Entrepreneurial Marketing: Effects on performance of SMEs

Thesis

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Executive Summary

Problem: What is the effect of entrepreneurial marketing on firm performance in an economic recession?

Purpose: The primary purpose of this study was to perform an exploratory study of the research problem by addressing four hypotheses.

Hypotheses:

1. There is a positive relation between entrepreneurial orientation and entrepreneurial marketing.
2. There is a positive relation between market orientation and entrepreneurial marketing.
3. Entrepreneurial marketing engagement is positively related to firm performance.
4. Firms operating in a high tech sector have more benefit from entrepreneurial marketing then low technology firms.

Method: A questionnaire including the entrepreneurial & market orientation, entrepreneurial marketing and performance instruments were sent by email to respondents. The responses were collected from a sample of 6000 respondents, who were identified as SME. An empirical analysis examined the correlations, relations and moderating factors between the various factors.

Main findings: The first three hypotheses were confirmed. The fourth was rejected.

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1. Introduction

The first chapter of this thesis will present a brief background of the research and the reason for the study.

1.1. Motivation

Business mortality statistics suggest that, depending on the industry in question discontinuance rates of new ventures can be as high as 70% in the first five years (Timmons, 1999). Other research indicates that certain practice in new venture management considerably reduces the likelihood of failure. In particular marketing is considers to be a major key to the success of new firms (Hills G. E., 1984).

Marketing strategies preceding a recession strongly impact the extent of economic downturn on the firm (Pearce, 1997). As we are also currently facing an economic recession in The Netherlands the subject of marketing becomes increasingly interesting to companies as a way to pull the firm through a macroeconomic downturn.

A recession creates both opportunities and threats (Schumpeter, 1926). For example, the rate of business failures increased dramatically during recession in the U.S.A. during the 1990-1991. SME's were especially affected, because of their smaller size, little or no diversification, and considerable resource constraints. What may be its advantage is its greater flexibility. And marketing activities in the core business are clearly the major determinant of profitability in both good times and bad (Pearce, 1997). And local labour market conditions are a major determinant of entrepreneurship. Higher local unemployment rates increase the probability that individuals start businesses (Fairlie, 2011).

It is increasingly recognised that marketing as practised by entrepreneurs is somehow different to the concepts presented in conventional marketing textbooks. Give the different behavioural assumptions that underpin the theoretical concepts of marketing and entrepreneurship, perhaps this should not be surprising. Traditional marketing is conceived of as a deliberate, planned process; the marketing concept assumes that a careful identification of customers needs through formal market research proceeds a structured development of new product and services in response to those needs (Webster, 1992). Entrepreneurial behaviour on the other hand, is regarded as representing a much more informal, unplanned activity relying on the intuition and energy of an individual to make things happen (Chell & Haworth, 1991). These contrasting assumptions make it easier to understand why small business owners should have particular problems with marketing according to the textbook.

Marketing has much to offer on the study of entrepreneurship. Likewise entrepreneurship can look to marketing as a key function within the firm, which can encompass innovation and creativity. Entrepreneurial marketing is a new topic, which is not yet fully understood, it

is a new field of research that brings together the disciplines of marketing and entrepreneurship and has created an abundant body of literature over the last decades.

Due to the current economic recession (CPB, 2011) small and medium sized enterprises are facing difficult times. However a well-planned marketing strategy can increase the chances of survival. Marketing is an important factor in the success of new firms. Research has shown that new ventures face several specific marketing challenges that cannot be dealt with by looking at findings from the general marketing field. The steady growth of entrepreneurial marketing since 1987 can be an alternative for traditional marketing at new firms. In this report this new field will be explained and will give an answer on the advantages and disadvantages of entrepreneurial marketing and new ventures.

1.2. Problem statement and research questions

The problem statement of this research is:

"What is the effect of entrepreneurial marketing on firm performance in an economic recession?"

To answer the problem statement the following research questions will be answered.

- What is entrepreneurial orientation, how do you measure it?

- What is market orientation, how do you measure it?

- How do entrepreneurial orientation and market orientation combined measure entrepreneurial marketing?

- What is the effect of entrepreneurial marketing of the performance of a company?

- Does the economic sector of a firm effect the influence of entrepreneurial marketing?

1.3. Research goal

This research has two goals; the first goal of this research is to investigate the concept entrepreneurial marketing. As this field of study is still emerging, the various articles and studies related are still searching for the most suitable way to describe and measure entrepreneurial marketing. This research will try to add credibly by selecting a suitable measure for entrepreneurial orientation and market orientation and replicate the entrepreneurial marketing research in the geographic area of The Netherlands during a time of economic recession.

The second research goal is to investigate the moderating factor of the sector the business is operating in relation to the performance of the firm. In previous literature the research on entrepreneurial marketing has predominantly been done in high-tech start-ups. For this research we would like to investigate if the same applies for medium and low tech SME's.

2. Theoretical Background

In order to reach the purpose of this thesis the relevant theories and definitions and previous empirical findings are being studied in order to later on relate the later empirical findings with these relevant studies. In this chapter the concepts entrepreneurial marketing (EM), entrepreneurial orientation (EO), market orientation (MO), technology uncertainty (TU) and customer uncertainty (CU) will be initially defined, as these will be the working definitions throughout the thesis. Furthermore the theories that will be used throughout the thesis will be presented and these will be introduced in their respective sections.

2.1. Entrepreneurial Marketing

New ventures have unique characteristics that set them apart from larger, more established organizations (Fallgatter, 2002). These characteristics include their newness and small size, as well as the uncertainty of the undertaking. Their markets often are characterized by high growth and turbulence. To adequately assess the challenges new ventures encounter in their marketing efforts, these organizational environmental characterises must be considered.

During the past two decades a new area of marketing namely, Entrepreneurial Marketing, has increasingly gained attention in research as well as a subject for new courses and new aspects of marketing (Hills & Hultman, 2006). For this research the definition for entrepreneurial marketing is defined as:

> "The proactive identification and exploration of opportunities for acquiring and retaining profitable customers through innovative approaches to risk management, resource leveraging and value creation." (Morris, Schindehutte, & LaForge, 2002)

Entrepreneurial marketing captures the interface between entrepreneurship and marketing. It is a joint effect of entrepreneurial orientation and market orientation (Morris, Schindehutte, & LaForge, 2002). Literature revealed that appropriate alignment between firm entrepreneurial orientation and market orientation on firm performances is especially crucial for small businesses as a result of their limited resources and calls for more attention. The rapidly changing technological and competitive conditions have created environment characterized by high level of market and technological uncertainty (Li, Liu, & Zhao, 2006).

2.1.1 Market orientation

Market orientation is a central component of the more general notion of the marketing concept, the pillar upon which the modern study of marketing is based. Market orientation mainly represents a response of firms to current market demand (Narver & Slater, 1990) and is defined as an "organizational culture that most effectively and efficiently created the necessary behaviours for the creation of superior value for buyers and thus superior performance for the business."

Market orientation is defined by three behavioural components: customer orientation, competitor orientation and interventional coordination and two decision criteria: long-term focus and profitability (Li, Liu, & Zhao, 2006). For small firms market orientation can help to improve performance. The study of Kara, Spillan and DeShields (2005) suggest that in small-sized business market orientation is positively correlated with performance.

Firms that develop market orientation pay more attention to understanding and meeting customer needs, understand the economic environment they face better and are more responsive to changes in market and competitive environments (Narver & Slater, 1990). Some empirical studies have found a positive relation between market orientation and overall firm performance (Jaworski & Kohli, 1993) and financial performance (Kara, Spillan, & DeShields, 2005).

2.1.2 Entrepreneurial orientation

Entrepreneurial orientation is an important factor for the competitive advantage and performance of a firm (Miller, 1983). The definition of an entrepreneurial firm according to Miller is a firm as one that "engages in product marketing innovation, undertakes somewhat risky ventures, and is fast to come up with proactive innovations". Researchers have used this conceptualization and measure of entrepreneurial orientation from innovativeness, risk-taking and proactiveness in their works.

Firms need to be innovative in order to fulfil potential customer needs, engage in new exploration, support new ideas, experiment and stimulate creativity. All of which are efforts that may result in new products, services or technological processes, and change existing technologies or practices and ventures. Firms with entrepreneurial orientation are characterized by risk-taking behaviour motivated by high returns.

In the competitive environment of the global economy, innovation and proactiveness can be crucial for the firm survival and ultimate success. Entrepreneurship, as a characteristic attitude or process of organizations, is recognized by many firms and researchers as a critical factor in the success of the company.

The innovation dimension of entrepreneurship refers to the pursuit of creative solutions to challenges confronting the firm, including the development or enhancement of products and services, as well as new administrative techniques and technologies for performing organizational functions.

Proactiveness is the opposite of reactiveness and is associated with self-assertive positioning in relation to competitors. The emphasis is on fierce execution, driving toward achievement of the company's objectives by any reasonable means that are necessary. These dimensions combine to indicate the extent to which a given organization is entrepreneurial. Figure 4 depicts the two dimensions of entrepreneurial orientation.

2.2.   Firm performance

The performance of a firm can be defined in various ways. Is it profitability, market share or customer satisfaction? The book Marketing Metrics: 50+ Metrics Every Executive Should Master (Farris, Bendle, Pfeifer, & Reibstein, 2006) list and description of major metrics used in academics and practice. These metrics are broken down into 9 main categories. These Categories are:

Table 1 Major metrics used in academics and practice

Category
Share of Hearts, Minds, and Markets,
Margins and Profits,
Product and Portfolio Management,
Customer Profitability,
Sales Force and Channel Management,
Pricing Strategy,
Promotion,
Advertising Media and Web Metrics
Marketing and Finance.

For this study both financial and non-financial parameters of the firm are used as a metric to measure the firm performance. Financial performance parameters include market share, profitability and firm's growth in financial terms and sales development. Non-financial measures include start-up goals, employee satisfaction and job security.

