Chapter 4 Case Study

In this Chapter, we introduce five companies individually. In each case, five sections, including “Case Background”, “IT Capital–Input”, “IT Capital–Output”, “IT Capital–Management”, and “Indicator Applicability Evaluation” are described as follows.

4.1 Case 1 : A Company

4.1.1 Case Background

- *Corporate Profile*

A Company is one of the new private banks which are licensed by the government after opening the private banks up to establish in 1989. In the initial stage of the preparation, it brought up “Customer Service, Stability, Creating Profits, and Contribution to Society” to be its business philosophy and expected to establish the main “Full-Service Commercial Bank in the Asia Pacific region” to be its vision for future development. In August 1991, it obtained the incorporation license from the Ministry of Finance and then started its business formally on January 28, 1992. After that, it devoted itself to expanding the business. In 1993 and 1994, it obtained permission to establish the Trust Division and International Backing Division respectively for dealing with trust, investment, asset management, advisory consultation and out ward remittance services.

In September 28, 2001, A Company announced to establish the financial holding corporation with two domestic securities companies. This has become the successful example of “cross-industry integration” between a bank and a securities company in Taiwan. This company has been set up over 14 years up to now and has established headquarter and branches in Taiwan, Hong Kong, Vietnam, and America, respectively. It has over 2,000 employees. Besides, its authorized capital has reach NT$ 19,444 million, and the total assets is approximately NT$ 471,441 million (excluding contingent assets). It has been a full-service financial service provider across the continents now.

- *Position & Development*

A Company is the all-aspect commercial bank and put equally emphasis on the development of personal and corporate banking service. Except for the traditional savings and loan services, it makes efforts in its personal banking service through the integration of outward investments and peripheral activities in recent years. In 2000, it successfully launched the financial service of integrating passbooks, loans, securities,

funds, and other financial products. In the section of corporate banking service, it devotes itself to developing the market of the small and medium business and enhances the cross-continent financial services in the meanwhile as well.

Besides, A Company also use the B-to-B e-business fund management system and online e-Factoring high-niche products to develop the e-business solutions. In 2003, it launched the cross-continent integrated financial service platform to enable enterprises to manage their funds and arrange financing across different continent conveniently and quickly.

4.1.2 IT Capital – Input

- *IT Human Capital*

The CIO of A Company ever quoted a banker's remark, which said "Banking is not about cash management. Banking is about information management." It can be seen how important IT is in the financial industry. Generally speaking, the IT contribution and visibility of financial industry are highest except for the high-tech industry. Besides, its dependence on IT, which compares with other industries, also is relatively high.

In fact, the IT value of the financial industry mainly comes from its IT human capital. The CIO pointed out that "communication" is the critical success factor for its IT staff, and also is the main source of the IT staff's contribution. IT staff must establish a well communication mode with end users for facing the combination of commercial affairs and IT. Otherwise, IT staff's performance will be given a great discount due to the disappearance of assistance and cooperation from the other one.

The IT staffs of the financial industry have two important and excellent characteristics, which are the ability of crisis management and the ability of communicating and solving problems. IT staffs must composedly deal with problems and face requests and reprehensions; hence they have to be good at communication with users and think more about them. In general, it is very difficult to solve a thorny and sudden problem in a short time. This is because that there are too many complicated processes and techniques overlapping behind the problem. IT staffs must be very careful and patient to find out the problem and introduce the solution completely. Therefore, the education training of IT staffs is quite important. It must put emphasis on practical experience and actual project achievement. This is because that technology capability must cooperate with practical experience, and therefore IT educational training needs to provide the opportunity to practice. Besides, IT educational training needs balance and diversification, and it also has to take the advanced education of technology and business into account so as to avoid

disconnecting from business and to cultivate IT staff's Global vision.

4.1.3 IT Capital – Output

- *IT Intangible Benefit*

With more and more exact requests and executions for performance evaluation, IT tangible and intangible benefits have become one of important performance evaluation subject for financial holding companies. In the part of business strategy and revenue, the contribution of IT to strategy making and market share is quite high, Besides, IT benefit of A Company is mainly determined by the capabilities of IT innovative proposals and process reengineering. The capability of IT innovative proposals could be subdivided into two types. One is the IT innovative proposals, which have immediate help for business, and another is IT innovative proposals, which have immediate help for IT processing.

For example, the core banking of financial industry is mostly built on the mainframe system, and the cost of IT processing is higher. On the contrary, the new business of financial industry is built on the open system platform, and the cost of IT processing is less. Therefore, one of the purposes of IT innovative proposals is actively to think over which information applications and business operations could be transplanted from mainframe system to open system platform, so that it would handle business works with less IT cost and have no effect on operational efficiency. This is an innovative proposal which focuses on the improvement of IT operational and business benefit. For example, another purpose of IT innovative proposals is actively to deliberate whether the process of business unit could be handled with new IT approaches or not and whether the steps of the process could be simplified for creating new benefits or not. This kind of IT innovative proposal will be directly aimed to help the business benefits. As for the contribution of IT to process efficiency of banks, it means e-business, the electronic financial platform of B2B and B2C, and the implementation of transnational electronic transaction platform.

