

AUCNET's Third Challenge

- Critical Success Factors for New Entrants Using Electronic Markets -

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Abstract

AUCNET is famous worldwide as one of the pioneers that developed an electronic market for used cars. It uses a unique satellite auction system. In 1985, AUCNET entered successfully the used-car market in Japan. In that period the used-car market was booming, so AUCNET could easily introduce their market system and could overcome the resistance from the traditional market. After a while AUCNET also entered the used-car market in the US. AUCNET faced some problems there. These problems were related to the different used-car market structure and the dependencies of the car dealers. At the moment AUCNET faces a third challenge: it tries to enter flower market in Japan. However, the flower market is already in mature stage, and has been implemented a sophisticated marketing chain with many participants, i.e., growers, wholesalers and large retailers. AUCNET needs to develop another institutional base and entering tactics for successful entrance to flower market.

Much has been written about the first challenge of AUCNET. However it has been not so much discussed how the state of used-car market affects AUCNET's strategy. Furthermore, it has been almost neglected what tactics to enter AUCNET used to enter the market and how these tactics affected the results. Most of the literature emphasized on the benefits provided by AUCNET. However, many benefits associated with electronic markets are realized only in the case that the market has achieved a critical mass of participants. In this article we examine the relationship between efficiencies and a critical mass. We

compare the AUCNET's Japanese used-car and the flower case, and highlight the influences of the status of market and entering tactics. We conclude that the in-depth analysis of the market structure and the tactics to achieve a critical mass are the most important issue to a successful entrance.

Keyword:

AUCNET; Efficiency; Institutional Base; Critical Mass; Entering Tactics; Successful Entrance

Introduction

Electronic markets expand rapidly through the use of Internet. However, scientific literature on the factor of successful entrance of electronic market is scarce [1] . In this paper we compare AUCNET's first and third challenges to enter new markets. The main purpose of this article is to distinguish the most crucial factors for a successful entrance to new market by comparing the used-car case with the flower case¹.

The first challenge to enter used-car market is described in detail in the literatures[6][12]. Many authors stressed the question how AUCNET implemented an efficient system into the market. However, less attention was paid to the question what tactics AUCNET used and how these tactics were led to the successful entrance in new markets. Lee analyzed the AUCNET used-car case from a wider point of

¹ Needless to say, we analyze AUCNET as an intermediary. The third challenge by AUCNET is to enter flower wholesale market.

view [5] . He introduced the concept of institutional base², and concluded that the institutional base is one of the important factors of AUCNET's success. This also indicates that a traditional market has its own institutional base. Providing a similar institutional base gives no competitive advantage to the new entrant. So, we consider that the provision of a new institutional base will be a prerequisite to the successful entrance. New entrants also need to provide a cost-effective market system on IT infrastructure. We consider that providing benefits for all stakeholders will be another prerequisite. When we discuss efficiencies associated with electronic markets, we seem to forget the fact that many initiations of electronic market in the US failed because that they did not achieve a critical mass, and consequently they did not realize their efficiencies [9] [10] [11] . It is not considered enough that the benefits associated with electronic market are realized by achieving a critical mass. Achieving a critical mass in a short time frame is essential for a successful entrance. We think that the tactics for achieving a critical mass is one of the most crucial factors of AUCNET's success.

The First Challenge - Entering the Used-car

Market in Japan

AUCNET was established in 1984 and implement an electronic auction for used cars in 1985³. At that time used car market in Japan was still small but growing. Most used-cars were sold directly and the market was dominated by a large amount of small dealers. Table 1 shows that the number of used-car listed and sold by used-car auction increased. The total turnover of all used-car auctions was only 288 million yens. AUCNET's first auction took place with 560 companies and 119 cars listed. The number of cars sold continued to increase and the market share of AUCNET also rose steadily (see Table 2). We can find a fine summarized introduction of AUCNET's history in recent work [5] . In this work, Lee analyzed the success of AUCNET's based on three propositions. We examine AUCNET's success factors along these propositions.

