Pricing and other business strategies for e-Procurement platforms

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Abstract

This chapter discusses pricing and other types of business practices by e-Procurement platforms such as offering free services, or bundling, from the perspective of the new economic literature on two-sided markets. This literature focuses on situations where a platform offer services involving externalities between two (or more) sides of the markets, which can be at the participation level or the usage level. Platforms need to attract both sides and to coordinate their behavior. In this context, competitive prices depart from costs, and involve cross-subsidies. This chapter presents insight derived from the literature on the pattern of this departure from “marginal cost pricing”, both in terms of tariffs charged to each sides, and in terms of the balance between subscription fees and transaction fees. It then discusses non-price instruments and incentive issues in the context of platforms.

Introduction

The pace of innovation in information and communication technologies over the last decades had a dramatic impact for the organization of industries. Traditional vertical relationships are now challenged by new forms of electronic intermediation proposed by e-marketplaces, exploiting the possibilities offered by Internet. Foreseen improvements in reliability, security and process innovation open the prospect for a complete reshaping of supply chain management via e-commerce. According to the European e-Business Report (*e-Business W@tch),* in 2004 and based on the 5 largest EU countries, 23% of firms were buying more than 5% of their supply on-line. 11 % of the firms where using some e-marketplace for procurement with leading figures for ICT, transport equipment, chemicals or electronics.

Beyond these figures lies a huge diversity of situations with services ranging from simple search and matching services to fully integrated supply chain management. For instance *eMarket Services* (www.emarketservices.com) describes an e-marketplaces as "an

aggregation of information portals, trading exchanges and collaboration tools". This diversity comes along with an equally large attrition rates, highlighting the "winners-take-it-all" nature of the electronic intermediation activities. While there is a high rate of entry, few remains after some years, and the collapse of the Internet bubble reminds to all that profitability may not be at the initially expected level. To some extent these changes can be tracked back to a drastic change in the cost structure of intermediation, with a huge reduction in the variables costs of information processing. The reduction in costs comes along with a reduction in prices and an increase in the relative importance of scale economies as a driving force for market evolution. This evolution of cost cannot explain alone however the key features of the markets for electronic intermediation. A second consequence of the reduction in information processing costs and of the increase in the ability to manage complex systems is that it has created new scopes for interaction. In particular e-procurement allows to eliminate some bilateral relationships between buyers and the intermediary, or suppliers and the intermediary, and to replace them by electronically assisted direct negotiations between buyers and suppliers, in a new mix exploiting the best of intermediation and of direct vertical relationships. This highlights the role of the service as a communication platform as opposed to buy and resale services. Indeed most platforms attempt to shape the design of the service to improve the quality of interactions between participants. Increased interactions between buyers and suppliers on e-marketplaces raise the importance of externalities between users of the service to such a level that it becomes crucial for success to understand their role. Indeed the value of communication being the joint outcome of the parties involved, each participant will care about the behaviour of the other potential participants. While this remark is trivial for system designers, it is also of great relevance for economic dimensions such as pricing. The reason is that, as prices affect the behaviour of economic agents, there is a potential for using them to induce efficient usage of the service. New marketplaces then design complex pricing schemes with different prices targeted to different activities (membership fees, transaction fees, options…) or different actors (buyers, suppliers, advertisers, privileged buyer,..). Moreover they also rely on non-price instruments such as free services, gifts…

Two-sided markets and e-Procurement

These market developments has bring to the forefront of research in economics the analysis of intermediation services such as e-procurement, auction houses, matching services…. These services are part of a broader range of activities that economists include in

the concept of two-sided platforms.[1] To build on a definition that I used in another paper, the concept refers to "situations where one or several competing platforms provide services that are used by two types of partners to interact and operate an exchange". This includes e-procurement platforms, but also activities as diverse as exchanges, credit cards, shopping malls, dating agencies or operating systems. They all have in common that one can identify two sides of the markets, that the value creation requires the two sides and that each side can receive a specific treatment.[2] This new perception of the nature of the business is clear from the following statement by Jeff Bezos (CEO, *Amazon.com*): [3]

"Ultimately we're an information broker. On the left side we have lots of products; on the right side we have lots of customers. We're in the middle making the connections. The consequence is that we have two sets of customers: consumers looking for books and publishers looking for consumers. Readers find books or books find readers."