4.1.4 IT Capital – Management

- *IT Performance Evaluation*

The bank is a business with more systematization and scale in the financial holding industry. Especially for the capability of IT management, its IT institutionalization and R&D are more conscientious and careful. Owing to the goal of 3C (cost down, capital efficiency, and cross selling), which is set up for finance holding company in recent years, A Company decides to carry out IT integration and

introduces Data Warehouse and Business Intelligence into the organization. It finds that the balanced score card seems to be a more complete and logical performance evaluation method when it executes the goal of 3C. Besides, its IT performance evaluation will also base on the evaluation of their business unit, their directive supervisor, and themselves simultaneously due to IT department is an important shared service and support units in the financial holding company.

4.1.5 Indicator Applicability Evaluation

As shown in Table 4.1, the average of IT Input and IT Output Dimension in the A Company are 5.154 and 5.100, respectively. In the dimension of IT Input, the most applicable performance indicators are “Personnel turnover rate”, “IT application level”, and “Problem handling”, which got the highest score. In the dimension of IT Output, the most applicable performance indicators are “The contribution of cost reduction” and “The contribution to business process”, which got the highest score as well.

Table 4.1 Degree of Indicators Applicability – A Company

IT Input		**IT Output**	
IT Human Resources		Strategy Contribution and Decision Quality	
IT personnel expenditures	5	The contribution to business strategy and revenue	5
The size of IT department	5	Innovative Products and Services	
Personnel turnover rate	6	The innovation capability	5
IT Infrastructure		The contribution to innovation	5
IT budget	5	Reducing Cost	
PC/NB per person	5	The contribution of cost reduction	6
IT Application Capability		Process Efficiency	
Certification items	4	The contribution to business process	6
IT application level	6	Supplier/Customer Relationship	
Problem handling	6	The requirements of supplier/customer relationship	4
IT R&D Capability		The contribution of supplier/customer relationship	5
R&D budget	5	Knowledge Management and Organizational Learning	
The number of R&D employees	5	Knowledge management execution	5
Organizational Structure and Culture		The contribution to knowledge management	5
IT department position	5	Intellectual Property	
CEO background	5	The quality and quantity of intellectual property	5
Business model	5		
Mean	5.154	**Mean**	5.100
Std.	0.533	**Std.**	0.539

4.2 Case 2 : B Company

4.2.1 Case Background

- *Corporate Profile*

Company B, founded on April 19 1961,was the first private property & liability company in Taiwan, and is also the one which has longest history within its corporate group. It regards “integrity”, “friendliness”, “profession”, and “innovation” as its business philosophy and expects to satisfy the requirement of customers. In 1998, it successfully issued global depository receipts (GDR) and listed on London Stock Exchange. It became the first financial institution in Taiwanto issue a GDR abroad, , and only the second in Asia. To accelerate the pace of internationalization, it allied with the largest financial service Company E in the world and learned its advanced insurance technology and experience. In addition, it also established a subsidiary in Mainland China and other overseas service centers.

In the first year of its financial holding company, Company B, one of the corporate groups in its financial holding company, brought the synergy of cross-selling and integrated marketing into full play. It also created a minimum expense rate, 23.61%, which was 4% less than the previous one, through integrating resources and effectively reducing costs. In 2002, its total insurance premium growth rate had reached 11.93%. It also had gotten ahead of all the other companies in the same industry grounded in the market share of 20% and has been the leading company for 21 years.

- *Position & Development*

Company B conducts all kinds of property insurance, such as fire, automobile, engineering, and all types of liability insurance, with the exception of life insurance. It regards innovation as its philosophy in researching and developing new types of property insurance. Its purpose is to enhance its quality of service and to satisfy customer requirements. In addition, Company B has also established a 24-hour service hotline to solve all kinds of problems and to offer various services regarding property & liability insurance.

4.2.2 IT Capital – Input

- *High-Quality IT*

Property & liability insurance industry is an industry with short-term insurance proceeds. It is unlike life insurance industry which has a huge amount of assets to support. Over the past 20 to 30 years, property-liability insurance industry is always

in the circumstance with highly competition, and its expenses must be calculated exactly all the time. It is very difficult for this industry to make profits. Hence, the industry always adopts conservative view to its IT investment. However, there is an exception that is B Company. It is always ahead of other competitors as a result of the long-term IT investment and the respect for IT application. It has exceeded the sum of the second and the third companies in the operating performance and revenues. This company relies on IT to widen the distance between it and other competitors, and to expand the market share and scale.

For this company, the reason that it could design such a well information system is because of the continuous requirements and cavils from its business unit regarding the information system. The IT department has to do its best to cooperate with business unit over a long period of time. Furthermore, it also has to continuously modify and adjust the information system, and expect to provide high-quality system to satisfy users.

Other companies within the same industry ever inquired this company whether they could purchase the IT system or not, even they were willing to buy it with high price. However, the CEO of this company said modestly, “I’d like to sell the system to you; however, if it is not appropriate for your company, it might cause great damage to you instead.” This company realized that its long-term IT investment has been affirmed by other competitors through their offer and admiration. Even it has an opportunity to earn money by selling its system. In fact, the IT has become a mature and competitive weapon. For this company, this IT system has been embedded its business intelligence, practical experience, and approaches for solving problems. Thus, it is impossible for it to resell the IT system to other competitors easily.

