

# Wealth Management Framework Experienced in Korean Financial Enterprises

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## Abstract

A Systematic Wealth Management Framework (SWMF) was developed as a private banking management tool to enable more integrative personal finance management of personal wealth. It is a reference model that provides an unified framework for development, operation, and management and makes provision for personal financial services in today's complex financial environment. This study suggested some practical results from banks and insurance companies that have established SWMF as the differentiation business strategy for wealthy customers. The focus of this manuscript is on capturing the methodological approach most financial institutions in Korea adopted to execute new e-finance planning and implementation based on the SWMF. The alignment between the wealth management business goals and information system architecture at an organization constitutes the main theoretical basis of the study. Relevant discussions are made on the wealth management framework as a general business model for financial industry, on the functional relationship between new information systems and business organizations. Finally, lessons learned from the SWMF implementation are discussed.

Key Words : Financial Planning & Investment Management, Private Banking, Wealth Management Framework, Implementation

## I . Introduction

Most Korean financial institutions are experiencing massive personalized financial services from valuable customers. For this reason, personal wealth management for private banking use draws big attention from both financial institutions and practice professionals; but academic research has not been much done with few exceptions in financial literatures such as in.<sup>1)2)3)4)</sup> In this regard, this study proposes a new wealth management business framework for financial firms that can help them design their information systems. There are many reasons for inactive research activities related to wealth management and these reasons are explained by the facts that first, the current state of industry is at early stage; second people are not aware of the contents of services by professional advisors; third there is no market player who provides an integrated financial services; there exists no reference model for many stake holders, and etc. Among these, the lack of scientific reference models gives some questions to financial firms whether they have infrastructure enough for building organizational trusts of wealth management business in terms people, service quality, and advisory systems. For these reasons, many people in this area are consistently asking for practical guideline for executing them.

This paper intends for developing a framework model for wealth management business (i.e., Systematic Wealth Management Framework, SWMF). The main purpose of this paper has two folds : one to develop a reference model for wealth management and the other to suggest a heuristic method for managing enterprise solution management with knowledge management activities. The SWMF consists of 5 layers and each layer contains either single focus or more perspectives.

This paper is composed of six sections. Section II introduces the current state of wealth management business in Korea and discusses research issues in the wealth management framework study. Research methods for developing a wealth management framework are discussed in section III. Section IV illustrates specifications of SWMF approach with their components. Section V shows some validation results in connection with other framework and case study implemented by SWMF. The final section includes some concluding remarks with future research topic.

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1) George, E. R. and McNamara, M. J., *Personal Financial Planning*, Addison Wesley, 1998.

2) Kapoor, J.R., Les R. Dlabay, L. R., and Hughes R. J., *Personal Finance*, IRWIN, 1995.

3) Koike, S., "Private Banking in Japan," *Proceedings of the Private Banking Conference* by The Korean Finance Research Institute, 2003.

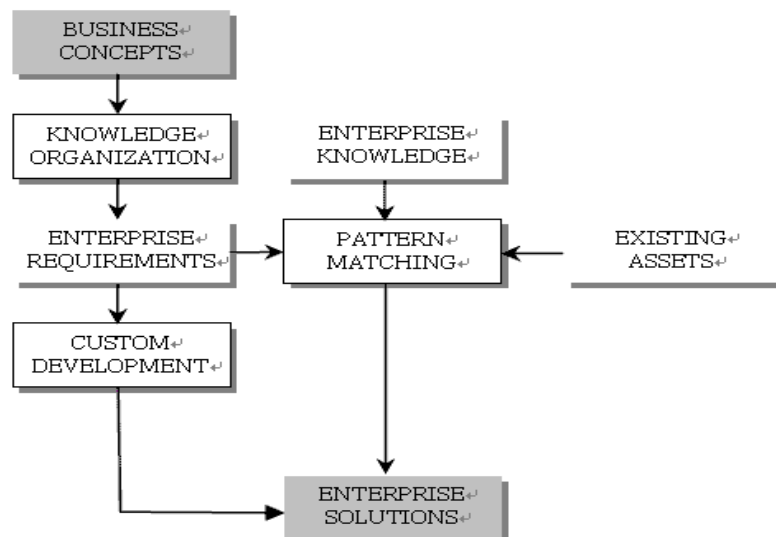
4) PriceWaterhouseCoopers., *Asia-Pacific Private Banking/Wealth Management Survey*, 2002/2003.

## II. Research Methods and Theories

This study intends to develop a reference model that would help financial communities to refer to in the deployment of wealth management systems. The framework reported here directs and design and deployment of new information systems in the financial industry to effectively support business goals and the wealth management processes. It is a strategic innovation because new ways of doing business is required to improve the organizational effectiveness. Innovation is an idea, practice, or objects that is perceived in as new by unit of adoption.<sup>5)</sup>

<Figure II-1> shows that a set of standard business concept can contribute to organizational knowledge about any given enterprise. Organizational knowledge gives a chance to think of requirements for enterprise information systems. These requirements can be overcome in two ways : one by the traditional custom system development method and the other by matching pattern of requirements to patterns out of existing assets classes. Both of these approaches contribute to significant economic effects by providing an ability to reuse existing assets. This process explains how to accumulate organizational knowledge for enterprise solutions and business concepts even should be managed. In this regard, a reference model about business model was chosen for further discussions.<sup>6)</sup>

[Figure II-1] Overview of Enterprise Wealth Management Solution Building Process



5) Rogers, E. M., *Diffusion of Innovation*, New York. Free Press, 1983.