While there remains much to understand about these markets, which all have their specificity, some recent progress has been made by economists in their understanding of their two-sided nature, in particular concerning pricing strategies and efficiency, as well as some other aspects such as bundling, vertical integration and anti-trust issues. The object of this chapter is to present some of these results and their implications.

Launching a successful e-procurement service requires to solve the classical chicken and egg problem. A downstream firm will be willing to rely on the service for its supplies only if it is confident that it will find an adequate offer. On the other hand securing the offer requires convincing suppliers that their investment in the relationship with the platform will meet adequate demand for their products. The key difficulty is then to start the process, to get one side "on board". This calls for specific pricing strategies that differ from strategies followed in more conventional businesses. Before turning to that, it is worth discussing the underlying logic.

The dual nature of the customers of a platform

As any other business, platforms sell a service to customers who pay in order to access the platform. However the nature of the economic transaction involved is slightly different

[1] General presentations are provided by Rochet, J.C. and J. Tirole (2004a), “Two-Sided Market: an Overview”, *IDEI Working Paper*, or Jullien B. (2005), "Two-Sided Markets and Electronic Intermediaries", *CESifo Economic Studies*, 51, 2-3, 235–262. For a friendly introduction to two-sided markets, see Evans D. and R. Schmalensee, "The Industrial Organization of Markets with Two-Sided Platforms", forthcoming in *Issues in Competition Law and Policy*, W. D. Collins ed., American Bar Association.

[2] Clearly, they can be more than two sides involved. Focusing on two sides simplifies the reasoning but the principles apply to multi-sided markets.

[3] Quoted in Leadership Online: Barnes & Noble vs. Amazon.com", Harvard Business School (1998), page 11.

than in more conventional lines of business. In a typical exchange, the consumer is not involved in the production process that is carried on by the firm. The payment then remunerates the firm who buys inputs on other markets. In the case of a platform, the product is the outcome of the interaction between the customers of the platform. The traditional distinction between the input of the production process and the output becomes to some extent irrelevant. When two economic agents A and B use a platform to conduct a transaction, a key service that the platform offers to agent A is the access to agent B, and vice versa. The agent A is thus a customer willing to pay to access to B through the platform, but at the same time, the operator of the platform should be aware that the willingness to pay of agent B is determined by the participation of agent A to the process. Following this logic, a customer of a platform is both a client buying a service and an input for the service offered to other clients.

This dual nature of the customer is key to understand the specificities of the pricing strategies followed by platform, as well as other business practices such a bundling of services, exclusivity rules, free services ….For instance, while traditional monopoly pricing results from a trade-off between increasing the margin and reducing the volume of sales, this is not the case for platforms as we shall develop below. This leads to a different approach to the relationship between the firm and its clients. Instead of just asking "what can I bring to the client that has some value to him?", the firm should also enquire "what value can the client bring to other clients?".

For instance, one consequence of this greater interest for coordination with clients is that one should expect more vertical integration for platforms which is indeed the case: there are numerous cases of platforms owned by their customers or by not-for-profit association set-up by users. For instance *VISA* is not-for-profit association, members being the banks issuing credit cards; *NYSE* is a not-for-profit corporation controlled by 1366 “regular members”.

Balancing the tariffs

As we shall see, the price structure has to be assessed globally (including participation fees and transaction fees) and may involve some form of cross-subsidy.

For the moment, let us focus in the total tariff charged to each side to set some general principles. For the sake of clarity think about prices as charged for participating to the platform activity (although one can develop similar reasoning when the tariff is affected by the level of activity). Prices reflect the price-elasticity of demand but also the extent to which the participation of the customer is valued by others. Typically raising the participation of one

side through lower prices allows raising the price charged to the other side without affecting its participation level. This has several consequences for pricing.

First considering a non-profit platform, the standard marginal cost pricing rule for efficient usage of a facility doesn't apply. If the platform set prices for suppliers equal to the marginal cost of servicing them, suppliers will participate up to the level where their benefit equates this cost. However they will not account for the extra benefits that buyers on the platform derive from their participation. In the context of a platform that is not subject to congestion, the consequence is that at prices equal to marginal costs, the level of participation of each side is too low. If this is achievable, the optimal price structure would require setting all prices below marginal cost.