4.2.3 IT Capital – Output

The contribution of IT in the aspect of strategy is that providing management reports, assisting the business unit in analyzing vehicles, analyzing insurance products, finding out the timing and price of suspending and introducing products, offering important statistical data, helping the business unit to reduce the loss rate, improving the rate of return, increasing the premium, detaining renewal customers, and controlling the market trend of property-liability insurance.

Property & liability insurance industry quite cares about actuary. It thinks that the more the business are, the more money it loses if without numeric data and statistic analysis. This is because that it doesn’t understand its cost well so that it would never know where the critical point that influence the winning or losing is. Further, it also wouldn’t know how to take the conditions of the negotiation into account.

- *Customer-Oriented IT*

The competition among property-liability insurance companies is very fierce. Most of them are small and medium sized enterprises. Therefore, for the sake of attempting to gain competitive advantages, they particularly pay much attention to customer renewal and repurchase rate. According to statistical data, 70 to 80 percent of people who buy cars will not renew the insurance policy after the third year, and 50 percent of people who own cars will repurchase new car after 5 to 7 years. Hence, property & liability insurance industry puts emphasis on keeping existing customers very much. With regard to customer strategy and loyalty, they use IT to assist the business unit in simplifying the processes between external customers and agencies, in implementing inter-organizational process reengineering, in saving the steps, labors, procedures, and documents, and in keeping customers.

The CIO of this company shows a case to explain why customer is so important for them. Property & liability insurance industry often assists manufacturing industry in dealing with export-import insurance business of merchandises and products. In the traditional way, there are many documents, which are delivered frequently, and operations, which need the personnel to get in touch with each other among property-liability insurance industry, manufacturing industry, and banks. It is very complicated and time-consuming. In order to decrease the delivery frequency and duplicate documents, the CIO expects to reconstruct the inter-organizational process. It will be able to reduce the mistakes and delay time of documents and solve the condition, which is unable or difficult to verify the documents, at the same time. Hence, this company implements process reengineering, introduces information system architecture, gives optimal and reasonable change for new process, and provides inter-organizational IT services. In consequence, this company keeps the important customers and creates high premium income. This is a win-win situation.

4.2.4 IT Capital – Management

- *Consensus-Oriented IT*

Property & liability insurance industry is a “human industry” and always puts emphasis on consensus. Because IT staffs need to face much workload and get a lot of work pressure, it is very important for them to have a well emotional management. Due to the influence of the environments, they have got used to seek a consensus first when they face criticisms and conflicts. After that, they will collect the data and then convince users with situation, reality and truth. IT staffs believe that the consensus must exist first and then they would have impetus to complete all the work. If they could use everyone’s power well and do not confront with each other positively,

things will be completed smoothly without cutting down everyone's power. It is a distinguishing characteristic of IT of property & liability insurance industry.

4.2.5 Indicator Applicability Evaluation

As shown in Table 4.2, the average of IT Input and IT Output Dimension in the B Company are 3.538 and 3.800, respectively. In the dimension of IT Input, the most applicable performance indicators are "IT personnel expenditures", "Certification items", "IT application level", and "CEO background", which got score 5. In the dimension of IT Output, the most performance indicators get the same score 4, expect for the indicators: "The contribution to business strategy and revenue" and "The quality and quantity of intellectual property", which got score 3 only. This means that there is no significant difference among the performance indicators in the dimension of IT output. It also might mean that this company considers the applicability of these indicators it is similar and hard to discriminate for it.

Table 4.2 Degree of Indicators Applicability – B Company

IT Input		**IT Output**	
IT Human Resources		Strategy Contribution and Decision Quality	
IT personnel expenditures	5	The contribution to business strategy and revenue	3
The size of IT department	4	Innovative Products and Services	
Personnel turnover rate	2	The innovation capability	4
IT Infrastructure		The contribution to innovation	4
IT budget	4	Reducing Cost	
PC/NB per person	3	The contribution of cost reduction	4
IT Application Capability		Process Efficiency	
Certification items	5	The contribution to business process	4
IT application level	5	Supplier/Customer Relationship	
Problem handling	4	The requirements of supplier/customer relationship	4
IT R&D Capability		The contribution of supplier/customer relationship	4
R&D budget	1	Knowledge Management and Organizational Learning	
The number of R&D employees	1	Knowledge management execution	4
Organizational Structure and Culture		The contribution to knowledge management	4
IT department position	3	Intellectual Property	
CEO background	5	The quality and quantity of intellectual property	3
Business model	4		
Mean	3.538	**Mean**	3.800
Std.	1.393	**Std.**	0.400

4.3 Case 3 : C Company

4.3.1 Case Background

- *Corporate Profile*

Company C was the first foreign life insuranccompany established in Taiwan (in 1987). In 2000, it merged with the second foreign insurance company in Taiwan and expected to combine the advantages of excellent corporate images and business systems and to share technology and experience from both merger parties. Through its six core values: “Customer-orientation”, “Entrepreneurship”, “Collaboration”, “Professionalism”, “Integrity”, and “Investment in human resources”, it expected to provide the best financial products and services based on professionalism, innovation, and integrity to satisfy customers’ financial requirements for whole life insurance and to be a trusted, respected, learned leader in the service industry of Taiwan.

With the financial and resource support of its corporate groups, Company C made use of all resources to devote itself to being the leader in providing consumers integrated financial services. In 2001, it became the first insurance to focus on total quality management (TQM). The improvement in business processes also earned it a national quality award (NQA). In addition, the survey of benchmarking enterprises in 2005 by *Commonwealth* magazine also showed it as first in the life insurance industry in Taiwan.

