

# ARE HISPANIC-OWNED BUSINESSES DIFFERENT? AN EMPIRICAL STUDY ON MARKET BEHAVIOR AND RISK PATTERNS OF HISPANIC-OWNED BUSINESS VENTURES

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## ABSTRACT

*Much of the research on the business risk and market behavior concerning Hispanic-owned businesses (HOB) has been limited. The purpose of this study is to measure and examine the market behavior and risk patterns of HOBs. The foundation for this study was established from key theoretical concepts grounded in accounting, economics, entrepreneurship, finance, marketing, and management literature. A sample (N = 201) of HOBs were examined for this comparative study, which consisted of two studies: a pilot study and formal study. This study used an exploratory factor analysis approach: a principal component analysis (PCA). The results of the PCA revealed there were major eight factors that affect HOBs in terms of business risk and market behavior.*

**Keywords:** Hispanic-owned businesses, market behavior, business risk, risk patterns, factor analysis

## INTRODUCTION

The prior research on Hispanic-owned businesses is very limited. There is a need to conduct more research on HOBs. The limitation of the prior research and existing scholarly literature principally focuses on small business enterprises (SME) compared to Hispanic-owned businesses is quite extensive. This study took a different approach. The researchers wanted strictly focused on the market behavior characteristics of HOBs.

The survival rates for small businesses are quite alarming. This has been and continues to be significant, if not a challenging issue. As self-employment and the entrepreneurial spirit of business, ownership in America continues to proliferate. This new trend toward entrepreneurial interest trend has especially flourished in this new economy, “the information age. However, the questions are, are HOBs any different or have any behavioral patterns that are unique to them? That is what this study will investigate. The limitation of the prior research and existing scholarly literature on Hispanic-owned businesses needs further investigation.

## **Background**

The Entrepreneurial Risk Survey (ERS) was pilot-tested on 73 HOBs in South Texas city. The data collected from the field test was used to evaluate and perfect the instrument in terms of question clarity, consistency, flow and construct before beginning the distributing the survey to the targeted population. In the process of developing and refining the instrument, a second study was conducted with a sample population of 128 HOBs. The pilot study was used to address issues with the instrument in terms of: (a) reliability and validity of the scales, (b) survey question clarity, (d) issues or inconsistencies with the survey questions, and (e) survey design and face validity issues of the instrument. This led to the further development of the Entrepreneurial Risk Assessment Scale (ERAS) instrument and the finalized version used for the second study. This will be discussed more in depth later in the article.

## **Purpose of the Study**

The purpose of this study is to measure and examine the market behavior and risk patterns of HOBs. To achieve this objective, the following actions were taken: (a) the researcher pilot-tested the instrument developed by the researcher to measure market behavior and risk patterns with HOBs; and (b) analyze industry and market sector differences with HOBs. This study was built on the researcher's prior research on small business enterprises (SME). This study was built on key theoretical concepts grounded in economics literature. The objective of this study is to examine market behavior and risk patterns of Hispanic-owned business enterprises. This article used data drawn from two studies: (a) a pilot study with 73; and (b) a subsequent study with 128 Hispanic-owned business enterprises.

## **Methodology**

The study utilized a quantitative approach using theoretical analysis of a sample of 201 Hispanic-owned businesses from an estimated population of 20,000. The target population varies across diverse industries, and demographic groups. An exploratory factor analysis was used to investigate instrument reliability and to investigate relationships among risk factors.

## **Research Questions**

The following research questions guided the scope of this study: (a) how many market factors affect the Hispanic-owned businesses (HOB) in terms of endogenous and exogenous variables; and (b) what are the industry and market sector characteristics that are unique to HOBs? This study will measure the market behavior

and risk patterns of HOBs and determine if there are unique characteristics. The sample was taken from the general population of HOBs.