Subsidizing both sides occurs for instance for platforms that are free of charge and financed by governmental organizations, such as *AcquistinRete* (www.acquistinretepa.it) , the marketplace set up by *Consip*, that aims at providing goods and services to the public administrations in Italy.

This conclusion reflects the fact that there are positive externalities between participants and must be tempered in general for two reasons. First there may be congestion or other types of negative externalities (for instance suppliers may prefer to face little competition). Second this means that the platform would operate at a loss which implies that it receives a subsidy, usually from the government.

Given that such subsidies generate bureaucratic costs, tax distortions and organizational inefficiencies, an alternative is to rely on tariffs that balance the budget. Still, even for tariffs that balance the budget some price will typically remain below marginal cost. For a budget balanced platform, it is not the case that each customer should be charged an amount that covers the cost of its participation. The reason is that rebalancing the tariff in favor of one side of the market, thus with a small subsidy, may benefit all participants. Raising the participation of suppliers to the platform through subsidy requires increasing the fees paid by buyers so as to cover the total cost. But they may be willing to pay this extra amount if the benefits they derive from the increase in the participation level of suppliers more than compensate them for the extra payment. This is similar to other network situations,

although here there are different types of customers and it is rather easier to identify the nature of the externality, being participation or usage.

The resulting price structure is thus one involving cross-subsidies between participants.

For instance, *eBay* doesn't charge buyers to participate to an auction. Implicitly this corresponds to a small subsidy (although the variable cost in this case is very small). On the other hand it charges complex tariff to suppliers. The supplier must pay a fee when the good is put to auction which is a non-linear function of the starting price, and a fee once the transaction is concluded function of the closing price. Clearly the business model aims at boosting the participation of buyers by generating only revenue from suppliers.

Let us now point to the fact that the above reasoning applies as well to a for-profit platform with some variation. The key difference is that when considering whether lowering the price for some participants to the platform is profitable or not, the firm will not consider the impact on the welfare of participants but the enhanced ability of extracting more revenue from other participants. But as pointed above, raising the participation level of side A raises also the willingness to pay of members of side B. This can thus be leveraged by charging higher fees on side B. In so far as this increase in profits generated on side B is larger than the reduced benefits on side A, the firm may be willing to sacrifice the revenue on side A. This implies that the profit margins on both sides of the market may differ substantially and not reflect the price elasticity of the demand of each side in a conventional way. Moreover the effect may be so strong that the firm may end up servicing one side with an apparent loss: the price charged will not cover the direct cost of servicing these customers. This apparent contradiction can be explained by noticing that there is an "opportunity" gain associated to the participation of this group of agents which corresponds to profits on the other side. To build on the discussion of the dual nature of customers, subsidized customers are treated more like input than like buyers: the platform buys their participation and "resale" it to other clients.

This is in particular the case for free services that are very common. To give an example, *ZDNet* (www.zdnet.com) a leading information portal on information technologies, provides substantive advices and information for free. On the other side it raises revenue from advertising and sponsoring. The advertising revenue is directly related to the frequentation of the site, justifying the provision of the service for free. Because frequentation is also affected

by quality, this provides also incentives for *ZDNet* to provide good quality advices. According to this reasoning, the fact that a service is free is by no mean a sign that it is of poor quality.

Such pricing strategies typically occur for platforms that operate in a competitive environment and thus will low profit margin. But even in the case of a monopoly this may results in some side being subsidized.

Practical Conclusion

The tariffs must be assessed globally, accounting for the externalities between participants. Efficient price structures involve some form of cross-subsidy between different types of participants and may require pricing below cost for some participants or even subsidizing their participation.

Indeed when looking at platforms in general, they are many instances where it is possible to identify one side of the market as a loss-leader while the platform generates profit on the other sides. This is for instance always the case when access to the platform is offered for free to one side.

As a particular case of this general pattern, the platform may wish to attract some customers with direct subsidies, very much like a night club offering not only free entry but also free drinks to women. Monetary subsidies raise obvious issues but as we shall see below, the platform may offer in kind subsidies that are tailored to the needs of specific customers. This type of practice that corresponds to the inclusion of free information services is much more common.