Efficiency and Critical Mass

The first proposition of Lee deals with the improved market efficiency. Usually the benefits in improved search

² The similar concept of institutional base appeared in Henderson [3] as one of the common characteristics of electronic market. He described it as "organized trading".

³ In 1994, AUCNET started another challenge to enter the US used-car market with establishment of AUCNET USA Inc. in the US.

procedures are regarded as the main benefits associated with electronic market [2] . Electronic markets offer information regarding available commodities in markets that can be accessed by market participants throughout its system. AUCNET distribute the auction catalogue to dealers before the auction takes place, so dealers can look for cars of their interest. The auction schedule is also delivered with the catalogue. Dealers do not waste any time because they know when specific products will be auctioned. However, if the number of market participants is small, available commodities are limited and consequently buyers have problems in finding suitable used cars. AUCNET eliminated this possibility by achieving quickly a critical mass. At least for the search process, we can conclude that number of participants is very crucial.

Next, we discuss the efficiency of the coordination procedure, i.e., the contract formation process. By participating in the AUCNET's market, sellers keep their reserve price relatively firm, because there are no high transportation costs of bringing back the cars to their own location. On the other hand, buyers can enjoy a great assortment of used-cars compared with the traditional auction. Again we have to point out that great assortment can be expected in case of achieving a critical mass. With fewer buyers one ought to bid lower, and with fewer sellers the auction can offer fewer cars. AUCNET achieved a critical mass and therefore avoided the economic penalties imposed to entrants: lower prices for sellers and fewer choices for buyers.

Third, we examine the efficiency of the settlement procedure. Sellers can reduce the transportation costs to move their cars to the auction site. If the transaction is completed, sellers arrange efficient ways to deliver the cars. Decoupling of logistics (product flows) from the market transactions through on-line trading is the most intelligible benefits. It reduces transaction costs. However we have to indicate the fact that this benefit also have a significant impact on achieving critical mass.

Transaction Risk and Institutional Base

Lee also provided the following two propositions, i.e., proposition 2: increased transaction risks, and proposition 3: role of institutional base. We also think the transaction risk increases in new markets especially with new trading methods and rules. Usually market makers provide own institutional base. However, at the time AUCNET started, the traditional used-car auctions did not have an effective institutional base due to the status of market, i.e., it was in a growth stage. AUCNET succeeded by providing an improved institutional base. AUCNET's institutional base consists of two parts, standards to product evaluation and rules for legitimizing electronic contracts. With their own

Table 1 - Used-car market

	Number of auctions held	Number of Cars		b/a* (%)	Total Turnover (mln. yen)
		Listed(a)	Sold(b)		
1984	2,283	628,049	376,816	60.0	225,507
1985	2,447	770,464	457,175	59.3	288,844
1986	2,966	1,020,635	570,567	55.9	376,530
1987	3,213	1,228,398	729,991	59.4	492,582
1988	3,459	1,532,990	869,747	56.7	642,374
1989	3,469	1,691,851	965,647	57.1	715,110
1990	3,758	2,001,628	1,135,097	56.7	880,065
1991	4,058	2,328,157	1,263,266	54.3	991,192
1992	4,274	2,557,761	1,504,984	59.1	1,229,228
1993	4,355	2,905,827	1,592,736	54.8	1,248,748
1994	4,530	3,175,286	1,794,154	56.5	1,402,300
1995	4,652	3,588,878	1,973,048	55.0	1,451,321
1996	4,785	4,030,686	2,225,439	55.2	1,615,744

Source: AUCNET

*: contract rate

Table 2 -Used-car market by AUCNET

	Number of Cars		b/a *(%)	Market share	Number of Subscribers
	Listed(a)	Sold(b)			
1985	9,866	4,163	42.2	1.28	560
1986	33,458	14,944	44.7	3.28	1,190
1987	44,111	19,637	44.5	3.59	1,302
1988	61,101	25,455	41.7	3.99	2,010
1989	71,849	30,932	43.1	4.25	2,180
1990	87,296	37,663	43.1	4.36	2,419
1991	103,529	49,881	48.2	4.45	2,724
1992	114,794	54,535	47.5	4.49	2,973
1993	131,300	59,102	45.0	4.52	3,228
1994	145,219	68,491	47.2	4.57	3,624
1995	182,166	84,424	46.3	5.08	4,154
1996	221,178	103,845	47.0	5.49	4,583
1997	-	-	-	-	5,300