6) Lloyd, P. T., and Galambos, G. M., "Technical Reference Architectures", *IBM Systems Journal*, Vol.38, pp.51-75, 1999.

The theoretical basis for wealth management can be found in the life-cycle theory and this theory assumes that all individuals plan their consumption behavior over long period and strive to keep their consumption constant, irrespective of income fluctuations. The decreasing marginal utility concept contributes to the development of the life-cycle hypothesis. Utility is higher if an individual consumes the same amount over two periods rather than consuming the total income with one period and nothing within one period and income during the second. Consumption can be defined as

$$C = a W + c L \dots\dots\dots (1)$$

where

C = consumptions

W = wealth of household

L = labor income of household

a = marginal propensity to consume from wealth

c = marginal propensity to consume from labor income.

During the early years of working life consumption from L accounts for a larger part, whereas wealth only contributes to a lower degree of generating income. Income surpluses can be used to accumulate capital. Income from wealth will become more important and it contributes to the source of revenue for retired investors to pay for the part of his/her living. This means that c will decrease with increasing age, where as a increases. The equation (1) provides a theoretical basis for core financial planning and asset allocation components in our framework.

Private banking strategy targets conservative high net worth individuals who prefer a close relationship with a financially sound retail bank. Key elements of the value proposition are trust, sophistication and exclusivity. To deliver the value proposition, a bank has chosen the following approach : a customized individual advice and financial planning to meet unique needs of each customer, a wide selection of basic investment plus sophisticated products, a world-class differentiated service from industry best relationship managers, a separate channel and a centralized management, and a endorser branding to differentiate private banking in the minds of customers.

### III. Motivations of SWMF

Wealth management is a dedication to meeting the sophisticated needs of high net worth clients to make life happy. In general, American wealth management is being recognized as different from European one because most people in the US are interested in wealth creation strategy rather than wealth protection popular in most European countries. The main objective of this service is to make the clients not only wealthy, but also affluent in their ways of life. Thus, the service should cover a comprehensive set of personal financial decisions in lifetime events such as in getting a job, being married, buying a house, having their children go to college, being retired, and etc. Therefore, financial institutions want to have a long-term relationship which is not products-oriented and thus to focus more on rich people by providing an personalized all-in-one service for them which is not cost effective but good quality of service. For these reasons, there exists a strong need to develop a wealth management business framework.

The semantic framework must support three key architectural motivations that arise from the effort of building information systems. One of these motivations is the need to clearly articulate the issues that most strongly drive requirements. Our framework needs to zero in quickly on the most important things to be studied to get an effective understanding of the business, or type of business, to be supported by the IT solution.

The second key architectural motivation for our framework is the need to provide clear guidance as to how to organize work. The work of building information systems is most effective if it is organized as a value chain. This means that teams of people work on building things that become part of, support, other things being built by other teams. We want our business architecture to help the partitioning and relationships of work effort.

The third key of architectural motivation for our framework is to have a system architecture including multi-channel integration. The Internet channel will be of primary interest. The interaction between components of the system must be based on service architecture. Services must be developed in a modular fashion (unless the functionality demands otherwise), and must be readily available to all other authorized components. Service interfaces must be developed in accordance with the guidelines for service architecture with accessibility, performance, scalability and being auditable.

### IV. Systematic Wealth Management Framework

The word of framework in general is meant to be 'a decision tool for achieving its goals. The meaning of

framework can be interpreted with a slight difference when it is used. For these days, framework can be used when in defining both business and information technology architectures. It can also refer to a set of classes in the software development that makes a reusable design for a specific class of software.<sup>7)</sup> A framework provides architectural guidance by partitioning the design into abstract and defining both responsibility and cooperation of classes. It is therefore to understand the intention of framework, which explains a set of particular ideas, conditions, and assumptions. Since the wealth management business is being recognized as a new opportunity in the financial markets few reference models for both of business and IT systems exist. This paper is interested in designing a framework for private banking business architecture and for its relevant information technology architecture.

[Figure IV-1] shows the structure of the framework and it starts with Business Objective Layer and ends with Feedback layer. And thus this framework supports the business process in general by considering a plan-do-see structure. In addition, each layer has either one or several orthogonal architectures so that the framework can articulate the relevant activities in designing works. The SWMF must have the following properties and these arguments come from similar works in.<sup>8)9)10)11)</sup> The main objective of this paper is to develop an wealth management reference model based on the framework approach by.<sup>12)</sup> We are not to discuss too much about the enterprise architecture planning itself but this paper contributes to a reduction of incongruity problem between planning architecture and performance evaluation of reference model.