Given that the prices charged to all sides are inter-related, the main question is then to understand which side should be treated more favorably. The answer lies in the reasoning followed to explain cross-subsidies. The intellectual exercise involves evaluated the impact of rebalancing the tariffs between the two sides of the market. Clearly if side B attaches a large value to an increase in the participation of side A, while members of side A doesn't care so much, it should be optimal to reduce the fees charged to side A. As a general principle the platform should compare the externalities generated on both side and set relatively lower prices where they are perceived to be small.

Practical Conclusion

Favour a price reduction or a subsidy for the side of the market where members are the less subject to participation externalities (smaller benefits derived from the participation of members of the opposite side).

This general principle must be pondered by price sensitivity considerations. Indeed when reducing the price on side A, the corresponding increase in prices on side B is directly related in the change in volume of participation on side A. This volume is affected by the price sensitivity of side A. To give an example, suppose that we start from equal profit on each sides and that the platform targets a 1% increase in participation of buyers. Suppose that this allows raising the profit on suppliers by 1%. This is profitable only if the profit on buyers is reduced by less than 1%, which occurs the reduction of the price-cost margin on buyers is less than 2%. Thus price elasticity matters. The more elastic the demand the smaller will be the price reduction necessary to achieve a given volume target, and the more incentive there will be to boost the participation of the targeted group. Thus the above effect of externalities may be mitigated if the price elasticity is lower for the low externality side. This is related to but different than the standard analysis of monopoly pricing. In particular this applies also in competitive contexts.[4]

Practical Conclusion

Favour a price reduction for the side of the market where the participation level is the most sensitive to the fees charged (high price-elasticity).

While the main application of these principles concerns balancing the tariffs between the two sides of the market, it has also implications for differentiated treatments within one side. For instance, if potential suppliers are particularly eager to gain access to a particular category of buyers, then the platform may find it optimal to design special offers targeted to this category.

More generally this points to the fact that customers of platforms will receive much contrasted treatments. E-marketplaces should rely extensively on price-discrimination. Cross-

[4] The reader interested in more details can refer to Rochet, J.C. and J. Tirole (2003), "Platform Competition in Two-Sided Markets", *Journal of the European Economic Association* 1, 990–1029, Jullien B. (2005), opuses cite, or Armstrong (2002)

subsidy between buyers and suppliers on the platform is just one and the most obvious form of such discrimination schemes.

Unlike more conventional markets, these price-discrimination schemes need not reflect the exercise of market power and be alleviated by competitive pressure. The reason is that they are motivated by an efficiency concern: they aim at inducing agents to participate for the benefits of other users of the service. This means that unlike other market, one cannot take the observation of price-discrimination or the fact that some prices are seemingly below cost as a sign that the platform is not facing competition.

In traditional output markets, competition puts pressure on prices and tends to align them with costs. Firms will reduce the price of any individual product under the pressure of competitors, and this process will end when their profit vanishes on each product or services, i.e. when prices equal costs. This is not true for platforms as they may be willing to incur a loss on one side in order to secure the other side of the market. Thus one cannot treat the service sold to firms using a procurement platform for their supply, and the service sold by the platforms to suppliers, as two different services sold on distinct market. Even if competition reduces overall profits, this concerns the total profits of the platform and this should not result in prices equals to the costs of providing the service, for each individual services.

Indeed as we have discussed above because the economic decisions of members of a platform affect the other users of the platform, prices that reflect marginal costs are not efficient. Typically competition will force platforms to try to offer the best services and to be efficient. But this requires some subsidies, and in a competitive environment one should expect that some services will be sold at prices below costs.

Practical Conclusion

Competition between platforms raises both the degree of cross-subsidy between sides and the tendency to price-discriminate within sides.

Indeed competition should favor strategies that are referred to in the literature as "divide and conquer". These strategies aim at attracting one side of the market through very advantageous conditions (divide) and then to generate revenues by charging high prices on the other side of the market (conquer). The ability to use these "divide and conquer" strategies seems to create much more scope for competition in two-sided market than in other more traditional markets with network effects or scale economy. This suggests that even successful

marketplaces will remain under strong competitive pressure and that markets for e-procurement may be more contestable than it was thought at the infant stage.

