

**BIDDING STRATEGIES IN REVERSE AUCTIONS FOR THE AUTOMOTIVE  
INDUSTRY PROCUREMENT**

*by*

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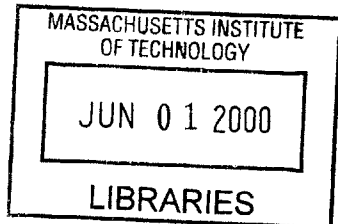
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ENG

*Para Ivette, por supuesto.*

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## **Abstract**

The Information Era has brought along a myriad of revolutionary changes. The Internet in particular has given new forms to old paradigms. It is quite a challenge for companies to decide which of all these options best suit their business model and their strategies, hopefully one that also provides them with a competitive edge.

One of these new alternatives is online auctions used as a procurement tool. And because of their novelty, it is still unclear whether they are a flawless method of decreasing costs.

Although there are many issues concerning this topic, the one addressed here is how the bidders' behavior during the auction (the strategy used to place their bids) affects the outcome, for them as well as for the company setting up the event; and how managers on both sides can maximize the benefits. The basis for the study was a recent auction conducted by autoparts maker Visteon for the procurement of a plastic hose.

On the supplier side, the results show that those companies that had a target price before entering the auction, would obtain the most benefits (less sacrifice in profits), since Visteon did not award the projects solely based on price. On the buyer side, having a rich mixture of bidders (diverse in size, location, quality concern for example) enables a more dynamic process (lower prices).

## **Acknowledgments**

To Eduardo and Leticia.

You not only gave me life but taught me how to passionately enjoy every minute of it.

To Lalo.

I hope you will always know how much I love you.

To Lety.

Your contagious happiness is an inspiration.

To Ivette.

Your infinite love and tender patience guided me through these nine months (and will continue to do so for the rest of my life).

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## **CHAPTER 1. INTRODUCTION**

We are living in a time of dramatic and sweeping changes, a true landmark in the history of industrial and economic activity. The technological and scientific advances we experienced in the 20<sup>th</sup> century, paved the way for the creation of new paradigms and revolutionary models.

The ubiquitous Internet is just beginning to show its potential as a business tool. As time goes by, more and more companies will increase their efficiency by using it to reduce costs, obtain faster and more reliable information, improve coordination between channel partners, reach more customers, and perform many other functions.

The primary purpose of this thesis is to analyze an online reverse auction for the procurement of plastic hoses for Visteon Automotive, a subsidiary of Ford Motor Company. As part of a collaborative study between the Massachusetts Institute of Technology and Visteon –aimed at the impact of electronic bidding processes on supplier relationships– the topic addressed here is a description of the participants' behavior during the event, their bidding strategy, and the consequences for themselves as well as for the buyer (Visteon in this case). The objective is to acknowledge how potential pitfalls can be offset and mutual gains maximized when using this electronic procurement technique.

The methodology was to scrutinize the way each of the twelve participants placed its bids on the eight different lots –that is, eight different parts– and make conclusions accordingly. In order to achieve so, I classified them in different categories according to three criteria: their status as a supplier for Visteon, the size of their sales to Visteon and their involvement in quality activities.

The study is structured as follows:

Chapter 1 introduces the thesis, its purpose and goals. Chapter 2 provides the background, presenting the definitions of important terms used throughout the text. It also describes the current situation of electronic commerce and its relation to online auctions, as well as the benefits and drawbacks of the latter. This chapter also includes brief descriptions of both Visteon and the company that provided the software for the event (FreeMarkets Inc.). Chapter 3 explains the process followed by FreeMarkets to setup the auction, as well as succinct profiles for each of the participating companies. Chapter 4 describes how each of the categories were created, and their composition. In Chapter 5 every part of the event is thoroughly described, followed by a conclusion for each category. Building upon these specific

conclusions, a set of general recommendations for managers on both sides of the transaction (buyers and suppliers) is presented. Finally, Chapter 6 recounts and summarizes the thesis.

Given the fact that this thesis is part of an ongoing study, it is important to clarify the point that the conclusions are in no way categorical. As these business models continue to evolve and further research is conducted upon them, managers will have access to a deeper understanding of the dynamics of electronic tools for procurement, and the effects they have on their buyer-supplier relationships.



## **CHAPTER 2. BACKGROUND**

The purpose of this chapter is to provide the milieu for the event.

The fact that many of the terms used in the so called "Information Era" are defined differently depending on the environment, I provide some clarifying definitions for terms that are going to be used throughout the study (i.e. Internet, World Wide Web, Electronic Commerce). I also define specific terms directly related to this thesis (i.e. Auctions, Reverse Auctions).

Following the definition section, I present the current environment as well as the future trends of electronic commerce in general. The purpose of this section (2.2) is to relate these facts to Visteon's motivation in using these tools as part of their procurement strategy. Section 2.3 ties some accepted principles of purchasing to the whole topic of auctions for procurement.

I also provide information regarding the two major players in the event: Visteon and FreeMarkets (the software provider). After a quick profile of the companies, I review their current business strategy and how this event fits into their objectives (specifically in the case of Visteon).

### **2.1 Definitions**

Providing definitions should be particularly helpful in the case of "E-commerce", which has often been considered as content-free (Scott-Morton, 2000) and also with the erroneous concept of using Internet and World Wide Web interchangeably.

#### *2.1.1 Internet*

The Encyclopædia Britannica (see References section) defines it as "a network connecting many computer networks and based on a common addressing system and communications protocol called Transmission Control Protocol/Internet Protocol (TCP/IP)". From its creation in 1983<sup>1</sup>, it grew rapidly beyond its largely academic origin into an increasingly commercial and popular medium.

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<sup>1</sup> Although some people actually trace it back to the US Government's creation of the ARPANET (1968) or Xerox's research conducted at their PARC facilities (1970).

### *2.1.2 World Wide Web*

Also known in its contracted form, WWW, it is the leading information retrieval service of the Internet (as defined by the Encyclopædia Britannica). The Web gives users access to a vast array of documents that are connected to each other by means of hypertext or hypermedia links<sup>2</sup>. The Web operates within the Internet's basic client-server format; servers are computer programs that store and transmit documents to other computers on the network when asked to, while clients are programs that request documents from a server as the user asks for them. Browser software allows users to view the retrieved documents. A hypertext document with its corresponding text and hyperlinks is written in Hyper Text Markup Language (HTML) and is assigned an online address called a Uniform Resource Locator (URL).

### *2.1.2 Electronic Commerce*

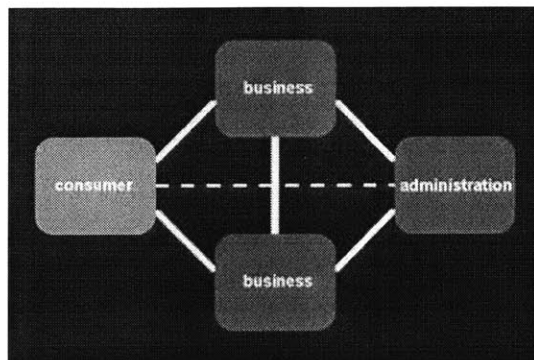
Although this is a fairly broad concept, the European Commission (see References section) defines electronic commerce (also e-business, e-commerce, ecommerce, ec, e-tailing, I-commerce, web-commerce) as "any form of business transaction in which the parties interact electronically rather than by physical exchanges or direct physical contact." However, while accurate, such a definition hardly captures the essence of the whole electronic commerce concept, which in practice is rather viewed as one of those unique cases where emerging trends and new technologies converge to revolutionize the status quo of businesses. Its usage includes a wide range of activities: retail, finance, distribution, sales support, engineering design, business support, publishing, professional services, procurement, etc.

In order to simplify matters, two broad categories can be identified within electronic commerce: business to business (B2B) and business to consumer (B2C). B2B encompasses all commercial transactions (mainly buying and selling) between companies performed on the Internet. B2C relates to all types of retail activities executed over the Internet.

As I mentioned earlier, e-commerce (as it will be referred to henceforth) refers to a vast array of models including transactions between governmental institutions and the individual, and/or companies, as illustrated in the next image:

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<sup>2</sup> Hypertext allows the user to select a word from text and thereby access other documents that contain additional information pertaining to that word; hypermedia documents feature links or passages to images, sounds, animations, and/or movies.



Source: *Electronic Commerce and the European Union*

### 2.1.4 Auctions

The Encyclopædia Britannica defines them as “the buying and selling of real and personal property through open public bidding.” The traditional auction process involves a succession of increasing bids<sup>3</sup> by potential purchasers until the highest (and final) bid is accepted by the auctioneer. This arrangement can vary across different kinds of auctions and more often than not, terms are incorrectly used.

Although there are many auction formats, I will focus on the four main types: English, Dutch, sealed-bid and double auctions.

#### 2.1.4.1 English Auction

The English ascending-bid auction is the most familiar type of auction to almost everyone, “so it is perhaps not surprising that this is also the most common format used by Internet auctioneers” (Lucking-Reiley, 1999). Also known as the open-outcry or the ascending-price auction, it is commonly used to sell art, wine and numerous other goods. Here the auctioneer begins with the lowest acceptable price –the reserve price– and proceeds to solicit successively higher bids from the customers until no one will increase the bid. The item is sold (“knocked down”) to the highest bidder

#### 2.1.4.2 Dutch Auction

This type of auction was developed in the 17<sup>th</sup> century in Amsterdam for the sale of fresh flowers, and it differs from conventional auctions in that the price of the goods on offer descends and all bids are immediately successful. In a Dutch auction the auctioneer begins at a high price, and the price then descends by steps until a bidder indicates his or her intention to buy at the price level reached. The successful bidder then nominates all or part of the goods on offer. If any goods remain in the current lot,

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<sup>3</sup> A bid is the offer of a specific amount of money on an item for sale.

the auctioneer increases the offer price by a predetermined amount and then resumes the auction. The auction continues in this fashion until either the current lot is exhausted or its reserve price is reached.

#### 2.1.4.3 Sealed-bid Auction

The third auction type considered here has a primary characteristic of being sealed (not open-outcry like the English or Dutch varieties) and thus hidden from other bidders. A winning bidder pays exactly the amount he bid. Usually each participant is allowed one bid which means that bid preparation is especially important. To confuse matters, the financial community refers to this type of auction as an English auction, except in Great Britain where it is known as the American auction (!). Generally speaking, a sealed-bid format has two distinct parts: a bidding period in which participants submit their bids, and a resolution phase in which the bids are opened and the winner determined (sometimes the winner is not announced).

#### 2.1.4.4 Double Auction

In this auction both sellers and buyers submit bids, which are then ranked from highest to lowest in order to generate demand and supply profiles. From the profiles, the maximum quantity exchanged can be determined by matching selling offers (starting with lowest price and moving up) with demand bids (starting with highest price and moving down). This format allows buyers to make offers and sellers to accept those offers at any particular moment.

#### *2.1.5 Reverse Auctions*

In traditional auctions –such as the ones defined earlier– sellers post products, and consumers respond with bids. According to Forrester Research (see References section) in reverse auctions, however, consumers (buyers) describe their needs<sup>4</sup>, and retailers (suppliers) respond with products and prices. They are also known as “buyback auctions.”

## **2.2 Business-to-Business E-commerce**

As part of this introduction, I am presenting some of the major issues occurring in e-commerce nowadays. Due to the nature of this study, I will concentrate on the B2B part of it. The purpose of this preamble is to present the series of situations that eventually drove Visteon to consider online auctions as part of its procurement strategy.

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<sup>4</sup> These specifications are usually described in a document called Request For Quote (RFQ).

There is no area of the Internet surrounded by more hype or higher expectations than B2B. Particularly this year we will see a parade of IPOs, acquisitions, mergers, and creation and development of online markets. Although B2B is only one-third the traffic of the better-known B2C segment, it will very soon outgrow it, "including giants like Amazon.com" (Parrish, 2000).