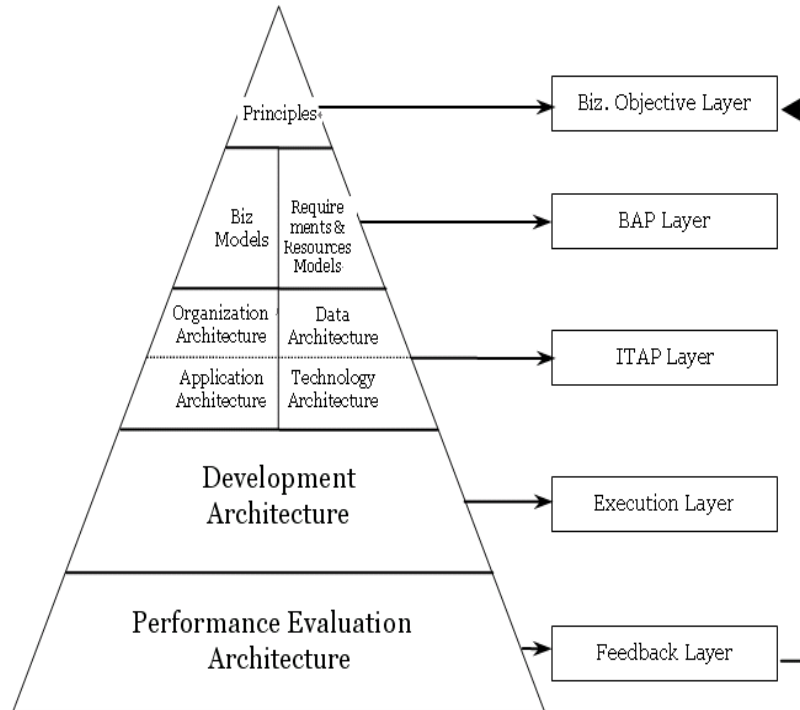
So the contribution of this paper may be found that it explains and directs the management of wealth management business and its relevant system architecture.

## 1. Business Objective (BO) Layer

This layer states the objectives of the framework and defines the scope of analysis with the Enterprise Architecture Framework. This activity is called principles that influence the establishment of business systems architectural framework and they have the following properties :

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- 7) Youngs, R., Redmond-Pyle, D., Spaas, P., and Kahan E., "A Standard for Architecture Description", *IBM Systems Journal*, Vol.38, pp.32-50, 1999.
  - 8) Earl, M. J., "Experiences in Strategic Information Systems Planning", *MIS Quarterly*, Vol.17, pp.1-24, 1993.
  - 9) Kim, H.M., "Enterprise Information Portal Based on Information Strategic Planning," *Technical Report*, School of Economics and International Trade, Kyung Hee Univ., 2003.
  - 10) Lloyd, P.T., and Galambos G.M., "Technical Reference Architectures", *IBM Systems Journal*, Vol.38, pp.51-75, 1999.
  - 11) Youngs, R., Redmond-Pyle, D., Spaas, P., and Kahan E., "A Standard for Architecture Description", *IBM Systems Journal*, Vol.38, pp.32-50, 1999.
  - 12) Spewak, Steven., *Enterprise Architecture Planning : Developing a Blueprint for Data, Applications and Technology*, John Wiley & Sons, 1993.

[Figure IV-1] Overview of Systematic Wealth Management Framework



Alignment of business architecture with information architecture planning<sup>13)14) 15)</sup>

Orthogonal set of chosen business objects<sup>16)</sup>

Exploiting IT for competitive advantages<sup>17)</sup>

Memorable set of concepts that can easily be remembered as an individual or team within organization<sup>18)</sup>

Directing efficient and effective management of IT resources<sup>19)</sup>

Rich classifications into more close to actual business

Generic compositions which can be allied to multiple financial institutions<sup>20)</sup>

13) Earl, M.J., "Experiences in Strategic Information Systems Planning", *MIS Quarterly*, Vol.17, pp.1-24, 1993.

14) Lloyd, P.T., and Galambos G.M., "Technical Reference Architectures", *IBM Systems Journal*, Vol.38, pp.51-75, 1999.

15) Zachman, John A., "Enterprise Architecture Straight from the Shoulder," *Proceeding of Enterprise Architecture Conference Europe*, 2002.

16) Lloyd, P. T. and Galambos G. M., "Technical Reference Architectures", *IBM Systems Journal*, Vol.38, pp.51-75, 1999.

17) Earl, M. J., "Experiences in Strategic Information Systems Planning", *MIS Quarterly*, Vol.17, pp.1-24, 1993.

18) Lloyd, P.T. and Galambos, G. M., "Technical Reference Architectures", *IBM Systems Journal*, Vol.38, pp.51-75, 1999.

19) Earl, M. J., "Experiences in Strategic Information Systems Planning", *MIS Quarterly*, Vol.17, pp.1-24, 1993.

20) Lloyd, P.T. and Galambos G. M., "Technical Reference Architectures", *IBM Systems Journal*, Vol.38, pp.51-75, 1999.