## LITERATURE REVIEW

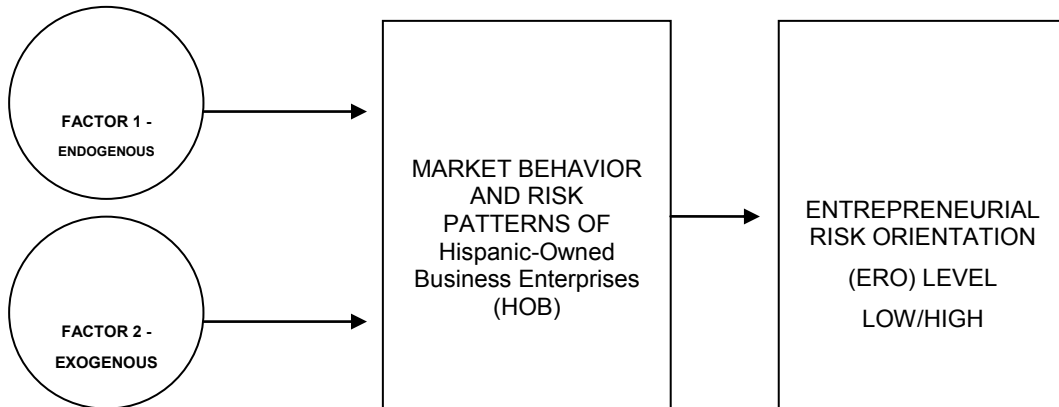
The purpose of the literature review is to build a solid foundation for the research and find any gaps that exist in the literature. Secondly, this literature review wanted to provide the foundation for research on Hispanic-owned business enterprises (HOB). One of most obvious problems with the literature is that there is a strong lack of prior research on HOBs. There are even less research studies on the market behavior and risk patterns of HOBs. This study utilized a quantitative survey methodology to a representative aggregate sample of 201 Hispanic-owned business enterprises. This study attempts to fill a gap in prior research in the field of entrepreneurial research by investigating market behavior patterns of Hispanic-owned business enterprises.

Some of the prior studies that primarily focused on Hispanic entrepreneurs or Hispanic-owned businesses were the following: Carmona (2000); Reilly (2002); Tienda and Rajjman (2004); Aaronson, Bostic, Huck, and Townsend (2004); Blanchard, Zhao, and Yinger (2008); Carvajal (2006); Conrad (2007); Pollinger, Outhwaite and Cordero-Guzmán (2007); Hull (2010); Díaz, Rietdorf, and Dornberger (2011). As illustrated in the prior studies, there is a dearth concerning research on HOBs that needs to be addressed. There is an obvious gap in the literature on HOBs. This study attempts to fill a gap in prior research in the field of entrepreneurship and Hispanic-owned business enterprises by investigating market behavior patterns of Hispanic-owned business enterprises. The content in this literature review was used in building a conceptual model for the study (see Figure 1 and Figure 2). This will be further discussed in the next section.