Forrester Research is currently revising –in an upward fashion– its prediction that the United States e-commerce growth will sky-rocket from \$109 billion in online sales in 1999, to \$1.3 trillion by 2003. And diverse companies predict even higher figures:

Goldman Sachs	\$1.5 trillion
BankBoston	\$1.7 trillion
Gartner Group	\$3 trillion

One of the most interesting recent stories is that General Motors, Ford and DaimlerChrysler announced in February a joint venture to build a network to streamline business with their huge selection of suppliers. This by itself would represent the largest Internet company in terms of revenues (\$240 billion approximately). In fact GM and Ford have already started something similar: TradeXchange (GM) and AutoXchange (Ford) are marketplaces that link over 30,000 suppliers over the Internet to save money by cutting the paperwork and time needed for hundreds of thousands of transactions. It has been highly publicized that TradeXchange could slash \$90 from the \$100 cost of filling a purchase order.

Shortly after this announcement, General Electric announced the creation of its Global Exchange Services unit. This division will focus on four markets: Internet Data Exchange, Enterprise Application Integration, procurement software and services, and trading partner exchanges. Sears and French retailer Carrefour are engaging in a similar enterprise.

In all these situations, auctions are likely to play a major role.

Interestingly and despite all this activity, there are still major opportunity areas. A recent survey of 2,500 companies by the National Association of Manufacturers found that 68% did not do any business over the Internet. It is not erroneous to assume that early adopters are very likely to obtain great benefits and Visteon is definitely one of them. The next section will look at some of this advantages.

## 2.3 Purchasing Practices and Auctions

In this day and age manufacturing companies are learning more than ever to produce more product with fewer people, "mainly because of competitive pressures from the Pacific Rim" (Schorr, 1998). This has caused the ratio of purchased materials dollars to direct labor dollars in the typical manufacturing company to change from a 3:1 ratio in the mid-1980s to a 4:1 ratio in the early 1990s. In addition to this, quite often the cost of purchased materials represents 60% or more of the total cost of the goods (Fearon et al., 1993).

Most companies have a staff of skilled engineers who, with the help of sophisticated software, develop improved methods in manufacturing and continue to reduce the labor content. As new technologies reduce the cost of making something, so previous price expectations are deconstructed<sup>5</sup>. As Alan Mitchell mentions, "the Information Age is generating the mother-of-all disruptions" (1999). This will obviously drive that 4:1 ratio up and as they continue to succeed, purchasing professionals will come under greater pressure to find ways of cutting the costs of purchased materials.

One of the main propositions of an environment like Just-in-Time<sup>6</sup> (JIT) is to drive inventory down radically, which then translates into smaller lot sizes more frequently delivered. The purchasing department of the company will not only be expected to lower the costs, but will have to achieve this with smaller lot sizes.

The problem buyers experience in traditional settings is that they are too busy expediting and scaling colossal amounts of paperwork to look for more efficient ways to perform their tasks. Even if they find the time to do it, they quite often do not have all the information they need to negotiate the best deal for their company. Opportunities for savings are missed, companies become less competitive and all these feedback loops just lay more and more pressure upon purchasing people to bring costs down.

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<sup>5</sup> Mitchell (1999) cites the example of the domestic refrigerator whose price has fallen 98% since its introduction in 1915, and that thanks to Information Age technologies, the prices for cellular phones have decreased even more dramatically than that in just 15 years.

<sup>6</sup> A Japanese manufacturing philosophy which focuses on avoiding high inventories by having supplies brought into production until the very moment they are needed.

## 2.4 Benefits and Drawbacks of Online Auctions

As they become more and more common<sup>7</sup>, online auctions start to demonstrate their potential as a great tool to enhance business. Here is a list of some of the major benefits (when compared to traditional auctions).

- There are no limitations on the geographic scope. Virtually any supplier in the world with Internet access is a potential participant.
- The product variety is immense.
- Transactions costs are significantly lower for both parties (buyer and supplier).
- Preparation and negotiation times are also dramatically reduced.
- All bidders have access to the same information both before and during the events.
- They establish brand awareness.
- Pricey intermediaries are eliminated (i.e. brokers and distributors).

On the other hand, presumably the greatest disadvantage of online auctions is that they are solely based on price. I will agree to that notion in general but I also believe there are specific situations –such as the one presented in this thesis– in which this concept is erroneous. This will be discussed in a further section (3.1).

Following from the previous point, it has also been said that in competitive markets, prices reflect the equilibrium where supply and demand come into balance and that auctions “will prove most suited to those cases where there is a clear, but typically temporary, market imbalance. These so-called disequilibria usually occur in three main ways: products can be in significant surplus, they can be noticeably scarce, or they can be isolated from traditional price-setting mechanisms” (Moschella, 1999). Later on, this idea will also be reviewed.

## 2.5 Companies



### 2.5.1 Visteon Automotive Systems

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<sup>7</sup> I have even stumbled upon the somewhat preposterous concept that we are living in an “auctions economy” (!).

### 2.5.1.1 Profile

Ford Motor Company's automotive component unit is the world's second largest auto parts maker (behind Delphi Automotive). Visteon has operations in 21 countries and over 80,000 employees. Its automotive products include chassis, climate control, electronics, exterior, glass, and powertrain control systems, complete instrument panels and other non-automotive products like theater seats and power generators. They recently formed an alliance with Intel and Microsoft to develop a computing platform for cars. Ford accounts for 92% of Visteon's sales and they in turn account for about 12.5% of Ford's annual revenues.

Sales (1998):	\$17.8 billion
Annual sales growth:	3.5%
Net income (1998):	\$712 million
Annual net income growth:	37.5%

### 2.5.1.2 Situation and Strategy

David Bent, Chief Information Officer (CIO) of Visteon, was Information Week's "Chief of the Year" in 1999. And although this could be considered as merely a medal or a prize, there is actually a titanic amount of effort and strategy design behind it.

Bent has decided to overhaul Visteon, transforming it from a "brick-and-mortar"<sup>8</sup> company into an electronic business powerhouse. This revamping ranges from changing the e-mail system of over 20,000 users to the implementation of complex supply chain processes. It is in the latter where the bulk of the activity is going to take place.

This strategy will enable Visteon's objective of increasing its sales to automakers other than Ford (i.e. DaimlerChrysler and BMW) and to boost the aftermarket's sales from about \$700 million in 1999 to \$2.5 billion in 2002. Fundamental to this growth is Ford's plan to spin off Visteon by the end of the year (although there are no details yet for a specific date).

One area of e-commerce in which the company has already made great strides is online procurement.

This is a rather pivotal strategy: a survey recently conducted in Germany showed that only 24% of all companies questioned had long-term plans for their materials supply (Koppelman, 1998).

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<sup>8</sup> Another catchphrase from the Information Age, it simply refers to any company that does not conduct any business over the Internet. The combination of traditional models and e-commerce results in "brick-and-click" companies.



According to Bent, supplies are their biggest cost. Last year Visteon embarked on an effort focused on obtaining bids from a variety of manufacturers for printed circuit boards. The results were largely successful and substantial savings were reached (detailed information would be discussed in Chapter 5).

The reverse auction was part of an overall study to evaluate a number of tools in the e-commerce space and it marked the first step in Visteon's leveraging the Internet as they separate from Ford.

An ensuing event (which took place in January 2000) to auction off a radiator rubber hose, is the study basis for this thesis. The software tools were provided by a company called FreeMarkets, which will be reviewed in the following section.



## *2.5.2 FreeMarkets Inc.*

### 2.5.2.1 Profile

FreeMarkets (NASDAQ: FMKT) operates real-time, B2B online auctions for companies buying custom industrial components, chemicals, and commodities such as coal and steel. Their BidWare™ software links buyers with sellers in timed, reverse auctions. The company's clients have included PepsiCo, United Technologies, Caterpillar, Procter & Gamble, Whirlpool, and General Motors. FreeMarkets collects fees for conducting the auctions and sometimes takes a percentage of what the buyers save. It is also developing an online marketplace for government agencies. Co-founded by Glen Meakem and Samuel Kinney in 1995, the Pittsburgh-based company flaunts an impressive – to put it mildly– market cap of \$7 billion<sup>9</sup>.

Sales (1999):	\$20.9 million
Annual sales growth:	167.9%
Net income (1999):	(\$21.8) million
Annual net income growth:	N / A

### 2.5.2.2 Situation and Strategy

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<sup>9</sup> This makes Mr. Meakem one of United States' new Internet multimillionaires, with a net worth of \$750 million.

Though FreeMarkets is still not profitable, its revenues are exploding. Sales have been rising 25 to 50% each quarter, hitting \$9 million in the last three months of 1999. And with the multilingual staff, supplier databases and industry experts needed to run a thriving marketplace, it will be hard for another Internet upstart to challenge them

Nevertheless, Mr. Meakem and his 376 employees have to proceed very cautiously. General Motors, which accounted for about 17% of its revenues in the first nine months of 1999 (they were their second biggest customer), announced at the beginning of this year it was shifting its business to rival online company Commerce One and shortly after that, formed the partnership with Ford and DaimlerChrysler mentioned earlier in this chapter.

Although it is highly unforeseeable that all FreeMarkets' clients will start auction services of their own, in order to succeed they have to stick to their value-added proposition of offering more than just a procurement software tool but actually helping companies redesign their long-term purchasing strategies.

Future investment will be heavily concentrated in call centers, auction technology and foreign operations.

## **CHAPTER 3. EVENT PREPARATION**

### **3.1 Methodology**

Briefly described, this is the process followed by FreeMarkets (FM) to setup a reverse auction.

A company (Visteon in this case) approaches FM to have their reverse auction arranged. After all the details are provided, FM releases a "Supply Opportunity Fact Sheet" and distributes it among potential suppliers all around the globe. If they express an interest in participating, FM then sends a document called "Request For Information" (RFI), which contains questions concerning the supplier's background, size, processes, quality, etc. Once the potential bidder completes it and returns it to FM, a selection process follows. Quality, manufacturing capability, experience, technical support, and financial stability are amongst the main criteria utilized for this skimming process. This is an enormously important part of the process. "If you don't have the right people bidding on the right things, online procurement is garbage, no matter what fancy technology you're using," says Glen Meakem.

In the interim the company helps Visteon prepare the often extremely lengthy Request For Quote or RFQ. This document contains detailed written specifications as well as part prints.

Once the suppliers are revised and approved by Visteon the RFQs and the BidWare™ software are sent to the suppliers. A subsequent training session is given before the event.

Finally, the auction takes place.

In FM's darkened control room, the action unfolds on a price and time chart displayed on huge videoscreens; suppliers and buyers follow along on their computer screens at their locations<sup>10</sup>. Every time one of the participants bids, a "ping" rings out and a black diamond appears on the screens, representing the price of the bid and the time it was made. However, the bidders remain anonymous; only their quotes are seen by the others. Every diamond that comes during the last minute (or in some cases in the last two) of regulation kicks the auction into a minute of overtime. Each overtime bid extends the auction 60 seconds more. Once the extended time is over, the auction is closed.

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<sup>10</sup> They can access the bidding site via a standard web browser and a password.

Having explained how FM prepares and sets up the events, I will now present a short profile for the twelve companies that took part in Visteon's auction for their radiator/heater hoses procurement.

## **3.2 Participants**

### *3.2.1 Avon Automotive (USA)*

Over a 100 years in business, this company manufactures all kinds of products for the automotive and industrial sectors. Most of their sales are done in North America, reaching \$160 million last year. They are a current supplier for Visteon.

### *3.2.2 Cooper Tire & Rubber Company (USA)*

Founded in 1914, specializes in the manufacturing and marketing of rubber products for consumers. Products include automobile, truck and motorcycle tires; inner tubes; vibration control systems; automotive sealing; and hoses and hose assemblies. Last year they had \$145 million in revenues. They are currently supplying Visteon with some of their products.

