



Factors impacting participation of Hispanic small businesses in government contracting in the USA

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Abstract

Purpose – This study aims to examine the relationship among three main constructs of financial status, e-commerce components, and Hispanic small businesses' (HSBs') perceptions regarding the contracting process of the United States Department of Agriculture (USDA) as they pertain to HSBs and their current capacity to gain access to government procurement.

Design/methodology/approach – The paper employs descriptive statistics and association analysis conducted on survey data from a random sample of 206 HSBs.

Findings – The analysis indicates that the HSBs' financial status has no impact on HSBs pursuing contracts with the USDA; instead, it impacts HSBs' ability to secure contracts. E-commerce components seem to have no impact on HSBs' ability to pursue and/or secure contracts. The perceptions of services provided by the USDA to HSBs were found to be different depending on whether an HSB has secured a USDA contract.

Research limitations/implications – Findings on HSBs in government contracting with the USDA might also be relevant to small businesses, regardless of ethnicity. This study was conducted for the USDA procurement process, but the process may vary due to the types of services contracted or the function of the agency/business itself. Non-response biases were tested and found not significant.

Originality/value – This paper contributes to the literature in two complimentary ways. One contribution supports some of the earlier research on barriers for engagement of small business in government procurement. The second contribution offers specifics on Hispanic small businesses.

Keywords Hispanics, Small enterprises, Financial management, Electronic commerce, Worldwide web, United States of America

Paper type Research paper

Introduction

Small businesses strongly support the US economy and keep productivity, creativity, and employment flowing (Twist, 2001). Census data show that Hispanic Americans own 6.9 percent of the 23 million small business firms in the USA. This number has grown and will continue to grow at a faster rate than small businesses in general. A 55 percent growth is expected in the next six years, which will result in 2.46 million Hispanic-owned small businesses (IDC Market Research, 2004). However, the potential of Hispanic small businesses' (HSBs) contracting opportunities with the government



and with private corporations seems undermined by difficulties encountered while pursuing such opportunities. Recent studies found evidence of difficulties pertaining to financial and market disparity between minority-owned and non-minority-owned small businesses (Bates, 1995; Fregetto, 1994; Rasheed, 2004). These results are of concern since government programs created in the last two decades and recent legislation aimed to assist minority-owned business to overcome these disparities. Our area of interest in this study pertains to Hispanic-owned small businesses, given the estimates for HSBs growth (www.sba.gov/advo/).

Searches of HSB literature find little prior investigation of the HSB's ability to pursue and secure contracts with the government and/or private sector. Some of the difficulties are financial, which consequently delay HSBs in adopting the internet and e-commerce components and in pursuing electronic contracting opportunities. This is especially critical at a time when the government and private companies have moved their contracting systems to an internet base (Ursery, 2003; Dillehay, 2002; Norris *et al.*, 2001; Mitchell, 2000; *Public Management*, 2000; Dholakia and Kshetri, 2004; Temponi and Chahin, 2003; Tucker and Lafferty, 2004). The compound effect of HSBs' limited financial resources and decreased ability to secure human and technical resources seem to lessen their contracting opportunities and participation (Woo and Ennew, 2005; Ursery, 2003). In addition to this complex situation, social factors, such as demographics of the business owners, have been found to act as structural barriers in initiating, securing, and/or continuing contracting with the government (Rasheed, 2004; Bates, 1995; MacManus, 1990). Previous studies did not relate these issues and their effects on the ability of HBSs to pursue contracting opportunities. This void in the literature motivated the development of three constructs:

- (1) Financial factors (annual revenue, access to capital, etc.) impact HBSs' participation in government contracting.
- (2) Internet and related issues (components for electronic access) impair HBSs' abilities to pursue contracting opportunities and secure them.
- (3) Government procurement processes influence HSBs' ability to participate and maintain a competitive business position in government procurement, which is significantly conducted through the internet via electronic procurement.

The purpose of this study is to examine the relationships among the identified constructs as they pertain to HSBs and their current capacity to gain access to government procurement. It may be possible that the factors identified as having an impact on HSBs' abilities to pursue government procurement would also have an impact on other small businesses, regardless of ethnicity. Our study focuses only on Hispanic-owned small business and their involvement in USDA contracting activities.

The remainder of this paper includes a section on literature review related to the main government programs available to Hispanic-owned small businesses and research studies associated with the influence of financial capabilities, e-commerce, and government procurement processes on HSBs. A section on research design and methodology describes how the proposed objectives of this study were carried out. The subsequent section addresses the analysis of data collected for this study. We conclude with discussion and implications of results and directions for future research.

Literature review

Here we are interested in reviewing: aspects that could affect small business in general and Hispanic Small Business in particular; the main government programs available to Hispanic-owned small businesses; and research studies associated with the influence of financial capabilities, e-commerce, and government procurement processes on HSBs.

Relevant aspects of small business

Numerous studies have been conducted on the drivers for success and causes for failure of small businesses (Kennedy and Tennent, 2006; Bharadwaj and Soni, 2007; Maguire *et al.*, 2007; Huck, 1999a, b; La Noue, 2000; Rasheed, 2004; Velez, 2005; Nute, 2002; Benton Foundation, 2001a, b; Cutler, 2001; Chaston *et al.*, 2001; Ferguson, 2000). These studies suggest some drivers and barriers for small business in general, which are summarized in Table I. Some of the drivers and barriers include: marketing skills, capital budgeting, inadequate provision for contingencies, management skills and experience, and formal planning. Financial problems, especially undercapitalization and difficulty of getting external financial support, are often identified as major causes of small business failure. Kennedy and Tennent (2006) indicated that businesses fail to keep simple financial records; thus, when they need capital to survive or expand, they are unable to access capital from traditional lending sources as the business cannot demonstrate its financial viability. Many small businesses underestimate the cost of business operations and fail to manage cash flow, which results in many firms underestimating their required amount of operating capital.

E-commerce can have a tremendous benefit for small businesses (Bharadwaj and Soni, 2007); nonetheless, the slow adoption and implementation of internet and e-commerce by small businesses have become a significant concern. Internet provides an opportunity for small businesses to participate in the global economy by means of e-commerce, e-procurement, and electronic data information. It seems that a major constraint for small firms in the area of e-business and knowledge management may be their inability to make the necessary investment to take advantage of the new concepts and information and communication technology (Maguire *et al.*, 2007).

In this research, we will discuss some of the issues listed in Table I as they pertain to HSBs. For the purpose of this study, we have clustered these issues in financial issues for HSBs, e-commerce and internet, and perceptions of HSBs on the US government procurement process.