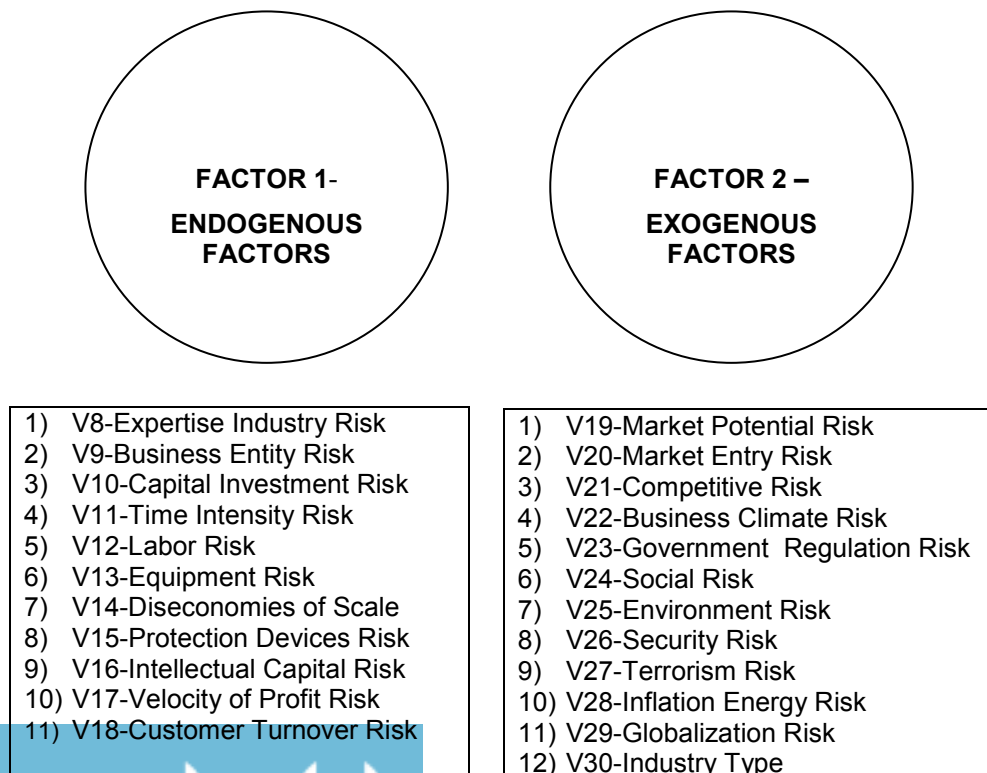
## CONCEPTUAL MODEL OF STUDY AND THEORETICAL FRAMEWORK

The theoretical basis for the study follows with factor implications for entrepreneurial risk. This study will examine 23 entrepreneurial risk variables with Hispanic-owned businesses based on two dimensions of risk: *endogenous* and *exogenous* factors. The terms for market behavior and entrepreneurial risk patterns used for this study are the two major factors of risks (see Figure 1 and Figure 2).

**Figure 1. Conceptual Model of the Study**



**Figure 2. Theoretical Framework Model: 23 Exogenous and Endogenous Variables**



## RESEARCH METHODS AND RESEARCH DESIGN STRATEGY

Two studies were used to examine Hispanic-owned business enterprises (HOB). Both studies used a non-experimental, exploratory research design. Also both studies used a cross-sectional research design strategy, which attempts to collect quantifiable or quantitative data with two or more variables. The research design implemented a survey approach using three strategies: web-based surveys, personal administration and mail questionnaires. A 5-point Likert-type scale (1 = Strongly Disagree to 5 = Strongly Agree) and a 29-item instrument were used for the study. The Likert Scale was most appropriate for this study because: (a) the likelihood of producing a highly reliable scale; and (b) the capability to measure more data. These strategies attempt to maximize accessing the highest number of participants through multiple data sources and multiple sites (Zikmund, 2003).

### Development of the Instruments

The Entrepreneurial Risk Survey (ERS) combines assessments of risk orientation as found in accounting, economics, management, marketing, finance, and entrepreneurship literature. It attempts to identify and predict entrepreneurial risk patterns in SMEs. ERS was used in the first study. The ERS instrument consists of a 32-item scale based on five factors of entrepreneurial risk found in the literature. The ERS instrument was developed from key concepts in the literature to identify and predict market behavior and entrepreneurial risk patterns in HOBs. The instrument was developed by the researcher based on the review of literature related to the entrepreneurial risk factors identified for the study.

For the second study, The Entrepreneurial Risk Assessment Scale (ERAS) was used. The ERAS consists of 37-item scale based on entrepreneurial risk variables identified in a review of the literature. Both instruments were developed for the study of market behavior and entrepreneurial risk with Hispanic-owned business enterprises (HOB). ERS and ERAS are both a researcher developed-instruments that assesses risk behavioral characteristics. The questions were developed by the researcher to represent the five major factors identified as contributing to entrepreneurial risk in HOBs. ERS was developed based on literature from the fields of economics, marketing, management, finance, accounting and entrepreneurship. After refinements, the Entrepreneurial Risk Assessment Scale (ERAS) was developed for the second study. Three variables were added to ERAS: (a) Line of Credit Risk, (b) Customer Credit Risk; and (c) Economic Risk

## Data Collection

All data were collected by means of online survey collection (SurveyMonkey.com), telephone interviews, and through in-person administration. For both studies, the researcher sent out an email to the target population with a link to the survey instruments. Included in the email were: (a) a brief explanation of the study; (b) instructions for survey completion; and (c) the link to the survey instrument URL. The researcher was able to get the assistance and support from the following agencies and organizations: Small Business Administration (SBA), Small Business Development Center (SBDC), Service Corps of Retired Executives (SCORE), and local chambers of commerce. The proportionate sample was based on estimated population of businesses enterprises in the San Antonio. HOBs were surveyed in the metropolitan area of San Antonio, Texas (Bexar County) the third second largest city in the state of Texas.