Source: AUCNET

*: contract rate

institutional base, AUCNET obtained much confidence among dealers. Their own institutional base helped AUCNET to bring trust to the dealers and to disseminate their system faster.

Tactics for Achieving A Critical Mass

We think that tactics to achieve critical mass is one of the most crucial issues, so we add one more proposition, i.e., proposition 4: effective tactics for critical mass. AUCNET provided an efficient market system to cover defects of traditional system, and also provided their own effective institutional base. The entering tactics of AUCNET were based on an in-depth investigation of the traditional market, and this led AUCNET to its success. We already know from some cases that traditional markets resist at the time new entrants would like to achieve a critical mass [8] [4]. Many implementations of electronic markets resulted in

failures because new entrants could not break the resistance. When AUCNET intended to enter the used-car market, the Japanese Used Car Dealer Association (JUCDA), the association of traditional dealers, felt that they would be threatened by AUCNET. They made a plan to prevent the new entrance. JUCDA warned that their members would be deprived of membership from JUCDA if they joined as an AUCNET subscriber. At first their resistance had an effect. However, some dealers did not agree with this policy. AUCNET overcame this resistance with the help of the legal power of the Committee of Fair Trade Japan. The subscribed members of AUCNET expected benefits from its efficient market system and placed much confidence in its institutional base. So they helped AUCNET to enter the market. We can point out that JUCDA's unfavorable countermeasure also helped AUCNET. The traditional market makers were also inexperienced, so JUCDA took

Table3 - Flower wholesale market (auction)

	Number of wholesale market				Total turnover (mln. yen)
	Total	Central	Regional	Other Small	
1987	-	-	-	-	321,311
1988	342	13	238	91	353,047
1989	328	15	231	82	384,308
1990	-	-	-	-	441,624
1991	331	17	234	80	481,842
1992	-	-	-	-	494,001
1993	325	19	226	80	527,423
1994	305	20	208	77	527,530
1995	283	22	194	67	529,225
1996	271	22	180	69	543,131
1997	273	22	180	71	-

Source: MAFF

this countermeasure. The status of market affected advantageously for AUCNET.

To achieve a critical mass, AUCNET prepared more than 1,000 exclusive terminals and hired excellent sales promoters to get many subscribers. AUCNET leased the terminals to nearly 1,000 subscribers in advance of its operation. The leasing fee was only about 30 thousand yen per month. That was very low even for small-scale dealers. To keep the cost to participate as low as possible, AUCNET could accelerate the pace of joining its system. AUCNET eagerly tried to disseminate its terminals and to get subscribers. The newly hired staff contributed to the dissemination of the system. So many subscribers supported AUCNET although the traditional market intended to prevent their entrance.

The Third Challenge - Entering the Flower Market in Japan-

After the first successful entrance, AUCNET looked for new markets to enter. AUCNET chose for the US used-car market and for the flower market in Japan. AUCNET considered these two markets as the most promising markets for its business. In this paper we concentrate on the entrance of the flower market.

AUCNET selected the flower market because this market had the same market size and the volume of gross contract fees as the used-car market (see Table 1 and Table 3). AUCNET studied the flower market for some years. After the investigation, AUCNET established a flower business office in 1996. At that time the flower market was in a restructuring process. Flower auctions merged and operated on a large scale. In this change, many participants of the market complaint about the traditional marketing channel. Inefficient marketing customs were pointed out by many

researchers [7]. AUCNET considered that if they could provide an effective alternative, then they would become big in flowers. AUCNET started their third challenge by entering the flower market in 1997.

