

ATINER CONFERENCE PAPER SERIES No: SME2013-0738

Athens Institute for Education and Research

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ATINER's Conference Paper Series

SME2013-0738

**Detremination of the Dimensionality of
Factors in Time Management: The
Perspective of Entrepreneurs in Nigeria**

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URL Conference Papers Series: www.atiner.gr/papers.htm

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ISSN 2241-2891

11/11/2013

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This paper should be cited as follows:

Mamman, A. (2013) "Detremination of the Dimensionality of Factors in Time Management: The Perspective of Entrepreneurs in Nigeria" Athens: ATINER'S Conference Paper Series, No: SME2013-0738.

Detremination of the Dimensionality of Factors in Time Management: The Perspective of Entrepreneurs in Nigeria

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Abstract

The aims to paper determine the dimensionality of time management from the perspective of entrepreneurs in Nigeria. The study presents a confirmatory factor analysis (CFA) of the factor structure of time management based on sample of 247 entrepreneurs in order to assess its dimensions. The exploratory factor analysis (EFA) earlier conducted on 22 initial items suggested four factors with 20 items which were subjected to CFA. The finding of the study confirms that entrepreneurs' time management is a four dimensional construct (of 20 items) comprising of (a) Target Setting and Time Monitoring, (b) Minimization of Time Wastage, (c) Planning of Time utilization and (d) Prioritization of Activities.

Keywords: Determination, Dimensionality, Time Management and Entrepreneurs

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Introduction

Throughout human history, in every time and place, entrepreneurs are agents of change and so contribute greatly to socio-economic development. Entrepreneurs were behind the 1775,s industrial revolution in Europe (Nwachukwu, 2012). Kendrick (1998) also argued that entrepreneurs are responsible for the present day information revolution- gradual shift from production economy to information economy.

In the business set up, Ogundele (2007) noted that the entrepreneur is the most important single variable. An entrepreneur is considered as an economic pioneer who initiate change or innovation by managing uncertainty and risk (Tjan, 2010). Through their innovation and creativity entrepreneurs bring about new products, new methods of production, new markets and sources of materials (Adidu and Dedekuma, 2007).

In performing their societal and business roles, entrepreneurs combine and coordinate resources. The resources that are often talked about comprise men, machine, methods, materials and money. For instance an entrepreneur often ask questions like “How much do I need to start up my business?”, “Where and when will I get the money?”, “If I have the money how do I spend it effectively and efficiently?”, and many more similar questions. It is rare to hear entrepreneurs, especially in Nigeria, asking and providing answers to questions like, “How much available time do I have? How much time do I need for the business? How do I create time to run my business effectively and efficiently? Lack of asking these kinds of questions and providing answers to them by Nigerian entrepreneurs, indicates that there is no or less attention to time. The irony of it is that time is the most precious and the most limited of all the resources used in every production mechanism (Bejide, 2011). Entrepreneurs can make money out of time, but not time out of money. The limitation of time to 24 hours per day, 7 days a week and 12 months a year, is natural and therefore beyond manipulations of mankind. More so, time cannot be stored, rented, sold or bought (Ononaeke, 2012). The limitation of money on the other hand is man-made and can be manipulated by man himself. Money can be saved and borrowed.

Despite the importance of time in business, Africans generally perceive time as “flexible” and therefore simply take it for granted (Ahmadu, 2007). This perception is manifested in the common sayings in Africa and indeed Nigeria, like “No hurry in Life”, “African Time”, “and God will provide food for the mouth He created” and the rest of them. This is also the perception of time by Nigerian and indeed African entrepreneurs.

In view of the Africans and Nigerians perception of time and its importance in conducting business, it is pertinent to examine how entrepreneurs, who are also part of the society, manage the time available to them. Ogundele (2007) rightly observed that effective time management is critical for every effective entrepreneur, as lack of it negatively affects the business and his or her personal and social life.