### *3.2.3 The Goodyear Tire & Rubber Company (USA)*

The number 1 tire maker in the world, (Bridgestone and Michelin are far behind) manufactures all kinds of tires (cars, trucks, airplanes), belts (automotive, conveyor), hoses, chemicals, molded transportation products, and air springs. In addition to its own brand of tires, Goodyear sells Dunlop tires in North America and Europe through its alliance with Japan's Sumitomo, in which it holds a 10% interest. The company is number 130 in Fortune's 500, and last year they had sales for \$1.3 billion. They are an incumbent supplier for both Visteon and Ford.

### *3.2.4 Hutchings Hose Products (USA)*

The smallest company of the group (67 employees and \$100,000 of sales last year), 100% of its market is in North America, where they also provide parts for Visteon. Of very recent creation, they have been in business for less than two years.

### *3.2.5 Hutchinson Fts. Inc. (France)*

One of the European leaders in rubber products, they mainly focus in three markets: automotive, industrial and consumer products. A part of the Chemical Division of Totalfina Group, they had revenues for \$300 million last year. They are an incumbent supplier for Visteon.

### *3.2.6 HS R & A Company Ltd. (Korea)*

Most of this company's products are aimed at the automotive industry (hoses and plastic parts). With almost no sales overseas, they had \$125 million of revenues last year. They presently supply Visteon's plant in India.

### *3.2.7 Industrias Mangotex Ltda. (Brazil)*

The only company from Latin America in the event, Mangotex currently supplies Visteon with automotive hoses. Last year they had revenues for \$26 million, of which 92% was sold in South America.

### *3.2.8 LG Cable Ltd. (Korea)*

This company is Korea's largest cable manufacturer. Their integrated system is capable of producing everything from base materials to complete networks for electric power or telecommunications. Some of LG Cable's main products include extra-high-voltage cable, optical fiber and optical cable. Recently, the company has begun to diversify into such non-cable areas as LANs, connectors, leadframes, industrial-use rubber and aluminum products. A potential new supplier for Visteon, last year they had sales for \$1.4 million.

### *3.2.9 Phoenix Automotive Schlauch + Profil GmbH (Germany)*

Founded almost 150 years ago, . Last year they had revenues for \$117 million and all sales were made in the European market.

### *3.2.10 Pyung Hwa Industrial Company Ltd. (Korea)*

A leader in the Korean elastomeric rubber Industry since they were founded 50 years ago, they manufacture various types of automotive and industrial rubber parts. They are trying to expand their sales in North America and Visteon represents a great opportunity. Their last year sales were \$65.5 million.

### *3.2.11 Teklas Kaucuk A.S. (Turkey)*

With almost 30 years in business, this manufacturer of rubber automotive components is attempting to expand its market beyond the European Union. Although they are currently a supplier for Ford Turkey, they will try to establish a relationship with Visteon. Last year they had revenues for \$26.8 million (92% in Europe).

### *3.2.12 Tokai Rubber Industries Ltd. (Japan)*

Created in 1929 and part of industrial giant Sumitomo, Tokai has been developing lateral product supplies to different industries, such as automotive –the largest sector– office automation, communications, electronics, buildings and construction, housing, machine tools, plant appliances, vehicles, ships, civil engineering, and mines. 98% of its last year’s \$1.05 billion revenues were obtained in the Pacific Rim. Visteon represents an opportunity to have a greater presence in America.

## CHAPTER 4. CATEGORIES

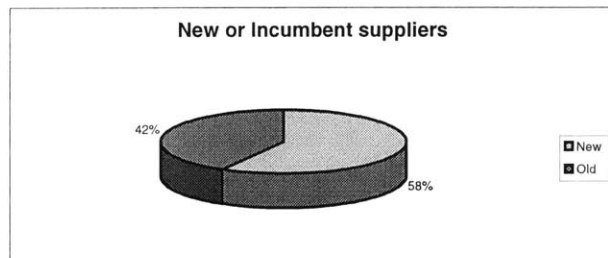
In order to conduct the study, I classified the participants into three categories. They are based in the following criteria: if they currently supply parts to Visteon or not, their size according to their sales to Visteon, and their concern for quality.

I will now proceed to explain how each of the categories was conformed and the parameters used to establish them. The tables provide the names of the companies in each of the categories and the accompanying chart shows the percentage they represent out of the twelve participants.

### 4.1 New or Incumbent Suppliers

Question number 4.3 in the RFI asks the supplier if they are a current or former supplier to Visteon and/or Ford. According to this data, the group was divided in the following manner.

NEW	INCUMBENT
HS R & A	Avon
LG Cable	Cooper
Pyung Hwa	Goodyear
Teklas	Hutchings
Tokai	Hutchinson
	Mangotex
	Phoenix

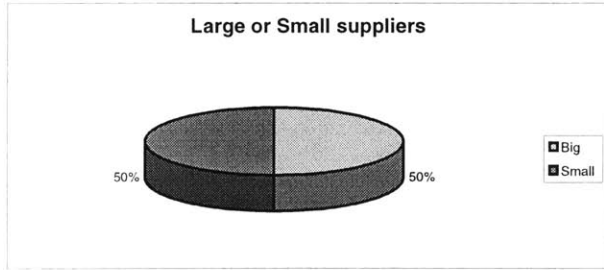


### 4.2 Large or Small Suppliers

If their annual revenues exceed a sales median of \$121 million<sup>11</sup>, they are considered among the "Large" suppliers. Companies with sales under that amount are considered "Small" suppliers. These terms are solely used with the purpose of classifying the participants in the event, and in no way are a description of their actual size.

<sup>11</sup> This amount refers only to the companies' sales to Visteon.

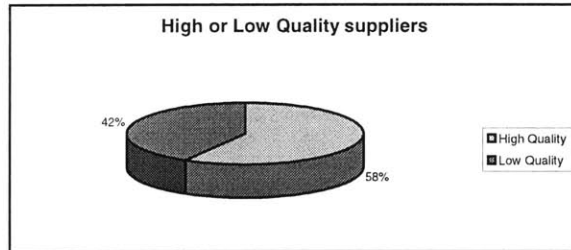
LARGE	SMALL
Avon	Hutchings
Cooper	LG Cable
Goodyear	Mangotex
HS R & A	Phoenix
Hutchinson	Teklas
Tokai	Pyung Hwa



### 4.3 Quality

FreeMarkets' RFI has a section called "Processes, Qualifications, and Testing" where suppliers are asked about third-party quality certifications and awards. If they have received Ford's Q1 quality award, they are considered as a "High Quality" supplier. If they have not received such a prize, they are classified as a "Low Quality" company.

HIGH QUALITY	LOW QUALITY
Avon	HS R & A
Cooper	Hutchings
Goodyear	LG Cable
Hutchinson	Teklas
Mangotex	Pyung Hwa
Phoenix	
Tokai	





## CHAPTER 5. ANALYSIS AND RESULTS

This chapter contains all the quantitative data and its corresponding analyses. Each lot is thoroughly scrutinized for each of the three categories. The plots for each lot precede the observations. At the end of every section there is a conclusion for that specific category, with a table that summarizes the behavioral characteristics of the companies in that group.

Once all the analyses and conclusions for the categories are presented, an auction-wide, broader conclusion is provided. This last section (5.4) offers a series of suggested approaches for buyers and suppliers to maximize the benefits and offset the potential shortcomings of reverse auctions.

In order to simplify matters, I used the following acronyms to depict the categories:

LS	Large Supplier
SS	Small Supplier
NS	New Supplier
IS	Incumbent Supplier
HQ	High Quality Supplier
LQ	Low Quality Supplier

Finally, two explanatory notes:

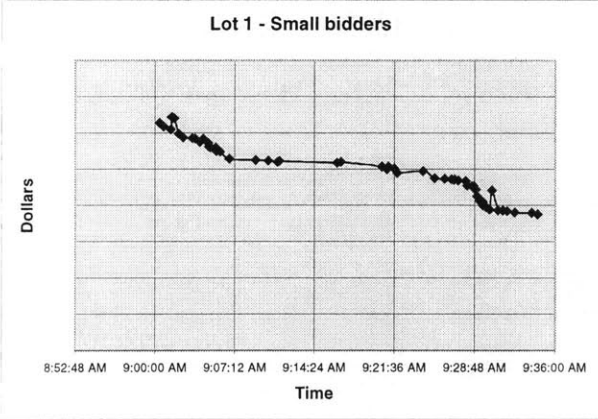
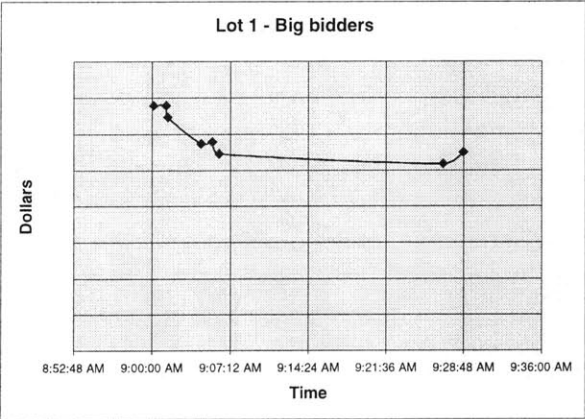
1. The monetary values in the graphs (Y axis) were removed for confidentiality reasons. Nevertheless, the scale was preserved to allow comparisons.
2. Each lot number corresponds to a specific part. Once again, the name of the vehicle it corresponds to was omitted to preserve secrecy.

# 5.1 Large or Small Suppliers

## 5.1.1 Lot 1

**Duration:** 34 min 16 sec

**Number of participants:** 9



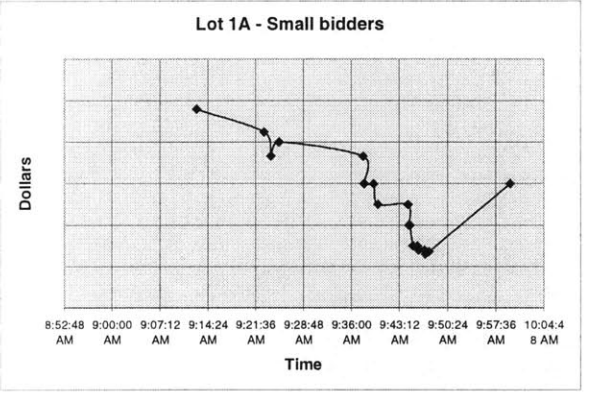
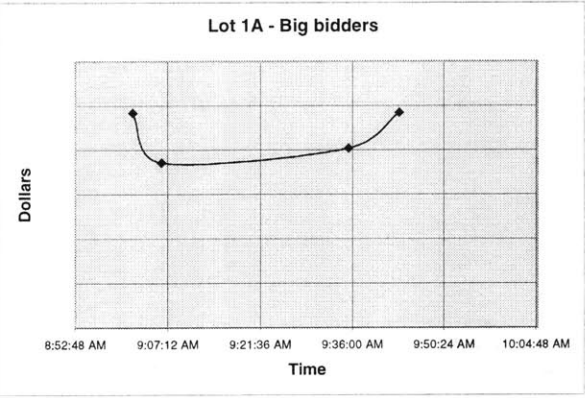
**Observations:**

The LS group is formed by Incumbent, and High Quality suppliers (Cooper, Hutchinson, Avon, Goodyear). The SS group is comprised of Incumbent and Low Quality companies (Teklas, Phoenix, LG Cable, Hutchings, Mangotex). This was the shortest lot and the one with the most bids (69). The first bid was made by a company in the LS group and the last bid came from the SS group. The SS group bid more and more often. The LS presented a period of over 20 minutes without any bidding. The lowest bid was made by a New and Low Quality company in the SS group.