## Data Analysis

All of the statistical analyses were performed using SAS ® Version 9.1 software and SPSS ® Version 17.0 software. Both software packages were used for computing the descriptive statistics, inferential statistics and multivariate statistics. This was used for establishing central tendencies (mean, median, and mode), and developing the exploratory factor analysis, and data cleaning. Other analyses were used such as internal consistency and one-sample t-tests, were used for the data assessment. The exploratory factor analysis (EFA) was used to assess the market behavior and risk patterns. Internal consistency is the extent to which items in a scale are correlated with one another (Vogt, 1999).

## RESULTS OF THE STUDIES

The results of the studies are presented. The researcher investigated the risk patterns of Hispanic-owned business enterprises (HOBs) with variables such as competitor intensity, market potential, capital investment size and other notable variables. The sample consisted of 201 Hispanic-owned businesses, which consisted of two studies ( $n = 73$  and  $n = 128$ ). Two instruments were used for collecting data for this study: ERS and ERAS. The data compiled from the surveys was entered into SAS and SPSS; also the statistics were calculated using both software packages.

### Factor Analysis Type Used: Principle Component Analysis (PCA)

A principle component analysis (PCA) was used to analyze the data. The researcher performed a PCA on the data at interval and ratio level of the research instruments (32 and 37 items) to construct the factor structure for both studies. The

factor analysis is expressed in the following Fundamental Factor Analysis Equation mathematical model:

$$Z_j = f_{j1}X_1 + \dots + f_{jr}X_r + 0V_1 + \dots + u_j V_j + \dots + 0V_n$$

$Z_j$  represents a composite variable derived from the  $r$  common-factor components and the  $n$  unique-factor components. Note, however, that the  $j$ th variable has only one nonzero factor loading on the unique factors, which is loading  $u_j$  on unique factor  $V_j$ . (Mulaik, 1972; Rummel, 1970). The rationale for using a PCA type of factor analysis is: (a) PCA is used when the research purpose is data reduction (parsimony) or exploration; (b) PCA is a variance-focused approach; (c) variance within the factor; and (d) PCA is not used in causal modeling (ex. not used with structural equation modeling) (Garson, 1998).

To detect the underlying structure of the data, as explained by relationships between variables, a factor analysis was performed with both SAS and SPSS. Seven factors were extracted with a varimax rotation. An advantage that factor analysis has over these other statistical methods (clustering and multidimensional scaling) is that factor analysis can recognize certain properties of correlations.

### Descriptive Statistics of the Studies

The following tables illustrate the descriptive statistics from Study 1 and Study 2. The tables illustrate data on gender, market saturation and industry classifications on Hispanic-owned businesses (HOB). Table 1 and 2 presents the demographic data on the gender. As indicated, the first column shows the gender variable type; the second column shows the frequency; and the third column shows the percentage of the sample.

**TABLE 1**  
**STUDY 1: GENDER DEMOGRAPHICS RESULTS ( $N = 73$ )**

Gender	Frequency	% of Total
Males	27	37.0
Females	46	63.0
<b>Total</b>	<b>73</b>	<b>100.0</b>

**TABLE 2**  
**STUDY 2: DEMOGRAPHICS RESULTS (*N* = 128)**

Gender	Frequency	% of Total
Males	71	55.5
Females	57	45.5
<b>Total</b>	<b>128</b>	<b>100.0</b>

Table 1 presents data on the industry type based on market saturation for Study 1. Table 2 presents data on the industry type for Study 2. As indicated, 56.2% of the sample represented commodity-type industries in Table 3. In Table 4, 36.7% of the sample represented the services industry.

