Diebold Case-Study Report

1. Introduction

Diebold, Inc. is a security systems corporation incorporated since 1876 and focuses primarily in the sale, manufacture, installation and service of self-service transaction systems (such as ATMs), voting machines, electronic and physical security products (including vaults and currency processing systems), and software and integrated security systems for global financial and commercial markets, in all making 5 product divisions. From the case study and other information from its website (Diebold, 2006) it is gathered that Diebold Election Systems is a subsidiary of Diebold that accounts for 2.4% of its gross revenue and has entered the business of creating electronic voting terminals and solutions for government entities. Apart from the case-study, recently, Diebold has come under great pressure for security flaws in its electronic voting machines within the US.

Overall, Diebold's main competitors are NCR and Wincor Nixdorf in ATMs market and they have been the leader in electronic voting machines. This case-study revolves around the case-study of Diebold with a focus on its expansion in China and the report is on risks that are involved with joint ventures and acquisitions. This report answers mainly four questions each with a separate section followed by a short conclusion.

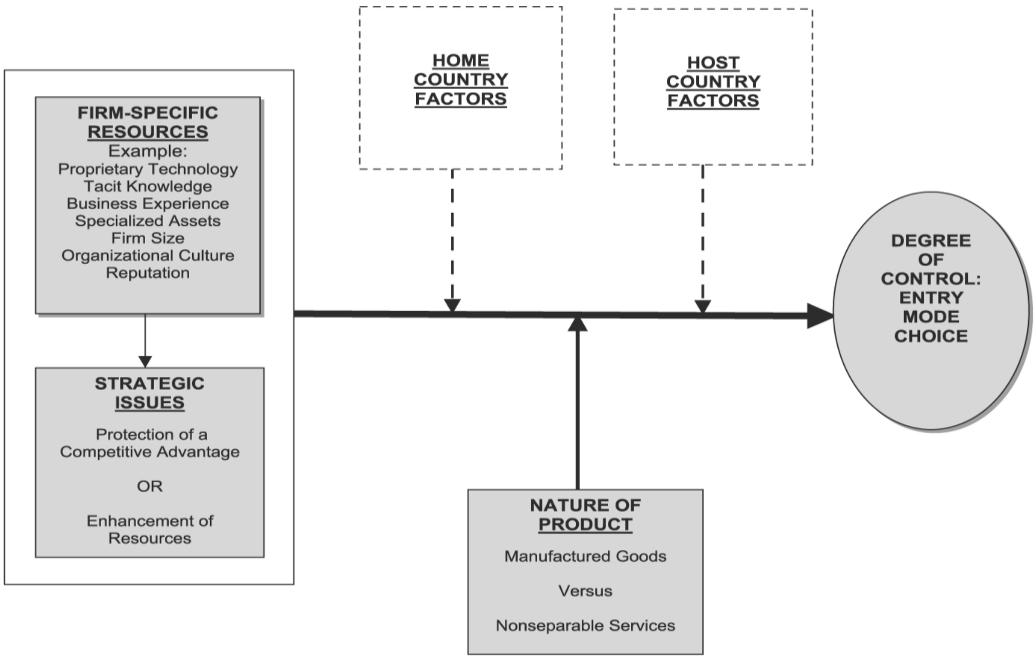
2. Diebold following Mode of Entry Theory

With the era of globalization, entry modes have become the forms of capital participation in foreign countries for Multi-national companies (MNC) like Diebold. The modes in which MNCs enter the intended host country through investment are in terms of property rights, entry mode is the ownership structure of a foreign subsidiary. Firms which want to internationalize and multinational companies that are expanding in nations outside their home base are both faced with the challenge of choosing the best structural arrangement.

2.1. Modes of Entry: According to Hill (2003) there are 6 modes of entry which include exporting, licensing, turnkey projects, franchising, joint ventures and wholly owned subsidiaries. In this regard, the report will only focus on two suitable entry modes: wholly-owned subsidiary and joint venture. The joint venture (JV) mode can be broken into several sub-modes based on the percentage ownership of the equity: majority JV, balanced JV and minority JV. These two entry modes can be realized by MNCs through acquisition of an existing enterprise or setting up a new enterprise in the host country (Sun, 1999).