Appropriate business architecture concepts, i.e., the business architecture in the framework should not be a database design or software models.<sup>21)</sup>

Optimality between complexity and convenience for wealth management applications

Generic lifetime budgeting components management for a person and

## 2. Business Architecture Planning (BAP) Layer

Affluent banking strategy targets conservative, affluent investors who require help in financial planning for major life events. Key elements of the value proposition are : safety/reliability, diversity of choice, and individualized service. To deliver the value proposition, the following approach : is required : a standardized tool-driven financial planning, a wide selection of basic investment products, a consistent quality service from a large sales force of affluent bankers who are trained through an efficient process, a separate channel and a centralized management. For business delivery system, SWMF must be convenient for private bankers use and complex enough to provide decision support for core functions such as financial planning and portfolio management.

The mutually evolving relationship between business organizations and IT systems requires the ability to capture and portray business technical information in a way that makes the two sets of information easy to interrelate. The use of metalanguage usually provides a semantic framework for speaking about common business concepts and relating them clearly to concepts describing IT systems.

It is however that a trade-off relationship exists between users convenience and requirements complexities. It means that the people who are asking for more complexities may sacrifice their convenience in the use of information systems. It is therefore to manage users requirements at an optimum level of service level. From business architecture planning perspective, this optimality between requirements and complexities should be sought so that their solutions should be managed in an explicit format. And these reusable concepts with requirements-to-solutions should be handled within the framework.

〈Table IV-1〉 Example of Explicit Knowledge of Requirements-to-Solution Set in Business Architecture Planning

Requirements	Strategy	Solutions
1. Offerings for Products & Service	1. Definition of asset products under portfolio management	1. The financial product superstore concept helps easy construction and customization of product database.

21) Lloyd, P.T. and Galambos G. M., "Technical Reference Architectures", *IBM Systems Journal*, Vol.38, pp.51-75, 1999.



Requirements	Strategy	Solutions
2. Customer Acquisition & Retention	<ol style="list-style-type: none"> <li>1. Identification of potential customers</li> <li>2. Leverage of existing CRM system</li> <li>3. Identification of customers requiring attention</li> <li>4. Provision of cross-selling opportunities</li> <li>5. Tracking of customer satisfaction</li> <li>6. Provision of Planning and Advisory service</li> <li>7. Provision of personalized life care service related to the customers attitudes for enhancing relationship</li> </ol>	<ol style="list-style-type: none"> <li>1. Customer segmentation by assets size, behaviors from data such as credit card usage, golf usage and others.</li> <li>2. Integration of data interface module in the solution with existing CRM system</li> <li>3. Alerting settings based on service enquiry, account due dates, report delivery, and position changes</li> <li>4. Customer account analysis - measuring the relationship depth in service frequency and product purchase</li> <li>5. Design of simple customer satisfaction survey by the customer call center</li> <li>6. Reuse core components of financial planning and asset allocations components</li> <li>7. Life care service such as health, arts, antiques can be provided through personalized features</li> </ol>
3. Accounts Integration & Aggregation	<ol style="list-style-type: none"> <li>1. Construction of products data base which tales to advisory tools</li> </ol>	<ol style="list-style-type: none"> <li>1. First to implement the controllable product database and to include objective funds evaluation ratings by independent agency</li> </ol>
4. Client Management with the customer focused solutions	<ol style="list-style-type: none"> <li>1. Comprehensive financial service offerings with life care contents</li> <li>2. All customers are not equal in the affluent group</li> </ol>	<ol style="list-style-type: none"> <li>1. Comprehensive reporting service resulting from planning and asset management</li> <li>2. Personalized service implementation</li> </ol>
5. Financial Planning & Advisory Tools	<ol style="list-style-type: none"> <li>1. Financial planning with goal analysis</li> <li>2. Portfolio management</li> <li>3. Functionality to support both on and off line users</li> <li>4. Easy integration with multiple customer access channel</li> </ol>	<ol style="list-style-type: none"> <li>1. Financial planning with financial status analysis, life planning, insurance planning, retirement planning, real estate planning, tax planning, and estate planning with comprehensive planning reports</li> <li>2. Portfolio management with investment risk profile, asset allocation, products recommendation, portfolio re-balancing, and performance analysis with comprehensive reports</li> <li>3. Core components for Internet customers</li> <li>4. Channel supports for Internet, e-mails, webzines, direct mails, and short messaging service</li> </ol>

Requirements	Strategy	Solutions
6. Channel delivery and consistent channel support	1. Consistent data management	1. Customer relationship manager with profiles, customer analysis, and data manager for both aggregation and propagation
7. Monitoring the business performance measures and continuous quality improvements	1. Business performance of relationship manager 2. Customer performance	1. The components related to sales support can monitor the service activity and compliance guide 2. Portfolio manager can keep track of customers wealth positions and notify the alerting for change movements

<Table IV-1> shows some partial results of requirements-to-solutions set in wealth management business architecture planning. This layer explains the business drivers and delivery system and the building block of specific requirements and related resources. As stated in the enterprise solution building process showed in [Figure II-1], a company should manage explicit knowledge in the course from business concepts to solutions building process and these knowledge should be stored in easy format for reuse.