## 5.1.2 Lot 1A - Tooling

**Duration:** 45 min 52 sec

**Number of participants:** 9



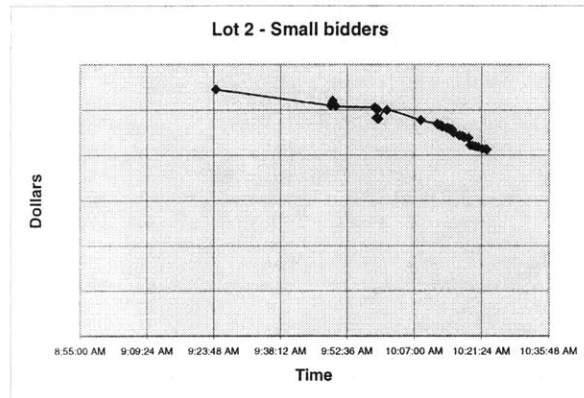
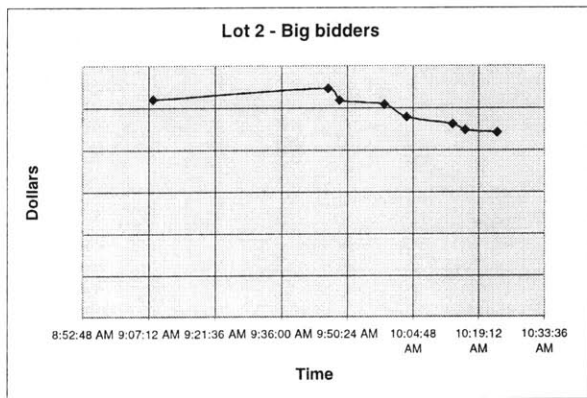
**Observations:**

The LS is formed by Incumbent and High Quality bidders (Cooper, Goodyear, Avon, Hutchinson). The SS is composed of Incumbent and Low Quality companies (Phoenix, Hutchings, LG Cable, Teklas, Mangotex). The first bid was presented by a supplier in the LS group and the last came from the SS group. Again, the SS group bid more and more often than the LS group (from which only four bids were presented). In this lot both groups ended up with an upward trend. Actually the LS ended up with a bigger bid amount than the initial one. The LS group experienced a period of 30 minutes without any bidding activity. The lowest bid was quoted by a New and Low Quality company in the SS group.

*5.1.3 Lot 2*

**Duration:** 1 hr 15 min 7 sec

**Number of participants:** 8



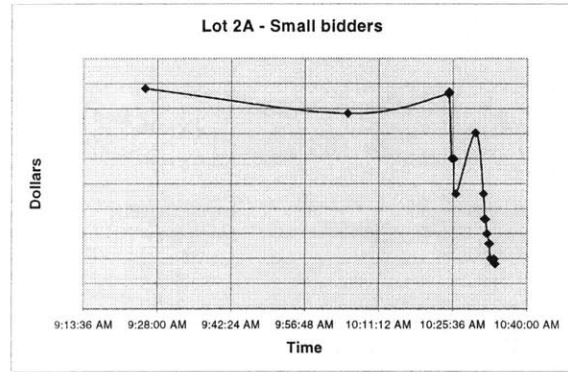
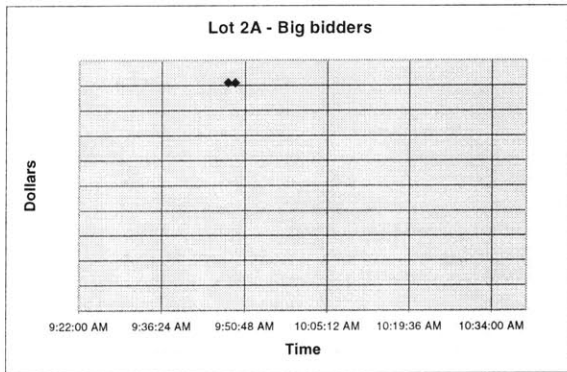
**Observations:**

The LS group is comprised of Incumbent and High Quality suppliers (HS R&A, Hutchinson, Avon) while the SS group is formed by Incumbent and Low Quality companies (Hutchings, Mangotex, Teklas, LG Cable, Phoenix). The first bid was made by a member of the LS group as well as the last one. The LS group bid less and less often than the SS group and they had non-bidding intervals of 40 and 25 minutes respectively. The lowest bid came from the SS group (a New and Low Quality supplier).

*5.1.4 Lot 2A - Tooling*

**Duration:** 1 hr 8 min 12 sec

**Number of participants:** 7

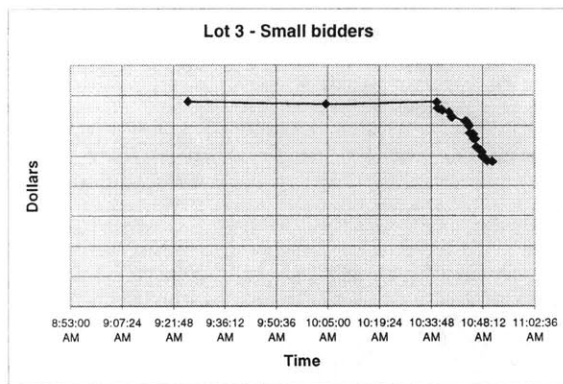
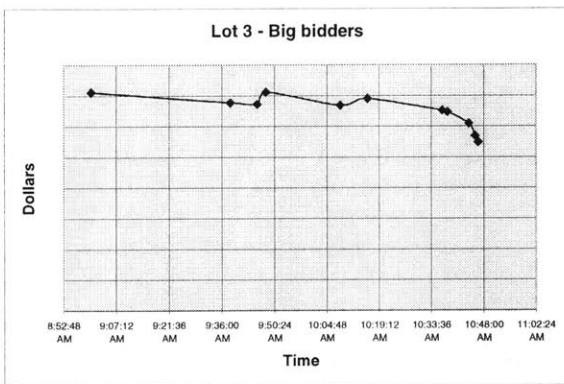


**Observations:**

The LS group is formed by Incumbent and High Quality bidders (Hutchinson, Avon). The SS group is composed by Incumbent and Low Quality companies (Hutchings, Mangotex, Phoenix, LG Cable, Teklas). This lot had the smallest number of bids. The first supplier to place a bid was from the SS group and the last one was presented from someone in the same group. The LS group only bid twice and for the same amount. The bid for rather short period (2 minutes approximately). The SS group bid more and more often, with an interval of 35 minutes without activity and an overshooting trend in the last 4 minutes. The lowest quotation was made by a New and Low Quality company in the SS group.

*5.1.5 Lot 3*

**Duration:** 1 hr 50 min 34 sec  
**Number of participants:** 10



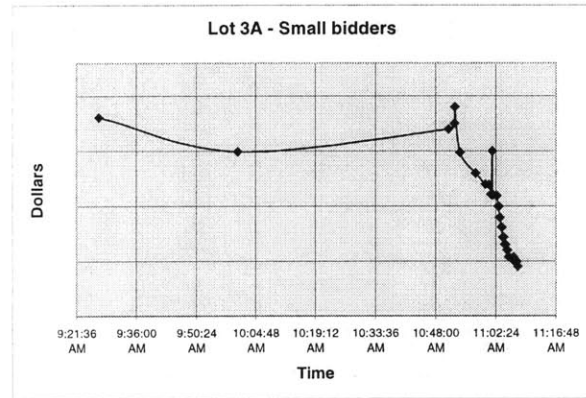
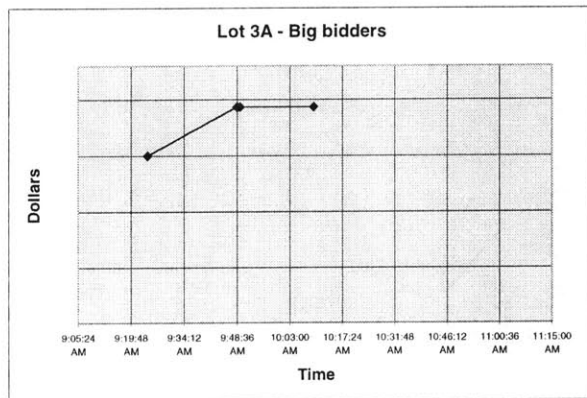
**Observations:**

The LS group is comprised of Incumbent and High Quality suppliers (Cooper, HS R&A, Avon, Hutchinson, Goodyear). The companies in the SS group are Incumbent and Low Quality (Hutchings, LG Cable, Teklas, Phoenix, Mangotex). The first bid came from the LS group and the last from the SS group. The SS group bid more and more often (especially in the last 10 minutes). Both groups had intervals of approximately 40 minutes without placing any bids. The SS remained at the same amount for over an hour (only three bids were placed in that period). The lowest bid was made by a bidder in the SS group (a New and Low Quality company).

*5.1.6 Lot 3A - Tooling*

**Duration:** 1 hr 43 min 24 sec

**Number of participants:** 9

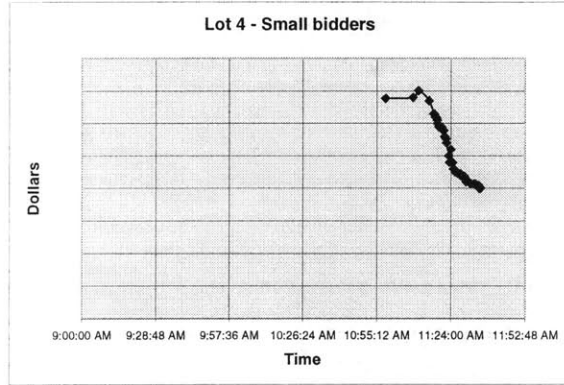
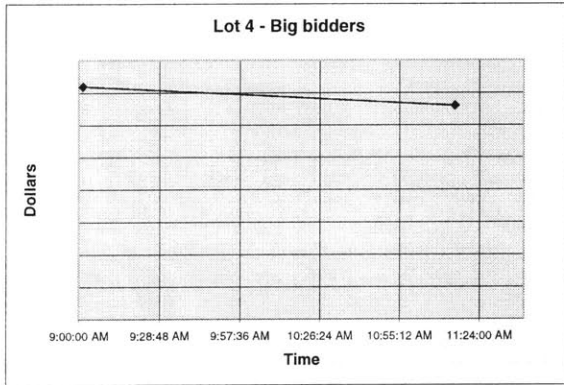


**Observations:**

The LS group in this lot is formed by Incumbent and High Quality companies (Cooper, Hutchinson, Avon, Goodyear). The SS group is composed of Incumbent and Low Quality bidders (Hutchings, Mangotex, Teklas, Phoenix, LG Cable). The first quotation was placed by a supplier in the LS group while the last was made by a company in the SS group. The LS group placed only 4 bids (with four suppliers) versus 32 in the SS group (with the same number of suppliers). The LS had two long pauses in the bidding process (25 and 20 minutes). The SS group experienced something very similar: first a period of 33 minutes and the one of over 50 minutes. A supplier from the SS group (New and Low Quality) placed the lowest bid.

### 5.1.7 Lot 4

**Duration:** 2 hr 34 min 01 sec  
**Number of participants:** 5

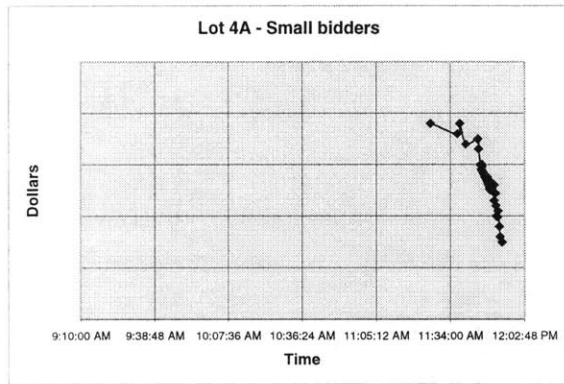
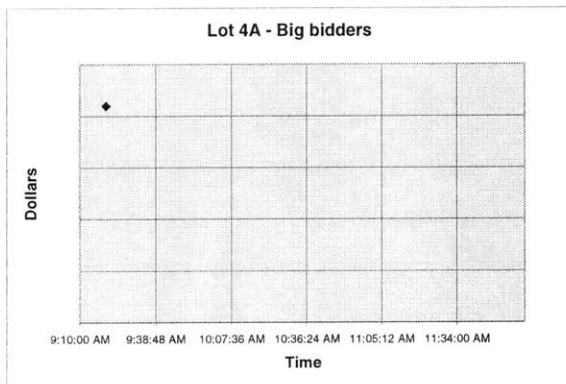


#### Observations:

The LS group is composed of one Incumbent and High Quality bidder (Cooper). The SS group is formed of New and Low Quality suppliers (Mangotex, Teklas, LG Cable, Phoenix). This was the second longest lot. The first bid came from the LS group and the last one from the SS group. The LS group only presented two quotations (from the same bidder, which waited 2 hours and 15 minutes to place the second one). The SS group bid more and more often, with heavy bidding activity in the last 20 minutes. The lowest bid for this lot was made by a New and Low Quality company.