2.2 **Resource Based View approach**: Another approach is the resource-based approach (Mead, 2005), which suggests that an appropriate entry mode would balance cost efficiency with effective promotion and marketing. At this point it would be critical to realize the role of a firm's strategic goals and objectives in choice of entry mode. Unlike the two dominant theories of entry mode strategy (the internalization theory and the eclectic theory) that focus on market imperfections and Foreign Direct Investment (Root, 1994), the resource-based framework can be used to evaluate not just FDI but also other modes of entry, such as exporting, licensing, management contract, and so forth. In addition, manufacturing firms and non-separable service firms can use this framework to evaluate and select entry modes. The transaction cost approach requires substantial adaptation when used to select entry mode for services (Erramilli and Rao, 1993).

Figure 1 A model of resource-based view of a firm's entry strategies (this article focuses on the variables in the shaded areas)



2.3 <u>Characteristics of International Entry Modes:</u> These two entry modes (Joint Venture and Wholly-Owned Subsidiary) may be differentiated according to three characteristics of the modes that have been identified in previous research (Maignan and Lukas, 1997; Woodcock *et al.*, 1994; Chen, 2002):

<u>2.3.1.</u> ***<u>The quantity of resource commitment required</u>:*** Resource commitments are the dedicated assets that cannot be employed for other uses without incurring costs. In Diebold's case it could be some resources may be intangible, such as American managerial skills vs Chinese skills, or tangible, such as American made machines and money. The amount of required resources varies dramatically with the entry mode, ranging to extensive investments in facilities and human resources in wholly-owned foreign subsidiaries.

<u>2.3.2.</u> ***<u>The amount of control</u>:*** Control is the ability and willingness of a firm to influence decisions, systems, and methods in foreign markets. Wholly-owned subsidiaries would be attractive to Diebold in China because this mode enables the MNC to exert the most control in decision-making.

<u>2.3.3</u> ***<u>The level of technology risk</u>:*** Technology risk can be defined as the potential that a firm's applied knowledge (tangible and/or intangible) will be unintentionally transferred to a local firm. Joint venture partners may also learn and acquire unspecified elements of the other firm's technology in the context of their partnership. Technology risk is probably lowest in a wholly-owned subsidiary, since the operations are under the control of only one firm.

2.4. <u>Nature of firm's product:</u> The nature of a firm's product, which refers to both macro and micro characteristics of the product, including the firm's industrial sector, have enormous influence on the mode of operation the firm uses in a foreign market (Ekeledo and Sivakumar, 1998). Compared to manufacturing firms, therefore, a greater percentage of non-separable service firms will favour sole ownership as mode of entry in foreign markets. Since Diebold's proprietary content of product, process, or managerial technology is high, its selling of non-separable services (compared to manufacturing of ATMs), it will favour sole ownership mode of entry in foreign markets like China. Inseparability of production and consumption may lead to the simultaneous adoption of multiple entry modes in a foreign market, which is not the case for Diebold. Separable services, especially those in the consumer service category, are likely to require multiple sites of sale (*example* - ATMs) with only one production point. Because of the enormous costs of making a service available in multiple sites, Diebold could reduce their cost of operation by simultaneously adopting sole ownership or even consider a joint venture with a local firm as modes of foreign market entry in China.

3. Risks of Acquisitions and Joint Ventures in China

China continues to be one of the world's leading recipients of foreign direct investment as it plays a significant role in the Chinese economy and it is reported that at the end of June 2003, there were 443,073 foreign invested enterprises approved in China (MOFCOM 2003). In terms of market entry options, the international joint venture (IJV) continues to be a popular vehicle for US & UK firms entering China. However, since 1997 wholly foreign-owned subsidiaries have grown rapidly and have become the preferred market entry method for foreign firms entering China. A number of factors have been cited for the shift towards wholly owned subsidiaries, including concerns about the competence of the Chinese partner, a dislike for shared control in an International Joint Venture, and frustration that these joint ventures often do not deliver the expected business objectives (Yan and Warner, 2001).