2.3.   Classification of Economic Activities

The Statistical Classification of Economic Activities in the European Community (in French: Nomenclature statistique des activités économiques dans la Communauté européenne), commonly referred to as NACE, is a European industry standard classification system consisting of a 6 digit code.

The Eurostat organization of the Europen Union defines aggregations of manufacturing based on NACE Rev. 2 dated January 2009 where NACE codes are aggregated by the manufacturing industry according to technological intensity and based on NACE Rev. 2 at 2-digit level for compiling aggregates related to high-technology, medium high-technology, medium low-technology and low-technology.

Table 2 Eurostat NACE Rev. 2 code aggregation

Manufacturing industries	NACE Rev. 2 codes – 2-digit level
High-technology	21 Manufacture of basic pharmaceutical products and pharmaceutical preparations
	26 Manufacture of computer, electronic and optical products

Manufacturing industries	NACE Rev. 2 codes – 2-digit level
Medium-high-technology	20 Manufacture of chemicals and chemical products
	27 to 30 Manufacture of electrical equipment, Manufacture of machinery and equipment, Manufacture of motor vehicles, trailers and semi-trailers, Manufacture of other transport equipment
Medium-low-technology	19 Manufacture of coke and refined petroleum products
	22 to 25 Manufacture of rubber and plastic products, Manufacture of other non-metallic mineral products, Manufacture of basic metals, Manufacture of fabricated metal products, except machinery and equipment
	33 Repair and installation of machinery and equipment
Low-technology	10 to 18 Manufacture of food products, beverages, tobacco products, textiles, wearing apparel, leather and related products, wood and of products of wood, paper and paper products, printing and reproduction of recorded media.
	31 to 32 Manufacture of furniture, Other manufacturing

2.4. Customer and Technology Uncertainty

Innovative solutions when deployed in new markets the predictability of the market is restricted and limited information is available for marketing planning. This is due to the high degree of uncertainty and turbulence related to innovative solutions (Gruber, 2004).

Because of this it is probable that for innovative new products a marketing strategy still has to be defined for that industry. In an line of business where the dominant design still has not been established it will be hard for the new venture to win widespread acceptance and establish it as a the dominant solution in the industry.

High tech companies usually operate in uncertain environments creating innovative solutions for still to be defined markets. These companies have a need to become the designer of the dominant design.

2.5. Economic recession

An economic recession is a business cycle contraction, a general slowdown in economic activity. During recessions, many macroeconomic indicators vary in a similar way. Production, as measured by gross domestic product (GDP), employment, investment spending, capacity utilization, household incomes, business profits, and inflation all fall, while bankruptcies and the unemployment rate rise.

Recessions generally occur when there is a widespread drop in spending, often following an adverse supply shock or the bursting of an economic bubble. Governments usually respond to recessions by adopting expansionary macroeconomic policies, such as increasing money supply, increasing government spending and decreasing taxation.

According to the Centraal Planbureau (CPB) the Dutch economy will shrink by 0.50 % in 2012 and the unemployment will rise by 90,000 persons to 5.25% (CPB, 2011). According to CPB this is due to the rapidly deteriorating economic outlook where the projected improvement by the public financing was less that previous expected.
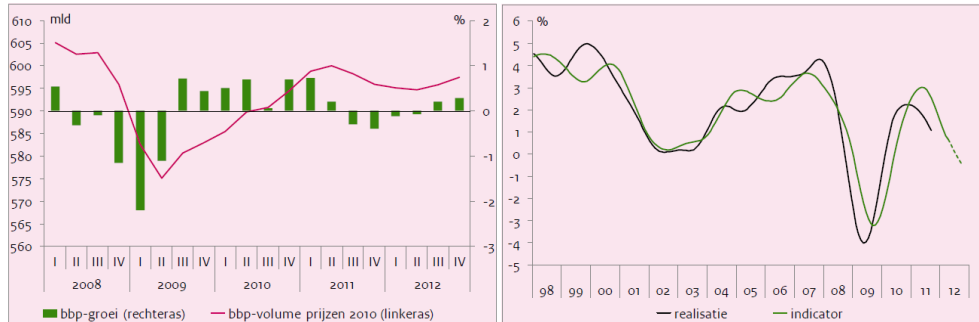
Figure 1 GDP growth in bil. euro per quarter (left) and percentage per year (right) (CPB Policy Brief 2011/13)

2.6. Small and medium enterprises

Small and medium enterprises or small and medium-sized enterprises are companies whose headcount or turnover falls below certain limits. In most economies, smaller enterprises are much greater in number than large companies. SMEs are often said to be responsible for driving innovation and competition in many economic sectors.

In Europe, currently the parameters which define SMEs are made up of enterprises which employ fewer than 250 persons and which have an annual turnover not exceeding 50 million euro, and/or an annual balance sheet total not exceeding 43 million euro. (Extract of Article 2 of the Annex of Recommendation 2003/361/EC)

2.7. Conceptual model

Entrepreneurial marketing is an area rich in research possibilities; the definition by Morris et al. (2002) captures the interface between entrepreneurship and marketing and has seven underlying dimensions. Four of these dimensions, pro-activeness, calculated risk-taking, innovativeness and an opportunity focus, are derived from the work on the entrepreneurial orientation.

Entrepreneurial firms engage in product-market innovation, undertakes somewhat risky ventures, and are first to come up with 'proactive' innovations, beating the competition. These characteristics are why entrepreneurial marketing is different from traditional marketing. Managers act differently and make decisions that are different to those of entrepreneurs and in some business environments, such as highly competitive and turbulent markets where entrepreneurial marketing behaviour might be more appropriate than in

markets where the logic of economy of scale rules market behaviour. This leads to the first hypotheses H_1.

> *H_1: There is a positive relation between entrepreneurial orientation and entrepreneurial marketing.*

The next two dimensions of entrepreneurial marketing, customer intensity and value creation are consistent with the market orientation of the firm. Firms with a marketing orientated approach react to what customers want. The decisions taken are based around information about customers needs, rather than what the business thinks is right for the customer.

It incorporates the need for creative approaches to customer acquisition, retention, and development. This requires a twofold relationship with the customers base, where the firm identifies with the customer, and the customer similarly identifies with the firm. Another task of a market oriented marketer is to discover untapped sources of customer value and to create unique combinations of resources to produce value. In dynamic markets, the value equation is constantly redefined. The responsibility of the marketer is to explore each marketing mix element in a search for new sources of customer value. Because of the creative and constant changing marketing approaches it need an organization with an entrepreneurial view on marketing where the organization is not fixed to traditional marketing concepts. This leads to our second hypothesis H_2.

> *H_2: There is a positive relation between market orientation and entrepreneurial marketing.*

Due to the limited research on the entrepreneurial marketing construct this research will design a new scale to measure it. This will enable the researcher to measure the positive impact of entrepreneurial orientation (H_1) and market orientation (H_2) on entrepreneurial marketing, this has also been suggested by Morris et al (2002) as further research is needed to formally test hypotheses regarding the linkages as proposed in Figure 2.
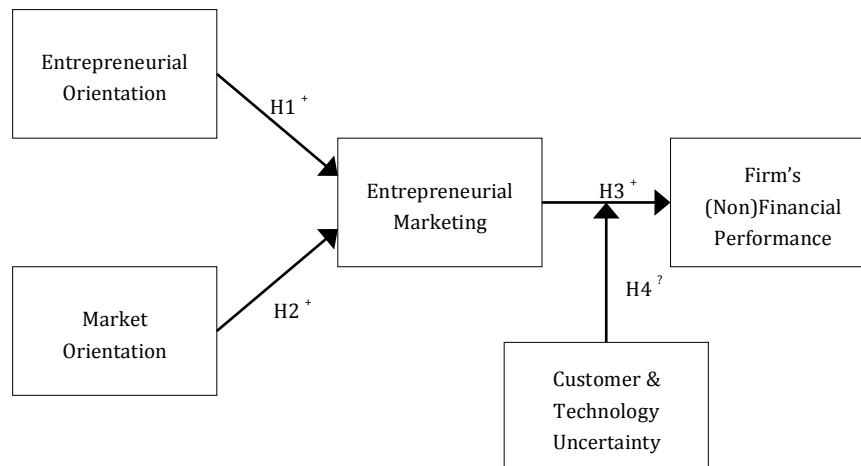
Figure 2 Conceptual model

Past research suggests that entrepreneurial marketing positively affects the firm's performance. Firms engaging in this form of marketing use less resources to market their products (Pearce, 1997) and will reach there customers more effectively and personal. This is also in line with the last dimension of entrepreneurial marketing resource leveraging which is an element in this perspective on marketing and is also a common theme within the entrepreneurship literature. This leads to our third hypothesis H_3.

H_3: *Entrepreneurial marketing engagement is positively related to firm performance.*

According to Moore (1991) entrepreneurial marketing is essential beneficial for marketing high technology products. As this economic recession hits both low and high tech firms the researched will investigate if entrepreneurial marketing will also have a positive effect on firm performance for low technology firms giving these firms an option to 'weather the storm'. This leads to our last hypothesis H_4, investigating the moderating effect of the economic sector (high or low technology firm) the firm's is operating in. We expect that high technology firm's which operate in an uncertain environments (high uncertainty) will benefit more from entrepreneurial marketing then low technology firms, which operate in established environments (low uncertainty).

H_4: *Firms operating in a high tech sector have more benefit from entrepreneurial marketing then low technology firms.*

3. Methodology

When conducting any type of research it is important that the researcher declares how to look at the problem at hand and research in general, since this will influence the choice of method. In this section the researcher will present the view of the problem and the environment in which the research is conducted, as well as the approach consider most appropriate to apply in order to reach the research goals.