Transaction vs membership fees

While the discussion above focuses on the balance between the two sides of the market, when the pricing instruments are rich enough, one should consider also other types of balancing. It is traditional to distinguish at least two types of fees: membership fees and transaction fees. Membership fees, or subscription fees, are typically paid once, and renewed at regular intervals, and give the right to access the platform. As we shall discuss below, they may also give access to various information services that are not directly related to transactions concluded on the platforms (advices, news, electronic tools…). Transaction fees are fees that are paid per effective transaction. These fees can be fixed or proportional to the price at which the transaction takes place. Their main characteristic is that the total payment is affected by the extent of usage of the platforms, measured either by the number of transactions or by the value of transactions.[5]

Here the issue when designing the tariffs is a trade-off between inducing efficient usage of the platform and income. Membership fees affect the size and the composition of the population that will be active during a given period of time on the platform. But for a fix population of members, they don't affect the activity on the platform. On the other hand, transaction fees affect the activity of members on the platform. When choosing the transaction fees, the platform should keep in mind two things. First rebalancing the transaction fees so as to improve the usage by a customer indirectly benefits to users on the other side of the market. Second a reduction of transaction fees that raises the expected benefits of customers can be compensated by a proportional increase in the membership fee paid by this customer.

This suggests that membership fees are preferable to transaction fees as candidates for raising revenue and balancing the tariffs between the two sides of the market.

Practical Conclusion

A well established platform with a stable homogeneous clientele and no competition should aim at designing transaction fees so as to maximize the volume of trade per member and using membership fees as the primary source of profits.

[5] One could add also fees per item put to sell by suppliers, or items put for tender by buyers.

However there are many caveats to this idea. A key issue is that customers may be reluctant to pay up-front a membership fee if they are not confident that the quality of the service will meet their expectation. In this case, transaction fees provide more insurance to the customers, as they anticipate that they will not have to pay if they don't find buyers for their products, or a supplier in case of a tendering firm.

Practical Conclusion

A platform that needs to provide some insurance to its customers should favour financing through transaction fees and low membership fees.

Notice that insurance needs may be due to the intrinsic nature of the procurement activity of the clients, such as volatile needs, or stem from a lack of reputation of the platform and the fear that the service turns to be of poor quality. In particular, newly established procurement platforms should rely much more extensively on transaction fees than established ones

As an example illustrating these conclusions, the leading automotive vertical portal, *Convisint* (www.covisint.com), relies on membership fees. But this is not the case of other automotive e-procurement services. *Partsforindustry* (www.partsforindustry.com) is a platform that relies most extensively to volume related payment. As of September 2005, it charged a 10% commission fee on the final price of any transaction plus a fixed fee per item listing (US$ 2.5). In addition the platform proposed options allowing unlimited listing for fixed period. The subscription may last from 1 month to 12 month with a degressive subscription fee.

A related advantage of payment systems based on transaction fees is that they give incentives to the platform to generate a large volume of transaction. A client may fear that if he pays only fixed fees, the platform may favor other clients at his expense, either large clients or other paying for transaction. Charging a transaction fee is thus a way to commit to act in the best interest of the client.

A second point illustrated by the example above is that in general the population of clients is heterogeneous on both sides. As we have argued above, price discrimination or targeted offers are normal and efficient business practices for platforms. When direct discrimination is not possible, the platform should rely on indirect mechanisms. An alternative will then be to rely on the flexibility offered by complexity of tariffs on

procurement platforms to achieve such discrimination. One possibility for instance is to tie transaction fees to membership fees, but letting suppliers choosing between several pricing schemes: suppliers anticipating a large volume of transaction may prefer to pay up-front and to have low transaction fees, while others users anticipating few transactions may prefer to be charged per transaction. This is a fairly standard practice in industries relying on non-linear tariffs (economists refer to such schemes as "second degree price discrimination"). In the context of platforms this may be an effective way to raise the level of participation and thus to improve efficiency.