3.1. Cultural Risk: Service firms that follow their domestic client abroad tend to favour sole ownership mode (Weinstein, 1977). With their market demand in the foreign location they tend not to need the support of a local firm in learning about the market. But sometimes firms which expand abroad in search of new customers and are not very familiar with the region of the world in which the target foreign market is located, may need substantial local help in understanding the culture of the foreign country where the market is located in order to quickly and successfully enter the market. Familiarity with the local culture may affect a non-separable service firm's choice of entry mode because the delivery of non-separable services often involves close physical proximity between the consumer and the service provider. Since there is close affinity between the culture of a society and the services demanded in that society (Dahringer, 1991; Patterson and Cicic, 1995), a firm's activities must be consonant with the demands of the host country's cultural norms and values. Familiarity with the culture of the foreign market is important for successful interaction with local customers. Therefore, if

Diebold lacks that knowledge of the culture of prospective customers in the foreign market (China) is likely to favour a collaborative mode of operation in the foreign market.

3.2. <u>Managerial Risk</u>: Apart from this, there are several other factors that are important to both Chinese and US managers (Sun, 1999 ; Chen, 2002; Wilson, 2003). Yet, Chinese and US managers have identified different factors that are most important to them in making modal entry decisions. These have been summarized in the table 1 below:

TABLE 1	
Chinese Managers	**American Managers**
1. Target market factors: • Political risk. • Investment risk. • Host government local content requirements. • Qualifications of local partners.	**1. Target market factors:** • Host government alternatives. • Host government expectations for local managers.
2. Company factors: • Need to respond to local competitors or new entrants.	**2. Company factors:** • International experience. • Need for local knowledge. • Synergies among global operations. • Competitive positioning. • Technology secrecy and protection

3.3. <u>Investment Risk</u>: Investment capital is viewed as a key factor responsible for the differences in entry mode choice between manufacturing firms and service firms (Erramilli and Rao, 1993), leading Terpstra and Yu (1998) to suggest that most service firms use Foreign Direct Investment because capital requirements are much lower for many service businesses. However, the issue here is the impact of size on choice of entry mode. A clearer picture of Diebold’s entry mode choice for manufacturing firms and service firms is likely to come from comparing entry mode strategies of large manufacturing firms with those of large service firms. Erramilli & Rao (1993) found a U-shaped relationship between experience and adoption of sole ownership as entry mode by service firms. His research found that service firms with limited international business experience favour sole ownership as entry mode, those with moderate level of international business experience favour collaborative mode of entry, and those with substantial international business experience favour sole ownership as mode of entry.

3.4. <u>Risk with Wholly owned Subsidiary</u>: This pattern of entry mode choice is different from the linear pattern of entry mode choice followed by manufacturing firms. For manufacturing firms, preference for sole ownership increases with increasing international business experience (Davidson, 1982). Hence in China, Diebold should follow mode of entry theory through a sole ownership of a foreign subsidiary as the case study tells us that it already has gained substantial experience in partnering with and acquisitions of other local/foreign companies over the years.

3.5. <u>Risk with Joint venture:</u> Daniels et al (1985) provided a number of reasons for choosing the IJV market entry method in China, which are summarised in table 2.

Table 2: Reasons why Foreign Firms and Chinese firms build Joint ventures

Foreign Firms (Diebold)	**Chinese Firms**
Huge Market Potential	Government objectives to attract foreign investment
First Mover advantage	Access to technology and skills
Puts pressure on local competitors	Learn modern management skills
Partner has local knowledge and influence	Expansion and export opportunity
Understands market needs	Much needed finance will be provided by Foreign firm
No need to spend time building reputation through excessive marketing	Increase market share
Fits in with business portfolio	Access to marketing expertise

Adapted from Daniels et al (1985)

3.6. <u>Diebold's Risk Overview:</u> To the Chinese partner gaining invaluable knowledge is a main strategic objective for entering into an IJV. For the Western partner, the problem is to discover how much of their technical expertise should be shared with their partner. A key factor that allows for sharing information is the establishment of trust between parties. In Chinese culture, trust is substantially built on personal relationships and involves socialising and working together in order to build trust. In Western society, trust between business partners is underlined by the contract, and there is likely to be less importance placed on building personal relationships.