3.1.   Research type and research strategy

The research, taking into account the practicality of executing the research, is a theory testing (deductive) research, which was executed via an online survey sent to small & medium enterprises operating in low, medium and high technology industries located in The Netherlands.

The study used a selection of firms from two online databases, Company.info (Company.info, 2012) and Orbis (Bureau van Dijk, 2012), which the researcher, has access to via the Erasmus library. Both databases combined contain data from public records and chamber of commerce data of more than 2 million registered enterprises in the Netherlands. The companies present in these databases are classified using the SBI code, which is The Dutch Standaard Bedrijfsindeling (SBI), which in turn is based on the activity classification of the European Union NACE code and on the classification of the United Nations ISIC. The first four digits of the SBI are the four digits of NACE and the first two digits of the SBI and NACE are the same as the first two digits of ISIC.

The hypothesis were created by using literature research as a basis and proposed a probabilistic relation between the concepts. These were tested using an online survey and the relationship between the concepts was tested using statistical analysis.

3.2.   Research methods

3.2.1 Literature study

The research started with a literature review that focused on the development of the hypotheses. These hypothesises were based on the relationship between entrepreneurial orientation, market orientation and entrepreneurial marketing. Including the effect on the firm's performance. Furthermore, we examine which measures can be applied best.

3.2.2 Survey

Then, to identify the entrepreneurial orientation, market orientation and firm performance, an online questionnaire was sent to the Dutch SME's, which have been selected from the database. The questionnaire used statements and questions using Likert scales.

In previous research, the effect entrepreneurial orientation and market orientation on the firm's performance have already been investigated. These constructs can be used as control variables in the study. Also, a number of control variables are included for entrepreneurial orientation.

3.2.2.1   Market Orientation

In the late 1980's three separate groups of researchers developed measurements of a firm's Market Orientation resulting in three different Market Orientation scales, which along with other measures, were used to support conclusions involving the firm's performance. In 1998 the researchers (Deshpandé & Farley, 1998) synthesized a 10-item "MORTN" summary scale based on a more concise definition of Market Orientation. All items deal with the "Customer Focus" notions of Market Orientation. This scale has a 7 point agreement Likert scale ranging from strongly disagree to strongly agree. As this scale is a synthesis of previous researches and the concise nature of the scale the MORTN measure of MO be used in this research.
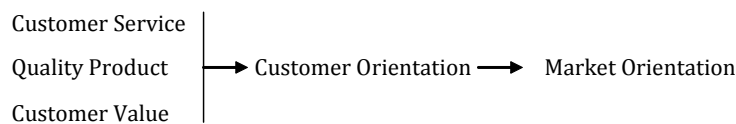
Customer Service
Quality Product ⟶ Customer Orientation ⟶ Market Orientation
Customer Value

Figure 3 Market Orientation (Adapted from (Deng & Dart, 1994))

3.2.2.2   Entrepreneurial Orientation

To measure entrepreneurial orientation a scale from Knight (1997) will be used which includes the sub items innovativeness and pro-activeness. The measure contains 8 items and is measured by a 7 point Likert scale. In the original questionnaire each of the 8 items has two statements on the right hand and left hand side of the answer sheet with in middle a scale to indicate which of the two sides of the statements is more applicable to the respondent.

To give the questionnaire a more uniform appearance each item of the EO measure has been converted into a single question item and the scale has been adjusted to make use of a 7 point agreement Likert scale ranging from strongly disagree to strongly agree.
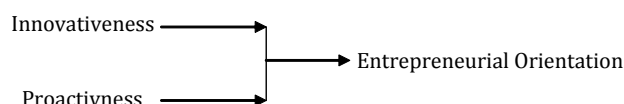
Innovativeness ⟶
                    ⟶ Entrepreneurial Orientation
Proactivness ⟶

Figure 4 Entrepreneurial Orientation (Adapted from Knight 1997)

3.2.2.3   Entrepreneurial Marketing

To measure entrepreneurial marketing a new scale will be developed to measure the influence of market orientation and entrepreneurial orientation on entrepreneurial

marketing. The scale will consist of marketing budget, marketing resources and marketing methods to measure the entrepreneurial marketing engagement of a firm.

The marketing budget and marketing resources items are derived from the work of Morris et al. (2002) where it is defined that the entrepreneurial marketing construct is associated with marketing activities in firms which are small and resource constrained. Further is it defined as a construct for conceptualizing marketing in an era of diminishing resources.
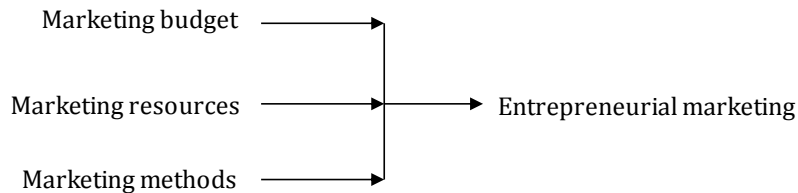
Figure 5 Entrepreneurial Marketing measure

The marketing methods which will be used are derived from the entrepreneurial marketing perspective by Maritz (2009) which in turn are derived from (Morris, Schindehutte, & LaForge, 2002). These however contained a large set of 22 marketing methods which for this research has been narrowed down to 13 methods using the top 10 of Google Scholar, Google News and Google Search searches using the English marketing term. The result of this can be seen in the table below. For each method the researcher will ask how often a firm engages in these activities ranging from never to very frequently.

Table 3 Marketing methods popularity

English	Definition	Google Scholar	Google News	Google Search
Digital marketing	The use of digital sources such as internet, digital displays or mobile phones in the promotion of brands and products to consumers.	5750	1380	20500000
Social marketing	Marketing that emphasizes that consumer or target audiences should be the focus of the planning, strategizing, and implementation of a marketing program.	49000	443	11700000
Viral marketing	Marketing designed to disseminate information about a product or service very rapidly by making it likely to be passed from person to person especially via electronic means.	10600	237	12300000
Innovative Marketing	A principle of enlightened marketing that requires that a company seek real product and marketing improvements	6020	157	7370000
Network marketing	A marketing strategy in which the sales force is compensated not only for sales they personally generate, but also for the sales of others they recruit, creating a downline of distributors and a hierarchy of multiple levels of compensation.	6210	150	6480000
Relationship marketing	An approach to marketing which seeks to strengthen a business's relationships with its customers.	47700	72	25900000

English	Definition	Google Scholar	Google News	Google Search
Guerrilla marketing	Innovative, unconventional, and low-cost marketing techniques aimed at obtaining maximum exposure for a product	1840	55	2350000
Social network marketing	The process of gaining website traffic or attention through social media sites.	293	19	16500000
Buzz marketing	The promotion of a company or its products or services through initiatives conceived and designed to get people and the media talking positively about that company, product or service.	1940	17	1560000
Personalized marketing	An extreme form of product differentiation. Whereas product differentiation tries to differentiate a product from competing ones, personalization tries to make a unique product offering for each customer.	1550	23	1050000
Permission marketing	The communications process, between the marketer and the consumer, that the consumer gave "permission" to the marketer to participate	3000	18	162000

3.2.2.4 Technology and Customer uncertainty

To measure the uncertainty and this study used technology uncertainty and customer uncertainty measures created by (Jaworski & Kohli, 1993) were used. These two measures focus on the pace of technological change and customer changes in the industry.

3.2.2.5 Performance

To measure the performance of each firm this research will investigate financial and non-financial parameters where the respondents will be asked to compare their performance to competitors on a 7 point Likert scale ranging from much worse to much better.

3.2.2.6 Control variables

To minimize spuriousness of the results two control variables are included:

3.2.2.6.1 Company size

Because the research focuses on SME companies, which have a total FTE count of maximum 250 employees, this variable is added to the questionnaire to establish if companies, which responded to the questionnaire, can be classified as SME's.

3.2.2.6.2 Company age

As entrepreneurial marketing is according to the literature the domain of small, young and high technology companies. This variable is added to the questionnaire as a control variable but also to establish of there is a link between the company age and entrepreneurial marketing.

3.2.3 Population and sample

A sample should provide information approximately resembling the characteristics of the entire population. There is a risk of selecting a sample that does not reflect the characteristics of the entire population, but instead that of a different set of population. There are methods to minimize the possibility of selecting a dissimilar set of population. These strategies were used to prevent reporting information that cannot be generalized across an entire population (Bryman & Bell, 2003).

Under most circumstances, it is not possible to gather data from an entire population. This is when data from a fraction of the population is obtained. This method is called sampling, which is one of the major factors determining the success of surveyed research. After defining the population of the research a relevant sample method follows. The sampling method depends on factors such as, research context; financial mean's to conduct the survey and geographical restrictions (Bryman & Bell, 2003).

Larger samples better represent a population than a smaller one. The size of the sample depends on the degree of homogeneity of the population. A more uniform population the sample size may be smaller, for a heterogeneous population a larger sample size size is needed. When the population is heterogeneous the diversity of the population must be represented within the sample (Bryman & Bell, 2003).

3.2.3.1 Sampling method

For this research a probability sampling method is used (Muijs, 2011). According to Bryman & Bell (2003) this method is most reliable in selecting a sample that represents an entire population. There are various probability sampling methods and for this research the simple random sampling method has been used. Bryman & Bell (2003) advice to use this method when subgroups of a population are insignificant to the outcomes of the survey. As it ensures that each individual has the exact same probability of being included in a sample.

A disadvantage of using simple random sampling is when the population size is large (Bryman & Bell, 2003). But because this research used an online survey the costs of surveying a large population can be neglected.

3.2.3.2 Population characteristics

The list of the entire population was obtained using the Company.info (Company.info, 2012) and Orbis (Bureau van Dijk, 2012) databases, which contain records of 2.5 million and 1.2 million Dutch companies respectively. Access to both databases was obtained via the library of the Erasmus University. Both databases contain detailed information of register companies in The Netherlands including company name, address, NACE code and contact information such as contact person and email address.