At first AUCNET intended to mediate imported flowers in cooperation with the Dutch Alsmeer Flower Auction. AUCNET introduced not an auction system, but an electronic brokerage system. In this brokerage system sellers (growers) can offer products and specify posted prices. Buyers (wholesalers, retailers) can chose the preferable seller, product, and price combination. However, powerful importers already developed their marketing chain well in advance. At that time the traditional wholesalers considered that AUCNET might not become a strong competitor. They thought it was hard for AUCNET to enter the flower market with no experience in trading flowers. They recognized that flowers are special commodities. Soon it became clear that not many dealers would participate in AUCNET's system. AUCNET decided to expand their market to domestic flowers and to introduce a satellite auction system.

Expected Efficiency

The satellite auction system already showed its strength in the used-car market. AUCNET insists that this system can provide many benefits for both sellers and buyers. For sellers AUCNET think it can provide the following benefits: stable price, a more transparent market, listing to the auction with reserve price, providing the chance of large sales, possibility to provide information on growing and so on. While for buyers the expected benefits are follows: buying with a marketing plan, buying in a level playing field, established national reference price, elimination of time wasting by concentration of supply, possibility of buying larger quantities. All these benefits are, however, rather unintelligible, and not to be realized unless a critical mass is achieved. In the used-car case, AUCNET succeeded

Table 4 - Two Cases by AUCNET

	Used-car Market	Flower Market
Traded Item	Used cars	Cut Flower
Traditional Market	Used-car Auction(on-site)	Flower Auction
Operational Period	1985-present	1997-present
Market Status	in growth	matured
Pricing	Electronic auction	Electronic intermediate & auction
Quality Inspection	own	traditional
Suppliers (Sellers)	Used-car dealers	Growers, JA
Buyers	Used-car dealers	Wholesalers, Retailers
Barrier	simple	comprehensive (?)
Evaluation	success	?

in providing many intelligible benefits. At this time AUCNET does not succeed yet, and what is worse, the company has not yet formed a clear view of achieving a critical mass in the flower market.

Provided Institutional Base

AUCNET still has not developed their own institutional base, both on the inspection system and the legitimization process. To make a qualification system is very hard due to the characteristics of flowers. In the traditional market, excellent growers and JA⁴ already have their reputations. Buyers can easily identify the quality of flowers by linking it to the grower's reputation. There are quality standards developed and recommended by MAFF. However, both growers and wholesalers hesitate to introduce this system. To change towards a standardized system, growers suffer high cost to redesign their business. For example, EDI has not been disseminated into the flower industry in Japan. Each JA and wholesalers use their own quality and product codes. With the prospect that AUCNET could not establish its own institutional base immediately, the company decided to chose the next best policy, and cooperated with traditional wholesalers. AUCNET is aligned now with three large wholesalers. With this alliance, AUCNET can implement a similar institutional base as the traditional markets, and try to get some confidence from the dealers.

Prospect to achieve a critical mass

Firstly, we discuss the issue of the adoption barrier of the flower market. The used-car auctions took a very simple and direct action to prevent AUCNET's entrance and failed. At this time, the traditional flower market does not regard AUCNET as a real competitor, so they feel no anxiety that their business would be threatened away by AUCNET. They have no plan to prevent AUCNET's entrance. AUCNET uses the same tactics as in the first challenge. It plans to achieve a critical mass quickly by disseminating

their exclusive terminals with a low leasing fee. AUCNET already set up their terminals in 70 offices of large and medium size wholesalers and retailers. However, the number of buyers in the traditional wholesale auctions is 56,662 in 1996. It will take AUCNET a lot of time and effort to achieve enough critical mass. Without a remarkably efficient system and its own institutional base, it is hard to achieve a critical mass quickly.