### 3. Information Technology Architecture (ITA) Layer

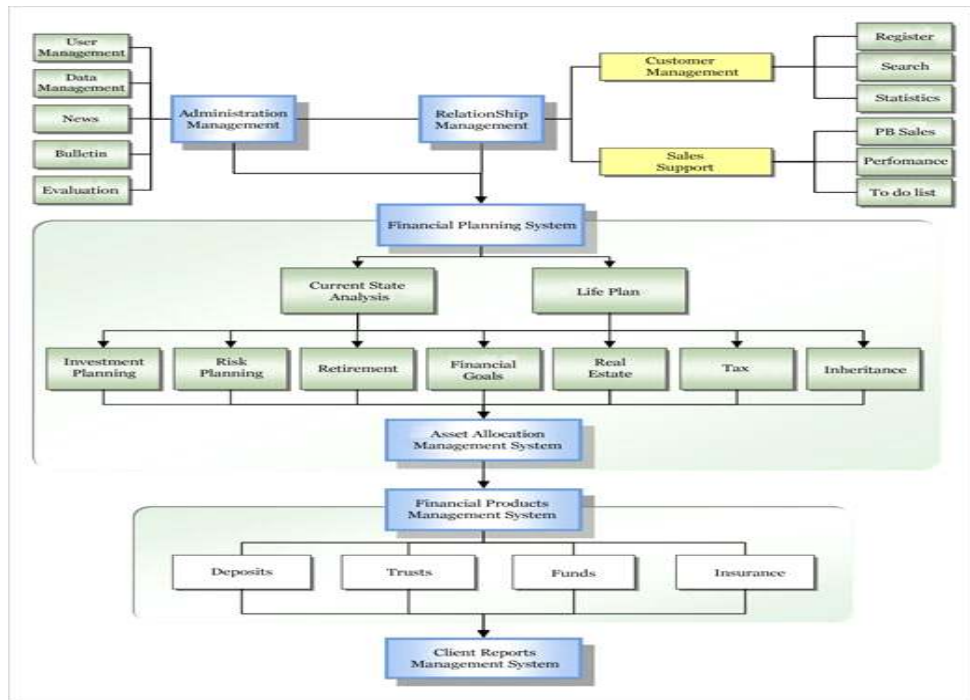
The Information Technology Architecture layer explains a set of architectural planning activities related to organization work, application, data, and technologies. For brevity of this paper, general arguments for ITA are not rephrased (i.e., refer to<sup>22</sup>), but ITA results in the SWMF are discussed in terms of application architecture with core components of financial planning and asset allocations.

### 4. Application Architecture

The application architecture contains 5 subsystems and those are relationship management, financial planning, asset allocations, products superstore, and clients reporting systems. Among those, core systems are the financial planning and the asset allocation with products management.

22) McDavid, D.W., "A Standard for Business Architecture Description," *IBM Systems Journal*, Vol.38, pp.12-31, 1999.

<Figure IV-2> Overview of Wealth Management Process and Core Components



## 1) Financial Planning

The financial planning component is composed of six orthogonal sub components that could be reused. These components can be easily integrated and segregated dependent upon user cases. It helps financial planning based on customer's long-term goals and current situation. In particular, the specific interests based on their life styles are important factors to be considered. These might include retirement, payment for children's college education in either local or foreign institutions, taking a sabbatical from work, or other lifetime events (refer to [Figure IV-3]).

This component include a comprehensive set of financial planning services such as :

Analysis of expected income and expenses report at each age under different financial goals