**TABLE 3**  
**STUDY 1 RESULTS: HOBS INDUSTRY CLASSIFICATION BY MARKET SATURATION (*N* = 73)**

Industry Type Variable	Competitors in Marketplace	Frequency	% of Total
1. Consumer monopoly-type industry	0 – 4	1) 7	2) 9.6
2. Consumer competitive-type industry	5 – 10	3) 15	4) 20.5
3. Semi-commodity-type industry	11 – 20	5) 10	6) 13.6
4. Commodity type-industry/product	21 and higher	7) 41	8) 56.2
<b>Total</b>	<b>9)</b>	<b>10) 73</b>	<b>11) 100.0</b>

**TABLE 4**  
**STUDY 2 RESULTS OF INDUSTRY TYPES OF HOBS (*N* = 128)**

Industry Type	Frequency	% of Total
Agriculture	1	.8
Communications	2	1.6
Construction	11	8.6
Finance	6	4.7
Manufacturing	3	2.3
Retail Trade	11	8.6
Services	47	36.7
Technology	7	5.5
Transportation	6	4.7
Wholesale	3	2.3
Other Industry	31	24.2
<b>Total</b>	<b>128</b>	<b>100.0</b>



## Inferential Statistics: Benchmarks and Eigenvalues of PCA of 23 Items

As a benchmark in terms of factor loadings, typically, most researchers consider variables with factor loadings coefficients of at least .3 in absolute value as loading on eigenvector. It is a common practice for researchers conducting a factor analysis to consider only factor loadings  $> .3$  (see Tables 5 and Table 6). For Study 1, nine factors were extracted from the data. This accounted for 70.9% of the variance in the 23 items tested (see Table 5). There was a percentage of variance due to the positive eigenvalues or high error variances between latent variables. Based on the PCA, the number of factors retained was based on an examination of 9 eigenvalues for each factor. For Study 2, eight factors were extracted (see Table 5). Eigenvalues ( $\lambda$ ) are a statistic used in factor analysis to show how much variation in the group of variables is accounted for by a particular factor (Bryant & Yarnold, 1995; Cureton & D'Agostino, 1993; Garson, 1998; Gorsuch, 1983; Mulaik, 1972; Rummel, 1970; Tabachnick & Fidell, 2007). The standard for an eigenvalue score is greater than 1.0 (Vogt, 1993).

**TABLE 5**  
**STUDY 1 RESULTS OF EIGENVALUES, PERCENTAGES OF VARIANCE,**  
**AND CUMULATIVE PERCENTAGES ( $N = 73$ )**

Factor	Eigenvalues	% of Variance	% of Cumulative
1	12) 3.238	13) 14.079	14) 14.079
2	15) 2.849	16) 12.386	17) 26.465
3	18) 2.115	19) 9.195	20) 35.660
4	21) 1.632	22) 7.096	23) 42.756
5	24) 1.515	25) 6.589	26) 49.345
6	27) 1.438	28) 6.253	29) 55.598
7	30) 1.199	31) 5.215	32) 60.813
8	33) 1.187	34) 5.160	35) 65.973
9	36) 1.149	37) 4.998	38) 70.971

*Note:* Extraction Method: Principal Component Analysis (PCA)

**TABLE 6**  
**STUDY 2 RESULTS OF EIGENVALUES, PERCENTAGES OF VARIANCE,**  
**AND CUMULATIVE PERCENTAGES ( $N = 128$ )**

Factor	Eigenvalues	% of Variance	% of Cumulative
1	4.174	17.390	17.390
2	2.437	10.155	27.545
3	1.786	7.440	34.985
4	1.708	7.115	42.100
5	1.510	6.294	48.393
6	1.353	5.637	54.030
7	1.209	5.037	59.067
8	1.080	4.502	63.569

*Note:* Extraction Method: Principal Component Analysis (PCA)

### Factor Loadings and Communalities

The standard for coefficient loadings for a factor analysis varies depending on the type of factor analysis. A standard for the factor coefficient loadings of .3 or higher was established for this study. Factor loadings .6 or higher are considered “high” and those below .4 are considered “low” (Jones, 1996; Garson, 1998; Hair et al., 1998; Raubenheimer, 2004).