### 5.1.8 Lot 4A - Tooling

**Duration:** 2 hr 34 min 7 sec  
**Number of participants:** 5



**Observations:**

The LS group is again composed of only one Incumbent, High Quality bidder (Cooper). The SS group is comprised of an equal number of New and Incumbent, High and Low Quality companies (Mangotex, Teklas, Phoenix, LG Cable). This lot was the longest. The first quotation came from the LS group (which was their only one). The last bid was made by a supplier in the SS group. This group quoted prices 55 times while the LS group did so only once as was mentioned before. The majority of the bids in the SS group were made in the last 14 minutes. The lowest quotation was made by a New, Low Quality supplier in the SS group.

*5.1.9 Conclusion to the Category "Large or Small Suppliers"*

The companies in the LS group behaved in what could be called an "observant" fashion. They placed very few bids overall (in some cases only one or two) and had more non-bidding intervals (one of them actually lasted 2 hours and 15 minutes) than the SS group. They were the first to place a bid almost always (7 out of 8 times). All these bids correspond to small price reductions when compared to the figures reached at the end of the lots. We can say that their behavior is more conservative and that they do not want to give away substantial savings in the beginning.

It is very likely that large companies have a target price in mind, a quote from where they can't go beyond, and once they reach it they stop. The fact that the SS group bids downwards aggressively does not seem to undermine this strategy, that is, the suppliers in the LS do not engage in a price war.

The suppliers in the SS group often engaged in what some people refer to as "bidding frenzies" (especially in the last 10 or 15 minutes of the lots), in which they keep lowering the price of each other by a small fraction. Particularly two companies in that category were set about quoting the lowest price. We can presume that these companies had no pricing strategy before the event, and that their only concern was to bid the lowest price.

Nevertheless, quoting the lowest price does not automatically mean a company will be awarded with the project. In the case of Lot 1 - 1A, it was awarded to a supplier in the LS group whose quote did not represent the greatest savings. In this particular case, program timing was critical for Visteon and changing suppliers was not worth the risk.

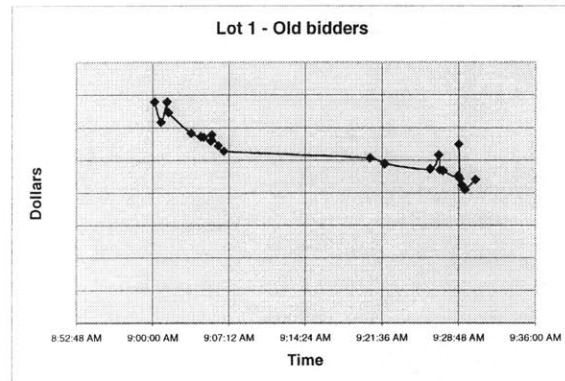
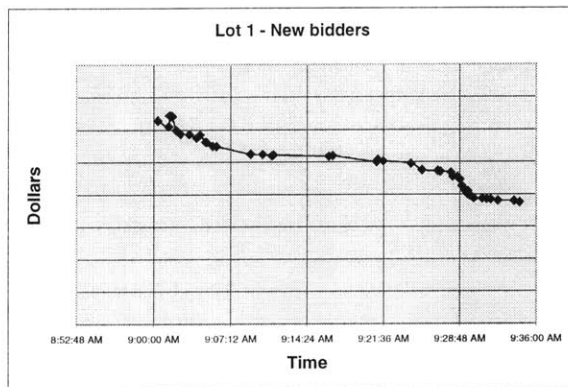
Characteristic	LARGE	SMALL
Number of bids	Less	More
Time to place bids	Longer	Shorter
Non-bidding periods	Yes	No
Savings	Smaller	Larger

## 5.2 New or Incumbent Supplier for Visteon

### 5.2.1 Lot 1

**Duration:** 34 min 16 sec

**Number of participants:** 9



### Observations:

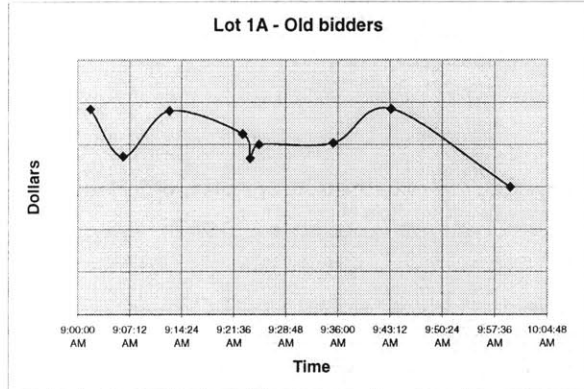
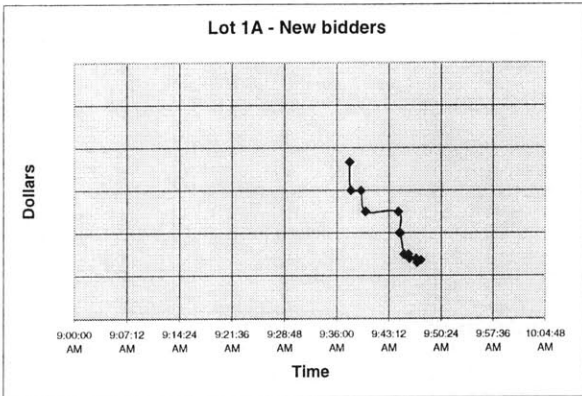
The NS group is formed by Small and Low Quality companies (Teklas, LG Cable). The IS group is comprised of Large, High Quality suppliers (Cooper, Phoenix, Hutchinson, Avon, Hutchings, Goodyear, Mangotex). This was the shortest lot. It was also the one with the biggest number of bids: 69. The first bid came from the IS group and the last one from the NS group. The NS group bid twice as much as the IS group and did so in roughly the same period. The IS had an interval of 14 minutes without any bidding activity. The lowest bid was made by a Small, Low Quality supplier from the NS group.

### 5.2.2 Lot 1A - Tooling

**Duration:** 45 min 52 sec

**Number of participants:** 9





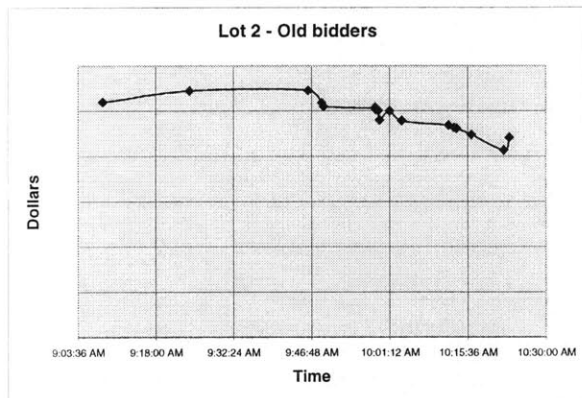
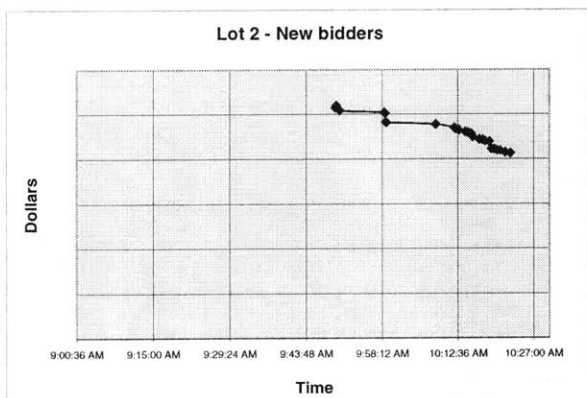
**Observations:**

The NS group is composed of Small, Low Quality bidders (LG Cable, Teklas). The IS group is formed by Large and High Quality participants (Cooper, Goodyear, Phoenix, Hutchings, Avon, Hutchinson, Mangotex). Both the first and the last bids were made by a company in the IS group. The groups made approximately the same number of bids. The IS had a 15 minute interval at the end without quoting. The lowest price came from the NS group, a Small and Low Quality company.

*5.2.3 Lot 2*

**Duration:** 1 hr 15 min 7 sec

**Number of participants:** 8



**Observations:**

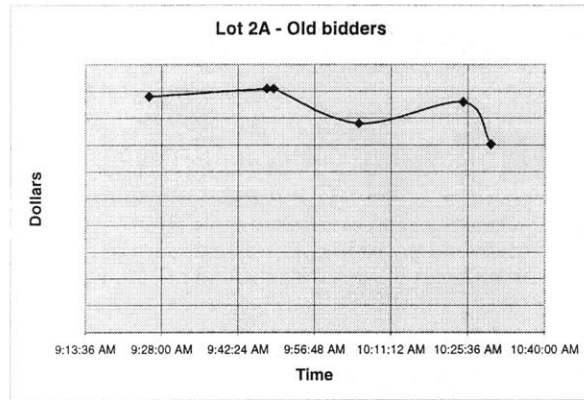
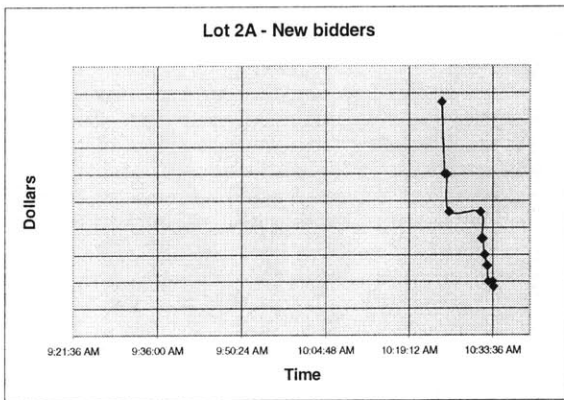
The NS group is formed by two Small, Low Quality suppliers (Teklas, LG Cable). The IS group is comprised of the same number of Large and Small, and High Quality companies (HS R&A, Hutchings, Hutchinson, Avon, Mangotex, Phoenix). The first and the last bids came from the IS group. The NS

group bid more, significantly increasing the bidding activity in the last 10 minutes. The IS group had two periods of no activity: 16 minutes first and then 22. The lowest bid was presented by a Small, Low Quality supplier in the NS group.