From these databases a selection was made for companies. The selection of SME's is done by filtering the selection to companies with 10 to 200 employees (Company.info does not have

a cut-off filter at 250 employees), company annual turnover lower than 43 million Euros and by using the 2 digits NACE code according to Eurostat high, medium and low technology industry sector aggregation. From this filter a total of 12000 companies fitted the selection and for which the contact information in the form of an email address was available. From this sample a total of 6000 companies were randomly selected because the online survey tool would allow a limited amount of emails to be sent and this selection is the same size as this limitation.

This population will be surveyed in the first half of 2012, which according to the CPB, the Dutch economy will be in a recession. And as the response rate for an online survey where a reminder was sent after the first request is around 20% (Deutskens, 2004). This has created the expectation that a total of 1200 respondents will respond to the survey.

3.2.4 Procedure

To gather the data for this reaches the population sample was contacted via email. Respondents received an email containing a brief description of the topic of the research and the contact information of the researcher. This email contained a hyperlink to a web-based questionnaire and the respondents were given the assurance that all the data they will give are used for the purpose of the research and the identities of the respondents will be confidential.

The first email was sent out on Tuesday 27 March 2012 in the afternoon, The day and time were chosen so the email will reach the respondent after lunch time on which the respondent would likely already have answered all the email accumulated in the weekend on Monday and the email from Tuesday in the morning, potentially increasing the response rate of the survey.

From the emails sent 353 emails did not reach their destination due to invalid email addresses. This could be due to the databases used containing out-dated data, as these databases are updated periodically with data from the chamber of commerce and other public sources.

An additional reminder to the non-responding parties on Tuesday 3 April 2012 and at the 10th of April the survey was closed.

3.2.5 Analysis

The collected data is analysed with IBM© SPSS© Statistics Version 20 using the bivariate correlation and linear regression analysis to test the supposed causal relationships and moderating effects of the variables.

3.3. Limitation

Limitations of the study are that a sample is only sent to SME's with email access and/or which have their email in the used databases. Companies not included in the used databases will be missed. The power of quantitative analysis will be minor. In contrast, significant relationships with such small samples automatically guarantee great effect. The limited sample size is desirable to keep the study feasible.

Another limitation, because the survey is conducted online, is that it will not reach companies, which cannot be contacted by email.

4. Results

In this chapter, the data gathered from the small to medium businesses in the Netherlands is presented in relation to the research objectives, discussing the result of the semi-structured questionnaire responded by 244 participants.

In its original format, quantitative data can often convey little meaning. For that reason the data needs to be processed and analysed to convert it into "information" (Saunders & Thornhill, 2007).

The objective is to determine the relationship between the performance of the firm and the use of entrepreneurial marketing techniques. The study also investigates the size and age of the company. It is assumed that the company size and age have an influence on the usage of entrepreneurial marketing techniques and therefore also on their performance. These are of particular significant to the achievement of the goals and objectives of the study to be able to answer the research questions.

The following section outlines how the collected quantitative information will be interpret, and further why certain quantitative decisions were taken to represent qualitative ideas supporting the hypotheses.

Furthermore the data collected on the entrepreneurial orientation and market orientation of the Dutch SME's will be analysed and interpreted using existing theories and models in regards to the frame of references presented.

To test the hypotheses the analysis will consist of two parts, The first being a bivariate analysis to examine the relation between the various concepts and the second part a multivariate analysis of the moderating factor technology and customer uncertainty in respect to the effect of entrepreneurial marketing on the performance of the firm.

4.1.   Response rate

In the two weeks that the survey was online and available for respondents to reply a total of 680 respondents participated with the survey. Out of these 425 responses needed to be removed due to being incomplete, According to (Saunders & Thornhill, 2007) there are four main reasons for missing data:

1. Data that was not required by the respondent.
2. A non-response because the respondent refused to answer a question.
3. The respondent did not know the answer of did not have an opinion.
4. The respondent missed the question by mistake.

As the respondents were asked to answer all the questions the survey did not enforce this. It is possible that the respondent refused to answer, did not have an opinion or simply missed the question. In each case it was decided not to ask the respondent to answer the question again as this would be impractical and might influence the nature of each answer. Therefore

all responses with missing answers were removed from the analysis when necessary as suggested by Saunders & Thornhill (2007).

After the incomplete responses were removed, 255 valid responses were left for further analysis, which represents a response rate of 4.51%. This is lower than the 20% suggested by (Deutskens, 2004) which could be for various reason, but as the research data had sufficient internal reliability for all measures the research for the low response rates will not be analysed in this research.

4.2.   Demographic Data of Respondents

Out of the 255 valid responses 10 companies who were larger than 250 employees were taken out of the sample, as this is the maximum size for SME's. And one respondent with a company age of null was filtered out as well as the respondent would not be able to answer which marketing techniques the company currently uses.

Table 4 Statistics for FP01 and FP02

	N	Minimum	Maximum	Mean	Standard Deviation
FP01 (Company size)	244	1.00	220.00	31.38	39.60
FP02 (Company age)	244	0.50	176.00	29.34	29.37

The sample of 244 companies represent as shown in the previous table represent companies with a medium size of 31.38 employees and a mean age of 29.34 with a standard deviation of 39.60 and 29.37 respectively.

4.3.   Descriptive statistics

All data, including (non)-financial performance, are measures in a 7 points Likert scale to enable comparison with each other. Because the purpose of this study is about entrepreneurial marketing and the firm's performance the different items will have to be transformed into summated measurement scales. The transformation will be done by summarizing each item into the concept they represent.

For each concept a factor analysis will be carried out and the Cronbach's alpha of the remaining items calculated. The results are presented in the table below.

Table 5 Concept component analysis

Concept	Item	Component	Cronbach's Alpha	Mean	Standard Deviation
Customer Uncertainty	CU01.3	0.87	0.75	2.57	0.95
	CU01.4	0.84			
	CU01.2	0.77			
	CU01.1	0.54			

Concept	Item	Component	Cronbach's Alpha	Mean	Standard Deviation
Technology Uncertainty	TU01.3	0.84	0.79	2.86	1.01
	TU01.2	0.80			
	TU01.4	0.76			
	TU01.1	0.73			
Entrepreneurial Orientation	EO01.2	0.86	0.88	3.28	0.98
	EO01.4	0.84			
	EO01.1	0.83			
	EO01.3	0.82			
	EO01.5	0.82			
	EO01.6	0.57			
	EO01.7	0.54			
Market Orientation	MO01.2	0.88	0.79	3.99	0.66
	MO01.1	0.83			
	MO01.4	0.82			
	MO01.3	0.65			
	MO01.7	0.63			
	MO01.8	0.43			
Entrepreneurial Marketing	EM03.8	0.77	0.81	2.06	0.83
	EM03.2	0.77			
	EM03.3	0.74			
	EM03.1	0.70			
	EM03.9	0.69			
	EM03.7	0.62			
	EM03.11	0.48			
	EM03.5	0.42			
Firm's Performance	FP01.2	0.89	0.93	3.69	0.91
	FP01.5	0.88			
	FP01.1	0.87			
	FP01.4	0.87			
	FP01.3	0.83			
	FP02.3	0.74			
	FP02.2	0.72			
	FP02.1	0.68			

After the transformation of the items to concepts some items have been left out of the transformation because they would have caused multiple components to be present in the concept. An overview of these left out items can be found in the appendix.

The summated scale will consist of all items multiplied by their factor divided by the number of items to create a calculated value for each concept. For example the customer uncertainty summation formula will be as follows:

$$CU = \frac{\big((CU01.3{\times}0.873) + (CU01.4{\times}0.837) + (CU01.2{\times}0.772) + (CU01.1{\times}0.537)\big)}{4}$$

Another observation of the data above is that the standard deviation of all concepts is approximately 1.00 except for Market Orientation and Entrepreneurial Marketing. For MO most of the respondents are market oriented and as a result have above average mean score. As for the EM, none of the respondents use all marketing methods and because of that the standard deviation score is below average.

4.3.1 Reliability

The instruments creators and subsequent researchers have verified the internal validity and reliability of the concepts used for this study. However, it is important to understand the internal reliability of these instruments as used by the respondent within this study. The measure of the one-dimensional latent construct will be determined by the extend to which the instruments yield reliable findings by correlating the item within each factor to each other to measure the consistency of the responses (Saunders & Thornhill, 2007).

As shown in the calculations form the table above all concepts have a Cronbach's alpha in the range of 0.75 and 0.93, which is above 0.70 the basic standard for internal reliability (Bryman & Bell, 2003). Therefore, the overall instrument can be considered internally reliable, indicating that it measures each concept, as it should.

4.4. Bivariate analysis

Bivariate analysis is concerned with the analysis of two variables at a time in order to uncover whether the two variables are related. Exploring relationships between variables means searching for evidence that the variation in one variable coincides with variation in another variable (Bryman & Bell, 2003).

As per the first three hypothesises H_1 H_2 and H_3, it is assumed that there would be a possible relation between the firm's EO and EM, MO and EM, and EM and FP. The correlation coefficient (r) method will be used to analyse these relationships, by drawing upon the mean of the EO, MO, EM and FP factor scores. In addition to that the correlation coefficient can be taken a step further by squaring it. The correlation coefficient squared, also known as the coefficient of determination R2, is a measure of the amount of variability in one variable that is shared by the other.

And the statistical significance of the relationship will be determined using an F-statistic test. Using this F-statistic test a probability value (p) is obtained to tell whether the correlation is statistically significant. Further explanation of the correlation coefficient and probability value can be found in Appendix B.

The concept used to test the hypothesis of this research have been analysed using the bivariate analysis and the results of this can be found in the table below. The variables

(concepts) are represented in the table with the correlation coefficient (*r*) of the relation between each variable where as the probability value (*p*) of each relation is represented as asterisk after the correlation coefficient.