The objective of the study is to determine the dimensionality of time management among entrepreneurs in Nigeria. Based on the result of the dimensionality correlation, the study will come up with a model of time management among entrepreneurs in Nigeria.

Definition of Entrepreneur

The word “entrepreneur” originates from the French word “entreprendre”, which means “to undertake” (www.QuickMBA.com). The concept of entrepreneur in a business context has been viewed differently in disciplines such as economics, psychology and sociology. A comprehensive understanding of the concept will require a brief overview of the definitions from the point of view of the three disciplines. There are several definitions of an entrepreneur by economists. Say (1852) defines an entrepreneur as a person who judges, combines factors of production, and survives crises. Knight (1921) considers entrepreneur as a sort of economic pioneer who initiates change or innovation by managing uncertainty and risk. Schumpeter (1961) views entrepreneur as an individual who carry out new combinations by innovating and continually reorganizing the economic system by means of creating new products, new methods of production, new markets, new sources of materials, or new organizations. According to Casson’s (1982) entrepreneur is someone that is able to make decisions about the coordination of resources and exploit opportunities even with incomplete information and knowledge.

Psychologists viewed entrepreneur from the point of view of personal traits. For instance, Pickel (1964) argued that successful entrepreneurs possess certain personality characteristics such as: drive (responsibility, vigour, initiative, persistence); technical knowledge, thinking ability; human relations skills (sociability, consideration, cheerfulness, tactfulness), and communication skills. Hornady and Bunker (1970) maintained that personal traits of entrepreneur include confidence, perseverance, determination, energy, resourcefulness, ability to take risks, versatility, creativity, ability to influence others, independence, and perceptiveness. Stanworth and Currant (1981) linked entrepreneurship with mental attitudes. They describe entrepreneur as individuals who possess strong mental attitude with intense desire for independence and feel extremely unhappy working according to somebody’s rules or under someone else’s control.

Sociologists believe that entrepreneurs are simply products of social relationships, marginalization, loneliness, class struggle and class distinction. For example, Hagen (1960) believes that entrepreneurs are people who prove themselves worthy citizens in the eyes of social elite by excelling in the business world. Hagen maintained that entrepreneur is a rebel of sorts, risk taker, a problem solver and someone who is marginalized by the mainstream society. Hagen’s argument explains why there are more entrepreneurs among the Igbo tribe than other tribes in Nigeria. The Igbos, after their failed attempt to break away from Nigeria, were isolated from the mainstream society. Marx

and Engel (1968) define entrepreneur as the underdog caught in a dynamic struggle for economic survival against those with money and power. Another Sociologist, Storey (1982) viewed entrepreneurs as creators of competition and employment, which serve as alternative to the bureaucratic employer-employee relationship.

None of the views of scholars in economics, psychologists and sociologists on the concept of entrepreneur, may be entirely right or entirely wrong. One can say that the word “entrepreneur” encompasses all the views expressed by the distinguished scholars in the three disciplines and even more.

Time Management and Techniques

An entrepreneur who cannot control and manage his or her time cannot effectively manage his or her business (Kerzner and Harold, 2004). This and similar other observations make the issue of time management very important to entrepreneurs. Time itself can't be managed as it is constant and always goes forward, never backward (<http://www.fluent-time-management.com>).

Therefore, what can be managed is use of time, not time itself. This is the focus of most definitions of time management. For example McFarland, Leonard and Morris in Bejide (2011) define time management as the effective and efficient use of time. Ahmadu (2007) viewed time management as a set of principles, practices, skills, tools and systems that work together to help one to get more value out of the available time with the aim of improving one's quality of life. The required skills and tools, which also constitute the process of time management, comprise goal setting, planning, prioritizing, and decision-making, delegating and scheduling (Ward, 2012). The entrepreneur reaps numerous benefits from effectively managing his or her time, some of which include increased productivity, more job satisfaction, improved interpersonal relations, reduced time anxiety/tension and better health (Hisrich and Robert, 2002). These will impact positively on entrepreneurs' development. Mismanagement of time on the other hand results in procrastination, chronic vacillation (moving around between unpleasant alternative), fatigue, stress, rushing and more seriously insufficient time for every activity (Usman et al, 2006). These will impact negatively on entrepreneurs' development.