### 5.2.4 Lot 2A - Tooling

**Duration:** 1 hr 8 min 12 sec

**Number of participants:** 7



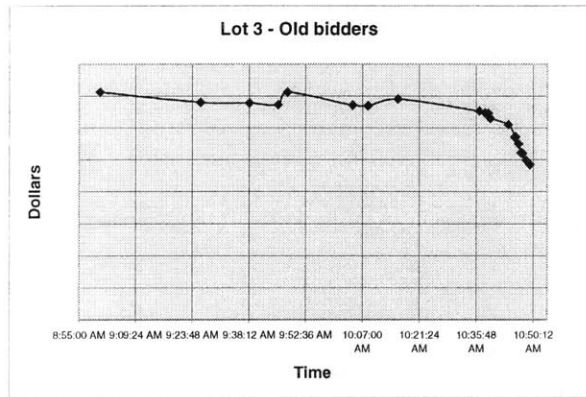
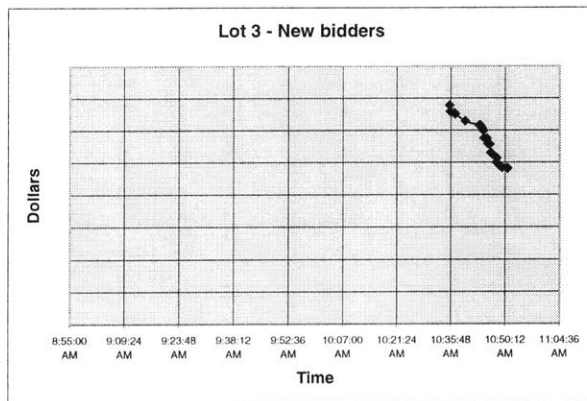
### Observations:

The NS group is comprised of Small and Low Quality companies (LG Cable, Teklas). The IS group is formed by Small, High Quality suppliers (Hutchings, Hutchinson, Avon, Mangotex, Phoenix). This Lot had the smallest number of bids (20). The first bid was made by a company in the IS group and the last came from the NS group. The NS group bid two times more than the IS group. The IS group had two periods of roughly 20 minutes without presenting any bid. The NS concentrated their activity in only 11 minutes. A Small and Low Quality company from the NS group quoted the lowest bid in the entire auction.

### 5.2.5 Lot 3

**Duration:** 1 hr 50 min 34 sec

**Number of participants:** 10



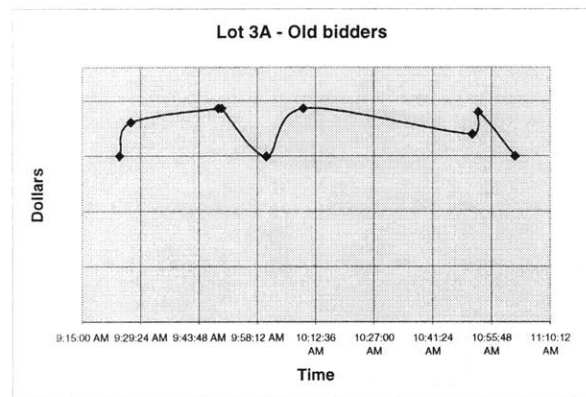
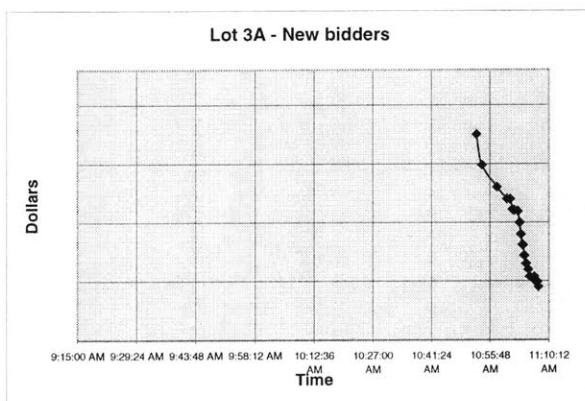
**Observations:**

The NS group is composed of Small, Low Quality bidders (LG Cable, Teklas). The IS group is comprised of Large and High Quality suppliers (Cooper, Hutchings, HS R&A, Avon, Hutchinson, Goodyear, Phoenix, Mangotex). The first bidder was from the IS group while the last one was from the NS group. The IS group bid in a period of almost two hours. The NS group placed all their bids in 15 minutes. The IS group presents an overshooting trend. The lowest quotation came from the NS group and was made by a Small and Low Quality supplier.

*5.2.6 Lot 3A - Tooling*

**Duration:** 1 hr 43 min 24 sec

**Number of participants:** 9



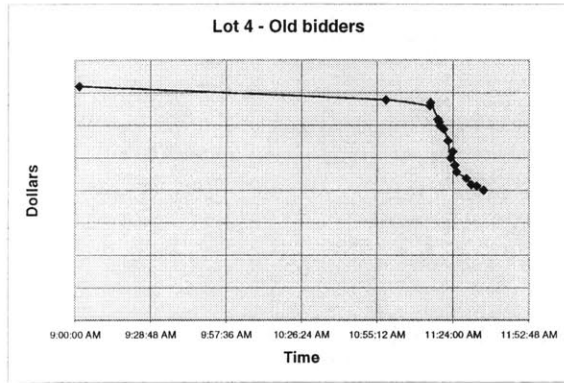
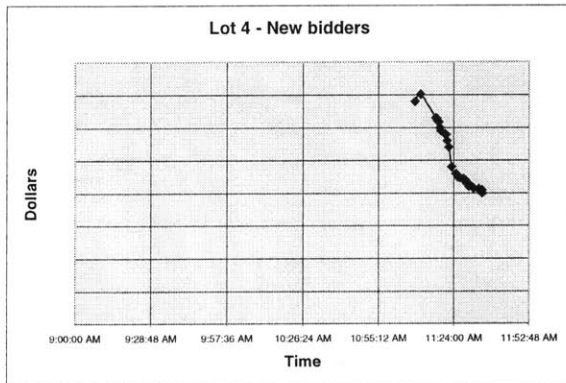
**Observations:**

The NS group is formed by Small and Low Quality companies (Teklas, LG Cable). The IS group is comprised of Large, High Quality suppliers (Cooper, Hutchings, Hutchinson, Avon, Goodyear, Mangotex, Phoenix). The first bidder was from the IS group and the last one from the NS group. The NS group bid more and more often. Once again, they placed their bids in a rather short time (15 minutes). The IS group bid in a rather peculiar way: three different suppliers quoted the same amount at different times (and one of them was actually the last bid for the group). The NS group placed most of their bids in a short period of 6 minutes. The lowest bid was placed by a Small, Low Quality company from the NS group.

*5.2.7 Lot 4*

**Duration:** 2 hr 34 min 01 sec

**Number of participants:** 5



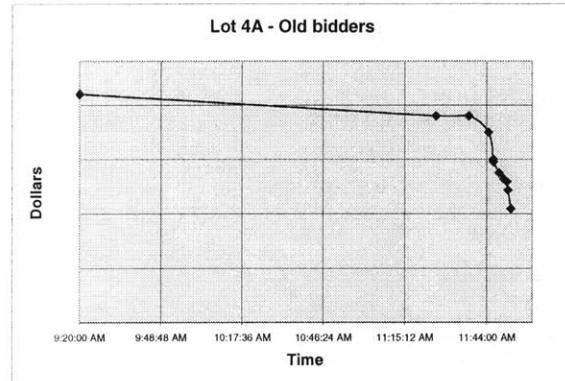
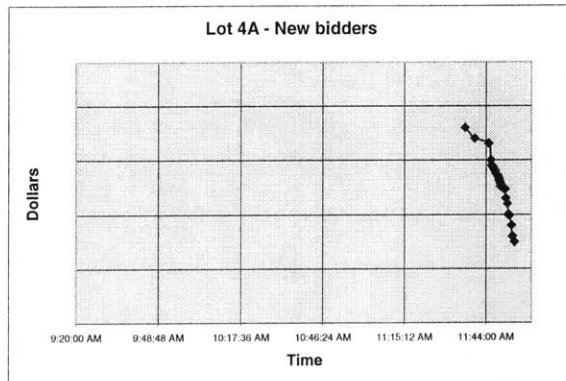
**Observations:**

The NS group is composed of Small, Low Quality bidders (Teklas, LG Cable). The IS group is formed by Small, High Quality suppliers (Cooper, Mangotex, Phoenix). This was the second longest lot. The first bidder was in the IS group, as well as the last one. Both groups concentrated their bidding in the last 20 minutes. The IS group did not bid for a period of 2 hours and had an overshooting behavior in the end. The lowest quotation came from a Small and Low Quality company in the NS group.

*5.2.8 Lot 4A - Tooling*

**Duration:** 2 hr 34 min 7 sec

**Number of participants:** 5



### Observations:

The NS group was formed by Small and Low Quality companies (Teklas, LG Cable). The IS group was comprised of Small and High Quality suppliers (Cooper, Mangotex, Phoenix). This was the longest lot. Once again, the first bid came from the IS group and the last one was made by a company in the NS group. The NS bid more and more often than the IS group. Nevertheless, the IS group had an overshoot in the last 8 minutes. The NS group placed all their bids in less than 20 minutes. The IS group spent over 2 hours without placing any quotations. The lowest bid was placed by a Small, Low Quality supplier in the NS group.

### 5.2.9 Conclusion to the Category "New or Incumbent Suppliers"

The event dynamics under this classification are similar to the "Large or Small suppliers" category.

The IS group always bid first (eight out of eight times). It seems like their strategy was, like the LS group, of observing the others' quotes and wait until their target price was reached and then stop. The fact that the NS group keeps bringing their prices down does not seem to affect them (they do not engage in the aforesaid "bidding frenzy"). They also experienced non-bidding periods of 15 to 20 minutes. In one lot they even waited for 2 hours before placing another bid. It is worth mentioning the fact that in Lot 3A the IS group quoted the same amount at three different times. We can assume that by doing this they try to countervail the fleeing downward trend set by the aggressive NS group.

The NS group behaved akin to the SS group. They placed all their quotes in very short periods, sometimes as briefly as 10 minutes. It seems that the only strategy the companies in this category had was to come up with the smallest price no matter what. It's hard to imagine that these companies could be making any profit at all surprisingly large reductions. Notwithstanding, quoting a price implies a

serious compromise –legal, as a matter of fact– on the supplier’s part and if Visteon eventually decided to assign them the project, they would have to sustain that price.

At present time, the latest information from Visteon on awarded projects is that a company in the IS group obtained the supplying contract for Lot 1 - 1A.

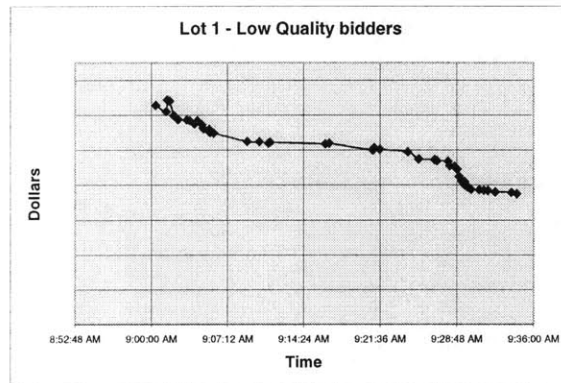
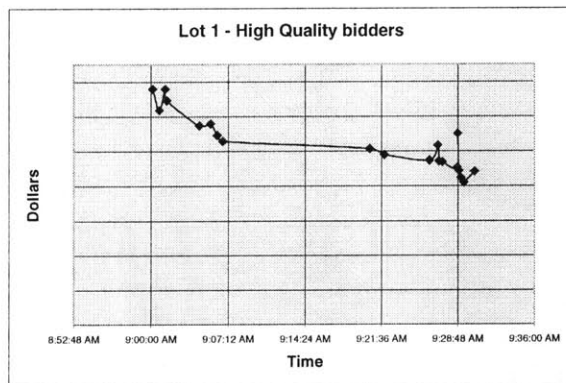
Characteristic	NEW	OLD
Number of bids	More	Less
Time to place bids	Shorter	Longer
Non-bidding periods	No	Yes
Savings	Larger	Smaller

### 5.3 High or Low Quality Suppliers

#### 5.3.1 Lot 1

**Duration:** 34 min 16 sec

**Number of participants:** 9



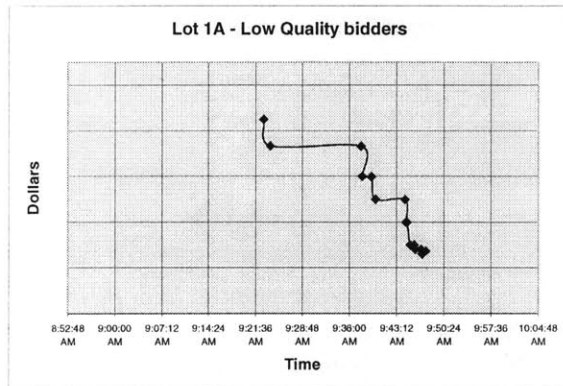
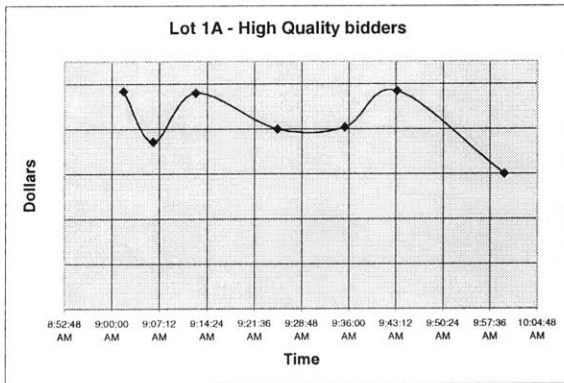
#### Observations:

The HQ group is formed by Incumbent and Large companies (Cooper, Phoenix, Hutchinson, Avon, Goodyear, Mangotex). The LQ group is comprised of New, Small suppliers (Teklas, LG Cable, Hutchings). This lot presented the largest number of bids (69) and went on for the shortest time. The first bid was made by a participant in the HQ group while the last one came from the LQ group. The HQ group experienced a period of 14 minutes without any quotations. The LQ group bid significantly more than the HQ group (and did it in roughly the same period of time). A New and Small supplier from the LQ group quoted the lowest bid.