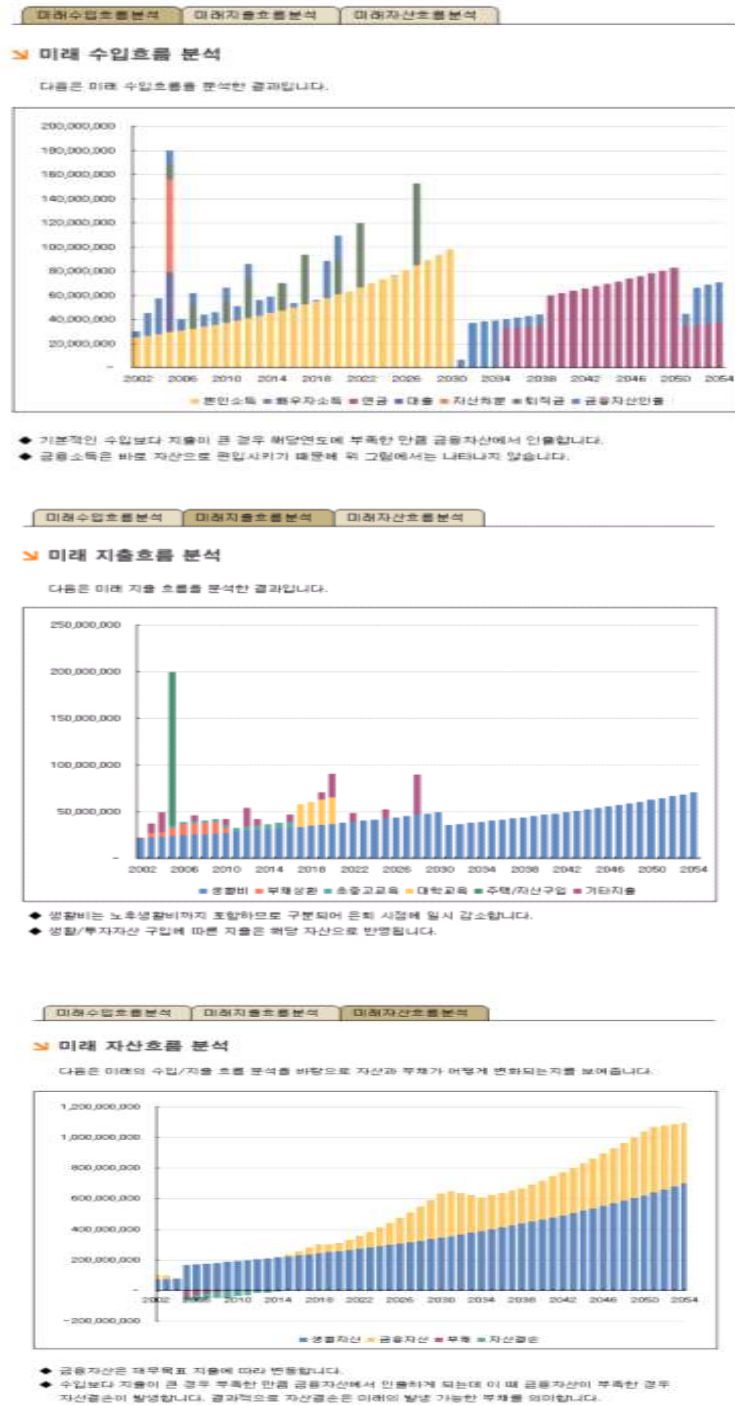
Analysis of expected asset and liabilities on each age

Determination of financial independence (i.e., to be able to live without regular income)

Evaluation of financial goal achievement

Make use of financial planning results with retirement plans Reflect inflation, expected rate and other financial indexes

[Figure IV-3] Screens Produced by the Financial Planning Components



## 2) Portfolio Management Architecture (Asset Allocation)

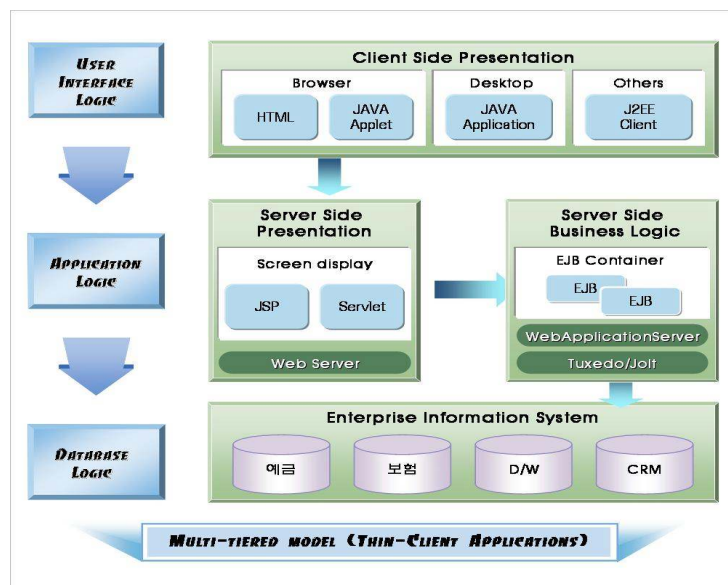
Banks and financial advisors make recommendations of individual investors. A key element of these recommendations, which may be used a basis for a detailed financial plan. Asset allocation refers to the process of allocating a limited amount of assets among various types of investments, grouped together into asset classes. An asset class consists of investments sharing similar properties and risk and return features. Most components of this layer explain the set of activities from investment propensity

analysis to recommend a combination of personal assets.

In the asset allocation components, both of expected returns and risks by asset class with an individual asset are also analyzed through diverse statistical methodology. Based on the asset position analysis, the efficient frontier is generated and this asset allocation process comes from the Markowitz's portfolio theory. And by combining the utility function with the efficient frontier, the optimal portfolio for a customer can be generated.