Table 6 Correlations

Variables	1	2	3	4	5	6	7
1. TU Technology Uncertainty	1						
2. NFP Firms Nonfinancial Performance	-0.137*	1					
3. FFP Firms Financial Performance	-0.082	0.667**	1				
4. CU Customer Uncertainty	0.376**	-0.163*	-0.190**	1			
5. EO Entrepreneurial Orientation	0.158*	0.232**	0.205**	0.124	1		
6. MO Market Orientation	-0.004	0.260**	0.203**	-0.055	0.340**	1	
7. EM Entrepreneurial Marketing	0.130*	0.193**	0.075	-0.020	0.371**	0.258**	1
Mean	2.850	3.883	4.095	2.570	3.277	3.990	2.057
Median	2.926	3.727	4.131	2.579	3.262	4.093	2.052
Std. Deviation	1.009	0.910	1.149	0.952	0.984	0.658	0.828
Range	4.695	5.140	5.389	4.529	4.129	3.999	3.236

*$p<0.05$; ** $p<0.01$ (two-tailed test)

The relations related to the hypotheses will be analysed in detail and described in the following sections.

4.4.1 Entrepreneurial marketing

The first two hypotheses are to test the relationship between EO/EM and MO/EM, According to the theory there is a positive effect on both hypotheses.

From the Pearson's correlation calculation table above we can see that there is a strong positive relationship between EO and EM and a weak positive relationship between MO and EM. This indicated that, for example, and increase in the EO factor would have a strong effect on the EM factor. The coefficient of determination shows that EO and MO are responsible for 13.7% and 6.6% respectively for the variance of the EM.

And both relations have P-values that are well below the 0.05 threshold indicating that there is a very small possibility that this data occurred by chance alone, and therefore both relations are significant.

Based on these results for the relationship between the EO, MO and EM factors we can accept hypotheses 1 and 2, which states that the firm's entrepreneurial orientation and market orientation have a positive correlated with the entrepreneurial marketing of a firm.

4.4.2 Firm performance

The third hypothesis is related to the relationship between EM and the performance of the firm. The literature tells that there is a positive relation between EM and the performance of a firm. To identify if there was any relation between the dependent variable FP, and the variable EM, a correlations analysis was used for which the results can be found in appendix C.1. A weak relation was identified with an R-value of 0.117 to confirm this and the coefficient of determination shows that EM is responsible for 1.3% of the variance of the firm's performance. This relation was however not significant.

Considering the insignificant and weak relationship found between EM and FM within the correlation analysis, a more detailed approach to determining the strength of relationships was performed. This detailed approach will examine each component of the performance in relation to EM; the performance concept contains financial and nonfinancial performance as sub components. The results of this correlation analysis can be found in Table 6.

When the components of the firm's performance are broken down into its two sub components, for the nonfinancial performance sub component a weak relation was identified with an R value of 0.193 and a P value of 0.003 to confirm this. The coefficient of determination shows that EM is responsible for 3.7% of the variance of the firm's performance. This relation is significant at the 0.01 level.

Based on these results for the relationship between the EM and FP we can partially accept hypotheses 3, which states that the firm's entrepreneurial marketing activities are positive correlated with the firm's (nonfinancial) performance.

4.4.3 Literature comparison

In addition to testing of the hypothesis, the questionnaire itself can be compared to previous researches as an additional test in order to verify the validity of the survey. In the following sections two known relations as proposed by the literature will be compared with the results of the survey.

4.4.3.1 EO, MO and Firm performance

The MO scale of Desphande & Farley (1998) and the EO scale by Knight (1997) both confirm positive correlation of the performance of a firm with MO and EO respectively.

According to the results from appendix C.1 we can confirm that MO and EO are positively correlated to the firm's performance (combine measure FP). Both have a P value lower than 0.01 and are therefor significant. Both relations are however a weak having an R-value below 0.3. Furthermore, the coefficient of determination shows that EO and MO are responsible for 5.2% and 5.5% respectively for the variance of the firm's performance. From these results the EO and MO and FP scales of questionnaire result in the same results are previous research.

4.4.3.2 Firm Age, TU and EM

The initial research from Morris et al. (2002) stated that EM is a marketing concept most used in young and high technology firms. This is not a relation that is being proposed but a statement on the firm's that use EM. To test this statement against the results form the survey and additional translation will need to be made, as this is not a correlation but a fact checking. Table 7 shows the bivariate correlation between the variables that Morris et al. (2002) proposed and the results, which will be interpreted, in the following paragraph.

Table 7 EM Correlation FP02 & TU

	EM Entrepreneurial Marketing	
FP02 Company Age	Pearson Correlation	-0.161[*]
	Coefficient of determination (r^2)	-0.026
	Sig. (2-tailed)	0.012
	Sum of Squares and Cross-products	-965.808
	Covariance	-3.925
TU Technology Uncertainty	Pearson Correlation	0.130[*]
	Coefficient of determination (r^2)	0.017
	Sig. (2-tailed)	0.042
	Sum of Squares and Cross-products	26.419
	Covariance	0.109

[*]$p<0.05$; [**] $p<0.01$ (two-tailed test)

Firm's operating in a environment with high technology uncertainty, which according to Jaworski & Kohli (1993) is an environment that high technology industries operate in, are more likely to practice EM marketing method. According to the results TU significantly correlates positively with EM, thus confirming this statement. Additionally the firm's age negatively correlates with EM, which mean's that younger companies use more EM marketing methods, again confirming what Morris et al. (2002) stated in their research.

4.5. Multiple Regression

The relationship between EM and NFP has been confirmed with the correlation analysis in the previous paragraph. To test the last hypothesis, which assumes the relation of a moderating factor, a moderator model is used to examine the moderating effect of CU and TU on how the independent variable EM influences the dependent variable NFP. That is, the moderated model will be used to identify the factors that change the relationship between EM and NFP.

As the method of analysis, a moderated regression analysis (Cohen, Cohen, West, & Aiken, 2003) was used. First, a linear model (model 1) was calculated for the dependent variable EM, then two models were calculated for the dependent variable NFP with a linear model (model 2) in the and a mediating model (model 3) where the moderating variables CU and

TU were introduced. The results of this hierarchical regression analysis can be found in Table 8.

Moderation occurs when the relationship between two variables depends on a third variable, in this case the third variables are CU and TU. These third variables are referred to as the moderator variables or simply the moderators. The effect of a moderating variable is characterized statistically as an interaction. The goal is to test if and how this quantitative (level of customer or technology uncertainty) variable affects the direction and/or strength of the relation between dependent (NFP) and independent (EM) variables.

To examine interactions in the context of moderated regression a mean standardized product of the independent variable and the third variable needs to be created. These products are EM × CU and EM × TU.

Table 8 Results of Regression Analysis: Standardized Path Coefficients (t-Values)

	Dependent Variable	EM Entrepreneurial Marketing	NFP Nonfinancial Performance	
Independent Variables		Model 1	Model 2	Model 3
Control Variables	FP01 Firm FTE	0.050	0.022	0.017
		(0.836)	(0.354)	(0.274)
	FP02 Firm Age	-0.145*	-0.007	-0.009
		(-2.431)	(-0.113)	(-0.148)
Main Effects	EO Entrepreneurial Orientation	0.304**	0.172*	0.172*
		(4.826)	(2.499)	(2.492)
	MO Market Orientation	0.158*	0.171**	0.171*
		(2.504)	(2.595)	(2.575)
	EM Entrepreneurial Marketing		0.097	0.098
			(1.453)	(1.457)
	CU Customer Uncertainty		-0.123	-0.126
			(-1.860)	(-1.890)
	TU Technology Uncertainty		-0.131*	-0.137*
			(-1.987)	(-2.048)
Mediating Effect	EM × CU			-0.062
				(-0.951)
	EM × TU			0.008
				(0.118)

*$p < .05$, **$p < .01$, N = 244.

For the dependent variable EM the Table 8 (Model 1) shows the firms age (β = -0.145, $p < .05$), EO (β = 0.304, $p < .01$) and MO (β = 0.158, $p < .05$) have a positive (inverse for firm age) and significant effect on EM. These results further strengthen the support for H_1 and H_2.

The results for dependent variable NFP shows in the linear model 2 that the main effects EO ($\beta = 0.172$, $p<0.01$), MO ($\beta = 0.171$, $p<0.01$) and TU ($\beta = -0.131$, $p<0.01$) have a positive and significant impact upon performance (inverse for TU). The other main effect variables were not significantly related to the nonfinancial performance, the relation between EO and MO and NFP further strengthen the literature study described in section 4.4.3.1. In the moderation model 3 where the moderating factors were tested were no significant relationship detected, which means that the concepts CU and TU have no moderating effect on how the independent variable EM relates to NFP, thereby rejecting H$_4$.

5. Discussion

The purpose of the present study concerns the exploration of relationships between market, entrepreneurial orientation, the company customer and technology uncertainty and performance. In this chapter the general results corresponding to the research questions are presented with the intention of, answering and fulfilling, the purpose.

The discussion will be based on the study of Morris et al. (2002) as well as on theories exposed in the theoretical part. For Morris et al. (2002), the relationships between EO and EM, MO and EM, are subject to organizational climate factors. This is why from a study to another the results can differ. In addition to the study of Morris et al. (2002) the effect EM has on the performance of a firm and the moderating effect of CU and TU on this relation will be discussed.

5.1. Summary

As previously presented, three hypotheses of the four hypotheses stated in the theoretical part have been validated by the empirical findings. To summarize, Firm's that engage with Entrepreneurial Marketing outperform companies that don't with a relationship to nonfinancial performance of 3.7%

The general conclusion of this research is that firm's should engage in EM marketing activities no matter the customer and technology uncertainty of the environment they operate in. Firm's that to use EM methods will outperform their competitors on nonfinancial terms.