Sako (1992) made the key distinction between trust as a capital asset in which people invest for self-interest, and trust as a social norm. Another issue for American firms involved in a joint venture is whether to adopt US or Chinese management style. Research (Wilson, 2003) shows that Chinese managers in general have commented on the difficulties of moving Chinese employees towards a western working style, clearly suggesting that he saw Chinese practices as a brake on business efficiency. Leung (1995) states that the Chinese government has preferred the use of joint ventures since Chinese companies gain access to foreign technology, capital and management expertise through them.

It is quite evident that the Joint Ventures might continue to be a more suitable market entry method only for SMEs in China, since it provides them with more market intelligence and cultural understanding that, otherwise, large firms like Diebold might already possess or take some time to develop. For Diebold, which is a large company, a Wholly-Owned Subsidiary mode of entry is far better and suitable in China.

4. Diebold's International Structure at end of case-study

This section will first try to examine whether Diebold is a manufacturing firm or a service firm or a combination of both. It is commented on their website (Diebold, 2006) that Diebold is not really a manufacturing business in the normal sense of the word. This is due to the fact that only about 1,000 of the 13,000 or so people in the cash dispenser side of the business work in conventional manufacturing jobs in factories. Diebold have evolved now into more of a service, software and marketing company that has to keep alert and eye on what its customers want and accordingly adapt its business style in different regions accordingly. While it makes 40,000-50,000 cash machines a year, the number of variants on its equipment runs to several thousand. Diebold has 1,000 development engineers who are specialists in software and disciplines such as voice recognition and biometrics and hence now is regarded as a company that has a combination of manufacturing and service elements.

Table 3 shows the critical key success factors and requirements of any manufacturing company at every stage.

Table 3: <u>The Hill methodology of manufacturing strategy simulation</u>

Step 1 Corporate Objectives	**Step 2 Marketing Strategy**	**Step 3 How do products or services win orders?**	**Step 4 Manufacturing Strategy Process Choice**	**Step 5 Manufacturing Strategy Infrastructure**
Growth Rates	Product / Service markets and segments	Price Quality Delivery speed	Process Technology	Functional Support
Profitability	Range of Products/Services	Product and Service Range	Trade-offs	Operations planning and control systems
Return on net assets	No specified volume	Production /Service Design	Capacity, size, timing, location	Work structuring
Cash Flow	Standardization/ Customization	Brand Image	Role of inventory	Payment Systems
Financial Gearing	Rate of Innovation	Supporting Services		Organizational structure

Source adapted from (Hill, 2003)

4.1. <u>Strategy & structure:</u> In all organisations, managers have to establish structures that provide a basis for the co-ordination and control of activities, and one of the most significant issues for multinational firms is the relationship between the corporate centre and country based subsidiaries (Kamoche, 1997). As MNEs expand their operations into different environments, they increase the level of uncertainty associated with their investment, and face complex issues of organisational control in order to ensure that the different parts of the enterprise are contributing as required to the overall goals (Chang and Taylor, 1999).

Organisational know-how is both managerial and technical and foreign companies could therefore be contrasted with others, of American, British which were fostering a more geocentric learning capability as opposed to Chinese origins (Hofstede, 1995). Changing technology in both telecommunications and travel have also facilitated new approaches to parent management control in MNEs such as Diebold, and developments in IT have introduced new forms of global interaction that can be used to foster organisational learning (Sun, 1999).

4.2. Structure and Investment: Foreign direct investment is also often linked to the introduction of new technology or better working methods since generally the inward investor (Diebold) is a successful company that has something that will give it competitive advantage in the new market (China). However, whereas in the past the flow of expertise was almost all from parent to subsidiaries, in the modern transnational it is expected that knowledge transfer will be multidirectional (Agarwal & Wu, 2004). The companies with a clearer strategy of globalisation have introduced worldwide management succession planning, partly to increase the selection pool for each vacancy, but also because the view in all of them is that the top manager of the future will have had to have had international experience.