Comparing the Two Cases

In this chapter we compare the two cases (see Table 4). The first difference deals with the characteristics of commodities: used cars versus flowers. Perishability is the most important difference between the two commodities. In time the value of flowers will sharply decrease, within days, due to the high perishability. Used cars have a much longer life and their value decrease in years instead of days. If used-cars are not sold at the on-site auction, dealers have to bring back them to their own parking lot. Sellers deal with high transportation costs and therefore they feel that they have to sell the car once it is arrived at the site. So decoupling the logistics from the price discovery process gives great benefits for sellers. To a lesser extent the same applies in the flower markets: flowers delivered at the marketplace, have to be sold regardless of the offered prices. In this context, decoupling give sellers some advantage, because it enables sellers to change markets if expected market price would be much lower than preferable price. However, decoupling brings also new risks due to the characteristics of the contract. Contracts completed in an electronic market can become a sort of forward contract. This attribute generates another risk to growers and buyers. As for the agricultural industry, production and quality of products are affected by weather conditions. Uncertainty of production brings risk to sell and buy agricultural commodities with forward contracts. For sellers, there is a risk that they could not supply the full contracted quantity

⁴ JA is an identity name of growers association (Nokyo).

and quality. For buyers there is the risk to get not enough quantity and quality. Both have to maintain a relation with the traditional market. The benefit of an associated decoupling is not so great as in the used-car market. Entrants have to confront the dual marketing problem at the beginning of their operation.

As for quality inspection, used-car buyers do not know who owned the car and how it has been treated. So they need the assurance on the quality by a trusted third party. Flowers are usually marketed with the growers' name or at least the name of JA. The name of growers or JA certifies the quality of the flower. Buyers do not need any more certification. In the decades of operation, the traditional markets have established their own institutional base to qualify flowers. AUCNET uses the traditional inspection rules in cooperation with the traditional wholesalers.

In the used-car market, both parties of sellers and buyers are used-car dealers. In other words, some dealers put up their cars to auction and they buy some cars at the same auction. Participating in the auction means that they can get double benefits. They can enjoy the efficiencies of the market both as buyers and sellers at the same time. In this context, the used-car market is regarded as an exchange market among dealers. While in the flower market, sellers are either growers or JA, but they never appear as the buyers at the auctions.

At last, as for the barriers, in the used-car market the way of resistance was very direct. Anyone could recognize that they liked to prevent the AUCNET's entrance. In the flower market, we can say nothing about the resistance from the traditional markets at this time. However, we think that they will never take simple countermeasures. The traditional wholesalers would take more implicit measures, i.e.; to treat the flowers listed by growers who subscribed AUCNET with some disadvantages. The auctioneer can change the turn of the bidding. The alliance with traditional wholesalers helps to reduce these anticipations of subscribers.

Conclusion and Some Implications - 4 Stages to Successful Entrance -

Finally, we conclude that the market status affect the result of entering a new market. Entering a young market is relatively easy, but entering a well-established market is rather difficult. If entrants would like to enter successfully they need to investigate the social structure of the market and at least the relationship between suppliers and buyers. They need to develop appropriate entering tactics based on the status of the market. If it needed, they can set up