The entrepreneurial and market orientation are also of influence to the EM marketing activities of a firm. Firms, which are more entrepreneurial, and market oriented tend to have less difficulty in applying EM methods. Leading to suggest that if a firm would like to explore EM then it would be also wise to consider to investigate/invest into the EO and MO of the firm.

The customer and technology uncertainty are however of no impact on the benefits of EM which means that firm's in technology and customer certain or uncertain environments can reap the benefits of EM.

This sums up the research after having examined and analysed the various relationships, to illustrate and overview of the analysis and the significant correlations/relations found are presented in the figure below.
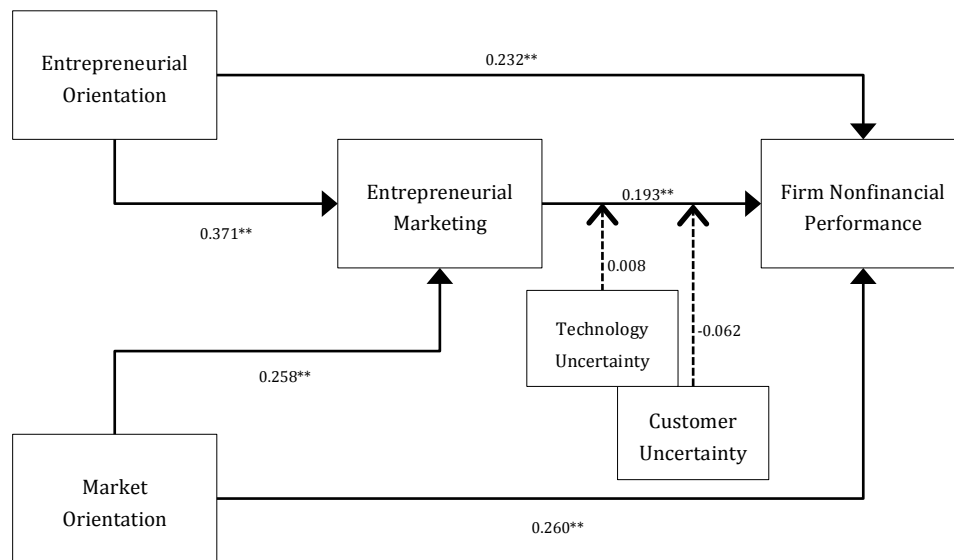
Figure 3 Empirical correlations/relations analysis

5.2. Theoretical implications

5.2.1 Relationship between EO and EM

According to the literature Entrepreneurial firms are busier with product-market innovation, undertake more risk, and are first to come up with 'proactive' innovations. These are the characteristics of EO are the factors used to measure EM.

The findings are in line with the literature, firm's with a higher engagement more frequently use EM marketing techniques and outperform firm's which are less engages with EO.

5.2.2 Relationship between MO and EM

The customer intensity and value creation dimensions of EM are consistent with the market orientation of the firm. Firm's who demonstrate stronger market orientation tend to approach the marketing function differently.

The study found that the firm's with a high level of MO do have approach the market differently where they tend to be more engaged with EM marketing activities.

5.2.3 Relationship between EM and NFP

In addition to the EO and MO linkage to EM the benefits of EM to a firm have also been researched. As past studies have suggested that entrepreneurial marketing has a positively effect on the firm's performance.

The performance of a firm consists of financial and nonfinancial performance and initially the items of both have been summarized into one concept FP. The relation between EM and FP was found to be positive however not significant. To analyse this further the concept FP has been split into its original components, financial performance (FFP) and nonfinancial performance (NFP).

When the components have been split the research found that only for the nonfinancial performance of a firm a significant positive relation was discovered. This means that Firm's engaging in EM marketing activities will perform better than their competitors at least on nonfinancial terms.

As the results on financial performance are not significant one reason could be the economic crisis that is currently raging Europe and also the Netherlands. Because an economic recession has an effect on the financial performance of a company the results of this research are affected due to the moment in time this research was conducted and therefor the relationship found was not significant.

5.2.4 Measurement of EM

As suggested by previous research of Morris et al (2002), a new measurement has been created to measure the EM marketing engagement of a firm. This instrument consisted of the various marketing techniques of EM, requesting the respondent to fill in the frequency each technique was used. In addition there was one question asking if there were any marketing activities missing and none respondents gave an answer to this question. Which leads us to assume that the list of marketing techniques used for this research was complete.

The results of the measure for EM were that the instrument had sufficient internal reliability and that the first three hypotheses related to EM were confirmed with a significant correlation.

5.3. Managerial Implications

As this research has highlighted the role of EM as a way to improve the performance of the business, the results of this research call for actions and as a result of this study the following proposals are addressed to management of Dutch SME's:

5.3.1 Benefits of EM for non-high tech firm's

According to Moore (1991) entrepreneurial marketing is essential beneficial for marketing high-tech products. In the last hypothesis this beneficial relation was tested by analysing the CU and TU score of a firm as the moderating factor between EM and NFP. The results of this analysis was that a very weak moderating negative effect was identified which was not significant

Which leads to conclude that no matter which industry the firm's operated, let it be high or low tech, will have no effect on the benefits of EM. In other words, no matter what kind of industry the firm operates, if the firm engages in EM marketing activities the nonfinancial performance will be better than it's competitors.

5.3.2 EO and MO readiness

Firms that engage highly in EM marketing activities have a high score on EO and MO. Because of this strong relationship between EM/MO and EM SME's should evaluate its levels of entrepreneurial and market orientations before taking any action towards EM.

These assessments could be done through an internal audit or, to be more objective, with the help of an external auditing company. If the results of such assessment highlight a lack in one or both factors the SME needs to identify which factors of EO (innovativeness and pro-activeness) and MO (customer focus) should be developed.

5.3.3 Start young

As data shows, young companies tend to be more successful at applying EM marketing techniques because these companies do not have a marketing process/procedures in place and tend to start from scratch. And also because of the limited budgets the choice for EM will be a more obvious one. However EM is not limited to companies with limited budgets, SME's of all ages should consider EM but firm's which are more established should make the changes to their existing marketing method more gradually.

5.4. Future research

During our research certain features, which would be interesting for future research were discovered. These suggestions could add value to the present understanding of the subject.

5.4.1 Quantitative methods

This study is based on a quantitative method, with a collection of data that are limited to the context of SMEs in The Netherlands. It would be interesting to replicate the study on the case of different European countries to enable groups' comparisons, and thus possible generalization.

Furthermore, this study focuses on only some aspects of the financial and nonfinancial performance of a firm. For these measures the assessment made by the respondent could be biased, as it is submitted to subjectivity. It would be thus beneficial to replicate the study by adopting different performance measurement tools, which are not subjective but can be gathered from factual data, such as ROI, ROE, ROA or market shares.

5.4.2 Management

This study highlighted the role played by EO and MO in relation to EM as a way to achieve higher performance. It could be of interest to investigate the sources of EO and MO within SME in order to define the specific management style that would foster the development of a company's EO/MO and therefore EM.

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Appendix A.   Questionnaire

The questionnaire was translated to Dutch as all respondents were companies located in The Netherlands, This sections is a representation of the questionnaire in both Dutch and English.

A.1   Company Information

Uit hoeveel werknemers bestaat het bedrijf waar u werkzaam bent?

Hoeveel jaar bestaat het bedrijf waar u werkzaam bent?

Hoe groot is uw marketing budget als percentage van de totale jaarlijkse begroting?

Hoeveel percent van de medewerkers besteedt zijn tijd aan marketing?

A.2   Customer Uncertainty

Using a 7-point scale ranging from "Totally disagree" to "Totally agree".

In het kader van Klantonzekerheid: Geef aan in welke mate elk van de uitspraken de omgeving van uw bedrijf beschrijft in de afgelopen 3 jaar.	*Customer uncertainty: Please indicate the extent to which each of the statements describes your firm's environment in the past 3 years.*
1. Wensen van de klant en product voorkeuren veranderen vrij snel. 2. Klant product eisen en referenties waren zeer onzeker. 3. Het was moeilijk om veranderingen in de behoeften van de klant en voorkeuren te voorspellen. 4. Veranderingen in de behoefte van de klant waren vrij onvoorspelbaar.	*1. Customer needs and product preferences changed quite rapidly.* *2. Customer product demands and references were highly uncertain.* *3. It was difficult to predict changes in customer needs and preferences.* *4. Changes in customers needs were quite unpredictable.*

A.3   Technology Uncertainty

Using a 7-point scale ranging from "Totally disagree" to "Totally agree".

In het kader van Technologie onzekerheid: Geef aan in welke mate elk van de uitspraken omgeving van uw bedrijf beschrijft in de afgelopen 3 jaar.	*Technology uncertainty: Please indicate the extent to which each of the statements describes your firm's environment in the past 3 years.*

1. De technologie in onze sector is heel snel veranderd. 2. Het was erg moeilijk om technologische ontwikkelingen in onze branche te voorspellen. 3. Technologische omgeving was hoogst onzeker. 4. Technologische ontwikkelingen waren zeer onvoorspelbaar. 5. Op technologisch vlak, onze industrie was een zeer complexe omgeving.	1. *The technology in our industry is changed quite rapidly.* 2. *It was very difficult to forecast technology developments in our industry* 3. *Technology environment was highly uncertain.* 4. *Technological developments were highly unpredictable.* 5. *Technologically, our industry was a very complex environment.*

A.4   Entrepreneurial Orientation

Using a 7-point scale ranging from "Totally disagree" to "Totally agree".