US Government program for small businesses

The main federal agency serving all small businesses in the USA is the Small Business Administration – SBA – (see www.sba.gov). Within the SBA, Section 8(a) of the Small Business Act authorizes the SBA to enter into contracts with other federal agencies with the purpose of supplying goods and services needed by the federal agencies. The SBA then subcontracts the actual performance of the work to small businesses owned and controlled by socially and economically disadvantaged individuals (see www.sba.gov/library). The Federal Acquisition Streamlining Act of 1994 created a new Small Disadvantaged Business Set-Aside program that supplements, but does not replace, the 8(a) Program. The 1994 Act authorized agencies to set aside competitions solely for small and disadvantaged businesses. These awards are made by the federal agency rather than through the SBA.

Relevant aspect	SB	HSB	Comments
1 Lack of business education, training, or managerial experience	×	×	The performance of small businesses is often related to the competencies of the business owners: those entering into small businesses do not always have the necessary business acumen and skills, especially financial management and people management skills to successfully manage their business (Kennedy and Tennent, 2006; Tucker and Lafferty, 2004; Jones and Tullous, 2002; Philip and Townsend, 1996)
2 Financial Performance			
– Financial issues	×	×	Financial problems especially undercapitalization and difficulty of getting external financial support are often identified as major causes of small business failure. Often businesses fail to keep simple financial records, so that when they need capital to survive or expand they are unable to access capital from traditional lending sources as the business cannot demonstrate its financial viability. Many small businesses in the start up phase underestimate the cost of operating business and fail to manage the cash flow. This results in many firms underestimating the amount of operating capital they require (Kennedy and Tennent, 2006; Jones and Tullous, 2002; Huck, 1999a; Philip and Townsend, 1996; Daley, 2002; Tucker and Lafferty, 2004; La Noue, 2000; Rasheed, 2004; Velez, 2005)
– Access to funds (funding limits or liquidity constraints)	×	×	
– Information channels and processes regarding funding opportunities	×	×	
– Management of capital	×	×	
3 Certification process as a small disadvantaged business		×	The process creates significantly more paperwork, and small business owners may not have the necessary human resources to complete the certification process
4 E-commerce and internet components	×	×	E-commerce can have a tremendous benefit in the efficient management of supply chains (Bharadwaj and Soni, 2007). A major constraint for small firms in the area of e-business and knowledge management may be their inability to make the necessary investment to take advantage of the new concepts and information and communication technology (Maguire <i>et al.</i> , 2007; Dholakia and Kshetri, 2004; Strandholm <i>et al.</i> , 2004; Grandon and Pearson, 2004; Iacovou <i>et al.</i> , 1995; Ferguson, 2000; Benton Foundation, 2001a, b; Tucker and Laferty, 2004)
– Slow adoption and implementation of Internet and e-commerce due to lack of:	×	×	
1) Capital to invest in costly e-commerce components	×	×	
2) Trust in the security of the method to do business	×	×	
3) Knowledge and manpower to handle the changes that the Internet, e-commerce and its components bring to a business	×	×	
4) Direct access to products and procurement opportunities available only through internet systems			
5) User friendly electronic systems			
6) User friendly electronic systems with language specific content on the internet			

(continued)

Table I.
Relevant aspects of small
business

Table I.

Relevant aspect	SB	HSB	Comments
5 Government procurement processes, which is significantly conducted through the internet via electronic procurement	×	×	Ursery, 2003; Dillehay, 2002; Norris <i>et al.</i> , 2001; Mitchell, 2000; <i>Public Management</i> , 2000; Dholakia and Kshetri, 2004; Temponi and Chahin, 2003; Tucker and Lafferty, 2004; Bray, 2004; Federal Business Opportunity, 2006; United State Department of Agriculture, (www.usda.gov); www.govpro.com
6 Quality of service provided by the USDA		×	Quality of service, availability of bid opportunities, points of contact and contact information, and lead time to respond to bids are perceived as lacking when contracting with the USDA
7 Social factors such as demographics of the business owners		×	Rasheed (2004); Bates (1995); MacManus (1990)

In 1979, the United States Department of Agriculture (USDA) established the Office of Small and Disadvantaged Business Utilization (OSDBU) to provide maximum opportunities for small businesses in USDA contracting activities. OSDBU assists the USDA in achieving goals for subcontracting awards to Small Disadvantaged, 8(a), Woman-Owned, Historically Underutilized Business Zone (HUBZone), and Service-Disabled Veteran-Owned small businesses by negotiating with prime contractors. Before subcontracts are granted, prime contractors must present to OSDBU, for review and approval, a detailed and acceptable subcontracting plan for the award of subcontracts to small and disadvantaged businesses. OSDBU monitors the subcontracts semiannually (OSDBU Online (www.usda.gov/da/smallbus/aboutosdbu.htm)). Several initiatives established within OSDBU also reach out to a diverse group of small businesses – Native Americans, Hispanics, Veterans, and so forth. For instance, the USDA established a Hispanic Advisory Council (HAC) in 1996 to increase participation of Hispanic business in all USDA programs and services (USDA Hispanic Issues Task Force (www.usda.gov/agency/da/Usdahisp.pdf)).

Financial issues and HSB

A number of studies have examined different barriers faced by small businesses. Some studies cite that lack of business education, training, or managerial experience may have an impact on the firm’s success (Jones and Tullous, 2002; Philip and Townsend, 1996; Tucker and Lafferty, 2004). However, the majority of studies recognized that financial issues, access to funds, and the management of capital are the main barriers to the success of small businesses (Jones and Tullous, 2002; Huck, 1999a; Philip and Townsend, 1996; Daley, 2002; Tucker and Lafferty, 2004). It was also noted in previous studies that HSBs might have additional difficulties in securing financing for their businesses compared to non-minority-owned small businesses. In a study about financial issues for HSBs, Huck (1999a, b) found that only 57.6 percent of Hispanic business owners were offered trade credit and only 44.4 percent of Hispanic business owners took it.

Rasheed (2004) reported that recent court decisions seem to indicate that government procurement programs have sufficiently eliminated competing barriers for ethnic minorities. He also noted that this was in sharp contrast to findings by Bates (1995) and Fregetto (1994), who suggested ethnicity as a barrier to capital access; such

findings were confirmed by Young (2002) and Black *et al.* (2003). Every business owner is compelled to take into account his or her access to capital; specifically, funding limits or liquidity constraints, which impact businesses with respect to their start-up and their financial performance thereafter. Financial performance, financial status, and annual revenue are used as equivalent terms in this study.

Reacting to funding constraints, small business owners supplement insufficient funds with funds from informal sources (personal funds and/or family loans) as well as formal sources (bank loans, government loans, and trade credits). Suppliers occasionally extend trade credit to preferred businesses when their personal funds are not sufficient (Nute, 2002; Benton Foundation, 2001a, b; Cutler, 2001; Chaston *et al.*, 2001; Ferguson, 2000). A formal source of funding available to minority-owned businesses and small businesses is the Small Business Administration, which provides loan guarantees and other specialized loan programs to small businesses. These programs have been specifically designed to improve capital access for small and disadvantaged businesses. Conversely, information channels and processes regarding these funding opportunities have only served to accentuate the barriers of access to capital (Huck, 1999a, b; La Noue, 2000; Rasheed, 2004; Velez, 2005).