### 5.3.2 Lot 1A - Tooling

**Duration:** 45 min 52 sec

**Number of participants:** 9



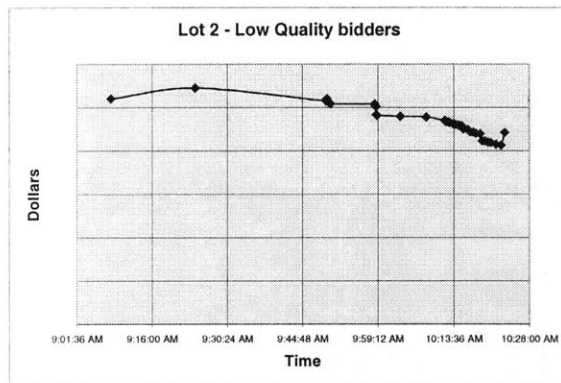
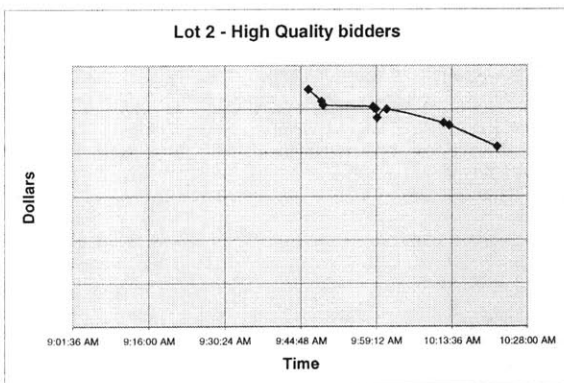
#### Observations:

The HQ group is composed of Incumbent and Large participants (Cooper, Goodyear, Phoenix, Avon, Hutchinson, Mangotex). The LQ is formed by New and Small companies (Hutchings, LG Cable, Teklas). The first and the last bids were placed by suppliers in the HQ group. The LQ group bid twice as much as the HQ group. The LQ remained without placing any bids for about 14 minutes and quoted the same amount at the end of the hiatus. The lowest quote came from the LQ group (a New, Small supplier).

### 5.3.3 Lot 2

**Duration:** 1 hr 15 min 7 sec

**Number of participants:** 8



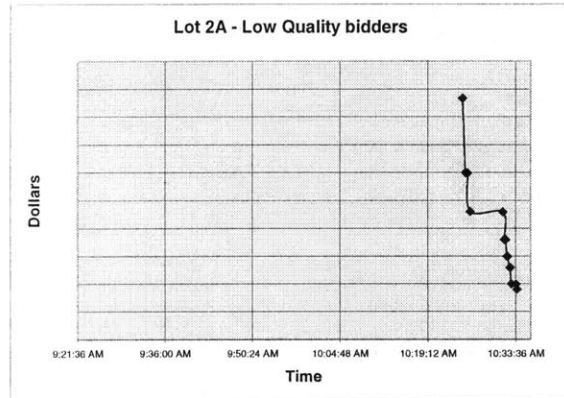
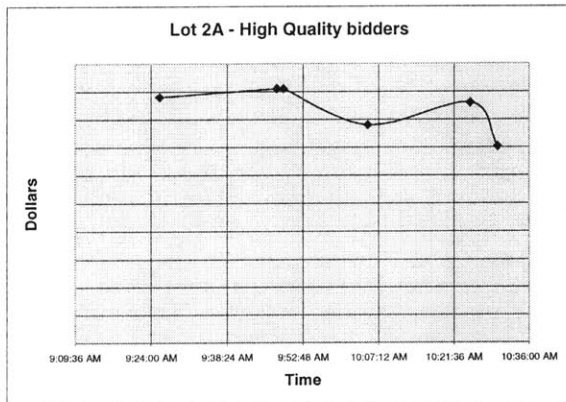
**Observations:**

The HQ group was comprised of Incumbent and an equal number of Large and Small bidders (Hutchinson, Avon, Mangotex, Phoenix). The LQ group was formed by New and Small companies (HS R&A, Hutchings, Teklas, LG Cable). The first and last bids came from the LQ group. The LQ bid more and more often than the HQ group. The LQ group concentrated the majority of their quotations in the last 15 minutes. There were two periods (16 and 25 minutes) in which the LQ did not bid at all. The lowest Reserve Value decrease reached in the entire auction was a bid placed by a New and Small supplier in the LQ group.

*5.3.4 Lot 2A - Tooling*

**Duration:** 1 hr 8 min 12 sec

**Number of participants:** 7



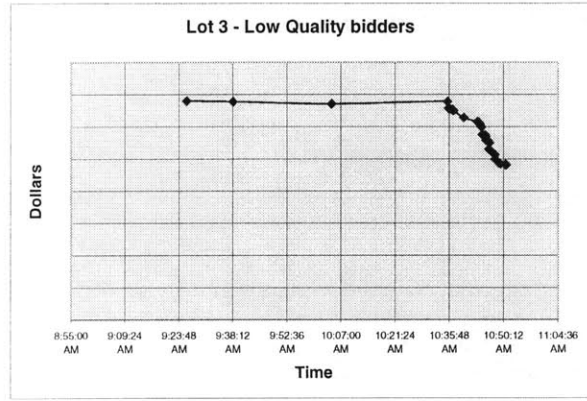
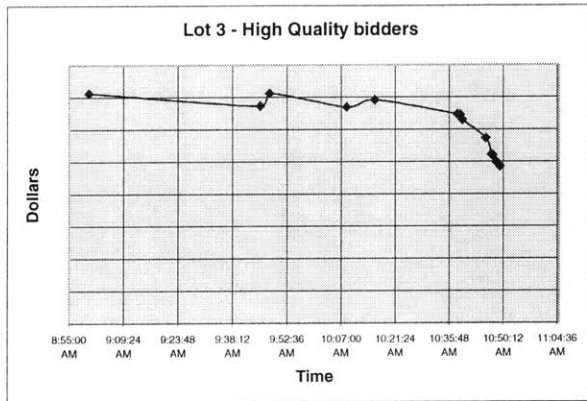
**Observations:**

The HQ group was composed of Incumbent, Small participants (Hutchings, Hutchinson, Avon, Mangotex, Phoenix). The LQ group was comprised of Incumbent and Small bidders (LG Cable, Teklas) as well. With only 20 bids, this was the lot with the least number of quotations. The first quotation came from the HQ group and the last one was made by a company in the LQ group. The second bid for the HQ group was higher than the first one (an unusual trend). The HQ group had two periods of no activity (first 22 and then 19 minutes). The lowest bid was made by a participant in the LQ group. This was a New and Small company.

*5.3.5 Lot 3*



**Duration:** 1 hr 50 min 34 sec  
**Number of participants:** 10

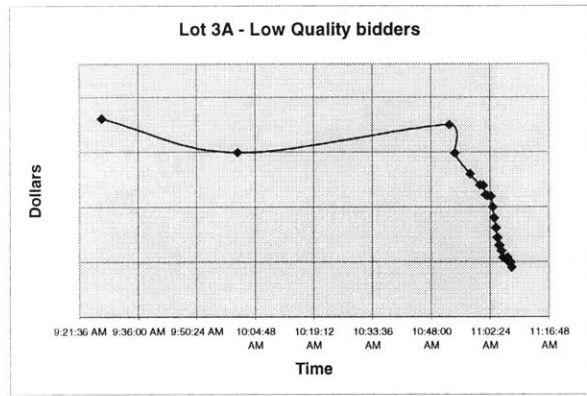
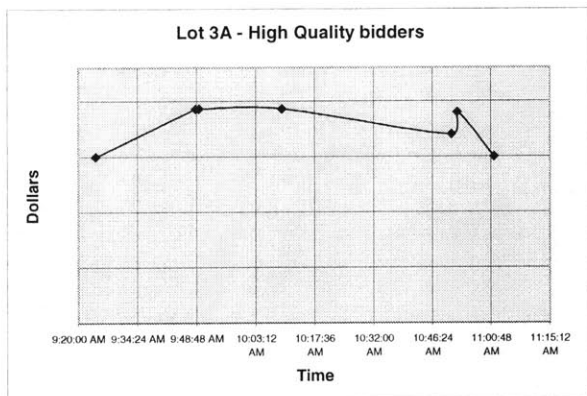


**Observations:**

The HQ group is formed by Incumbent, Large companies (Cooper, Avon, Hutchinson, Goodyear, Phoenix, Mangotex). The LQ group is comprised of New and Small suppliers (Hutchings, HS R&A, LG Cable, Teklas). The first bid was made by a supplier in the HQ group and the last one from the LQ group. The LQ group bid significantly more than the HQ group. Both groups took over 1.5 hours to place their quotations. The LQ group once stopped bidding for an interval of 31 minutes. The lowest bid came from the LQ group (a New and Small supplier).

*5.3.6 Lot 3A - Tooling*

**Duration:** 1 hr 43 min 24 sec  
**Number of participants:** 9



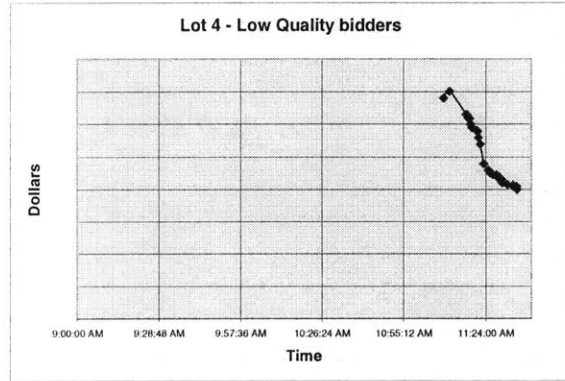
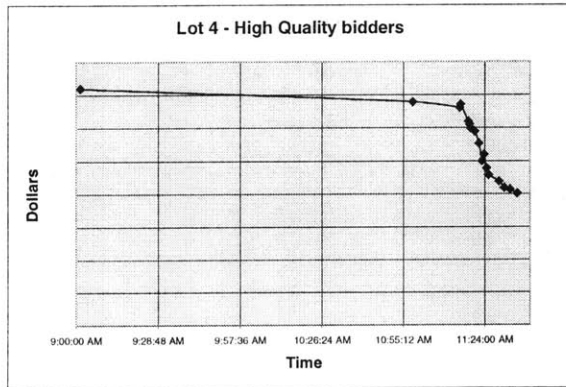
**Observations:**

The HQ group is composed of Incumbent and Large participants (Cooper, Hutchinson, Avon, Goodyear, Mangotex, Phoenix). The LQ group is comprised of New, Small bidders (Hutchings, Teklas, LG Cable). A company from the HQ group placed the first bid, while a supplier from the LQ group quoted the last one. The LQ bid more and more often, and they concentrated most of their bids in the last 8 minutes of the lot. In spite of that, they had a 1.5 hour lull in which only two bids were placed. The lowest bid came from a New and Small supplier in the LQ group.

