Alibaba International: Building a Global Electronic Marketplace

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Abstract

Alibaba is the largest global electronic marketplace (GEM) in the world in terms of its participated users. It was successful due to the factors of China's foreign trade regime, the image of low product cost of China, Alibaba's contingent adaptation to users' changing requirements and e-commerce environments. Alibaba is not a technically mature GEM platform compared with the ideal functions of GEM. Suggested solution for Alibaba to continuing its success is to adopt a novel GEM connectivity model.

1. Introduction

Alibaba International (www. alibaba.com), short in Alibaba, is a B2B e-commerce mediating service enabler that focuses on cross-border trade. Alibaba is designed to provide a *global electronic marketplace* (GEM) between thousands of *small and medium sized enterprises* (SMEs) of China and overseas trading partners to work together for international trade. Alibaba's aims are:

- to increase the volume of international trade and lowering the cost of transactions.
- to make SMEs easier to find customers and products and enable them to work together online.
- to become an alternative GEM for existing international trade.

To implement Alibaba successfully, however, requires that technical infrastructure be able to provide a seamless interaction integration of thousands of SMEs and a trustful international trade environment involving a network of global firms. Would Alibaba platform be able to integrate the complex business interactions between both Chinese and overseas SMEs involved in specific multilingual backgrounds, product descriptions, document processing, credit levels and payment schemes? How would Alibaba handle trust and payment problems to make Alibaba to be acceptable to millions of SMEs?

This paper attempts to analyze Alibaba as a GEM case based on the materials disclosed on www.alibaba.com and to obtain some experiences and lessons for the future GEM design.

The remainder of this paper focuses on the technical functions of Alibaba and is arranged as follows. Section 2 defines global electronic marketplaces and lists its main functions. Section 3, discusses Alibaba as an evolving GEM platform to show its successful experiences. Section 4 outlines the technical architecture of Alibaba. Section 5 discusses the maturity of Alibaba GEM platform by comparing the ideal GEM functions. Section 6 provides a suggested solution to Alibaba for improving its future services. Finally, conclusion is made in Section 8.

2. Global Electronic Marketplace

GEM can be defined as a dynamic *common information space* (CIS) [2] in which global market participants continuously interact with each other by the aid of the *integration technology* to achieve a common goal - to lower business costs and to increase revenues through the exchange of products and services [3]. It is a dynamic concept whose extension enlarges in time to reflect the new development of information technology especially the business integration technology that applies to the electronic marketplace.

Ideally, a GEM must include three functions: matching buyers and sellers, facilitation of transaction and institutional infrastructure [1]. The first function involves the determination of product offering, customer search and price discovery. The second function enables the fulfillment of transaction in terms of logistics, settlement and trust. The third function is a supporting function, which provides the appropriate legal and regulatory environment for GEM. While these three functions are fundamentally required, the actual GEM formation is somehow evolutionarily developed. The case of Alibaba is an example of such evolution from meeting SMEs together to working together for trading.

3. Alibaba: An Evolving GEM Platform

Alibaba is an evolving GEM platform, which began with the simple idea that enabled the millions of Chinese SME suppliers to meet online with overseas buyers. This idea was successfully implemented in today's view.

In 1999, Alibaba (www.alibaba.com) was launched under Jack Ma's management group with its initial face as a manufacturer directory for posting selling and buying information for its users. Up to February 8, 2000, Alibaba successfully owned the users distributed around 185 countries with daily accumulated product posting of 21,976 for buying, 56,823 for selling and 4,387 for cooperation [5].

The initial success should owe to Jack Ma's correct judgment on China's foreign trade regime of late 1990s. At that time, China's foreign trade was experiencing a

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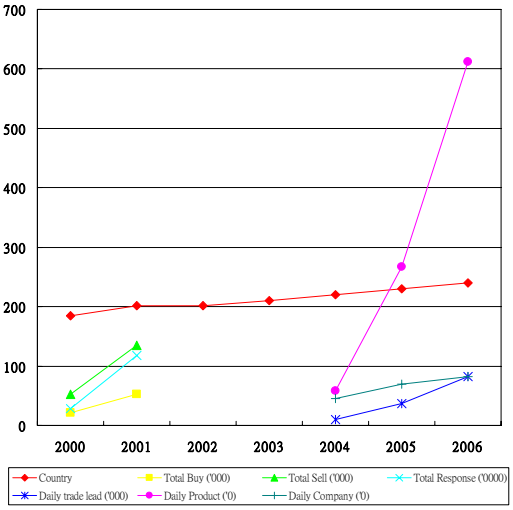
dramatic change from the state-owned company controls to the distributed running by thousands of small private trading companies and joint ventures. The foreign trade was regarded as a gold mine, which attracts the high enthusiasm of many collectives and individuals of China. Finding overseas buyers and cheap high quality products is essential. On the other hand, the image that China as a cheap labor country also attracts a large number of overseas buyers to search desirable suppliers through Alibaba. No doubt, this is the critical point for Alibaba's initial success.