4.3. Types of Multi-National Companies: MNEs can be divided into three categories where Bartlett and Ghosal (1992) referred to as the global company, where control is centralised, subsidiaries are in a dependent relationship to the parent company and knowledge flows are one-way. Secondly there is the Multidomestic company with independent subsidiaries controlled against performance targets. However, many large MNEs that were organised in that way have, during the 1990s, reorganised into a more globally integrated structure, even Diebold has followed this suit back then. The history of many of these companies is in line with Chakravarthy & Perlmutter's (1970) evolutionary concept.

4.4. <u>Effect of Transport & Communication on Structure:</u> The changes in international transport and communication also shows that the Multidomestic form will be less common in the future. It will be interesting to see if, in the future, MNEs such as Diebold will be able to create the interdependence of the transnational organisation without going through a stage in which subsidiaries build their own local identity. Creating a geocentric organisation is not an easy task, especially in China. Chen (2002) found out that managers from established American investors commented that the effect of globalisation was to make things more centralised than they had ever been. If Diebold were to be the ideal transnational it would have to be multi-centred and avoid ethnocentrism. There is some awareness of this amongst the global companies, but it is a real challenge to build an organisation in which members from all countries feel the same level of commitment to global success.

4.5 Diebold's structure at the end of case-study: Diebold currently has a vertical hierarchy system in its global structure and needs to improvise in some centralised decisions and give foreign managers more decentralized authority as well. The local structures within each region could be more of a horizontal nature as well for performing its day to day functions. At the same time a global product structure cannot be used since Diebold has a wide range of customised products to offer with an equal amount of customised service and support. The **diagram 1** on the next page gives a rough idea on its current structure as portrayed from the case study (Hill, 2007). **Refer to diagram 1 on next page**