*5.3.7 Lot 4*

**Duration:** 2 hr 34 min 01 sec

**Number of participants:** 5



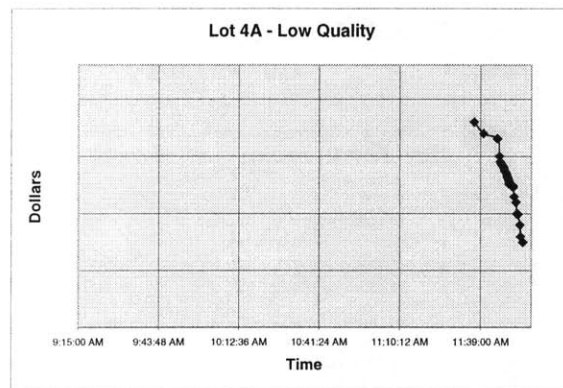
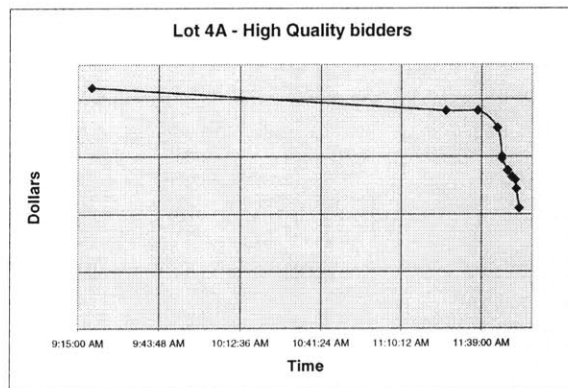
**Observations:**

The HQ group is formed by Incumbent, Small participants (Cooper, Mangotex, Phoenix). The LQ group is composed of New and Small suppliers (Teklas, LG Cable). This was the second longest lot. Both the first and the last quotations came from the HQ group. The LQ bid more and more often. To place their bids, the HQ group took over 2.5 hours while the LQ took only 26 minutes. A New, Small supplier from the LQ group quoted the lowest bid.

*5.3.8 Lot 4A - Tooling*

**Duration:** 2 hr 34 min 7 sec

**Number of participants:** 5



### Observations:

The HQ group is composed of Incumbent and Small participants (Cooper, Mangotex, Phoenix). The LQ group is formed by New, Small suppliers (Teklas, LG Cable). This was the longest lot in the auction. The first bidder was from the HQ group. The last bid came from the LQ group. The HQ group quoted the majority of its prices in the last 8 minutes, but had a hiatus of just over 2 hours without any activity. The LQ group placed all their bids in an interval of less than 20 minutes. The lowest bid was made by a supplier in the LQ group (a New and Small company).

### 5.3.9 Conclusion to the Category "High or Low Quality Suppliers"

In retrospective and being this the last category, the HQ group behaved analogously to the Large and Incumbent suppliers' groups in some aspects. They placed the first quote seven out of eight times. And even though there was a distinct difference in the amount of bids between the two groups, it is hard to single out one of them as an "observant". In some cases (Lots 1, 2A, 3, 4, 4A) the HQ remained idle, while in some others (Lots 1A, 3, 3A) it was the LQ which waited to see how others bid.

The LQ group can in turn be compared to the Small and New suppliers' groups in some aspects: they placed more bids and more frequently than the HQ group. But there was something dissimilar about them as well. In four lots they didn't place bids for intervals that ranged from 6 minutes to 1.5 hours and when they quoted the next one, they did it at the same level as the previous. As it was explained for previous categories, this seems to be an attempt to offset the declining trend in the price. By quoting the same amount it gives the impression of being a message sent to the other companies, saying that they should not engage in a downhill bidding furor.

A supplier from the HQ group was awarded with Lot 1 - 1A. No further information on the allocation of projects was available at the time this study was written.

Characteristic	HIGH QUALITY	LOW QUALITY
Number of bids	Less	More
Time to place bids	Longer	Shorter
Non-bidding periods	Yes	Yes
Savings	Smaller	Larger

**5.4 Final Recommendations**

It is appropriate to point out a limitation in the scope of the analyses performed here. There are two pieces of information that, had they been available, would have allowed for a deeper scrutiny: knowing in how many online auctions had the suppliers participated in before; and knowing which participants were awarded with the parts. The first one would have permitted the creation of another category, i.e. "Previous Experience with Online Auctions" and perhaps substitute the blemished "Visteon's Priority for the Supplier". Understanding how experience actually affects –or not– the outcome can determine certain strategies for both buyers and suppliers. One possibility is that a particular group yields higher savings, and therefore buyers have to make sure they have companies like that in their bidding groups. On the suppliers side, it could be a way to motivate companies to engage in events like this one as often as possible, or to simply avoid them.

Once this has been clarified, I will list a set of managerial implications for both parties.

*5.4.1 Buyers*

Fearon et al. (1993) explain us that the proper use of competitive bidding is dictated by five criteria, which I think they are totally transferable to reverse auctions.

- *The dollar value of the specific purchase must be large enough to justify the expense to both buyer and seller.* In this case the lots' value ranged from \$1,300,000 to \$3,500,000. Now, all of FreeMarkets' revenue flows from buyers. Large clients like Visteon pay a fixed subscription fee that can represent \$3 or \$4 million a year plus, in some cases, a share of the savings. I think the buyer has to take this cost into account, so managers can have a more realistic figure of the savings.

- *Specifications for the item or service to be purchased must be very clear to both the buyer and the supplier.* Reverse auctions should allow this by standardizing absolutely every item in the Request For Quote (RFQ). In order to participate in a FreeMarkets auction, suppliers must offer not only to deliver the same part, but also to do it on the same schedule, with the same payment terms and conditions, inventory arrangements, and other terms and conditions. This is exceedingly important to ensure that all participants are treated equally, and there are no “hidden agendas” on the buyer side.
- *The market must consist of an adequate number of competing sellers.* As a buyer there is absolutely no point in going through all this procedure if there are only a couple of manufacturers for the part. If such is the case, traditional methods are more time- and money-efficient.
- *The sellers in the market must be technically qualified and actively want the contract and, therefore, be willing to price competitively to get it.* This is what I consider part of the value of FreeMarkets’ services. They act more as consultants, as experts at finding and screening suppliers that the clients don’t have the time or the information to track on their own. Once the buyer has a set of technically-qualified suppliers, I believe it’s important to have a varied composition of different features (as it was in this case) in the group: large and small, with very high and just sufficient quality standards, new and incumbent, national and international, with diversified and narrow product lines, etc.
- *The time available must be sufficient for using this method of pricing.* No auction can take place without a colossal amount of preparation. Deciding to implement these tools, determining which parts to auction, contacting FreeMarkets, negotiating conditions, preparing the RFQs, screening potential suppliers, sifting participants, training them, auctioning and, finally, awarding the projects, can take an awful lot of time (between six months and a year approximately).
- In addition to these points, I would like to suggest that buyers should not fixate solely on price. Tradeoffs should be kept in mind as part of the strategy. In Visteon’s case, one of the lots was awarded to a supplier that quoted only half the savings offered by the lowest bid. The reason is that program timing was at a critical point where changing suppliers was not worth the risk.

#### 5.4.2 Suppliers

Using the same premises as a foundation, suppliers should follow these recommendations.

- There has to be a match between the amount of production the buyer needs and what the supplier is able to produce. It makes absolutely no sense for a small supplier to engage in a relationship with a

gigantic buyer, knowing that they won't be able to meet the required volumes and, furthermore, future expansions. Reverse auctions are serious processes with legal implications, and suppliers should not regard them lightly. On the other hand, large suppliers will surely not be interested in suppliers that are too small for their volume requirements.

- Once the specifications are stated in the RFQ, it is the responsibility of the supplier to determine a competitive price. In my opinion this is the most crucial facet of the event for the seller. Knowing beforehand how low can they set their price, they should stick to it and avoid the "bidding frenzies" we witnessed in this event. It is in their best interest not to create a disequilibrium in the market with irrationally low prices, and I'll explain why. Visteon separated the lots in two sections: one is the actual part (i.e. Lot 1), and the other is the tooling that the supplier must build to make that specific part (i.e. Lot 1A). They did this in order to choose supplier A, the one with the best piece cost and best quality, but then show supplier A supplier B's bid on tooling, to obtain the best of both worlds. Furthermore, they also used these prices to compare tooling costs for parts that were not being auctioned. Because of all this situations, suppliers should not engage in pricing wars and make that a specific part of their strategy.
- In close relation with the previous point, the supplier should keep in mind that the buyer is not going to automatically award the project to the lowest bidder. With this in mind, they should remain attached to their original price. In the end, they could be surprised with a favorable decision.

### *5.4.3 General Suggestions*

Above all these ideas, I believe that mutually beneficial, long-term relationships, should be the fundamental strategy for both buyers and suppliers. If the relationship is to be a win / win situation, then the buyer must be willing to share in the risks and the savings with the suppliers, and that no unreasonable concession would be sought after. I think that a good buyer will allow for a fair price, one that will allow the supplier to make a profit. It is common practice that purchasing departments look only at the lowest price and constantly push to lower it even more. If the supplier accepts the lower price in order to be competitive, but is incapable of reducing the costs, it may be forced to cut corners to keep business, and no buyer wants defective products. Fair pricing should be allowed if good suppliers are needed.

## **CHAPTER 6. CONCLUSION**

### **6.1 Thesis Summary**

We live in a time in which the competition between companies is staggering. The globalization of the economy, strong deregulatory policies, powerful computers, and efficient communication technologies, are some of the factors that make it more difficult for a business to set itself apart from other companies. Novel technologies arise constantly and are quickly adopted by companies, which believe that their benefits are implicit and automatic. Nevertheless, novelty per se is not a panacea, it actually requires extensive planning and decision-making.

As the data gathered and analyzed in this study showed, online auctions can be an effective method to lower procurement costs. But firms should have a firm grasp of these novel tools before deciding to completely get rid of their former practices.

Hopefully this thesis showed how approaching this business models with a carefully designed strategy, can bring more benefits to all the parties involved. Those suppliers which apparently decided upon a target price before entering the event, probably benefited the most. Proof of this is what happened to a participant who did not quote the lowest price, but still was awarded with the project. On the other hand, companies which did not have any strategy at all engaged in price wars, consequently bringing the market to a disequilibrium.

If the savings come directly from the supplier's profit, then how can a company like Visteon prevent itself from ephemeral and artificial cost reductions in its procurement? The answer is to focus more on channel relationships than in simply driving costs down (as it was suggested in Section 5.4.3).

### **6.2 Future Research**

Further studies in this area could include the following.

- This same study could have benefited from two additional pieces of information: knowing in how many online auctions had the participants been in before; and realizing which companies were awarded with the projects. Section 5.5 explains these issues with greater detail.
- A similar methodology could be used in auctions for other companies and / or other kinds of products. Cross-referencing these studies could then probably bring a deeper understanding of the managerial implications of online auctions.
- The effects of these tools in the buyer-supplier relationship, especially in the long run.
- One of the arguments against online auctions is that the supplier base can consolidate to avoid eroding margins. Future studies could determine if this really happened.
- Another research possibility could be a comparison between a company that outsources these events (like Visteon outsourcing to FreeMarkets) and one that does it internally (like General Electric).



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