Geef aan in welke mate u het met ieder van volgende uitspraken met betrekking tot de ondernemingsgeest van uw organisatie eens bent.	*Please agree or disagree to each of the following statements in regards to the Entrepreneurial Orientation of your organization.*
1. Er bestaat een zeer sterke nadruk op de ontwikkeling van nieuwe en innovatieve producten. 2. In het algemeen hebben we de voorkeur aan een sterke nadruk op onderzoek en ontwikkeling, technologisch leiderschap en innovaties. 3. In de afgelopen 3 jaar hebben wij vele nieuwe lijnen van producten of diensten ontwikkeld. 4. Normaal gesproken beginnen wij met activiteiten waarop de concurrenten dan reageren. 5. In vergelijking met onze concurrenten, zijn wij vaak het eerste bedrijf om nieuwe producten, administratieve technieken, nieuwe technologieën, enz. te introduceren 6. In vergelijking met onze concurrenten, nemen wij meestal een zeer concurrerende, competitieve houding aan.	1. *There exists a very strong emphasis on the development of new and innovative products.* 2. *In general we favour a strong emphasis on R&D, technological leadership and innovations.* 3. *In general we favour a strong emphasis on R&D, technological leadership and innovations.* 4. *Typically we initiate actions to which competitors then respond.* 5. *In dealing with our competitors, we are often the first business to introduce new products, administrative techniques, operating technologies, etc.* 6. *In dealing with our competitors, we typically adopt a very competitive, "undo-thecompetitors" posture.* 7. *In general, we have a strong proclivity for high-risk projects (with chances of very high returns)* 8. *In general, we believe that owing to the nature of the environment, bold, wide-ranging acts are necessary to*

7. Over het algemeen hebben wij een sterke neiging tot risicovolle projecten (met kans op zeer hoge rendementen) 8. Over het algemeen zijn wij van mening dat door de aard van de omgeving, onconventionele, veelzijdige acties of handelingen nodig zijn om de doelstellingen van het bedrijf te halen. 9. Wanneer wij geconfronteerd worden met situaties waarbij besluitvorming moet plaatshebben in samenhang met onzekerheid, nemen wij een krachtige en agressieve houding in met het oog op om maximaal de kans te benutten.	*achieve the firm's objectives.* 9. *When confronted with decision-making situations involving uncertainty, we typically adopt a bold, aggressive posture in order to maximize the probability of exploiting potential opportunities.*

A.5 Market Orientation

Using a 7-point scale ranging from "Never" to "Always".

Geef aan in welke mate u het eens of oneens bent met de volgende verklaringen over Marktgerichtheid.	*Please indicate the extent to which you agree or disagree with the following statements:*
1. Onze zakelijke doelstellingen worden voornamelijk gedreven door klanttevredenheid. 2. Wij waken voortdurend over onze mate van betrokkenheid en oriëntatie tot het dienen van de behoeften van de klant. 3. Wij communiceren vrijuit informatie over onze succesvolle en niet succesvolle ervaringen van klanten met alle bedrijf onderdelen. 4. Onze strategie voor een concurrerend voordeel is gebaseerd op ons begrip van de behoefte van de klant. 5. Wij meten de tevredenheid van de klant systematisch en frequent. 6. Wij meten routinematig of	1. *Our business objectives are driven primarily by customer satisfaction.* 2. *We constantly monitor our level of commitment and orientation to serving customer needs.* 3. *We freely communicate information about our successful and unsuccessful customer experiences across all business functions.* 4. *Our strategy for competitive advantage is based on our understanding of customers needs.* 5. *We measure customer satisfaction systematically and frequently.* 6. *We have routine or regular measures of customer service.* 7. *We are more customer focused than our competitors.* 8. *I believe this business exists primarily to serve customers.*

<table>
<tr><td>

periodiek de prestatie van de klantenservice.
7. We zijn meer klantgericht dan onze concurrenten.
8. Ik geloof dat dit bedrijf in de eerste plaats bestaat om de klanten te dienen.
9. Wij houden minstens een keer per jaar een peiling onder onze eindgebruikers om de kwaliteit van onze producten en diensten te beoordelen.
10. De gegevens over de tevredenheid van de klant worden verspreid over alle bedrijf onderdelen op een regelmatige basis.

</td><td>

9. *We poll end users at least once a year to assess the quality of our products and services.*
10. *Data on customer satisfaction are disseminated at all levels in this business unit on a regular basis.*

</td></tr>
</table>

A.6   Entrepreneurial Marketing

Using a 7-point scale ranging from "Never" to "Always".

Welke van de volgende Entrepreneurial Marketing strategieën gebruikt uw bedrijf? En hoe vaak?	*Which of the following Entrepreneurial Marketing strategies does your firm use? and how often?*
1. Digital marketing - Het gebruik van digitale middelen zoals internet, digitale schermen of mobiele telefoons in de promotie van merken en producten aan de consument. 2. Social marketing - Deze vorm van marketing benadrukt dat de consument of doelgroep de nadruk van de planning, strategievorming en implementatie van het marketing programma zijn. 3. Viral marketing - Marketing ontworpen om de informatie over een product of dienst zeer snel te verspreiden waardoor het waarschijnlijk zal worden doorgegeven van persoon tot persoon, in het bijzonder via het internet.	1. *Digital marketing - The use of digital sources such as internet, digital displays or mobile phones in the promotion of brands and products to consumers.* 2. *Social marketing - Marketing that emphasizes that consumer or target audiences should be the focus of the planning, strategizing, and implementation of a marketing program.* 3. *Viral marketing - Marketing designed to disseminate information about a product or service very rapidly by making it likely to be passed from person to person especially via electronic means.* 4. *Innovative Marketing - A principle of enlightened marketing that requires that a company seek real*

4. Innovative marketing - Een methode van marketing die vereist dat een bedrijf zoekt naar echte product en marketing verbetering.

5. Network (Multi-level) marketing - Een marketing strategie, waarbij de verkopers wordt gecompenseerd niet alleen voor de verkoop die ze persoonlijk te genereren, maar ook voor de verkoop van andere verkopers die ze werven.

6. Relationship marketing - Een aanpak van de marketing die tot doel heeft het versterken van de relaties tussen bedrijf en haar klanten.

7. Guerrilla marketing - Innovatief, onconventioneel, en goedkope marketingtechnieken die gericht zijn op het verkrijgen van maximale exposure voor een product

8. Social network marketing - De procedure van het verkrijgen van websiteverkeer of aandacht via social media sites.

9. Buzz marketing - Het bevorderen van een bedrijf of zijn producten of diensten door middel van initiatieven bedacht en ontworpen om mensen en de media positief te laten communiceren over dat bedrijf, product of dienst.

10. Personalized (One-to-one) marketing - Een extreme vorm van productdifferentiatie waarbij men probeert om een product te onderscheiden van de concurent, met personalisatie probeert men een uniek productaanbod te maken per klant.

11. Permission marketing - Het communicatieproces, tussen de marketeer en de consument waarbij de consument

product and marketing improvements

5. *Network marketing - A marketing strategy in which the sales force is compensated not only for sales they personally generate, but also for the sales of others they recruit, creating a downline of distributors and a hierarchy of multiple levels of compensation.*

6. *Relationship marketing - An approach to marketing which seeks to strengthen a business's relationships with its customers.*

7. *Guerrilla marketing - Innovative, unconventional, and low-cost marketing techniques aimed at obtaining maximum exposure for a product*

8. *Social network marketing - The process of gaining website traffic or attention through social media sites.*

9. *Buzz marketing - The promotion of a company or its products or services through initiatives conceived and designed to get people and the media talking positively about that company, product or service.*

10. *Personalized marketing - An extreme form of product differentiation. Whereas product differentiation tries to differentiate a product from competing ones, personalization tries to make a unique product offering for each customer.*

11. *Permission marketing - The communications process, between the marketer and the consumer, that the consumer gave "permission" to the marketer to participate.*

"toestemming" geeft om deel te nemen.	

A.7   Firm's performance

Using a 7-point scale ranging from "much worse" to "much better".

A.7.1   Financial performance

Geef aan voor elk van de volgende financiële prestaties of in de afgelopen 3 jaar deze beter, slechter of gelijk is gebleven aan die van andere bedrijven in uw branche.	*For each of the following financial performance measures, Please indicate if you think that your outcome during the past 3 years has been better, worse or equal to that of other companies in your industry.*
1. De nettowinst (De verkoop minus exploitatiekosten). 2. De groei in waarde van het bedrijf. 3. Kasstroom. 4. Ontwikkeling van de omzet. 5. De mogelijkheid om groei te financieren uit winst.	*1. Net profit (i.e., sales minus operational costs)* *2. Growth of the company's value* *3. Cash flow* *4. Development of sales* *5. Ability to fund business growth from profits*

A.7.2   Nonfinancial performance

Geef aan voor elk van de volgende niet-financiële prestaties of in de afgelopen 3 jaar deze beter, slechter of gelijk is gebleven aan die van andere bedrijven in uw branche.	*For each of the following non-financial performance measures, Please indicate if you think that your outcome during the past 3 years has been better, worse or equal to that of other companies in your industry.*
1. Het bereiken van onze start-up doelen. 2. Het verstrekken van een zekere baan aan werknemers. 3. Tevredenheid over de prestaties van het bedrijf.	*1. Achieved our start-up goals* *2. Providing a secure job to employees* *3. Satisfaction with company's performance*

Appendix B.   Statistics definitions

B.1   Correlation coefficient R

A correlation coefficient R quantifies both the direction and strength of a linear relationship between two quantifiable variables (Field, 2009). As per Figure 6 the coefficient can be any value between -1 and +1. A value of +1 indicates a perfect positive correlation, which is when one variable increases; the other variable will increase by the same amount. In contradiction, a value of -1 represents a perfect negative correlation, by which when one variable increases, the other decreases by the same amount. And a value of 0 shows that the variables are perfectly independent of each other (Saunders & Thornhill, 2007). In addition to that the correlation coefficient can be taken a step further by squaring it. The correlation coefficient squared, also known as the coefficient of determination R^2, is a measure of the amount of variability in one variable that is shared by the other (Field, 2009).