To reap the benefits of time management and avoid the repercussions of its mismanagement by all and sundry, especially entrepreneurs, a number of time management techniques or tips have been developed. Mathews (2012) provided ten techniques of time management. They include recording of weekly activities, assigning specific time for important activities, spending of at least 50 percent of the time available on thoughts, activities and conversations that produce most results, scheduling time for interruptions and taking of the first 30 minutes of every day to plan for the day. The remaining techniques are: taking of at least five minutes to decide on the results of tasks to be accomplished, putting up “do not disturb” when deeply engaged in an

important work, giving attention only to issues crucial to the business, blocking of sources of distractions like television, social media etc and remembering that 20 percent of ones thoughts, conversations and activities produce 80 percent of one's results.

Celestine (2012) identified 20 techniques for better time management. They include creation of daily plan, pegging a time limit to each task, use of calendar, use of an organizer, knowledge of deadlines, learning to say "No", targeting to be early, fixing of time for important activities, having a clock visibly placed and reminder alarms 15 minutes before any event. The remaining tips include focusing on one key task at a time, blocking or ignoring distractions like phone ringing, text messages etc, tracking of time spent on each major activity, not to worry about unimportant details, prioritization of activities, delegation, batching of similar tasks together, elimination of time wasters like E-mail checking, Facebook etc, cutting off to meet up with the time fixed for an activity and finally leaving a buffer time in-between activities, say 5-10 minutes.

Methodology

Based on the purpose of the study; vis-à-vis to hypothesize the underlying dimension of time management by entrepreneurs in Nigeria, and to further validate the fitness and adequacy of the measurement model, Exploratory Factor Analysis (EFA) and Confirmatory factor Analysis (CFA) were carried out. The sample of the study comprises of 247 respondents randomly selected from all the categories of entrepreneurs across the 36 states of Nigeria. The selected sample size is considered adequate for both EFA and CFA (Hair, Anderson, Tathan & Black, 2010). In order to collect data for the study, a questionnaire comprising of 22 items of time management (labeled as ETM1 to ETM22), was developed. All questions/statements except those on respondents' background were formulated based on a seven-point Likert type response scale; 1= Never, 2=Rarely, 3= slightly, 4= Occasionally, 5=Usually, 6=Often, 7=Always. Both validity and reliability of the self- developed questionnaire were assessed. First, the instrument was content validated by expert before being administered. Secondly, the items were found to be fit with reliability index of Cronbach alpha 0.92, which is considered adequate for a study (Golafshani, 2003; Kirk & Miller, 1986).

Dimensionality of Factors in Entrepreneurs' Time Management Exploratory Factor analysis of Entrepreneurs' Time Management

The main purpose of the factor analysis was to identify the underlying dimensions of entrepreneur's time management as measured by the 22 items. In order to achieve that, the 22 items of entrepreneur's time management (ETM1-ETM22) were subjected to Principal Component Analysis (PCA) using

SPSS version 17 based on the 247 responses. However, prior to that, the critical assumptions underlying the factor analyses were examined in order to assess the suitability of the data for PCA. These two measures are the Bartlett's Test of Sphericity and the Kaiser-Meyer-Olkin (KMO) measure of sampling adequacy (MSA).

The Bartlett's Test of Sphericity was found to be statistically significant [$\chi^2(231) = 3372.182, p = .000$], thereby supporting the factorability of the correlation matrix. Similarly, Kaiser-Meyer-Olkin (KMO) was .909, exceeding the recommended minimum value of .60 (Kaiser 1970, 1974) which indicates the sufficiency of the sample (247) to support PCA.