- *Position & Development*

The main products and services of Company C include *risk management*, such as life, accidental death, and medical expense insurance, *wealth management*, such as savings and investment-oriented insurance, and *integrated financial services*, such as personal risk management, income tax planning, and estate planning. In addition, Company C also established the first customer service center in the insurance industry in Taiwan. This center provides various services, for example, 24-hour on-line service, overseas emergency assistance (OEA), and e-insurance policy. It not only offers customers immediate and sincere service but also ensures the rights and interests of the insured.

4.3.2 IT Capital – Input

- *Future-Driven IT*

In the future, the IT of the life insurance industry will put more emphases on the specialty, such as project management, capability maturity model for software, infrastructure management, system theory, and strategy map. It expected to operate IT

from a viewpoint of processes, to plan IT from a viewpoint of performance, and to transform IT from a viewpoint of department reengineering in the future. IT development almost came from home grown in the past. Afterward it will outsource low-level IT jobs step by step. At the same time, the specific weight will become heavier and the hierarchy it affects will become broader.

Nowadays, it adopts rapid prototyping method to develop IT. It allows the company to develop, deliver, and improve IT simultaneously. In addition, it is also very conscientious and careful for the schedule. In the future, they will regard infrastructure as the main shaft of transformation, use the concept of component-based design, and think about future growth and maintenance. Besides, this company will also take the local complicated processes and the degree of the requirement of flexible customization in Taiwan into account, and propose the innovative and stable balanced IT rules further.

In the future, this company will adopt the concept, which is similar to IKEA, to develop its IT as well as complete the important and common core components through the purchase, self-development, or outsourcing. At the same time, it will plan the customized blueprint. The key point is that the company doesn't have to fix the detail of blueprint in the beginning stage even if it is a customized design. Through the component-based infrastructure and the customization, which is oriented towards demand analysis, they could pay attention to cost benefit and delivery efficiency as well as pursue the saving in the whole life cycle without locking in infrastructure and module.

Hence, its IT R&D in the future will go forward to three aspects, which are technology, standards, and solutions, respectively. The IT governance, which puts stress on high quality, high efficiency, and high return, will add more new techniques, frameworks, and standard components, and will have more opportunities to collaborate with international IT manufacturers.

4.3.3 IT Capital – Output

- *Cost Benchmark*

This company is quite conscientious and careful on the cost control. It will examine and implement the cost control in a planned and staged approach. Up to now, its reinsurance rate has risen from 70% to 80% with the growth of revenue in each year. The IT infrastructure has brought a certain degree of economical scale on the cost performance, and its contribution also has been more than 10%.

The evaluation of the contribution is based on the cost benchmarking methodology of international life insurance industry. This company will compare the

proportion of IT expenses to operating expenses with the proportion of operating expenses to operating revenues when it evaluates the contribution. On the whole, it is considered from two perspectives, which are the critical point of cost-benefit optimization and the aspect of strategy, respectively. The purpose is to establish the benchmark of enterprises. On the other hand, when operating cost needs to reduce, IT cost also needs to reduce. Besides, the percentage of IT cost's decline and its speed and direction also has to be visible. Therefore, IT investment must have business driver first and then form business cases, so that it will be able to obtain the budget and resources according to the benchmark.

- *Differentiated Competitiveness*

The IT competitiveness of this company mainly comes from their understanding of the market, customers, services, strategies, and operations. It searches out the difference of enterprises and analyzes the difference of IT. With regard to market segmentation, customer value, consumption behavior, and predictive analysis, it attempts to introduce insurance product and service through IT systems and designs.

In fact, there are a lot of opportunities and challenges for life insurance industry in the future. It might have many new products, processes, business models, and channels to exploit. Especially in the environment of financial holding companies, the boundary between finance and insurance industry is more and more obscure. The competitive market in the future will be more drastic, even will become the condition, which companies is getting large but impractical or small but not pretty. Therefore, anything might happen or change in this market and further, the only way to survive is to use IT for innovation and reformation and to face the variant environment with enterprises.

4.3.4 IT Capital – Management

Life insurance industry views the IT value from the financial viewpoint in recent years. This is because that the company changes continuously and its IT must vary with it. Especially when it evaluates the IT benefits, it will consider how much money IT is worth and how much cost is needed to reestablish IT as enterprise liquidation.

The new viewpoint is to consider IT from the angle of internal competition and entrepreneurship. The competitiveness of IT must compete with other outside IT manufacturers in the future. Users will be able to choose internal IT, or select to outsource IT project, or directly purchase and introduce the software packages. The competitiveness and value of IT will be like an independent business to be assessed and evaluated by the enterprise. This also means that the enterprise will evaluate IT from financial and strategic angles.

- *IT Governance*

The CIO of this case company indicates that the future IT strategy won't only cooperate with operative goals and pay attention to the next year; they will emphasize the medium and long term development and demand of whole organization. The enterprise will put emphasis on the innovation of IT architecture and the introduction of R&D approaches. In the future, IT strategy, which is merely aimed to satisfy users' demand in the past, will improve to exceed users' demand. Besides, it also will lead the enterprise to enhance the level of obtaining and applying IT resources and launch the new age of IT governance through the application of intelligence and experience.