It could be argued that there is a need for procedural change in the process of obtaining federal contracts, which should benefit HSBs as well as other minority-owned businesses. For instance, a small business must prove its status as a small, disadvantaged business to obtain certification. This process creates significantly more paperwork; small minority business owners may not have the human resources to complete the certification process. Further, since the federal supplier base became consolidated, the business owner must be larger and better equipped to perform and produce more goods and services in order to compete. Furthermore, the firm's ability to secure capital access is related directly or indirectly to the company's financial status, which is a partial indicator of the firm's capacity to maintain its operations and fulfill its obligations (Ford-Livene, 1999; Martinez, 1999; Young, 2002).

- H1. The annual revenue of HSBs does not impact their participation in government procurement opportunities.
- H2. The outcome of pursuing USDA contracts does not depend on a HSB's financial status.

E-commerce and internet

In this research, e-commerce is defined as the undertaking of normal, commercial, government, or personal activities by means of computers and telecommunications networks. E-commerce includes a wide variety of activities involving the exchange of information and data or value-based exchanges between two or more parties (Chan and Swatman, 1999; see <http://citeseer.nj.nec.com/chan99electronic.htm>). E-commerce is one of the fastest growing segments of the economy, but concerns have evolved over the infrequent participation and use of e-commerce by minority-owned businesses. Reports from the 2002 Economic Census show that Hispanics make up about 7 percent of America's 23 million small businesses (www.sba.gov/advo/). HSBs are expected to increase at a robust rate of 7.6 percent annually through at least 2010 (IDC Market Research, 2004). Thus, the slow adoption and implementation of internet and

e-commerce by HSBs is a subject of concern. The internet can significantly extend HSBs' capacity and contribution to the global economy. The internet can allow business participation in a variety of opportunities, such as e-commerce, e-procurement, and electronic data information (Lee and Cheung, 2004; Lockett, 2004; La Noue, 2000).

Previous research (Dholakia and Kshetri, 2004; Strandholm *et al.*, 2004; Grandon and Pearson, 2004; Iacovou *et al.*, 1995) identified key determinants for adoption and implementation of the internet and associated activities in small businesses and in HSBs. Some of the factors and problems preventing HSBs and small businesses from participating in e-commerce include the lack of:

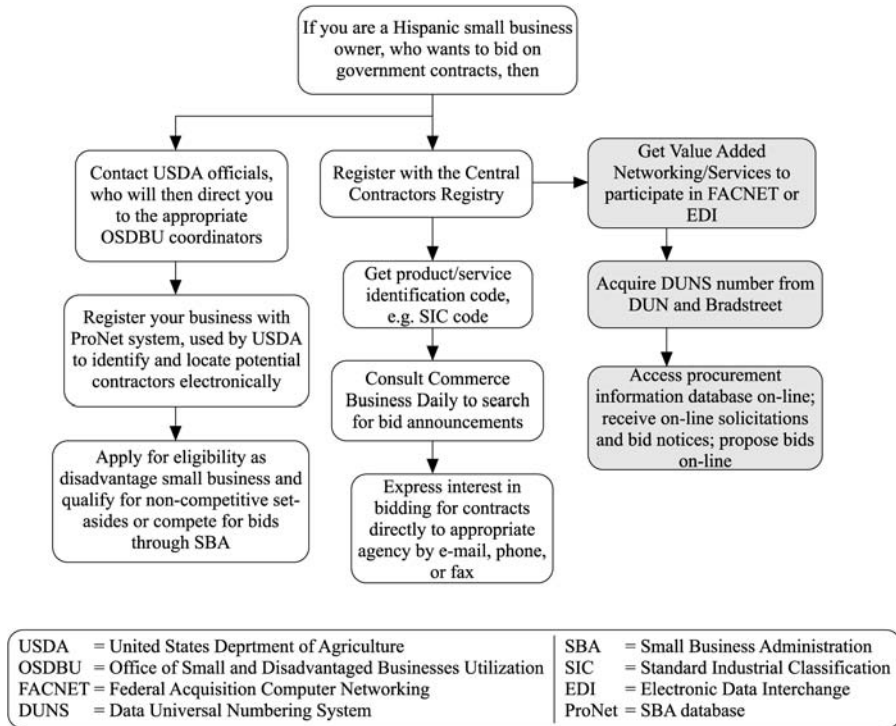
- Capital to invest in costly e-commerce components that allow them to participate in e-commerce.
- Trust in the security of the method to do business, which means uncertainty about the electronic transaction process, especially the security of personal information on the internet.
- Knowledge and manpower to take on the scope of changes that the internet, e-commerce, and its components bring to a business.
- Direct access to products and procurement opportunities available only through internet systems.
- User-friendly electronic systems with language-specific content on the internet to accommodate non-English-speaking communities.

Moreover, government agencies have moved the procurement process to an electronic system (Bray, 2004; Federal Business Opportunity (www.fedbizopps.gov/); United State Department of Agriculture (www.usda.gov/); Welcome to govpro.com (available at: www.govpro.com)). Internet and web sites of government agencies are the means for finding opportunities for contracting and for submitting bids. Even though this shift in procurement seems like a natural path, it exacerbates the position of HSBs. In this study, we investigate whether e-commerce components can impact the ability of HSBs in pursuing government contracting. E-commerce components include owning a computer, having access to trained personnel, having internet access, and knowledge about internet use (Lee and Cheung, 2004; Temponi and Chahin, 2003; Borgida *et al.*, 2002; Twist, 2001).

H3. The outcome of pursuing USDA contracts does not depend on whether or not a HSB owns e-commerce components.

Perceptions of HSBs on government procurement process

Procurement government officials issue requests for bids and/or proposals with specifications for products or services. The process for HSBs to pursue contracting with the United States Department of Agriculture (USDA) is briefly captured in Figure 1 (United States Department of Agriculture (www.usda.gov/)). This process is not only complex, but also difficult to access by the internet or by direct inquiry; the process entails skills beyond basic business knowledge. Government procurement policies and legislation have been established to limit disparity and discrimination in government procurement, but the success of these policies is unclear.



Source: USDA (2004)

Figure 1.
Overview of process to pursue contracting with the USDA

Research indicates that internet access is not easily available to all HSBs, especially to HSBs located in rural areas (Dholakia and Kshetri, 2004; Cutler, 2001, Ong, 2001). Also, electronic registration with the government is necessary to pursue procurement contracts (USDA, 2006). Knowing about procurement opportunities and bidding on these opportunities may increase the likelihood of obtaining contracts and of having repeated business.