Conducting PCA resulted in the extraction of five factors with eigen values more than 1, explaining 69.95 % of the total variance based on the data collected from the sample of 247 respondents. The values of the factor loadings in the five extracted components ranged between .844 (ETM13) and .508 (ETM19). Given the sample size, a value of .50 is an acceptable value of variable loading according to Hair et al. (2010). From the interpretable factors that were rotated, only four factors supported the targeted hypotheses which accounted for 65.34% of total variance. According to the scholars, more than 50% of total variance explained is adequate for exploratory study. The last factor consists of only two items (ETM11 and ETM12) as such it was excluded from further analysis.

Of the four retained components or factors, the first contained 8 items (ETM1, ETM2, ETM3, ETM4, ETM5, ETM6, ETM7 and ETM8) and was labeled Target Setting and Time Monitoring. The second component contained 5 items (ETM13, ETM14, ETM20, ETM21 and ETM22) and was named Minimization of Time Wastage. The third component is made up of 4 items (ETM15, ETM16, ETM17 and ETM18) and was labeled Planning of Time utilization. The fourth component contained 3 items (ETM9, ETM10 and ETM19) and was named Prioritization of Activities.

Table 1. *Factor Loadings and Internal Consistency of Four Rotated Factors for Entrepreneur Time Management*

IS	ISx	Item	Target Setting and Time Monitoring	Minimization of Time Wastage	Planning of Time utilization	Prioritization of Activities
1.	ETM3	I use calendar in scheduling of my activities	.834			
2.	ETM7	I target to be early in the conduct of my activities especially the important ones	.803			
3.	ETM5	I fix deadlines for all my activities	.783			

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4.	ETM4	I use an organizer in scheduling of my activities	.774			
5.	ETM8	I fix time for all activities I consider important	.767			
6.	ETM6	I usually say "NO" to some requests for the use of my time	.747			
7.	ETM2	I peg time limit for each task	.733			
8.	ETM1	I plan my activities on a daily basis	.703			
9.	ETM13	I keep track of time spent on each major activity		.844		
10.	ETM14	I do not worry about unimportant details on issues		.783		
11.	ETM21	I take at least five minutes to decide on the results of tasks to be accomplished in a day		.689		
12.	ETM20	I leave a buffer time in-between activities say 5-10 minutes		.669		
13.	ETM22	I usually put up "do not disturb" sign when deeply engaged in an important work		.631		
14.	ETM16	I delegate activities to my subordinate staff			.792	
15.	ETM18	I always eliminate time wasters like E-mail checking, avoidable browsing, facebook etc			.750	
16.	ETM15	I always prioritize my			.731	