Table 7 shows the factor loadings for the 23 items in survey instrument for Study 1. Table 8 shows the factor loadings for the 26 items in survey instrument for Study 2. Communality ( $h^2$ ) is the sum of squared loadings (SSL) for each variable across factors. It measures the percent of variance in a given variable explained by all the factors. Communality also indicates the variance, which a variable has in common with other variables in the factor analysis. As indicated by the instrument, all factors were internally consistent and well defined by the variables. Communalities are valued between 0 and 1 (Bryant & Yarnold, 1995; Cureton & D'Agostino, 1993; Garson, 1998; Tabachnick & Fidell, 2007).

The standard for communalities varies depending on the factor analysis type considering the sample size, and factor structure (Brown, 2006; Cureton & D'Agostino, 1993; Garson, 1998; Mulaik, 1972; Rummel, 1970). To set a standard for this study, only communality coefficients greater than .2 were considered a significant reliable indicator in the factor.

**TABLE 7. STUDY 1: FACTOR ANALYSIS RESULTED IN 9-FACTOR SOLUTION LOADINGS WITH RISK VARIABLES (N=73)**

1. Market/Risk Variables	F1	F2	F3	F4	F5	F6	F7	F8	F9
V30-Industry Type Risk	2. .952								
V21-Competition Risk	0.948								
V16-Intellectual Capital Risk	0.557								
V23-Government Regulation Risk		0.823							
V20-Market Entry Risk		0.708							
V13-Equipment Risk		0.604							
V26-Security Risk			0.81						
V25-Environment Risk			0.662						
V27-Terrorism Risk			0.635						
V10-Capital Investment Risk				0.79					
V24-Social Economic Risk				0.787					
V22-Business Climate Risk					0.882				
V12-Labor Risk					-0.673				
V8-Expertise Industry Risk						0.822			
V11-Time Intensiveness Risk						0.524			
V17-Velocity of Profit Risk							0.769		
V18-Customer Turnover Risk							0.505		
V29-Globalization Risk								0.664	
V14-Diseconomies of Scale								0.626	
V28-Inflation Energy Risk								0.572	
V9-Business Entity Risk									0.891
V19-Market Potential Risk									-0.876
V15-Protection Devices Risk									0.51

**VARIABLES (N = 73)**

Note: Extraction Method: Principal Component Factor Analysis (PCA). Rotation Method: Varimax with Kaiser Normalization. Rotation converged in 11 iterations. Only loadings >.3 are show in the table.

**TABLE 8. STUDY 2: FACTOR ANALYSIS RESULTED IN 8-FACTOR SOLUTION LOADINGS WITH RISK VARIABLES (N = 128)**

1. Market/Risk Variables	F1	F2	F3	F4	F5	F6	F7	F8
V27-Market Potential Risk	0.701							
V30-Economic Risk*	0.673							
V21-Expertise Industry Risk	0.598							
V36-Energy.Dependency Risk	0.575							
V35-Terrorism Risk		0.847						
V34-Security /Crime Vulnerability Risk		0.845						
V33-Environment /Weather Condition Risk		0.603						
V25-Customer Credit Risk*			0.78					
V24-Customer Activity/Turnover Risk			0.698					
V16-Owner Time Dependency Risk			0.59					
V20-Internet /Technology Risk				0.656				
V10-Capital Investment Risk				0.595				
V26-Line of Credit Risk*				0.585				
V17-Labor Intensity Risk				-0.535				
V28-Barriers to Entry Risk				0.42				
V18-Overhead Cost Risk					0.855			
V19-Equipment Investment Risk					0.688			
V31-Government Regulation Risk						0.706		
V32-Social Entrepreneurship Risk						0.674		
V29-Competition Intensity Risk							0.702	
V9-Business Entity Risk							0.681	
V23-Velocity of Profit Risk								0.865
V22-Intellectual Capital Risk								0.48
V37-Globalization Risk								-0.878

Note: Extraction Method: Principal Component Factor Analysis (PCA). Rotation Method: Varimax with Kaiser Normalization. Rotation converged in 44 iterations. Only loadings >.3 are show in the table. The following variables were added to the instrument: V30-Economic Risk; V25-Credit Risk; and V26-Line of Credit Risk

Tables 9 and 10 illustrate the summated scale scores for each factor. The summated scale is the average factor score of the variables in that factor. The mean scores and standards deviations for each factor are shown. This indicates that among the eight factors, Hispanic-owned business enterprises experience these closely related market behavior/risk patterns.