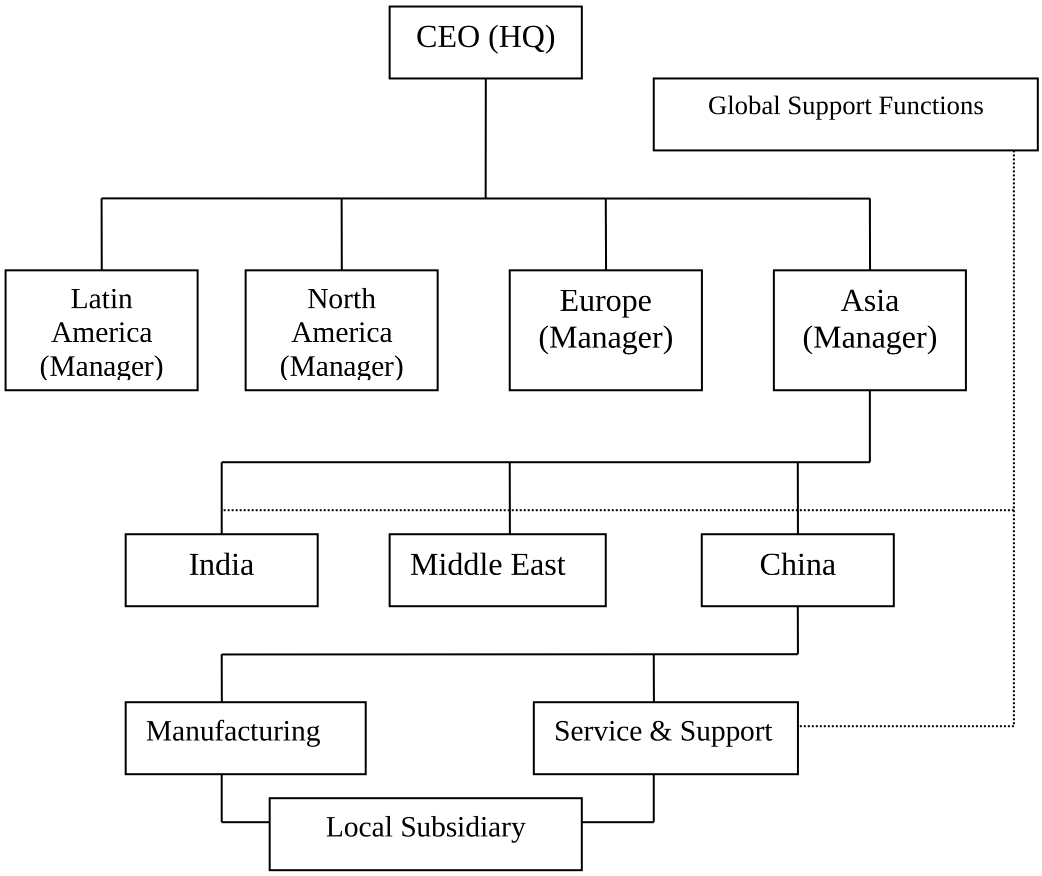


Diagram 1 - A rough idea on Diebold's Current Global Structure

5. Recommendations in Relation to Electronic Voting Machines in China

5.1. Electronic Voting Machine Issues: Already, China has become one of the company's most important markets. Diebold is expecting 20% to 30% growth in ATM sales over the next few years and has a goal to reach $1 billion in Chinese sales in 7 to 10 years. Asia now is a $300 million market, with China by far the largest and fastest-growing country in the region. The Election Systems makes up only a meagre 8% of Diebold's sales and 80% (or more) of its headaches (Business Week, 2006). Although the segment nearly tripled in size (contributing 5% growth to the overall company), one has to wonder if it is all worthwhile since the cash flow has deteriorated despite rising revenue and net income. A recent study by Princeton University that claims the panel door protecting the memory card on Diebold's AccuVote-TS voting machine can be opened with a hotel mini-bar key has triggered howls of outrage all over the United States (Wikipedia, 2006). Lawsuits have been filed and Diebold's image has been tarnished in this sector. But thanks to recent big orders from the Bank of China, China Construction Bank, and the mainland's national post office which also does banking, Diebold has clawed its way to No. 1 on the mainland with a 30% market share (China Payment News, 2006). That is just ahead of ahead of rival NCR and 15 or so Chinese domestic rivals. But the voting machine issues have created a quality perception that extends to the ATM business as well. The general recommendation this report would give would be to keep the voting systems product division far away from China or even Asia as much as possible.

5.2. Future Acquisitions: The next big move for Diebold should be the acquisition of a Chinese security company. This will help Diebold expand even more on the mainland by selling the complete security systems including vaults, cameras for banks, and safes, companies, government offices, as well as China's modern offices, airports and residential apartments. It is to be noted that this area still makes up almost a third of Diebold's worldwide business which is still underdeveloped. Diebold should try to secure a first mover advantage here as well.

5.3. China does not hold free general elections: China is still a communist regime and there is no general democracy yet which closes all the possibilities of selling voting machines there. The capital of China, Beijing would require Diebold to provide its voting products for Chinese elections yet or any time soon—nor will Beijing raise the same tough questions about reliability and security now being raised against Diebold's electronic voting machines at home in the US.

CONCLUSION ON NEXT PAGE…….

6. Conclusion

Most companies go global from day one, and others gradually like Diebold build an international presence. Not many unlike Diebold have persevered in their home market for more than a century and then expanded abroad in a short time. Diebold ensured that manufacturing, product development and marketing were reinvigorated and tackling the international aspects of getting non-standardized products to users all over the globe.

There are particular growth opportunities, especially for the service side of Diebold's business, in expanding countries such as China and India. There is no immediate future for voting machines but the ATMs and integrated security has ample scope in China. But efforts of this sort hardly materialize and usually pose major risks that could derail the entire enterprise. So far Diebold has always played cautiously and has already capitalized on the growing forces of globalization, but have also tarnished their image due to recent security flaws in the US. Only time will tell whether Diebold can still attract foreign customers and maintain a sustainable competitive advantage in their domestic (US) and foreign markets.

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