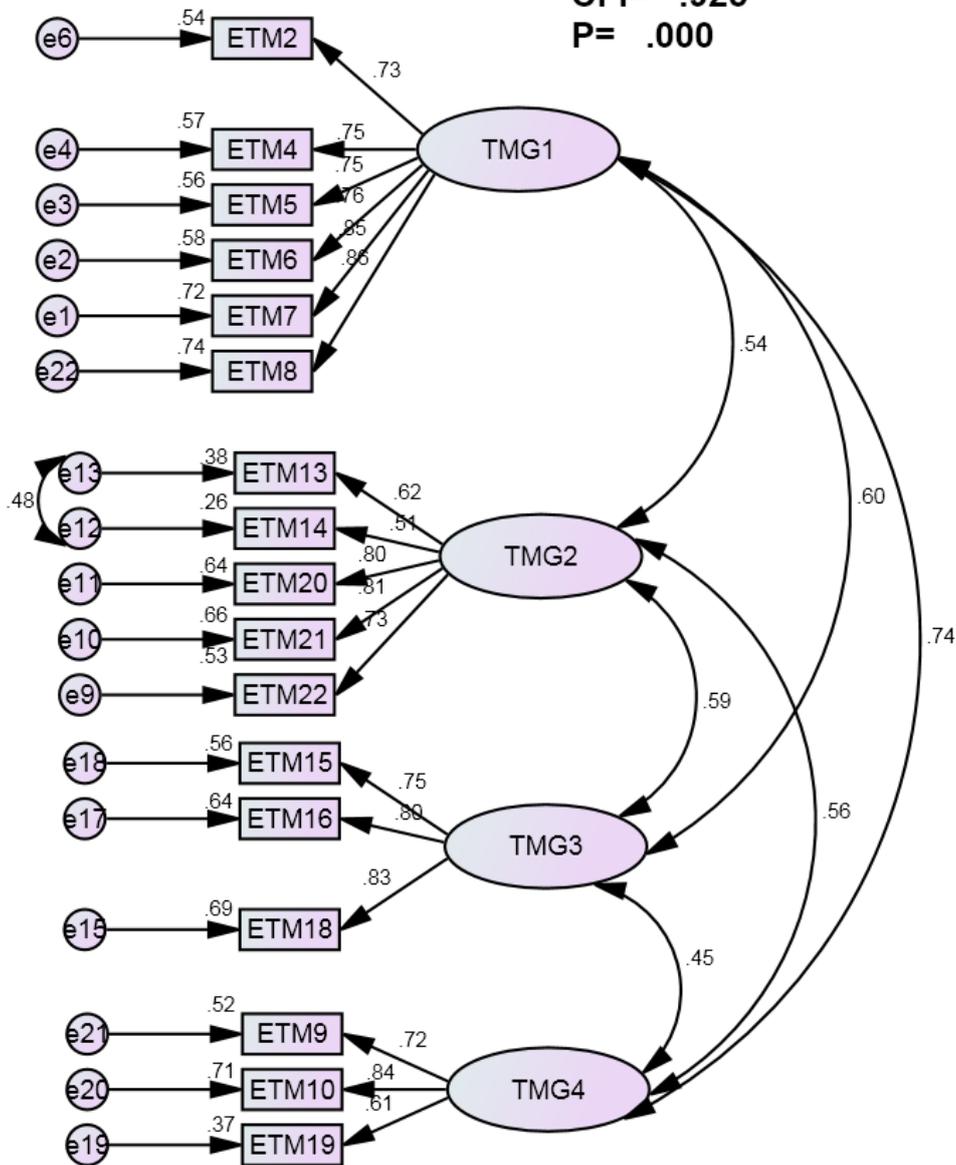
		activities				
17.	RTM17	I batch similar tasks together for ease of discharging them			.512	
18	ETM9	I have a clock visibly placed in my office/house				.767
19	ETM10	I have reminder alarms 15 minutes before commencement of activities I consider important				.678
20	ETM19	I usually cut down some activities to meet up with the time fixed for them				.508
Eigen Value			9.219	2.334	1.907	1.314
% Variance explained			41.906	10.610	6.852	5.974
Reliability (Cronbach α)			.931	.834	.789	.757
KMO MSA				.909		

Confirmatory Factor analysis of Entrepreneurs' Time Management

Based on the result of the EFA Conducted earlier, confirmatory factor analysis was performed on the data collected from 247 entrepreneurs through AMOS (Version 18.0), using Maximum Likelihood (ML) estimation. Goodness-of-fit indices and reasonableness were employed to access the results of the model. Based guidelines from scholars (Byrne, 2010; Hair et al., 2010), the Normed chi-square (i.e. CMIN/DF), the Comparative Fit Index (CFI) and the Root Mean Square Error of Approximation (RMSEA) were adopted in estimating the model in addition to the χ^2 statistic and the associated degree of freedom.

In order to confirm the dimensionality of the entrepreneurs time management, the measurement model was estimated twice (initial and revised). The Fit indices from the initial estimation of the structural model were not satisfactory based on the various cut off points provided by Hair et al. (2010) despite the model having good loadings. For instance, the CFI was found to be 0.869, which is below the threshold value of 0.92. Also, the Normed chi-square was 3.407, which is above the acceptable ≤ 3 cut-off. Similarly, the RMSEA value for the hypothesized model was .099, thus, falls outside the acceptable range of .05 and .08.