## 5. Information Architecture

[Figure IV-4] Information Architecture of SWMF



## 6. Execution Layer

This layer supports components based development architecture so that development productivity due to reuse

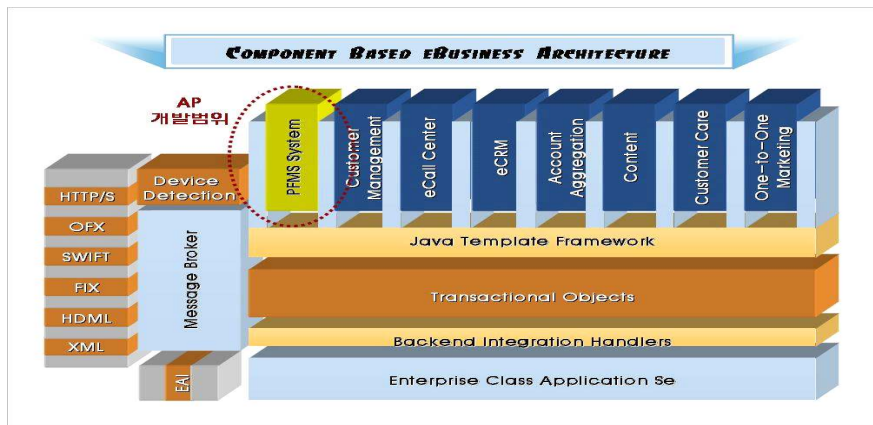
can be maximized. The application model used for the development of the wealth management system is a component based fully J2EE compliant system. The J2EE application model defines architecture for implementing services as multi-tier applications and delivers the scalability, accessibility, and manageability that is needed. J2EE is designed to support applications that implement enterprise services for those who make demands on or contributions to the enterprise.

These applications are inherently complex, potentially accessing data from a variety of sources and distributing applications to a variety of users using a variety of channels. The user interaction is typically implemented in a client-tier specific for a channel.

To better control and manage these applications, the business functions to support these various users are conducted in the middle tier. The middle tier represents an environment that is closely controlled by the enterprise's information technology department. The middle tier is run on dedicated server hardware and has access to the full services of the enterprise.

The J2EE application model begins with the Java programming language and the Java virtual machine. The proven portability, security, and developer productivity they provide forms the basis of the application model. The application model also includes the Java Beans component model. Java Beans components make it easy to componentize the Java technology-based code for common functions, then customize and combine these components visually with Java Beans development tools.

[Figure IV-5] Components Based Architecture of SWMF



## 7. Performance Evaluation

This section is equivalent to the feedback layer of the framework. The feedback happens from two cases : one

when each planning in each layer in the framework was finished and the other when all necessary jobs required by the framework were done. The first part can be analyzed by extending the results from information strategic planning methodology evaluation by.<sup>23)</sup> The assessment for SWMF at planning stage were more challenging because most information about most architecture planning results activities were not available. And this feedback layer results under certain criteria will play an important role as an input to future business concepts formulation. By leaving all these evaluation research works in future, a comparative analysis was made with the Zachman's framework<sup>24)</sup> to check a consistency of SWMF. Zachma's framework was frequently referred in architectural community because of its simplicity for use. In other words, all focuses related to different perspectives of SWMF were analyzed to see whether the SWMF has a consistent validation with results suggested by others. The results are shown in the Table 2 and most results were found to be consistent with them.

<Table IV-2> Validation of SWMF based on Zachman's Framework

	What (Data) Entity Relationship	How (Function) Function Argument	Where (Network) Node Link	Who (people) Agent Work	When (Time) Time Cycle	Why (Motivation) Ends Means
Planner (scope)	Business List (A)	Process List(A)	Locations List(A)	Organization/ Agent List(A)	Events List(A)	Goal/Strategy List(A)
Owner (Enterprise Model)	E-R Diagram(A)	Process Flow Diagram(A)	Logistics Network(A)	Organization Chart(N)	Master Schedule(A)	Business Plan(A)
Designer (System Model)	Data Model (A)	Data Flow Diagram(A)	Distributed System Architecture(A)	Human Interface Architecture(A)	Process Structure(A)	Knowledge Design(N)
Builder (Technology Model)	Data Design (A)	Structure Chart(A)	System Architecture(A)	Human/ Technology Interface(A)	Control Structure(A)	Knowledge Design(N)
Sub-Contractor (Components)	DB Schema (A)	Program(A)	Network Architecture(A)	Security Architecture(A)	Timing Definition(A)	Knowledge Definition(A)
(Functioning System)	Data (A)	Function(A)	Network(A)	Organization(A)	Schedule(A)	Strategy(A)

A : Available, N : Not Available

23) Kim, H.M., "Enterprise Information Portal Based on Information Strategic Planning," *Technical Report*, School of Economics and International Trade, Kyung Hee Univ, 2003.

24) Zachman, John A., "Enterprise Architecture Straight from the Shoulder," *Proceeding of Enterprise Architecture Conference Europe*, 2002.

Another validation comes from case study results. Three companies were chosen and these companies have been operating wealth management or private banking business units for their customers. These companies were evaluated whether to use certain service features given in <Table IV-2>. The names of those banks are not reported here because the presentation may result in some competitive comparisons, which are quite away from the main objective of this study.