Bundling and free services

Most information services include complex mix of services. In particular they usually involve bundling of services. Bundling refers to the practice of selling several goods together in a bundle; it can be pure when goods are only available together, or mixed when the bundle goods are available separately. A particular form consists in forcing consumers who buy a good A to buy also an alternative good B, referred to as tying.[6] Bundling is a common and well know phenomenon on Internet that has received considerable attention. One main example has been the emergence of large portals such as *Yahoo* or *AOL*. Notice that a portal like yahoo proposes a BtoC marketplace and an on-line travel agent. Even an initially very specialized search service like Google is moving toward integrating various activities. Typically e-procurement platforms that rely on membership fees offer a large bundle of services to their customers.

Indeed a typical evolution for e-procurement platforms is to start at small scale and then to extend their activity to become an information portal. For example a service like *Esteel* (www.esteel.com) started as a simple matching service for steels suppliers and buyers into a large scope vertical portal that offers integrated on-line supply chain management solutions to several industries.

The prominence of bundling in information services relates in part to the fact that these services incur very small variable costs. Once a service is designed, the cost is not very

[6] For instance, recent anti-trust Microsoft cases were concerned with tying of various programs with windows (internet explorer, media player).

sensitive to the volume of usage.[7] Most of the costs of a platform (at least in the short run) are fixed costs. The same is true for adding a service, as once the fixed cost of offering the service is sunk, the variable cost is very small. This means there is very little cost to offer a service to all the population using a platform rather than to a sub-population. In this context, it may be more profitable to offer all the services in a bundle with a single total price, than setting a price per service and letting customers choose which services they want.[8]

More generally it has long being acknowledged that using various combinations of tying and bundling is a way to achieve some form of price-discrimination. For example, suppose that there are two types of suppliers using the platform. The suppliers of the first type are only interested in listing their product to find clients and can manage all the transactions themselves. Suppliers of the second type are also interested in value added services such as billing or accounting. Suppose that the platform can't identify the members of each group of suppliers. If both services are sold separately, both types of suppliers will pay the same listing price. By bundling the value added services and listing, the platform can differentiate the two groups. In particular when the listing price is constrained by a low willingness to pay of the second type of suppliers, the platform can bundle listing and value added services, and raise the price for listing. The interested suppliers (second type) will buy the bundle, but provided that the price of the bundle remains above the price for listing alone, suppliers of the first type who are only interested by listing will prefer to buy the service alone. Such a mechanism allows the platform to raise its price for the first type of suppliers without loosing the participation of the second type of suppliers.

Ariba (www.ariba.com) proposes procurement applications to buyers ("Spend Management") and an access to its e-procurement platform (*Ariba Supplier Network*) with more than 120 000 referenced suppliers. Clearly the initial business model aimed at raising revenue from firms seeking procurement solutions and buying applications. On this platform suppliers have the option between free access and a subscription based service with support and enhanced features, as in the example above. Moreover, until recently access to the platform came as a bundle with *Ariba*'s software. These combinations of value services, price discrimination, and bundles have allowed building the network of suppliers, and of buyers. It

[7] For software distributed on-line, the variable cost is close to zero. For platform there are costs related to computing capacity, congestion and delays, energy.

[8] See Bakos, Y. and E. Brynjolfsson (1999), "Bundling Information Goods: Pricing, Profits and Efficiency", *Management Science* 45(12), 1613–1630.

allows now *Ariba* to extend its scope: in 2005 *Ariba* has unbundled the service by launching a service providing access to the network to customers not using Ariba Buyer™ software.

For platforms such as e-marketplaces, bundling may also have a different dimension. As was discussed before, efficient pricing rules for platforms may require to subsidy some agents. In this context, the ability to offer bundles of information services has several advantages. A first point is that monetary subsidies are very difficult to implement. Typically individuals who do not intend to use the service at all may claim the subsidy so that identifying the right target may be very cumbersome. One alternative is to give the subsidy through the form of a free service provided to members of the platforms. Providing a free service is de facto equivalent to tying access to services and based intermediation services. To the extent that it is only of interest for a specific category of potential users of the platform, and not to free-riders, this may be an efficient way to target a subsidy toward this category. This applies in particular when the subsidy is targeted to one side of the market.

Practical Conclusion

Offering free services may be used as a mean to subsidize the participation of one side.