The meaning of the IT governance is to put IT resources and application in the right place. Through institutions and processes, organizing and capitalizing the IT government and earning the management capital. Afterward, it will be integrated with firm governance and then entirely link the investment strategy and financial performance together.

- *The advantage of Internationalization*

The IT of international life insurance company has an advantage, that is, they could interact frequently with other international life insurance companies, which come from America, Holland, Europe, Korea, India, etc., and learn things from each other. After the interaction, they have had the common sense and approach and then become the IT indicator of this industry finally. This kind of advantage will be very helpful for them to develop the horizontal and vertical thoughts.

The company is the first domestic life insurance company, which started deployment in the Mainland China. In the beginning, it supported the IT infrastructure of business units of their group in Dalian, Shenyang, Tsington, Beijing, Canton, and Shanghai. Its IT in Taiwan will directly support IT managers, labors, equipments, the Internet, and information content in the Mainland China. Through the high growth and consumer demand of the life insurance market in the Mainland China, it expects to take advantage of business intelligence and international experience of the company in Taiwan to make it break the original pattern and enhance the capability without failure when Taiwan is towards the stage of maturity.

- *Information Risk Management*

The core business of life insurance industry includes finance, actuary, claim, reinsurance, administrative management, and educational training. The coverage rate of IT in these aspects is quite high. At the Due to the turnover rate of IT staff is very low and IT staff are very clear about vertical/horizontal process and business logic, IT department often becomes each department's free consultant and center of telephone

consulting. For each department, the IT is very important.

The characteristic of the business of life insurance industry is to attach importance to the risk management. Actually, if insurance companies don't place importance on every possible risk, how could they be called the insurance companies? The risk management of international life insurance company is extra conservative especially. For example, the blow the whistle and information risk management (IRM) are famous for the conscientiousness and carefulness.

In the life insurance industry, the risk management mainly puts emphasis on its most important assets, including goodwill, honest, and commitment. In general, life insurance industry seldom gets in touch with end-consumers. However, once they have interaction with each other, the transaction amount usually is large and the transaction will have great effects on the industry. It is fairly different from financial and high-tech electronic industry. For this reason, life insurance industry must make sure that its IT is quite correct in the aspects of information risk management and data management. IT also must be exact regarding the time. In fact, the speed does not matter for the IT of life insurance industries now. On the contrary, accuracy, quality, and service will be its most important milestone in the future.

4.3.5 Indicator Applicability Evaluation

As shown in Table 4.3, the average of IT Input and IT Output Dimension in the C Company are 4.462 and 5.000, respectively. In the dimension of IT Input, the most performance indicators get the similar score from 3 to 5 except for "Certification items", which only get score 1. It means that this indicator probably is not quite applicable in the life insurance company. In the dimension of IT Output, all of the performance indicators got score 5. This means that the company considers the applicability of these indicators from the dimension of IT output is similar and no significant difference among these.

Table 4.3 Degree of Indicators Applicability – C Company

IT Input		**IT Output**	
IT Human Resources		Strategy Contribution and Decision Quality	
IT personnel expenditures	5	The contribution to business strategy and revenue	5
The size of IT department	5	Innovative Products and Services	
Personnel turnover rate	3	The innovation capability	5
IT Infrastructure		The contribution to innovation	5
IT budget	4	Reducing Cost	
PC/NB per person	5	The contribution of cost reduction	5
IT Application Capability		Process Efficiency	
Certification items	1	The contribution to business process	5
IT application level	5	Supplier/Customer Relationship	
Problem handling	5	The requirements of supplier/customer relationship	5
IT R&D Capability		The contribution of supplier/customer relationship	5
R&D budget	5	Knowledge Management and Organizational Learning	
The number of R&D employees	5	Knowledge management execution	5
Organizational Structure and Culture		The contribution to knowledge management	5
IT department position	5	Intellectual Property	
CEO background	5	The quality and quantity of intellectual property	5
Business model	5		
Mean	4.462	**Mean**	5.000
Std.	1.151	**Std.**	0.000

4.4 Case 4 : D Company

4.4.1 Case Background

- *Corporate Profile*

Company D was founded on July 22, 1988 as a securities brokerage company with a capital of NT$ 200 million. In 1990, it officially became a securities firm and then was listed as a public company in 1996. On January 5, 1998, Company D started to conduct online trading. It expected to offer investors various channels for transactions and to attract potential investors. Afterwards it took advantage of online and voice trading, which was started in 1999 and simultaneously expanded its turnover from e-transactions. It not only became one of the top three securities firms but was selected as the Taiwan e-enterprise with the most potential . In addition, the survey of benchmarking enterprise in 2004 by *Commonwealth* magazine also showed that it was the first in the securities industry in Taiwan.

In 2002, it pioneered an online options trading platform and then succeeded in pushing the expansion of the options market almost 13-fold in 2003. Compared with 2002, its trading volume of options had grown by 11.27 times. In addition, it got the highest market share of 15.47 % in the area of online securities trading. The market share of e-transaction of futures and options also had already exceeded 25 %.