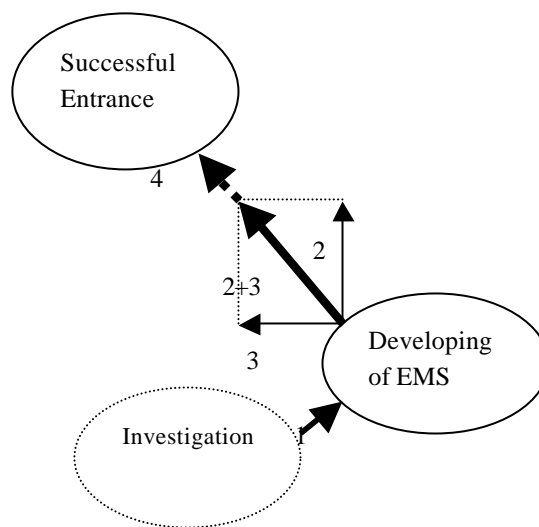


Figure 1. 4 Stages to Successful Entrance

alliances with traditional wholesalers. Among these tactics, the tactics for achieving a critical mass are very important. AUCNET's success depends basically on this factor. We can easily understand from the market share of AUCNET's auction that AUCNET had been achieved a critical mass in a very early stage of their operation (see Table 2). The factors that brought AUCNET quick achievement of a critical mass are both prerequisites, i.e., intelligible efficiency, effective institutional base, and effective tactics. We illustrate the four stages to successful entrance (see Figure 1). Firstly, entrants have to investigate the structure of the traditional market. They must seek possibilities that they can improve in efficiency, and deficits of current institutional base. Secondly, they have to develop an electronic market system with an IT infrastructure that can provide efficiencies. They have to offer many benefits, which motives sellers and buyers. However, they must remember that the expected efficiencies are realized only with enough critical mass.

Thirdly, they also have to develop their own institutional base. They must provide a more effective institutional base than the traditional market. If they developed this institutional base, it helps them to build confidence among potential participants.

Fourthly, they finally develop the entering tactics both to achieve a critical mass early in their operation and to overcome entry barriers. How quick they achieve a critical mass and to realize efficiencies, and to reduce risks associated with trading in an electronic market is an important factor for success.

At this time, we cannot present definite results related to AUCNET's third challenge. AUCNET just started in the Japanese flower market. In the near future it will become clear if AUCNET will be successful or not.

References

- [1] Fong, Trevor Kit; Chin, N. C.; Fowler, D.; and Paula M.C. Swatman. 1997b. Success and Failure Factors for Implementing Effective Agricultural Electronic Market. In Proceedings of Tenth International Bled Electronic Commerce Conference, Vol.2, 187-205, Bled Slovenia.
- [2] GAO/RCED-84-97, 1984. Electronic Marketing of Agricultural Commodities, An Evolutionary Trend.
- [3] Henderson, D.R. 1984. Electronic marketing in Principle and Practice. *American Journal of Agricultural Economics*, 66(5): 848-853.
- [4] Ho Geun Lee and Theodore H. Clark. 1996b. Economic Benefits and Adoption Barriers of Electronic Market systems, In Proceedings of the Ninth International Conference on EDI-IOS, 220-233, Bled, Slovenia.
- [5] Ho Geun Lee. 1997b. Electronic Market Intermediary: Transforming Technical Feasibility into Institutional Reality. In Proceedings of the thirteenth Hawaii International Conference on System Sciences, Revised Version in CD ROM, IEEE, Inc.
- [6] Ho Geun Lee and Theodore H. Clark. 1997a. Market Process Reengineering through Electronic Market Systems: Opportunities and Challenges. *Journal of Management Information Systems*. Winter 1996-1997, 13(3). 113-136.
- [7] Matsuda, T. 1995. An Electronic Market for Floricultural Products - Hanadayori-VAN at Kitakami, Japan -. Tech. Bull. of Fac. of Hort., Chiba University, 49, 179-188.
- [8] Neo, B.S. 1992a. The Implementation of an electronic market for Pig Trading in Singapore. *Journal of Strategic Information Systems*, 1(5), 278-288.
- [9] Sarhan, M.E. and Nelson, K.E. 1983. Evaluation of the Pilot Test of the Computer Assisted Trading System, CATS, for Wholesale Meat in the United States. Working Paper, AE-4553, Dept. of Agricultural Economics, Univ. of Illinois.
- [10] Sporleder, T.L. and Davis, E.E. 1981. CATTLEX: A computerized cash and contract market for feeder and stock cattle. Operating Procedures and Trading Techniques. Texas Agr. Expt. Sta. Texas A&M Univ., College Station.
- [11] Sporleder, T.L. eds. 1980. Proceedings, National Symposium on Electronic Marketing of Agricultural Commodities. Texas Agricultural Experiment Station MP-1463, 43-47.
- [12] Warbelow, A. and Kokuryo, J. 1989. AUCNET: TV Auction Network System, Harvard Business School Case Study, 9-190-001.