Alibaba GEM platform is in evolving with its adjustment of corporate strategy and subtle changes of business model. After the analysis through its historical webpages [5], we infer that its platform evolution can be regarded as a response to the improved understanding of the users on B2B e-commerce practices and the changes of e-commerce environment. The first proof of this inference can be given by the source table (www.sftw.umac.mo/~jzguo/pages/alibaba_evolving.html), which has sketched the evolutionary process of Alibaba's GEM platform. This inference partially answers why Alibaba did not fail during the winter of e-commerce in early of 2000s [6], but grew even bigger with nearly 2 million registered users from over 200 countries and more than 300,000 daily visits [5]. The growing performance of Alibaba shown in Fig. 1 is the second proof of the inference and implies that Alibaba's China-based and customer-oriented strategy [5] is effective.



Source: [5] and http://www.alibaba.com accessed on 19/03/2006.

Fig. 1: Growth of Alibaba International

Alibaba's response to the user requirements and the adaptation to the world e-commerce environment is gradual but in time. It is interesting to see that Alibaba's success did not lie on the novel technological innovation on global electronic market place but on the improved services that caught the users' concerned issues. The successful China-based and the customer-oriented experiences can be summarized in the following:

- The utilization of the special foreign trade environment of China in the past 10 years, especially the high enthusiasm of Chinese SMEs of doing business with overseas suppliers and the attractiveness of lower cost and higher quality of Chinese products. This is the precondition of Alibaba's success because it provides the *strong customer base* of Alibaba.
- The prudent strategy of satisfying the changing requirements of users for both Chinese suppliers and overseas buyers, for example, the enlightenment education of how to do cross-border trade online, how to make international payment, how to describe products and introduce company, how to build trustful relationship with trading partners, and how to avoid Internet fraudulence.
A sound e-commerce model that can attract users but still can make a considerable amount of profit, for example, the US$5,000 annual fee for creating a trading website for SMEs in Alibaba platform. It is bearable for a Chinese SME but not that much low [5].
- A non-radical and adaptable e-commerce practice. From the data analysis, Alibaba was found that it could quickly meet the changes of global e-commerce environment. For example, between April 2002 and May 2002, the German website was built but immediately withdrawn. This reflected the quick response to the decision mistake to meet the market demand. Other examples are the launch of the tools of TrustPass, Inquiry Basket and TradeManager, which had met the world trend of e-commerce and also increased the revenue channels for transferring the role from "burning money" to earning money.

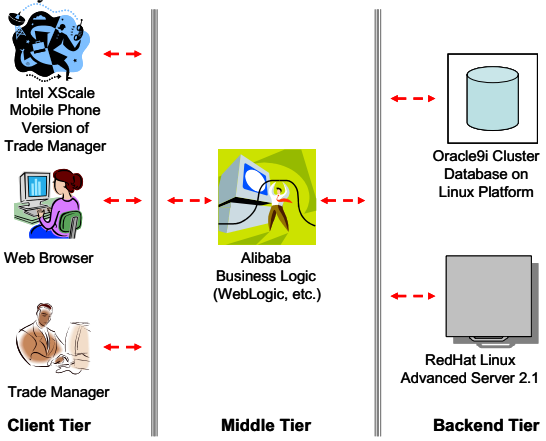
The successful experiences from Alibaba are useful. However, Alibaba is still an evolving GEM platform and is not technically innovative. This remains a curious question of whether the past successful experiences of Alibaba could lead it to another success in next decade. This question needs Alibaba to prove. In next section, we will examine Alibaba's current technical architecture.

4. Alibaba Technical Architecture

As mentioned earlier, Alibaba is not a technologically innovative platform on GEM but an innovative customer-oriented e-commerce model. More specifically, Alibaba is a product directory hierarchically pointing to relevant manufacturers and purchasers, where supporting tools for trading such as Business Center, Sell Leads, Buyer Leads, TrustPass, Inquiry Basket and Trade Manager are attached. Based on the limited information, the technical architecture of Alibaba can be roughly outlined in Fig. 2.

