher focus on female owner-managers for potential subsidies of information. On the other hand, male entrepreneurs may rely too much on informal networks (or male dominated social circles) to make good use of subsidised structured marketing information.

The implications for entrepreneurial and marketing research at academic level include highlighting an overall understudied area within entrepreneurial marketing with high potential for academic investigation should a more structured research agenda be proposed.

Conclusions

The analysis showed that SMEs that make good use of structured marketing information present a higher probability of growth. However, many SMEs are not able to identify what type of information they need, where to search for it and once information has been found. The lack of marketing skills may put SMEs into the position of not being able to make good use of information.

SMEs have scarce resources, and because of these scarce resources owner-managers often neglect the importance of the role of marketing. Furthermore, by neglecting the role of marketing they may not see the value in acquiring structured marketing information. However, in virtue of this scarcity of resources owner-managers cannot afford to 'hit and hope' in their marketing activity and therefore proactivity in the search for- and use of- structured marketing information is needed. Furthermore, when there is lack of skills that act as a barrier to the good use of marketing information SMEs should be able to identify training opportunities. In achieving an understanding of the need of marketing skills, policy makers play an important role. They can create SME tailored marketing training and provide owner-managers with both those skills allowing them to make a good use of marketing information. In view of this benefit they may either provide SMEs with subsidised marketing information (that owner-managers can apply the learnt skills on) or an understanding of the positive benefit of investing in marketing information.

However, policy makers may also select SMEs according to their characteristics in order to focus the destination of the tax payers' money on those with better chances of success and maximise the benefits deriving from the public expenditure.

Future Research

Suggestions for further research include the need to look at what type and sources of information SMEs look at. The Goal would be to see whether there is scope for an 'information type/source usage' classification that would allow policy makers as well as companies to have a more sectorial understanding of how to make better use of 'what

type' of information to use and 'where' to search for it. This would benefit SMEs through a greater focus on more structured information.

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