- *Position & Development*

Company D provides not only traditional stock brokerage consultation services but also the consultation services for funds, futures, options, and structured products. In addition, in recent years the internationalization of products and the globalization of services has become the development trend of the securities industry . Thus, Company D launched the world's first cross-national trading platform with a Chinese interface in 2001. This platform allows investors to trade via eleven exchanges in six regions of the world and offers 24-hour financial services. Through the platform, it can conduct business for 1.3 billion Chinese all over the world at the same time. The sales of products and the deployment of capital also have reached the maximum benefit with the use of network technology.

4.4.2 IT Capital – Input

After 2005, the technical threshold of the IT will ease gradually and most technologies will become mature. Therefore, the IT has to cooperate with business model; otherwise it will be very difficult to maintain its competitiveness later. For example, financial derivatives themselves are quite complicated and so are their

processes. If the company purely adopts mutual operation to handle the derivatives, such as dealing with transactions by face-to-face communication or phone call, it will be difficult to exceed certain quantity and establish a new market in the certain time.

Therefore, IT will not only be a tool for e-product but also help to improve the process of new product development after 2005. Through the friendly IT interface, it will simplify the effective transaction process of new products as well as improve and update the transaction platform for sale and purchase. In addition, it also would like to improve the sales volume and bring new market.

Besides, the securities industry needs lots of innovative ideas on IT. It has to think up new approaches, designs, stunts, and depth and breadth application of the IT in every season and every half a year, such as automatic payment, track prediction, the forecast of index, buying point, and selling point, historical volatility, and so forth. These services are quite novel and complex, and are also valuable for the depth and breadth application of the IT. Based on IT application, the business units could create new business model and bring new value for their customers.

4.4.3 IT Capital – Output

- *IT Strategic Effectiveness*

For securities industry, there is a great difference between the real-time and non-real-time transaction business model. That is due to they both have some requirements needed to respond to the market, such as whether there is no gap in the process, whether there is no interruption in the process, whether there is no manual operation in the process, whether it is streamlined between processes, and whether the processes and strategic target are aligned. If it is non-real-time transaction, the transaction of sale and purchase will divide into two phases at least, and the processes wouldn't connect with each other. Gaps, interruptions, and time differences between them will certainly exist. On the contrary, real-time transaction connects with e-commerce platform so that seams and interruptions will not exist. This is a complete online operation. Such trade mechanism and electronic platform will come into play when the trading volume has reached the critical point and the market of new financial product has been spread. At this time, IT plays an important role to produce strategic benefits and results.

The result, which causes IT intangible benefit of securities industry, is that the IT of securities industry brings its customers convenience and contribution. Through the friendly user interface, securities industry leads customers to get used to this kind of operation interface as well as its response and speed. Afterward, it makes customers produce stickiness and loyalty. Based on the friendly interface with convenience and

quick response, the difference on electronic transaction platform of securities industries will be completely obvious. In fact, this kind of difference implies certain technical threshold. If it could provide this kind of user-friendly interface, convenience, and quickly response first, it will gain the most customers; if it could make customers feel the sense of presence and domination, and obtain the immediate and sufficient information in the same platform first, it will have more opportunities to catch customers. Therefore, the convenience, contribution, and transparency of the IT bring the critical capability of success for securities industry.

4.4.4 IT Capital – Management

The IT intangible benefit of securities industry will take effect until it reaches the critical point. In general, the IT benefit of securities industry is tangible. This is because that the core business of securities industry belongs to transaction processing, such as online trading, e-commerce transaction, cross-border online real-time transaction, etc. The quantitative and qualitative evaluation of electronic transaction is ordinarily measured by the financial performance of business units unless there is new financial product to launch. The success of securities industry is due to that its IT will bring strategies and key performances, which couldn't be replaced by business units, when it launches new financial products and changes the business model of financial products.

- *IT and Business Innovation*

The IT manager of this company indicates that the age, which IT takes effect alone, is gone, and now IT innovation must combine with business innovation. However, the thing, which is worth to be cheerful, is that the more complicated and difficult the transaction process is, the more assistance of IT they need in the securities industry. It will make their products and service come true and spread. For example, the business unit of securities industry is quite confident that it will get good business achievement and its premium and bonus could be expected or estimated as long as IT department could take on an additional shift to complete the system. It seems that the combination of IT and business has been a successful equation in practice; however, in this equation, IT department seems to have no immediate bearing on the premium and bonus of entering the market successfully. This may be new affirmation and feedbacks that IT staff expect most.

4.4.5 Indicator Applicability Evaluation

As shown in Table 4.4, the average of IT Input and IT Output Dimension in the

D Company are 5.000 and 5.300, respectively. In the dimension of IT Input, the most applicable performance indicators are “R&D budget”, “The number of R&D employees”, and “CEO background”, which got the highest score 6. In the dimension of IT Output, the most applicable performance indicators are “The innovation capability”, “The contribution to innovation”, “The contribution of cost reduction”, and “The contribution to business process”, which got the highest score 6.