Chi-square 283.519
DF= 112
Normed Chi-square= 2.531
RMSEA= .079
CFI= .925
P= .000

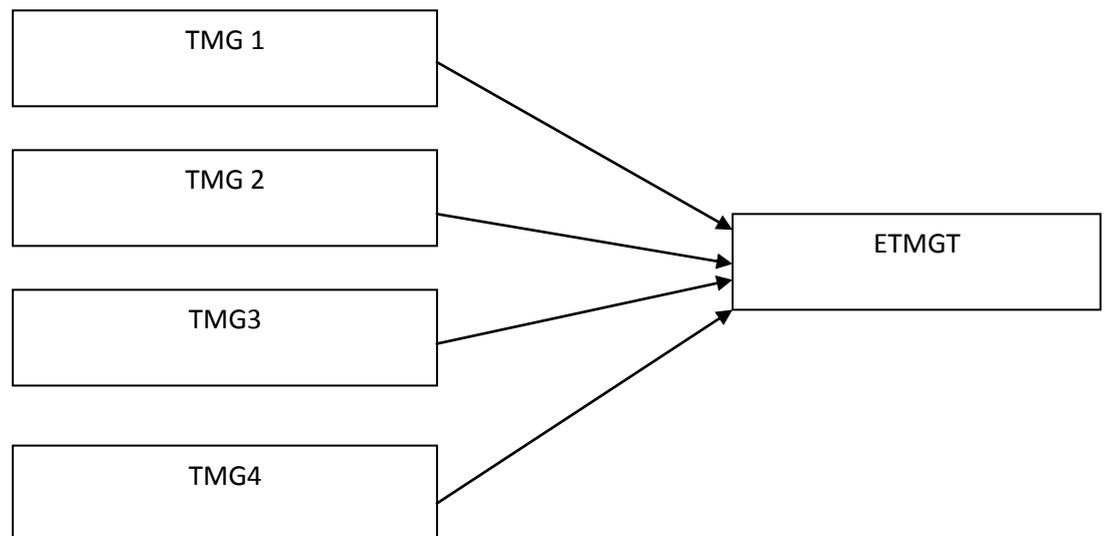


Owing to the less encouraging data-model fit, the study sought a better-fit model. First, a careful examination of indicators with lower loadings was carried out, this result in deletion of ETM17 with factor loading .45 on the Planning of Time variable. Similarly, ETM3 on Target Setting variable was

deleted for having factor loading of .90, which is considered problematic. In addition to this measure, a careful examination of the modification indices suggested room for improvement. Most specifically, a covariance relationship was suggested between ETM13 and ETM14 loaded to Minimization of Time Wastage variable. Based on the fact that this relationship enjoyed theoretical support, the suggestion was explored. The revised model, as shown in figure 2 yielded a good fit to the data: (CMIN/DF=2.531; RMSEA=0.079; CFI=0.925). Similarly, correlation coefficients of the four factors of the entrepreneurs' time management are also within an acceptable level (0.45 - 0.75). In addition to this, the parameter estimates were also examined and were found to be statistically significant. They were also free from any offending estimates and showed logical direction. Also, the squared multiple correlations (SMC) provided reasonable values to explain the variance in the 17 observed variables, ranging from .74 (ETM8) to .37 (ETM19).

The Model of Entrepreneurs' Time Management

Based on the result of the Exploratory and Confirmatory analysis, the model is depicted as follows:



Conclusion and Recommendations

As earlier stated, this paper was aimed at determination of the dimensionality of factors involved in time management among entrepreneurs in Nigeria. The rationale for such a study is to come up with a model on time management among entrepreneurs in Nigeria. This is crucial because despite

the relevance of time management to entrepreneurial development, there is dearth of models on its measurement. The conclusion of the study is that entrepreneurs' time management in Nigeria is a function of four dimension construct comprising of (a) Target Setting and Time Monitoring, (b) Minimization of Time Wastage, (c) Planning of Time utilization and (d) Prioritization of Activities.

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