There are HSBs that have secured contracts and have demonstrated the ability to overcome the complex procurement process as well as new procedural changes. There is a void in the literature on the HSBs' perspectives regarding government procurement processes and issues that had allowed some HSBs secure contracts. Differentiating between the critical issues of those HSBs that have secured contracts and those that have not is an important development towards the creation of initiatives that could increase HSBs' participation in government procurement.

- H4.* The perceived quality of services provided by the USDA to HSBs does not depend on whether or not a HSB has secured contracts with the USDA.
- H4a.* The perceived availability of the USDA's public announcement of procurement programs does not depend on whether or not a HSB has secured contracts with the USDA.

- H4b.* The perceived availability of USDA's important points of contact and contact information does not depend on whether or not a HSB has secured contracts with the USDA.
- H4c.* The perceived availability of access of USDA bid opportunities does not depend on whether or not a HSB has secured contracts with the USDA.
- H4d.* The perceived sufficiency of lead-time to respond to government procurement bids does not depend on whether or not a HSB has secured contracts with the USDA.
- H5.* The perceived importance of learning the required procedures to secure contracts does not depend on whether or not a HSB has secured contracts with the USDA.

Methodology

Sample

The sample for this study was obtained from the Office of Small Business Administration (SBA) through the USDA, which supported part of this study. The requested criterion was on Hispanic-owned small business in the continental USA, with special emphasis on California, Texas, Florida, the Midwest, the East Coast, and the commonwealth of Puerto Rico. We received a database with more than 10,000 HSBs' names. From this population of HSBs, we selected a simple random sample of 1,200 businesses to participate in the survey (Figure 2).

Survey and administration process

The questions used in the survey instrument were mostly objective and multiple choice. Once the form and structure of the survey were established, we solicited critiques and comments from various groups, including researchers who specialize in statistics, survey development, and procurement programs, and from the USDA's personnel involved in procurement programs. Graduate students also contributed with suggestions regarding the structure and content of the survey. A subset of HSBs was selected to provide input on the survey instrument. The final survey, including suggestions from all groups, was mailed out through the US Postal Service to all of the randomly selected HSBs. The span of elapsed time between the mail-out date and the due-back date was three weeks.

The rate of response generally remained constant throughout the scheduled period of three weeks. A follow-up message with a reminder regarding the due date of the survey was sent a week and a half after the survey was mailed. The follow-up was done by an e-mail message to HSBs who have an e-mail address. Participating HSBs without an e-mail address were sent the message via the US Postal Service. The message was identical for both groups, regardless of the contact method. Out of the 1,200 surveys mailed out, 488 were returned, but 220 of these had erroneous addresses. 268 of the 488 returned surveys were proper for analysis. The response rate was 22.33 percent.

Data were processed in a spreadsheet format and analysis was performed using SPSS™ statistical software. Data entries for each returned survey were checked three times to ensure accuracy and to diminish error coding. Logic checks of the responses

U.S. Department of Agriculture Survey (A)

Your response to this survey will be used in assessing the quality of the U.S. Department of Agriculture (USDA) contracting program, with an emphasis on minority owned businesses. The School of Business administration, at Southwest Texas State University, is working in a collaborative effort with the USDA in conducting this survey. Our objective is to evaluate contracting opportunities and find ways to improve them. We appreciate you taking a few minutes to complete and return this survey in the enclosed postage-paid envelope by February 16. All responses to this survey are strictly confidential, and all respondents will remain anonymous. **Instructions: For each question, mark the box next to your choice with an X, unless otherwise specified.**

1. What type of products/services do you offer? (mark all that apply with an X)
- Fruits/Vegetables
 - Construction
 - Machinery manufacturing
 - Food manufacturing
 - Other (specify): _____

If you have a Specific Industrial Code (SIC), please specify _____

2. What is your average annual revenue in dollar amount?
- less than \$500,000
 - \$500,000-1,000,000
 - \$1,000,001-5,000,000
 - \$5,000,001-10,000,000
 - more than \$10,000,000

3. If you have needed additional funds to supplement your capital, what type of funds have you pursued? (mark all that apply with an X)
- Bank Loans
 - Government Loans
 - Trade Credit
 - Personal funds
 - Other (specify): _____
 - N/A

4. How many employees does your business currently have?
- less than 100
 - 101-400
 - 401-700
 - 701-1,000
 - More than 1,000

5. a. Have you tried to acquire USDA contracts?
- Yes
 - No
- b. If yes, were your attempts successful?
- Yes
 - No (briefly describe the problems): _____

6. What agencies have you tried to contact for assistance with USDA contracting program? (mark all that apply with an X)
- None
 - Small Business Administration (SBA)
 - USDA/OSDBU
 - Other: _____

7. If you have tried to locate contract opportunities with USDA on your own, which method(s) did you use to do so? (mark all that apply with an X)
- Have not tried
 - Commerce Business Daily
 - Direct contact to an outreach agency
 - Internet
 - Direct contact to USDA offices
 - Other (specify): _____

8. Indicate all essential components of electronic commerce that you and your business possess. (mark all that apply with an X)
- Do not possess any
 - Computer(s)
 - Trained personnel
 - Internet access
 - Knowledge about internet usage
 - Other(specify): _____

For questions 9-12, mark with an X the box that indicates your rating for each category/factor within each of the questions.

9. Indicate the level of accessibility you have in doing the following:

Category	Very Accessible	Accessible	Moderately Accessible	Rarely Accessible	Inaccessible
Gaining access to a computer					
Gaining access to internet					
Conducting Internet research					
Improving your internet skills					

10. Indicate the level of difficulty you have encountered in the process of contracting with the USDA.

Category	Very Easy	Easy	Slightly Difficult	Difficult	Very Difficult
Contacting the appropriate offices/agents					
Finding out/learning basic requirements and procedures					
Locating/receiving bid solicitations					
Attaining sufficient capital to satisfy bid requirements					

11. Indicate how important each of the following factors is in enhancing your ability to do business with the USDA:

Factors	Very Important	Important	Moderately Important	Barely Important	Unimportant
Making the right contacts					
Learning the procedures					
Attaining additional capital to satisfy bid requirements					
Training personnel to access USDA information					
Improving computer hardware					
Obtaining/improving internet access					

12. Indicate the level of availability to your business for each of the following USDA services to help small and disadvantaged businesses.

Services	Very Available	Available	Fairly Available	Rarely Available	Unavailable
Public announcement of USDA procurement program					
Providing important points of contact and their contact information					
Making bid opportunities known to the public					
Providing enough lead time for businesses to respond to bids					
Offering attainable-sized capital requirements					

When completed, please return the survey form in the enclosed postage-paid return envelope (Cecilia Temponi, Ph.D., Department of Management, 601 University Drive, San Marcos, Texas, 78666-4616), or fax it to Dr. Cecilia Temponi : (512) 245-2850.