Table 4.4 Degree of Indicators Applicability – D Company

IT Input		**IT Output**	
IT Human Resources		Strategy Contribution and Decision Quality	
IT personnel expenditures	4	The contribution to business strategy and revenue	5
The size of IT department	5	Innovative Products and Services	
Personnel turnover rate	5	The innovation capability	6
IT Infrastructure		The contribution to innovation	6
IT budget	5	Reducing Cost	
PC/NB per person	5	The contribution of cost reduction	6
IT Application Capability		Process Efficiency	
Certification items	4	The contribution to business process	6
IT application level	5	Supplier/Customer Relationship	
Problem handling	5	The requirements of supplier/customer relationship	5
IT R&D Capability		The contribution of supplier/customer relationship	5
R&D budget	6	Knowledge Management and Organizational Learning	
The number of R&D employees	6	Knowledge management execution	5
Organizational Structure and Culture		The contribution to knowledge management	5
IT department position	5	Intellectual Property	
CEO background	6	The quality and quantity of intellectual property	4
Business model	4		
Mean	5.000	**Mean**	5.300
Std.	0.679	**Std.**	0.640

4.5 Case 5 : E Company

4.5.1 Case Background

- *Corporate Profile*

Company E began its preparatory work in 1990 and obtained permission for establishment from the Ministry of Finance in August 1991. On March 23, 1992, Company E was officially opened. It regarded “professionalism”, “service”, and “credit” as its business philosophy and put equal emphasis on financial business and financial consumption as its principles of business strategy. Since establishment, it has constantly expanded its business scope and number of locations. As of 2004, it has more than 101 business locations in Taiwan and it is expected to provide more comprehensive financial services with high quality.

In its organizational structure, it instituted an Audit Division and Secretarial Division under the Board of Directors. It also established a management unit including the Strategic Planning Division and Processing and Servicing Division as well as the business unit, the Trust Department, International Division, and Savings Division within the headquarters office. In addition, it also actively expanded its operating network by establishing new branches in each major city in Taiwan. Following the trend of internationalization, it has established an offshore business unit and set up a representative office and financial company in Hong Kong.

- *Position & Development*

Company E regards being the number one brand in the Taiwan financial industry and seeking long-term maximum benefit for customers, stockholders and employees as its vision and views customer-oriented service as its major development direction. It expects to provide high-quality service and to become a financial institution that is trustworthy and vigorously seeks new directions. Its major business items include deposits, loans, bills discounting, remittances, guarantees, short-term bills brokerage and proprietary trading, import and export negotiation, foreign-currency deposits, trust, agency, custodianship, credit cards, and offshore banking.

4.5.2 IT Capital – Input

The reengineering, which this company is active to completed in the past three years, is to entirely reconstruct the core banking system for achieving two major goals, which are “Cost-Benefit” and “Productivity Improvement”, respectively. Nowadays, the result shows the operating platform is totally open, and doesn’t lock the server and system software/hardware with particular brand. It enables itself to have a lot of

suppliers to choose, and to be flexible with costs and the selection of suppliers.

IT infrastructure divides into three parts including “personal undertaking group”, which is responsible for personal consumption finance, “corporation undertaking group”, which is responsible for the financial interaction with each company, and “wealth management”, which is responsible for business transactions of securities, futures, and funds. Owing to the situation of cross-selling will appear in each part, their product managers and product owners attach great importance to the valuation of cost, the transfer of cost, the share of profits, and the calculation of interest spread. Moreover, they will adjust the rules of sharing every year even dispute on it. They have to rely on the information and data that IT provides, such as transaction detail, customer detail, product detail, and personnel detail, so that they could design a rational and institutional sharing mechanism for cost and benefit. Besides, the real-time and convenient IT system also makes the company complete the balance within one to two days. Afterward they convene a company meeting to calculate all kinds of cost and profit as well as the plan of allocation.

IT architecture of financial service industry is generally divided into four parts:

- System Support, which includes system hardware/software and daily operation.
- Application System Development, which divides into three sub-departments and core banking system (CBS).
- Knowledge Management (KM). KM, customer relationship management (CRM) data warehouse (DM), and management information system (MIS) are mostly researched, developed, implemented, and introduced by IT department itself.
- Project Management.

When they measure the performance, these four parts will divide into the minimum units: employees, products, and customers. At the same time, they evaluate the dimensions of organization, employees, products, and customers. Besides, they also subdivide into the minimum unit of cost or benefit. The purpose is to measure the performance of IT and to encourage IT department to work efficiently and create more innovative R&D. This mechanism actually inspires the IT department to be willing to do its best and exerts itself to achieve new goal every year.

4.5.3 IT Capital – Output

In the area of IT innovative R&D, the main work is to cooperate with the business unit, especially for the R&D of knowledge management and customer relationship management. Take “Financial Knowledge Base” as an example, most people, more than half of the investors at least, do not make money and even make a

loss when they are engaged in investment and finance. This is because that they do not know where stop-loss point is, when the opportunity of approach and exit is, and where the price should be set. “Financial Knowledge Base” is a representative example of financial holding R&D project. It will help them to arrange the financial rules and best investment practice as well as provide timely recommendations and risk management suggestion to investors through the experience accumulated from fund management and customer investment services. The most important ten KPIs of IT of the company includes:

- The frequency of network banking system crashes for enterprises
- The frequency of ATM system crashes
- The amount of customer’s lawsuit
- The check grade of internal and external audit
- The percentage of internal customer satisfaction index
- The frequency of host system crashes
- The percentage of external customer satisfaction index
- The percentage of objective management index
- Training hours per month
- The percentage of employee and customer satisfaction survey

4.5.4 IT Capital – Management

- *The Pentagon Diagram for IT Evaluation*

IT value comes from the automation, efficiency, and the business model and process with low cost. Therefore, the final assessment of IT value should mainly comes from internal and external customer satisfaction analyses. Financial industries are paragons of the best customer satisfaction survey. They regularly outsource the comprehensive survey of customer satisfaction to the third part at least one time per half a year. This survey includes self-assessment, managerial, user, external customer, and the whole organizational assessment, which is commented by employees. Hence, the way to measure IT performance will includes subjective and objective judgement as well as the evaluation of five roles. It forms a pentagon diagram. Besides, these five roles also correspond to self-assessment, directive supervisor assessment, top executive assessment, internal customer service satisfaction assessment, and external customer service satisfaction assessment, respectively.