**TABLE 9**  
**STUDY 1: FACTOR SCORES OF HISPANIC-OWNED BUSINESSES BY**  
**MARKET BEHAVIOR AND RISK PATTERNS ( $N = 73$ )**

<b>Summated Factors</b>	<b>Mean</b>	<b>SD</b>
Factor 1	10.77	4.040
Factor 2	8.76	3.859
Factor 3	7.08	3.994
Factor 4	3.37	2.376
Factor 5	5.20	2.142
Factor 6	6.32	3.086
Factor 7	5.81	3.157
Factor 8	7.24	3.804
Factor 9	9.37	4.333

*Note:* Summated scales were calculated an average score across the variables within that factor.

**TABLE 10**  
**STUDY 2: FACTOR SCORES OF HISPANIC-OWNED BUSINESSES BY**  
**MARKET BEHAVIOR AND RISK PATTERNS ( $N = 128$ )**

<b>Summated Factors</b>	<b>Mean</b>	<b>SD</b>
Factor 1	13.98	5.125
Factor 2	8.65	4.197
Factor 3	8.69	3.901
Factor 4	14.06	6.566
Factor 5	6.00	2.394
Factor 6	4.86	2.603
Factor 7	7.16	2.356
Factor 8	10.17	4.261

*Note:* Summated scales were calculated an average score across the variables within that factor.

## DISCUSSION

The purpose of this study was to examine and identify market behavioral characteristic and risk patterns with Hispanic-owned business enterprises. An exploratory factor analysis was used to measure and identify market behavior variables and risk patterns. The HOBs that were examined in this study were from diverse industries but were classified by market saturation and competitor size. This research set out to answer two questions, how many market factors affect the Hispanic-owned businesses (HOB) in terms of endogenous and exogenous variables? What are the industry and market sector characteristics that are unique to HOBs? This study examined the market behavior of 201 HOBs. Two studies were conducted on HOBs. The first study sample ( $N = 73$ ) on HOBs was a pilot study. The second study sample ( $N = 128$ ) was more refined and added three more variables for observation. The findings indicate that although HOBs did not exhibit any differences in market behavior patterns or risk patterns. However, the findings also indicate that HOBs have unique characteristics in terms of market behavior and risk patterns.

## LIMITATIONS OF STUDY

There were some limitations that had impact the study. The limitations that affected the study were: (a) the use of self-reported data was a problem; (b) the lack of diversity of the industry types in the study; (c) the significant number of HOBs in the services sector; (d) the lack of distinction identified between micro-enterprises and small businesses; (e) the lack of research in the literature that focused specifically focused on HOBs. Many of these limitations could be rectified with further research on HOBs. It is the hope of the researcher that this study would lead to further research on HOBs.

## CONCLUSIONS AND CRITICAL OBSERVATIONS

The results of this research study on Hispanic-owned businesses (HOB) indicate that: (a) there are a least eight to nine key factors that influence the market behavior of HOBs; and (b) one of the notable key factors that determined risk patterns with HOBs were market potential, economic risk and energy dependency/inflation. Thus, an 8-factor solution of the principle component analysis (PCA) met the standard of content validity. One interesting point of the results of the PCA is that both endogenous risks and exogenous risks had a significant impact on HOBs. In addition, the results also indicated the theoretical model was not congruent with the conclusive factor analysis structure. This proved that the theoretical model was only sufficient for theory application only but had a diminished value in terms of the actual use compared to the statistical configuration of the data.

The main implication in this study is that Hispanic-owned business enterprises experience have distinct firm behavioral characteristics that differ from other businesses. Hispanic-owned businesses also have different risk patterns that are unique to them. Based on the research, HOBs showed some market factors were quite surprising. For example, competition intensity was a minor factor that affected them. That was a rather surprising finding from the data. Lastly, we can conclude from the study despite the lack of the research on HOBs, there are market behavior patterns or risk patterns that we can conclude are a factor. One clear inference is that those risk patterns are a huge factor in the dynamics of the firms and possible implication on further research specifically on HOBs.

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