Figure 2. Survey

were also performed. Returned surveys with illogical responses were excluded from the data set. Returned surveys with only the first five questions answered were also excluded from the final data set for analysis. The final data set used for analysis had 206 valid returned surveys (observations).

Measures used in this study

The scales used in this study to measure various constructs of interest were derived directly from the literature on electronic commerce and financial issues. The survey instrument was pre-tested with a subset of HSBs; consequently, the content validity of the scales was not a concern.

Financial issues were measured through annual revenue (financial status). The continuum of the range of annual revenue was broken into five intervals with two open-ended intervals (Question 2, Figure 2). Sources used by HSBs for additional funds to supplement capital were also explored. HSBs and other small businesses often utilized more than one source for additional funds. Possible sources of additional resources were drawn from Huck (1999a), La Noue (2000), Jones and Tullous (2002), Philip and Townsend (1996), Daley (2002), Ford-Livene (1999). These sources include:

- bank loans;
- personal funds;
- government loans; and
- trade credit.

Options for “other source” with space to specify it and for “non-applicable” were included. The respondents were allowed to choose all items that could be relevant to them.

Electronic commerce components necessary for small businesses to access the internet and to aid participation in e-commerce and e-procurement have been identified by Tucker and Lafferty (2004), Fregetto (1994), Kennard (1999), Borgida *et al.* (2002), Dodge (2000), Cutler (2001), Chaston *et al.* (2001), Twist (2001), Ford-Livene (1999), Huck (1999b). These components include:

- computer(s);
- internet access;
- knowledge about internet usage; and
- trained personnel.

Moreover, a combination of these components was an important measure in assessing the readiness level and capacity of HSBs to engage in e-procurement. The level of accessibility to a computer, the internet, and computer literacy were measured by questions that required a selection from a five-point Likert scale (question 9, Figure 2). A Cronbach’s alpha of 0.8518 suggested high level of reliability of these constructs.

The quality of services provided by USDA to facilitate access to contracting opportunities were evaluated using a five-point Likert scale. Two main issues were explored: the level of difficulty HSBs encountered in the process of contracting with a federal agency and the level of availability of USDA services to HSBs.

The difficulty of the process was measured by items such as:

- contacting the appropriate offices/agents;
- finding out/learning basic requirements and procedures;
- locating/receiving bid solicitations;
- attaining sufficient capital to satisfy bid requirements (question 10, Figure 2).

The reliability of these items is high as suggested by a Cronbach's alpha of 0.8425.

The availability of services to HSBs was assessed by inquiring whether:

- public announcement of procurement programs were known;
- bid opportunities were known;
- enough lead time was given to businesses to respond to bids;
- offering attainable-sized capital requirements;
- important points of contact and contact information were known (question 12, Figure 2).

The reliability of measuring availability of services was very high; the paired correlation ranged from 0.6864 to 0.9002 and Cronbach's alpha was 0.9555.

Both difficulty and availability reflect the quality of services provided by the USDA to HSBs. Cronbach's alpha was 0.9101 when all four items for difficulty and all five items for availability were combined to measure the quality of services.

Limitations

Factors identified as having an impact on the participation of HSBs in government contracting with the USDA might be relevant not only to HSBs but also to small businesses, regardless of ethnicity. Even though we did not survey non-Hispanic Small Business, reviewed literature (see Table I) indicates that similar issues impact most small businesses.

A second issue to note is that this study was conducted for the USDA procurement process, but the process may vary due to the types of services contracted or the function of the agency/business itself. It should be recognized that a bias exists for types of procurement processes; consequently, the results of our study should be used with prudence when a generalization of the procurement process for other private businesses and/or government agencies is desired.

Other limitations were related to logistics in the process of administration of the surveys. For instance, some business addresses drawn from the database provided by the Small Business Administration were not current. One of our major sponsors for this study, USDA, requested that we limit our sample selection to the database of the SBA. This database is considered the most up-to-date collection of registers for small businesses and holds more than 12,000 registers for HSBs on the date we received the addresses. Moreover, our addresses relied on the information provided in the database record. The 220 surveys returned due to non-existing or invalid addresses might present a potential bias. It should be also mentioned that three of the selected businesses refused to return the survey due to negative feelings about one of the sponsoring government organizations, as stated in the business call of these businesses to the authors. We recognized this issue, in part, as a potential limitation of this study.

The potential for non-response bias was tested by comparing on-time and late respondents (Smith, 1983; Hutchison *et al.*, 1987; Johnson *et al.*, 2000; Lindner *et al.*, 2001). Among all of the 206 valid returned surveys, 36 were identified as late returns, which arrived one and a half weeks later than the on-time respondents. On-time and late respondents were compared in terms of:

- Difference in participation (i.e. whether the number of HSBs who participated in contracting opportunities with USDA differs between the on-time and late respondents).
- Difference in outcomes in the pursuit of contract with USDA (i.e. whether the number of HSBs who secure contracts with USDA differs between the on-time and late respondents).
- Perceptions about the availability of the services and the importance of learning the required procedures to secure contracts.

We found that there is no difference between early respondents and late respondents in terms of participation and the outcome of pursuing a contract with USDA (*p*-values of Fisher’ exact test are 0.228 and 0.571 respectively). For “c”, tests were conducted for HSBs who were able to “secured contracts” and HSBs who “did not secure contracts.” Overall, there is no concern that the no-respondents would differ from the respondents in terms of HSBs’ perceptions (at a significant level of 0.01) whether or not they had secured a contract with USDA; refer to Table II.

Results

The analysis consists of two parts. The first part is an overview of the respondents’ financial status and the possession of e-commerce components. The second part is a study of the relationship and differences in the perceptions of the contracting process of the USDA by HSBs that secured contracts and HSBs that did not. A common factor analysis was performed prior to hypothesis testing to assure appropriateness of the four pre-specified factors – “Accessibility to e-components,” “Difficulty in the process of contracting with USDA,” “Importance,” and “Availability of services of USDA to HSB.” The Fisher’s exact test for nominal variables and Kendall’s tau-b for ordinal variables were used for testing the hypotheses; correspondence between the survey questions and hypotheses are presented in Table III.