After assessment, they will transform the result of satisfaction survey from qualitative questionnaire into quantitative result as a part of year-end performance appraisal of each employee and will input the result into Balanced Scorecard System (BSC) as a part of organizational strategy map. Financial holding industries always

have hundreds of units. IT department will base on the interaction between each unit and itself to draw the service matrix. At least each half a year, they will periodically examine the score which each employee gets and determine whether he/she passes or not via assessment. In addition, they will list the improvement and new goal for the second half year and next year, and submit an active proposal for promotion.

- *Self-Assessment*

They will examine how many cases that IT department doesn't deal with at present are accumulated, how many of these have been completed, and what the speed of finishing these cases is; and further, they will compare this condition with last year and plan a improvement project for next year. In addition, CIO will design service level agreement (SLA) with each department. In this agreement, total IT costs will be transferred out, and each department will calculate whether its profit and the number of customers conform to the agreement. In principle, IT department is a cost center.

- *Managerial assessment*

The most important purpose is that each employee would more self-innovation and self-affirmation through satisfaction survey and the feedback. Top executives would have more affirmation and confidence in IT department; and further, CEO would often praise IT and be proud of IT innovation.

- *Internal Service*

The firm will inquire users of using IT within the internal organization about the work performance satisfaction of IT department. Generally speaking, their satisfaction is quite high. However, internal users' demand seems endless, and it's difficult for IT department to get 100% satisfaction every time. The greatest expectation of the business unit is to that the IT services could be visible. For example, it cares about the call center staff's satisfaction of using the system in the call center and the response situations with around millions of calls from customers every month. It also expects that IT provides all kinds of e-banking services related to food, clothing, housing, and transportation. All of these are the information service that business unit cares most. In fact, the greatest challenge that the CIO of financial industry faces is how to coordinate and consult with each department, which has different attributes, in the large group, especially for the sales department, which is the largest one. Therefore, how to satisfy the requirement of the sales department will be the primary mission. In general, its requirement is very huge, dynamic, and severe, and how they identify the degree of satisfaction also is very subjective. Therefore, IT department only has to devote all its energies to playing the role of support and cooperation.

- *External Customer Service*

The assessment commented by external customers for financial industry is very important. The firm has thousands of ATM machines spreading all over Taiwan, and these ATM machines are like independent branches which could contact with end customers directly. The end users' satisfaction for banks usually comes from here.

- *Employee Satisfaction*

Financial holding industry cares about employees' satisfaction survey very much, especially the suggestions written by employees and the score selected in the survey. The company thinks that this will have the effect of positive feedback for it. It expects that it can bring the virtuous circle and make employees and managers be willing to talk the truth or put forward constructive suggestions to each other. The purpose of the employee satisfaction survey is to allow employees to evaluate their supervisor, the CEO, and the whole organization. In fact, they hold a meeting to discuss the service quality every week. In the meeting, they will gather the comments and data, which are collected from the employees, and then provides these to relevant personnel and managers for reference. They care about the comments from the service recipients and the result of the satisfaction survey no matter these come from internal employees or external customer and no matter these are reasonable or not. They will discuss these comments and results conscientiously, and think about where the problem is and how to satisfy their customers.

4.5.5 Indicator Applicability Evaluation

As shown in Table 4.5, the average of IT Input and IT Output Dimension in the E Company are 6.000 and 5.900, respectively. In the dimension of IT Input, all of the performance indicators got the highest score 6. In the dimension of IT Output, the most performance indicators got score 6 except for the performance indicator "The contribution to business strategy and revenue", which got score 5 only. The result from the dimension of IT input and output means that there is no significant difference among these indicators. All of these are quite applicable for this company.

Table 4.5 Degree of Indicators Applicability – E Company

IT Input		**IT Output**	
IT Human Resources		Strategy Contribution and Decision Quality	
IT personnel expenditures	6	The contribution to business strategy and revenue	5
The size of IT department	6	Innovative Products and Services	
Personnel turnover rate	6	The innovation capability	6
IT Infrastructure		The contribution to innovation	6
IT budget	6	Reducing Cost	
PC/NB per person	6	The contribution of cost reduction	6
IT Application Capability		Process Efficiency	
Certification items	6	The contribution to business process	6
IT application level	6	Supplier/Customer Relationship	
Problem handling	6	The requirements of supplier/customer relationship	6
IT R&D Capability		The contribution of supplier/customer relationship	6
R&D budget	6	Knowledge Management and Organizational Learning	
The number of R&D employees	6	Knowledge management execution	6
Organizational Structure and Culture		The contribution to knowledge management	6
IT department position	6	Intellectual Property	
CEO background	6	The quality and quantity of intellectual property	6
Business model	6		
Mean	6.000	**Mean**	5.900
Std.	0.000	**Std.**	0.300