The Alibaba platform is a three-tier architecture. The client tier consists of Web Brower, Trade Manager, and

mobilephone.W ebB rowser(i nnorm alem ailm essaging) and Trade Manager (by realtim e communication) can both execut e funct ions of product and m anufacturer search, Trade Alerts, InquiryB asketandM yAl ibabafor sendingandreceivingtradein formation.Them iddletier applies Appache/ WebLogic as middleware responsible for coordinating messaging bet ween W eb B rowser and Trade Managerandcom municatingwi tht hebackendt ier, where applications and Oracle cluster database management systems are i nstalled on Li nux operat ing systems. The solution of Oracl e9iRAC + Li nux i s a naturalext ensionofAl ibaba'shi storicalsi ngleversi on of OracleDB +Li nux,whi chserves the target of lower cost for providing free servi ces t o i ts users duri ng i ts fi rst severalyears.



Source: (1) "Application of Or acle9iRAC+Linux in Alibaba Case", http://www.ccw.com.cn/cio/solution/htm2005/20050314_106ZF.asp, accessed on 19/03/2006; (2) "Alibaba and Intel Build First Mobile Business Platform ", http://b- 113299.hotnews.alibaba.com.cn/news /subject/v5003008s5009096.htm l,accessedon19/03/2006.

Fig. 2: Alibaba GEM Technical Architecture

While technical architecture i s fundam ental, a GEM requires speci fic t echnology t o i mplement its functions. The n ext sectio n will co mpare th e alread yim plemented functions of Alibaba with thei dealfunct ionsofGEM t o investigateth em aturityo fAlib abaGEMp latform.

5. Maturity of Alibaba GEM Platform

Currently, Alib aba h as p resented th e fo llowing functionsfo rSMEsto d oin ternationaltrad e:

- Productl isting:t ol istsel ler'sproduct s.
- Productsearch: t ofi ndadesi rableproduct .
- Sellerorbuy ersearcht hroughproduct ort radel ead.
- InquiryBasket:topostaproductinquirytom ultiple potentialsellers.
- TradeM anager:t osupport t radecom munication.
- TrustPass:to v erifyp otentialp artner'scred ibility.
- AliPay:to p rovidep aymentm echanism.

Comparingwi tht hei dealfunct ions of GEM (*see* Fig. 3),Alib aba'sGEMfu nctionsareo nly limited to the first function of m atching sel lers and buy ers. The second functionfo rth efu lfillmento ftran sactioniso nly partially implemented i n Inqui ry B asket, Trust Pass and Trade Manager.Them ostt ransactionprocesses for international tradehavenot beeni mplemented.

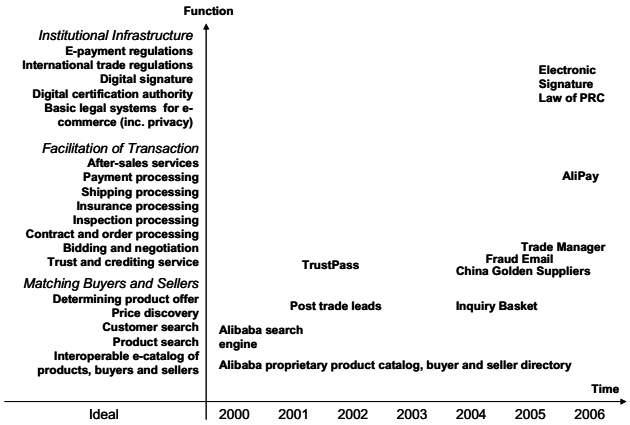


Fig. 3: Alibaba GEM Functions vs. Ideal GEM Functions

From Fig. 3, iti seasy t oseet hatAl ibabahasabi ggap comparing wi th t he i deal GEM funct ions for provi ding internationaltradeservices.Specificgapsare:

- Alibaba could onl y provi de t he basi c i nternational trade funct ion fort hem atching ofsel lersandbuy ers. This match is based on Al ibaba's propri etary search engine for products, buy ers and sel lers. It i s nei ther international standard com patible (e.g. UNSPSC) nor internally integratedbet weendi fferentl anguage-based sites (e.g. between www. china.alibaba.com and www.alibaba.comandwww.japan.com).
- Alibaba en ables u sers to p ost sales offer and make inquiry t hrough B uyer Leads and Inqui ry Basket. However,t heyareadhocwi tht heusers'descri ptions.
- Alibaba p rovides Tru stPass as a trad e cred ibility verification mechanism butt heTrust Passi tselfcannot verifyth erealcred ibilityo fth eid entifiedp articipants.
- Alibaba facilitates TradeManagerasatoolofinquiry, offerandnegot iation.Ananal ysisreveal st hatt hist ool is, in fact, ani mprovedpersonal com municationcent er with bot h browser-based and i nstant messager based versions.From t hest andpointof negotiation, they are appropriatesupport ingt ools,but whenconsi deringt he need ofd ocumentp rocessing,th eyo fferlittleh elpfo r buildingan au tomaticm achine-read ableto ol.
- AliPay is a payment system ofAlib aba.Cu rrently,itis mainlyusedinTaobao(www.taobao.com)ofAlibaba company for support ingauct ionandB 2Cbusi ness. It isco nceivableth atAlib abaattem ptsto enlarge its use tob othd omestican d international trade. Unfortunately, whileAl iPaycoul dbesuccessful forauct ionand B2C due tosm allpaym entam ount,itwillnotbesuccessful for large paym ent of international trade because it requires buy ers deposi t t he ful l purchase am ount i n advancet oAl iPayaccount underAl ibaba'scust ody.