Table II.
Tests of non-response bias on perceptions about the availability of services provided by USDA and the importance of learning the required procedures to secure contracts with USDA

	Secured contract Kendall’s tau-b/ <i>P</i>	Did not secure contracts Kendall’s tau-b/ <i>P</i>
Perceived availability of the USDA’s public announcement of procurement programs	- 0.300/0.041	- 0.176/0.255
Perceived availability of the USDA’s important points of contact and contact information	0.218/0.145	- 0.086/0.564
Perceived availability of access of USDA bid opportunities	0.092/0.589	- 0.125/0.454
Perceived sufficiency of lead-time to respond to government procurement bids of the USDA’s	0.216/0.291	- 0.352/0.031
Perceived importance of learning the required procedures to secure contracts	0.219/0.278	- 0.029/0.834

Hypotheses	Questions
<i>H1.</i> The annual revenue of HSBs does not impact their participation in government procurement opportunities	<i>H1</i> is related to Q2 and Q5a (participation) Q2: What's your average annual revenue in dollar amount? Q5a: Have you tried to acquire USDA contracts?
<i>H2.</i> The outcome of pursuing USDA contracts does not depend on a HSB's financial status	<i>H2</i> is related to Q2 (financial status) and Q5b (the outcome of pursuing USDA contracts) Q2: What's your average annual revenue in dollar amount? Q5b (continued from Q5a): If yes, were your attempts successful?
<i>H3.</i> The outcome of pursuing USDA contracts does not depend on whether or not a HSB owns e-commerce components	<i>H3</i> is related to Q8 and Q5b Q8: Indicate all essential components of electronic commerce that you and your business possess.
<i>H4.</i> The perceived quality of services provided by the USDA to HSBs does not depend on whether or not a HSB has secured contracts with the USDA	<i>H4</i> is related to Q12 (a ~ d) and Q5b Q12: Indicate the level of availability to your business for each of the following USDA services to help small and disadvantaged businesses
<i>H4a.</i> The perceived availability of the USDA's public announcement of procurement programs does not depend on whether or not a HSB has secured contracts with the USDA	<i>H4a</i> is related to Q12a and Q5b Q12a: Public announcement of USDA procurement program
<i>H4b.</i> The perceived availability of USDA's important points of contact and contact information does not depend on whether or not a HSB has secured contracts with the USDA	<i>H4b</i> is related to Q12b and Q5b Q12b: Providing important points of contact and their contact information
<i>H4c.</i> The perceived availability of access of USDA bid opportunities does not depend on whether or not a HSB has secured contracts with the USDA	<i>H4c</i> is related to Q12c and Q5b Q12c: Making bid opportunities known to the public
<i>H4d.</i> The perceived sufficiency of lead-time to respond to government procurement bids does not depend on whether or not a HSB has secured contracts with the USDA	<i>H4d</i> is related to Q12d and Q5b Q12d: Providing enough lead time for businesses to respond to bids
<i>H5.</i> The perceived importance of learning the required procedures to secure contracts does not depend on whether or not a HSB has secured contracts with the USDA	<i>H5</i> is related to Q11b and Q5b Q11. Indicate how important each of the following factors is in enhancing your ability to do business with USDA Q11b: Learning the procedures.

Table III.
Correspondence between the survey questions and hypotheses

Overview of the respondents' financial status and ownership of e-commerce components

The respondents were classified in two groups. The first group – “Have tried” to acquire USDA contracts – had 61 respondents; the second group – “Have not tried” to acquire USDA contracts – had 145 respondents. A comparison of the financial status and the ownership of e-commerce components of the two groups, “Have tried” and “Have not tried,” is presented in Table IV.

The two groups – “Have tried” and “Have not tried” – present similar distributions regarding the average annual revenue and ownership of e-commerce components. In both groups of HSBs, 40 percent have an average annual revenue below \$500,000 and about 30 percent have an annual revenue of one to five million dollars. This finding suggests that HSBs' participation in government procurement opportunities does not

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Table IV.
Comparison of
distributions of
respondents

	Have tried (61) ^a		Have not tried (145)	
<i>Average annual revenue</i>		(58) ^b		(144) ^b
< \$500k	39.70%	(23)	39.60%	(57)
\$500k-\$1m	15.50%	(9)	22.20%	(32)
\$1m-\$5m	29.30%	(17)	29.20%	(42)
\$5m-\$10m	10.30%	(5)	6.30%	(9)
≥ \$10m	5.20%	(3)	2.80%	(4)
<i>E-commerce components Possessed</i>		(59) ^{b,c}		(144) ^{b,c}
None	5.10%	(3)	4.80%	(7)
Computer	93.20%	(55)	93.10%	(134)
Trained personnel	52.50%	(31)	56.90%	(82)
Internet	86.40%	(51)	87.50%	(126)
Knowledge about internet	76.30%	(45)	75.00%	(108)
Other	8.50%	(5)	2.80%	(4)

Notes: ^a The numbers in parentheses are counts; ^b does not equal to group total, 61, due to missing values; ^c the percentages do not add up to 100 percent due to multiple choices allowed

depend on their average annual revenue. Regarding ownership of e-commerce components, both groups have close similarities in owning at least one computer, having access to the internet, and having knowledge about internet usage. These similarities suggest that HSBs readiness level and capacity to engage in e-procurement should not impact their pursuit of contracting opportunities with the USDA.

Additional analysis was performed on the group that “have tried” to contract with USDA. The “Have tried” group was divided into two subgroups – “Secured contracts” and “Did not secure contracts.” Comparison of the distributions of the two subgroups of their financial status and of the ownership of e-commerce components is provided in Table V.

Table V.
Comparison of
distributions of
respondents who have
tried to contract with
USDA

	Secured contracts (20) ^a		Did not secure contracts (41)	
<i>Average annual revenue</i>		(20)		(38) ^b
< \$500k	15.00%	(3)	52.60%	(20)
\$500k-\$1m	20.00%	(4)	13.20%	(5)
\$1m-\$5m	30.00%	(6)	28.90%	(11)
\$5m-\$10m	25.00%	(5)	2.60%	(1)
≥ \$10m	10.00%	(2)	2.60%	(1)
<i>E-commerce components possessed</i>		(20) ^c		(39) ^{b,c}
None	10.00%	(2)	2.60%	(1)
Computer	85.00%	(17)	97.40%	(38)
Trained personnel	55.00%	(11)	51.30%	(20)
Internet	85.00%	(17)	87.20%	(34)
Knowledge about internet	65.00%	(13)	82.10%	(32)
Other	5.00%	(1)	10.30%	(4)

Notes: ^a The numbers in parentheses are counts; ^b does not equal to group total, 61, due to missing values; ^c the percentages do not add up to 100% due to multiple choices allowed

The majority (65.80 percent) of HSBs that did not secure USDA contracts had an average annual revenue below one million dollars, while the majority (65.00 percent) of HSBs that secured USDA contracts had an average annual revenue greater than one million dollars. These findings suggest that the success in securing contracts with the USDA is related to the HSB's financial status. On the other hand, results show no significant difference between the two subgroups regarding the impact of ownership of an e-commerce component or of a specific set of e-components on the outcome of pursuing the contracts (group that "Have tried"). Additional results from the two subgroups, "Secured a contract" and "Did not secure a contract," show: 85 percent and 97.4 percent, respectively, own a computer; 50 percent in both groups have trained personnel; at least 85 percent have access to the internet; and 65 percent and 82.1 percent, respectively, have knowledge about the internet. These results came as a surprise since the percentage of HSBs possessing computers, having internet access, or knowledge about internet is higher in the subgroup "Did not secure contracts" than in the subgroup "Secured contracts."