Second, as we have seen above, the two-sided nature of the market intensifies the benefits of using bundles in order to discriminate between users to the benefits of the large.

Practical Conclusion

Offering free services targeted to specific buyers or suppliers of strategic importance may raise efficiency or profit, by improving the ability to discriminate and to coordinate the various sides of the market.

Given that the market for e-procurement may be subject to tipping and be rather concentrated, successful e-procurement platforms should devote special care to anti-trust issues. Traditional anti-trust analysis of tying emphasizes the fact a motivation for tying may be grounded in an attempt to raise barriers to entry. The firm using tying doesn't maximize the current profit but this is justified because by limiting entry, it raises its future market power

which allows recovering this "loss". From this perspective, the current situation need not be viewed as one with dynamic recovering. Costly tying of the services offered to one side of the market is justified for the firm by the possibility of instant recovery on the other side of the market through higher participation rates. It is clearly a competitive tool that should be used by platforms in the contest against other platforms. Moreover it has a rational in terms of improved efficiency through better coordination between users of the platform. From an anti-trust perspective this means that the usual legal standard for exclusionary practices should not apply as such to platforms. The same hold true for predatory tests, as a price below variable cost for some side of the market (violating the Areeda-Turner rule for predation[9]) can be efficient.

Still the treatment of these practices is not settled yet, and platforms with strong market power should use these instruments with caution.

Incentive issues

Key to the success is the ability to design the platform services and tariffs so that to provide adequate incentives to trading partners to contribute and internalize externalities. The degree of satisfaction of a user of the service, say of a supplier, depends on the behavior of the client it will meet. Typically this buyer will act in a self-interested manner and will not account for the fact that misconduct may penalize the platform, as the supplier may decide to switch to another platform. This "moral hazard" issue can undermine the functioning of the platforms. In the case of procurement platforms, this may take the form of buyers who cancel orders or don't pay, and of suppliers who don't deliver, or deliver with long delay or a lower quality then announced.

This issue of poor quality due to a lack of incentives of the partner in a business relationship is the more akin the shortest is the duration of the relationship between the two trading parties. Indeed it is known to be one of the benefits of long term relationships, along with better coordination and investment is relation specific assets. As moving to an electronic marketplace for procurement may imply a larger turnover of suppliers, these institutions are particularly sensitive to this issue.

Practical Conclusion

[9] Noticing that a firm should not rationally price below marginal costs P.E. Areeda and D.F Turner proposed that a price below average variable cost be considered as unlawful, "Predatory Pricing and Related Practice sunder Section 2 of the Sherman Act", Harvard Law Review, 88: 697-733.

The platform should devote special care in monitoring and preventing misconducts by participants.

For instance many procurement platforms rely on a code of good practice that goes beyond the mere applications of legal rules.

Electronic marketplaces have been very imaginative in using the new technologies to invent solutions to this problem. The most famous is probably the information feedback system that has been used by eBay. Part of the success of eBay has been attributed to its ability to overcome quality concerns through adequate and innovative information system.[10]

Another example is presented by *PriceMinister* (www.priceminister.com), a French BtoC website. While the transactions are negotiated and concluded by the suppliers and buyers, *PriceMinister* acts as a payment system, receiving the payment from the buyers at the time of the order but releasing the payment to the supplier only after confirmation of delivery. This mitigates buyers' opportunism as well as moral hazard issues on supply delays. Still *PriceMinister* relies on a feedback mechanism with grading by buyers to monitor sellers.

This issue of incentive also shade lights on the role of vertical integration. If a firm owns shares of a platform it uses for procurement purpose, it has more incentives to maintain the profit of this platform and thus to act in the best interest of the platform. Joint ownership by key users of the platforms may help to address incentive issues and improve the quality of the service offered.

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[10] eBay has set a forum where trading partners can grade each other once the transaction is completed and provide comments. Each potential buyer then observes a summary of the grades of the seller he faces, and can access the comments, and vice versa. This works as a reputation mechanism where poor performance of suppliers is penalized through low grades. The interested reader can refer to Delarocas C. (2004) "Sanctioning reputation mechanisms in online trading environments with moral hazard", MIT Sloan WP 4297-03.

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