<Table IV-3> Case Study Results

Services		SS insurance	WW Bank	KK Insurance
Financial status	Financial goals Achievement	H	H	H
	Comparison with Other groups	N	N	H
Financial goals adjustment	Future savings Adjustment	N	N	H
	Adjustment For Living expenses	N	N	H
Protection planing	Risk Planning	M	M	H
	Budget planning	H	H	H
Retirement planning	Financial Independent	M	M	H
	Linkage to Investment Planning	N	M	H
Educational/wedding planning	School expenses statistics	H	H	H
	Linkage to Invest Planning	N	N	H
Real estate planing	Assets Evaluation	N	H	H
	Calculation of Rate of retains	N	H	H
	Linkage to products module	N	H	H

H : High level; M : Medium level, N : Low level

The applications listed in the framework were selected. T letter H stands for highly applied and N for a case when not used. It is concluded that not big difference exist among three companies. It means that the SWMF shows a different nature alongthe time because all components used in the framework can be easily reused and



updated.

One advantage by using the SWMF is that requirements changes by business concepts can be more easily implemented. It is also found that the alignment between business and IT activities can be made in consistent manner because all activities are managed in this framework.

## V. Lessons Learned

Several lessons were taken care of through this study. First, personal wealth management business are drawing much attention from different research communities, but few research studies are being reported. This study may be considered a first step and more practical researches are needed very desperately so that people can understand better the nature of business and can behave better in fluctuating financial investment markets. For this regard, this study is limited to covering financial advisory services from institutional point of view but more wealth management case studies from individual perspective will be very beneficial because the study contributes to wealth management knowledge in enterprise. Second, the wealth management framework study suggests an effective reference model for wealth management information systems implementation. Similar results were obtained in those of other framework studies.

Third, organizational knowledge presentation becomes more important topic in the framework study because business concepts along with solutions should be sought for integrated enterprise. Finally, the uprising of wealth management reflects an example of financial convergence in current financial industries and this situation asks many questions to us.

## VI. Conclusion

In this paper, a framework model for wealth management business system is suggested so that many financial firms can refer to. The major distinction of this framework is to include business architecture concept into the framework as anwealth management enterprise architecture. The framework has multiple layers so that organization can easily pursue their activities related to wealth management business in structured format.

Our work would also be considered as an extension of business architecture studies in<sup>25)26)</sup> because the

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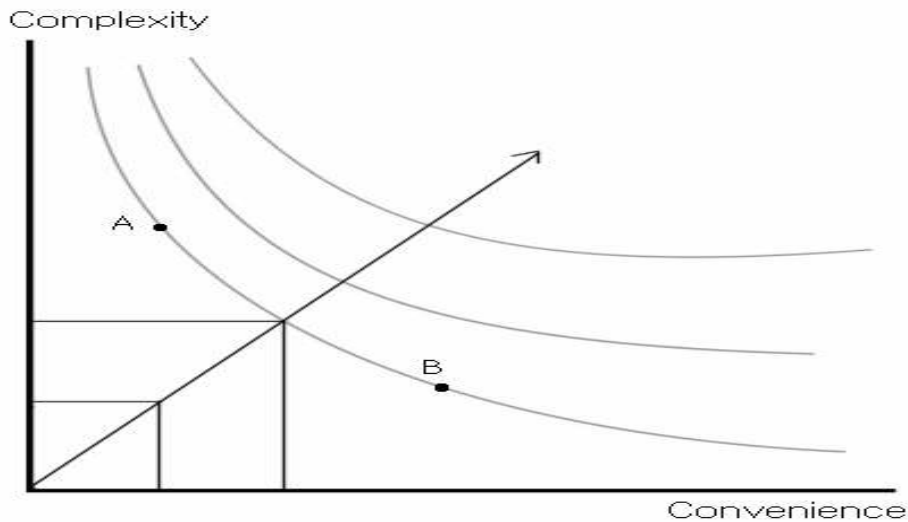
25) McDavid, D.W., "A Standard for Business Architecture Description," *IBM Systems Journal*, Vol.38, pp.12-31, 1999.

method suggested in this paper can reduce the gap between the business architecture planning and the information technology planning. The framework suggested in this paper also provides a simple way of executing requirements-to-solution activities. The framework derived here would be a specific result of information technology architecture planning, but this framework covers a complete process from planning to evaluation. This process produces a realization of reuse components in enterprise wealth management business environments. The SWMF may be a reference model applied in specific industry, and thus it may lose some audience seeking for generic framework. Validation tests also support the arguments made in this paper.

Future research can be made in seeking a method of utilizing the relationship between the requirements and solutions from organizational knowledge management perspectives.

[Figure VI-1] shows the trade-off relationship between requirements and their solutions complexities. If an organization focuses on its framework complexities, then it may lose convenience with a certain degree. Therefore, the alignment between requirements and solutions should be continuously adjusted in dynamic fashion and these activities can be easily managed and continuously updated within the organization. In addition, every activities should be improved so that the optimum level in a given indifference curve will be shifted from one level to the next level.

[Figure VI-1] Trade off between complexity and convenience of wealth management models



26) Zachman, John A., "Enterprise Architecture Straight from the Shoulder," *Proceeding of Enterprise Architecture Conference Europe*, 2002.

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