Perceptions of HSBs with the contracting process

One of the major goals of this research was to explore the HSBs' perceptions of the USDA contracting process. In the survey instrument provided in Figure 2, four sets of questions investigate the HSBs' perceptions of the services provided by the USDA. The questions were "accessibility to e-components" (question 9), "difficulty encountered in the process of contracting with USDA" (question 10), "importance of factors" (question 11), and "availability of USDA services to HSBs" (question 12). Factor analysis results confirmed the appropriateness of the four pre-specified sets (factors). The total variance accounted for by the four-factor model (77.4 percent) was slightly higher than that accounted for by the three-factor model (71.2 percent); both models were fairly significant (Kaiser-Meyer-Olkin measure = 0.66 and approximate chi-square statistic = 540.077 and $p < 0.001$ in Bartlett's test of sphericity), but the three-factor model was more efficient in capturing the latent factors and was easier to interpret (refer to Table VI). The three-factor model was consistent with the pre-specified factors and suggested the combination of "difficulty" and "availability," both of which were variables representing the USDA's quality of services provided to HSBs.

Hypothesis testing

H1 indicated that the annual revenue of HSBs does not impact their participations in government procurement opportunities. This hypothesis was supported by the data with Kendall's tau-b = -0.045 and $p = 0.507$, and suggests that the financial status of a HSB is not a barrier in pursuing contract opportunities with the government, in this case with the USDA. Results for hypothesis testing are presented in Table VII.

Although a HSB's pursuit of contract opportunities with the USDA is not affected by its financial status, HSBs' ability to secure contracts with the USDA is, in fact, affected by the HSB's financial status, Kendall's tau-b = -0.375 and $p = 0.001$ (Table VII, *H2*). HSBs with annual revenue above one million dollars were more likely to secure contracts with the USDA than HSBs with annual revenue below one million. These results are in part aligned with the findings of Dholakia and Kshetri (2004), Tucker and Lafferty (2004), Bates (1995), and Fregetto (1994).

	Rotated component matrix of four-factor model				Rotated component matrix of three-factor model		
	Component				Component		
	1	2	3	4	1	2	3
Q9B	-0.0106	-0.1229	<i>0.8518</i>	0.0499	-0.0049	-0.1079	<i>0.8082</i>
Q9C	0.0196	-0.0535	<i>0.8714</i>	0.2113	0.0746	-0.0673	<i>0.8813</i>
Q9D	0.0812	0.1056	<i>0.8401</i>	0.1238	0.1131	0.1051	<i>0.822</i>
Q10A	<i>0.878</i>	0.0112	0.1067	-0.0871	<i>0.8108</i>	0.0454	-0.0202
Q10B	<i>0.9067</i>	-0.2021	-0.1449	-0.03	<i>0.849</i>	-0.1805	-0.2467
Q10C	<i>0.8928</i>	-0.1667	-0.0895	-0.0267	<i>0.8377</i>	-0.1451	-0.1911
Q10D	<i>0.4605</i>	-0.273	0.2254	0.6845	<i>0.6325</i>	-0.376	0.3866
Q11B	-0.046	<i>0.7508</i>	0.168	-0.0673	-0.0376	<i>0.7539</i>	0.1679
Q11C	0.1954	<i>0.5461</i>	-0.2456	-0.6424	0.0156	<i>0.6486</i>	-0.4478
Q11D	0.1304	<i>0.6458</i>	0.3481	-0.1451	0.1023	<i>0.6724</i>	0.287
Q11E	0.0673	<i>0.8644</i>	-0.2252	0.127	0.1352	<i>0.8229</i>	-0.1396
Q11F	0.0372	<i>0.8368</i>	-0.2539	-0.1236	0.0306	0.8391	-0.2502
Q12A	<i>0.7334</i>	0.1091	0.1755	0.4357	<i>0.8325</i>	0.0478	0.2417
Q12B	<i>0.8067</i>	0.3488	0.0977	0.2798	<i>0.8651</i>	0.3106	0.1176
Q12C	<i>0.7265</i>	0.3776	-0.0058	0.2569	<i>0.7834</i>	0.3388	0.0226
Q12D	<i>0.7727</i>	0.2561	0.0933	0.3224	<i>0.8419</i>	0.2111	0.128
Q12E	<i>0.5465</i>	0.0871	0.2092	0.6727	<i>0.7242</i>	-0.0185	0.3727

Table VI.
Rotated component
matrices for perceptions

H3 (Table VII) investigated the impact of owning e-commerce components on the outcome of pursuing government contracts. To our surprise, the hypothesis was not significant ($p = 0.263$ from the Fisher's exact test). *H4* and *H5* (Table VII) explored whether securing contracts with the USDA impacts HSBs' perceptions of quality of services provided by the USDA and the importance of learning the required procedures, respectively. The perceived quality of services provided by the USDA is addressed by *H4* and is assessed by *H4a* through *H4d*. The quality of each service is evaluated using a five-point Likert scale, with 1 being very available and 5 being very unavailable. This study shows that HSBs that have successfully secured contracts with the USDA had a higher perceived quality of the USDA services than those HSBs that have not secured contracts. Tests for *H4a* to *H4d* were all found significant with p -values less than 0.001.

H5 was found insignificant with Kendall's tau-b = 0.128 and $p = 0.324$ (Table VII) indicating that both groups have the same perceptions about the role of learning the required procedures to acquire contracts with the USDA.

The median evaluation scores (Table VIII) of the perceived quality of the USDA services for the subgroup "Secured contracts" is lower than the median score of the subgroup "Did not secure contracts." This implies that the services provided by the USDA to HSBs were perceived as more available by the earlier subgroup. Meanwhile, the median score of the importance of learning the required procedures is one for both groups, which suggests agreement by both subgroups on the importance of learning the required procedures to increase their ability to secure contracts with the USDA.