- Though China has already published Electronic SignatureLawin2005,internationaltraderequiresthe legal coordination with other countries. Up to now, thereisnosignthatAlibab ahassuchstepforward.

Summarizing the above points, Alibaba's GEM platform is still in the infant stage. It is not mature as regarding a real GEM. This immaturity implies some challenging issues (*see* details in www.sftw.umac.mo /~jzguo/pages/alibaba_evolving.html).

- Non-interoperability of product representation betweendifferentAlibabasites.
- Lackofstandardizeddocumentprocessingmechanism forinteroperationandmachine-processing.
- Lackofeffectivecredibilitycheck.
- Lackofinternationaltr adepaymentmechanism.

6. Suggested Solution

This paper suggests an alternative solution, called *collaborative global electronic marketplace* (CGEM), to thechallengingproblems.Thebasicideaofthisapproach is to establish effective connectivity within Alibaba and betweenitspartners.

Strategic connectivity evaluates the capabilities of Alibabaanditsbothinternalandexternalenvironmentsto determine: what Alibaba can do and cannot do, and its possiblecompetitorsandpart ners.Throughtheevaluation, Alibabacanformulateitsglobalstrategyandestablishthe strategic alliances, which compensate what it cannot do, onvaluechain. *Organizational connectivity* evaluatesthe mergeabilitybetweenAlibabaandotherstrategicpartners alongthevaluechain.Thebenchmarkofthisconnectivity could be the semantic linkability, the personalization of participated organizations and the healthy collaborative competition relationship [3]. The success of organizational connectivity will form new organizational structure of Alibaba that can make Alibaba more competitiveformeetingmorechallengingrequirementsin bothtechnicalandlegalaspects.

Under the reformed organizational structure, technical integration occurs in both logical data layer and physical network layer. *Logical connectivity* maintains semantic consistency between semantically different business data (e.g. different ad hoc product data, business documents and business processes between www. alibaba.com, www.japan.alibaba.com and www.china. alibaba.com). Specific approaches can be collaborative integration approaches [4] over standardi zed message transfer (e.g. SOAP protocol). The success of logical connectivity will present an interoperable business data mechanism within Alibaba and between Alibab a and its customers and partners. *Physical connectivity* is in the bottom layer, which provides the physical network foundation for Alibaba. A better configuration of the existing Linux-basedoperatingenvironmentwillnotonlysavemorecost butenablemorerobustbusinessoperations.

One more point that should be focused on the above suggested CGEM approach is the *collaboration* for all strategy formation, organization structure, business data integrationandphysicalnetworkconnection.

7. Conclusion

Alibaba is the largest gl obal electronic marketplace (GEM) in the world in terms of its participated users. It has achieved its success up to now because of China's foreign trade environment, the large number of SMEs as suppliers, the lower product cost, the quick response to the users' requirements, the sound ee-commerce revenue model, and the contingent adaptation to the ee-commerce environment.

Nevertheless, Alibaba is not a mature GEM technical platformcomparedwiththe idealGEMfunctions[1].The immaturity poses some challenging issues to Alibaba, whicharenon-interoperabilityofproductrepresentations, lacks of standardized document processing mechanism, effective credibility check and international payment schemes. To continue Alibaba's success, a suggested solutionistoadoptacollaborativeGEM.

Theresearchimplicationsofthispaperare:(1)itisthe first time to reveal how Alibaba grows into a successful GEM.(2)Itproposedamethodologyofhowtoobservea GEM through historical analysis and how to compare it with the ideal GEM. (3) It provided an alternative solution of how to reform a GEM through a suggested connectivitymodeltoachievecontinuoussuccess.

Theanalysisisbasedonhistoricalarchive[5]andonly stands the authors' viewpoints for the research purpose, which aims to shed some light on how to design a better GEMforfutureee-commercepractices.

8. Acknowledgements

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