> -1.0	> -0.7	> -0.3	0.0	< 0.3	< 0.7	< 1.0
Perfect	Strong Negative	Weak	Perfect Independence	Weak	Strong Positive	Perfect

Figure 6 Values of the correlation coefficient (Muijs 2011; compiled by author)

The scales used to measure the concepts have a middle category which each answer having clearly defined qualifiers and an equal distance. When a Likert scale is symmetric and equidistant it will behave more like an interval-level measurement. So while a Likert scale is ordinal, if it is well presented, then it may be possible the Likert Scale can approximate an interval-level measurement (Muijs, 2011). As the scales in this research are interval variables we can use the Pearson's R correlation coefficient (Field, 2009) to measure the relationship between the variables. The Pearson's R is calculated by determining the covariance between two variables, divided by the multiple of their standard deviations.

For example, the equation for the correlation coefficient between the concepts EO and EM would be:

$$R = {COV}/{(N - 1)(\sigma\ of\ EM)(\sigma\ of\ EO)}$$

Where COV is the covariance between EM and EO, σ is a standard deviation and N is the number of observations. As we are calculating the Pearson's R for a sample population, we have indicated that one degree of freedom is lost (N – 1).

B.2   Probability value P

An F test is used to define the statistical significance of the relationship. Fields (2009) advises that significance testing determines the probability of a relationship between

variables occurring by chance alone. Errors could occur while reaching conclusions regarding probability. These are referred to as type 1 and type 2 errors. A type 1 error might result in a conclusion indicating that two variables are related when in fact they are not; or a statement suggesting that a sample statistic is larger than the value that would be expected by chance. This results in rejecting the null hypothesis and concluding that a significant relationship exists. A type 2 error entails that the two variables are not related when in fact they are. This leads to accepting the null hypothesis, concluding that a significant relationship does not exist. Academics in general consider a type 1 error to be more severe and they prefer to minimize the risk by making conservative estimates of significance (Field, 2009).

Using this F-statistic test a probability value (P) is obtained to tell whether the correlation is statistically significant. In the social sciences the threshold for significance is 0.05 or lower (Muijs, 2011), which indicates that there is a 5%, or lower, chance that the data occurred only by chance. This also indicated the threshold for making a type 1 error (a P-value lower than 0.05) or a type 2 error (a P-value higher than 0.05).

Appendix C.   SPSS Output

C.1   Correlations

```
CORRELATIONS
/VARIABLES=FP01 FP02 CU TU EO MO EM FP NFP FFP
/PRINT=TWOTAIL NOSIG
/MISSING=PAIRWISE.
```

		FP01 Firm FTE	FP02 Firm Age	CU Customer Uncertainty	TU Technology Uncertainty	EO Entrepreneurial Orientation	MO Market Orientation	EM Entrepreneurial Marketing	FP Firms Performance	NFP Firms Nonfinancial Performance	FFP Firms Financial Performance
FP01 Firm FTE	Pearson Correlation	1									
	Sig. (2-tailed)										
	N	244									
FP02 Firm Age	Pearson Correlation	.168**	1								
	Sig. (2-tailed)	.009									
	N	244	244								
CU Customer Uncertainty	Pearson Correlation	-.044	-.079	1							
	Sig. (2-tailed)	.493	.218								
	N	244	244	244							
TU Technology Uncertainty	Pearson Correlation	.055	-.040	.376**	1						
	Sig. (2-tailed)	.388	.533	.000							
	N	244	244	244	244						
EO Entrepreneurial Orientation	Pearson Correlation	.062	-.071	.124	.158*	1					
	Sig. (2-tailed)	.335	.271	.053	.013						
	N	244	244	244	244	244					

		1	2	3	4	5	6	7	8	9	10
MO Market Orientation	Pearson Correlation	-.106	-.021	-.055	-.004	.340**	1				
	Sig. (2-tailed)	.098	.748	.389	.955	.000					
	N	244	244	244	244	244	244				
EM Entrepreneurial Marketing	Pearson Correlation	.028	-.161*	-.020	.130*	.371**	.258**	1			
	Sig. (2-tailed)	.663	.012	.760	.042	.000	.000				
	N	244	244	244	244	244	244	244			
FP Firms Performance	Pearson Correlation	.036	-.029	-.196**	-.105	.229**	.236**	.117	1		
	Sig. (2-tailed)	.574	.657	.002	.101	.000	.000	.067			
	N	244	244	244	244	244	244	244	244		
NFP Firms Nonfinancial Performance	Pearson Correlation	.014	-.020	-.163*	-.137*	.232**	.260**	.193**	.823**	1	
	Sig. (2-tailed)	.825	.759	.011	.033	.000	.000	.003	.000		
	N	244	244	244	244	244	244	244	244	244	
FFP Firms Financial Performance	Pearson Correlation	.041	-.030	-.190**	-.082	.205**	.203**	.075	.972**	.667**	1
	Sig. (2-tailed)	.523	.642	.003	.203	.001	.001	.242	.000	.000	
	N	244	244	244	244	244	244	244	244	244	244

**. Correlation is significant at the 0.01 level (2-tailed).

*. Correlation is significant at the 0.05 level (2-tailed).

C.2 Regression Model 1

```
REGRESSION
  /MISSING LISTWISE
  /STATISTICS COEFF OUTS R ANOVA
  /CRITERIA=PIN(.05) POUT(.10)
  /NOORIGIN
  /DEPENDENT EM
  /METHOD=ENTER EO MO FP01 FP02.
```

C.2.1   Model Summary

Model	R	R Square	Adjusted R Square	Std. Error of the Estimate
1	.422ᵃ	.178	.164	.7565366

a. Predictors: (Constant), FP02 Firm Age, MO Market Orientation, FP01 Firm FTE, EO Entrepreneurial Orientation

C.2.2   Coefficients

Dependent Variable: EM Entrepreneurial Marketing

Model		Unstandardized Coefficients		Standardized Coefficients	t	Sig.
		B	Std. Error	Beta		
1	(Constant)	.516	.316		1.636	.103
	EO Entrepreneurial Orientation	.255	.053	.304	4.826	.000
	MO Market Orientation	.198	.079	.158	2.504	.013
	FP01 Firm FTE	.001	.001	.050	.836	.404
	FP02 Firm Age	-.004	.002	-.145	-2.431	.016

C.3   Regression Model 2,3

```
REGRESSION
/DESCRIPTIVES MEAN STDDEV CORR SIG N
/MISSING LISTWISE
/STATISTICS COEFF OUTS R ANOVA COLLIN TOL CHANGE ZPP
/CRITERIA=PIN(.05) POUT(.10)
/NOORIGIN
/DEPENDENT NFP
/METHOD=ENTER EO MO EM FP01 FP02 CU TU
```

```
/METHOD=ENTER FP01 FP02 EO MO EM ZEMZCU ZEMZTU CU TU.
```

C.3.1   Model Summary

Model	R	R Square	Adjusted R Square	Std. Error of the Estimate	Change Statistics				
					R Square Change	F Change	df1	df2	Sig. F Change
1	.377[a]	.142	.116	.8557495	.142	5.569	7	236	.000
2	.381[b]	.145	.112	.8576526	.003	.477	2	234	.621

a. Predictors: (Constant), TU Technology Uncertainty, MO Market Orientation, FP02 Firm Age, FP01 Firm FTE, EM Entrepreneurial Marketing, CU Customer Uncertainty, EO Entrepreneurial Orientation

b. Predictors: (Constant), TU Technology Uncertainty, MO Market Orientation, FP02 Firm Age, FP01 Firm FTE, EM Entrepreneurial Marketing, CU Customer Uncertainty, EO Entrepreneurial Orientation, ZEMZCU, ZEMZTU

C.3.2   Coefficients

Dependent Variable: NFP Firms Nonfinancial Performance

Model	Unstandardized Coefficients		Standardized Coefficients	t	Sig.	Correlations			Collinearity Statistics	
	B	Std. Error	Beta			Zero-order	Partial	Part	Tolerance	VIF
(Constant)	2.829	.406		6.964	.000					
1 EO Entrepreneurial Orientation	.159	.064	.172	2.499	.013	.232	.161	.151	.765	1.306
MO Market Orientation	.237	.091	.171	2.595	.010	.260	.167	.156	.836	1.196

	EM Entrepreneurial Marketing	.107	.074	.097	1.453	.148	.193	.094	.088	.808	1.238
	FP01 Firm FTE	.001	.001	.022	.354	.723	.014	.023	.021	.939	1.065
	FP02 Firm Age	.000	.002	-.007	-.113	.910	-.020	-.007	-.007	.936	1.068
	CU Customer Uncertainty	-.118	.063	-.123	-1.860	.064	-.163	-.120	-.112	.831	1.204
	TU Technology Uncertainty	-.119	.060	-.131	-1.987	.048	-.137	-.128	-.120	.831	1.204
2	(Constant)	2.855	.409		6.974	.000					
	EO Entrepreneurial Orientation	.159	.064	.172	2.492	.013	.232	.161	.151	.765	1.307
	MO Market Orientation	.236	.092	.171	2.575	.011	.260	.166	.156	.830	1.205
	EM Entrepreneurial Marketing	.108	.074	.098	1.457	.146	.193	.095	.088	.807	1.240
	FP01 Firm FTE	.000	.001	.017	.274	.784	.014	.018	.017	.927	1.079
	FP02 Firm Age	.000	.002	-.009	-.148	.882	-.020	-.010	-.009	.935	1.069
	CU Customer Uncertainty	-.121	.064	-.126	-1.890	.060	-.163	-.123	-.114	.818	1.222
	TU Technology Uncertainty	-.124	.060	-.137	-2.048	.042	-.137	-.133	-.124	.816	1.226
	ZEMZCU	-.054	.057	-.062	-.951	.343	-.032	-.062	-.057	.862	1.160
	ZEMZTU	.007	.057	.008	.118	.906	.029	.008	.007	.851	1.175