Results for *H4* and *H5* were also confirmed at an aggregate level; the quality of service was measured by averaging the scores of all nine items for difficulty and availability (questions 10 and 12, respectively, Figure 2), and the importance of

Hypotheses	Kendall's tau-b/P ^a	Mann-Whitney U/P ^b
<i>H1</i> . The annual revenue of HSBs does not impact their participation in government procurement opportunities	-0.045/0.507	
<i>H2</i> . The outcome of pursuing USDA contracts does not depend on a HSB's financial status	-0.376/0.001	
<i>H3</i> . The outcome of pursuing USDA contracts does not depend on whether or not a HSB owns e-commerce components	*/0.263	
<i>H4</i> . The perceived quality of services provided by the USDA to HSBs does not depend on whether or not a HSB has secured contracts with the USDA		(36)/(0.001) ^c
<i>H4a</i> . The perceived availability of the USDA's public announcement of procurement programs does not depend on whether or not a HSB has secured contracts with the USDA	0.391/0.000	153/0.000
<i>H4b</i> . The perceived availability of USDA's important points of contact and contact information does not depend on whether or not a HSB has secured contracts with the USDA	0.584/0.000	104.5/0.000
<i>H4c</i> . The perceived availability of access of USDA bid opportunities does not depend on whether or not a HSB has secured contracts with the USDA	0.477/0.000	125.5/0.000
<i>H4d</i> . The perceived sufficiency of lead-time to respond to government procurement bids does not depend on whether or not a HSB has secured contracts with the USDA	0.495/0.000	124/0.000
<i>H5</i> . The perceived importance of learning the required procedures to secure contracts does not depend on whether or not a HSB has secured contracts with the USDA	0.128/0.324	304.5/0.505 ^d

Notes: ^a Tests of Association; ^b Wilcoxon-Mann-Whitney test; ^c Wilcoxon-Mann-Whitney test for H4 at aggregate level; ^d Wilcoxon-Mann-Whitney test for H5 at aggregate level; * Fisher's exact test

Table VII.
Tests of hypotheses

	Secured contracts	Did not secured contracts
The perceived availability of the USDA's public announcement of procurement programs	3	4
The perceived availability of USDA's important points of contact and contact information	3	4
The perceived availability of access of the USDA bid opportunities	2	4
The availability of sufficient lead-time for businesses to respond to bids	2.5	4
The importance of learning the required procedures to secure contracts with the USDA	1	1

Table VIII.
Median scores of items measured with five-point Likert scale for HSBs who secured contracts and who did not secure contracts

procedures was measured by averaging the scores of all six items of question 11, Figure 2. The test of *H4*, Table VII, was significant with Mann-Whitney U of 36 at *p*-value less than 0.001 and *H5* was insignificant with Mann-Whitney U of 304.5 at *p*-value of 0.505.

Discussion

This empirical study assessed three main factors that influence the participation of HSBs in government contracting within the USA. The first factor related financial aspects that impact participation of HSBs in business opportunities with the USDA and the corresponding outcome (securing a contract). The second factor investigated e-commerce and its components. The third factor was the concerns and perceptions of HSBs regarding the USDA's quality of services provided to HSBs.

From the analysis of results, we found that HSB owners supplement funds with informal sources (personal funds and/or family loans) as well as formal sources (bank loans, government loans, and trade credits); our findings support earlier research by Nute (2002), Benton Foundation (2001a; b), Cutler (2001), Chaston *et al.* (2001), and Ferguson (2000). We also found that HSBs' financial status has no impact on HSBs pursuing contracts with the USDA. However, HSBs with annual revenue greater than one million dollars have a greater likelihood of securing contracts with the USDA than HSBs with annual revenue below one million dollars (Table V). Moreover, HSBs with annual revenue below one million dollars might also have a decreased ability to secure other human and technological resources, consequently limiting contracting opportunities and participation (Woo and Ennew, 2005; Ursery, 2003).

Having e-commerce components did not impact HSBs' ability to try and/or secure contracts (Table IV, section V). This result came as a surprise; earlier research (Iacovou *et al.*, 1995; Strandholm *et al.*, 2004; Grandon and Pearson, 2004; Dholakia and Kshetri, 2004) suggested that one of the factors and problems preventing small businesses and HSBs from participating in e-commerce was the lack of e-commerce components and that internet access has been of concern for HSBs (Ferguson, 2000; Benton Foundation, 2001a, b; Tucker and Lafferty, 2004). Our findings indicated that most HSBs have at least one component of e-commerce – among the 203 HSBs that responded, 193 (95.1 percent) owned at least one e-commerce component. Our results are encouraging and should generate programs from the private sector, the government, and the USDA to entice more HSBs to participate in e-procurement.

The perceptions of services provided by the USDA to HSBs were found to be different depending on whether a HSB has secured a USDA contract. The median evaluation score of the perceived quality of USDA services for the group that secured contracts is lower than the median score of the group that did not secure contracts. HSBs with annual revenue greater than one million dollars are more likely to secure contracts than those with lower annual revenue (*H2*). Moreover, the higher annual revenue seems likely to bring a different perspective to HSBs in securing contracts and perceiving the quality of services with the USDA. It should be noted that not only is the quality of services unsatisfactory to HSBs, but also specific issues of the quality of services, such as availability of bid opportunities, points of contact and contact information, and lead time to respond to bids, are perceived as deficient by HSBs that "did not secure contracts." Results also indicate that HSBs are well aware of the

importance of learning required procedures and that learning these required procedures increases their ability to do business with the USDA; the median score was 1 for both groups.

Our findings suggest that additional work needs to be done to remove HSBs' perceptions of inequality and assure capital access to this growing segment of the economy. Complex forces will shape and define the emerging structure of the USA. Hispanic economy for the next several years; therefore, a broad set of national public policies should emerge to adequately address access to capital, education to diversity in the workplace, business and government procurement, and professional advancement of HSBs. Strategic alliances should be developed between vendor programs and private and government agencies by efficiently using Hispanic small business databases. Private and government agencies need to hold small business fairs throughout the country. These fairs should emphasize workshops that address HSBs' negative perceptions of government agencies. Workshops should also focus on providing HSBs with information on how to get involved and how to prepare bids electronically. Assisting minority-owned small businesses to gain access to financial resources is crucial to increasing their participation in e-procurement. Therefore, a comprehensive plan should include a joint effort among the government, businesses (large, medium and small), and communities.

Conclusion

These findings suggest that:

- HSBs' average annual revenue does impact their participation in government procurement opportunities.
- HSBs' readiness level and capacity to engage in e-procurement do not impact their pursuit of contracting opportunities with the USDA.
- Owning an e-commerce component, or of a specific set of e-components, does not impact the outcome of pursuing the contracts.
- HSBs' ability to secure contracts with the USDA is, in fact, affected by the HSB's financial status (Table VII, *H2*).
- HSBs that have successfully secured contracts with the USDA had a higher perceived quality of the USDA services than HSBs that have not secured contracts.
- Perceptions of the role of learning the required procedures to acquire contracts with the USDA do not differ significantly whether or not a HSB has secured a contract.

This research contributes to the literature in two complimentary ways. One contribution supports some of the earlier research on barriers for engagement of small business in government procurement, specifically the financial status and the perceptions of services provided by the USDA to HSBs. The second contribution offers specifics on Hispanic small businesses – perceptions of the quality of services and opportunities offered to them by the government and by the USDA.

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