

### **Capstone Case Study: Fidelity**

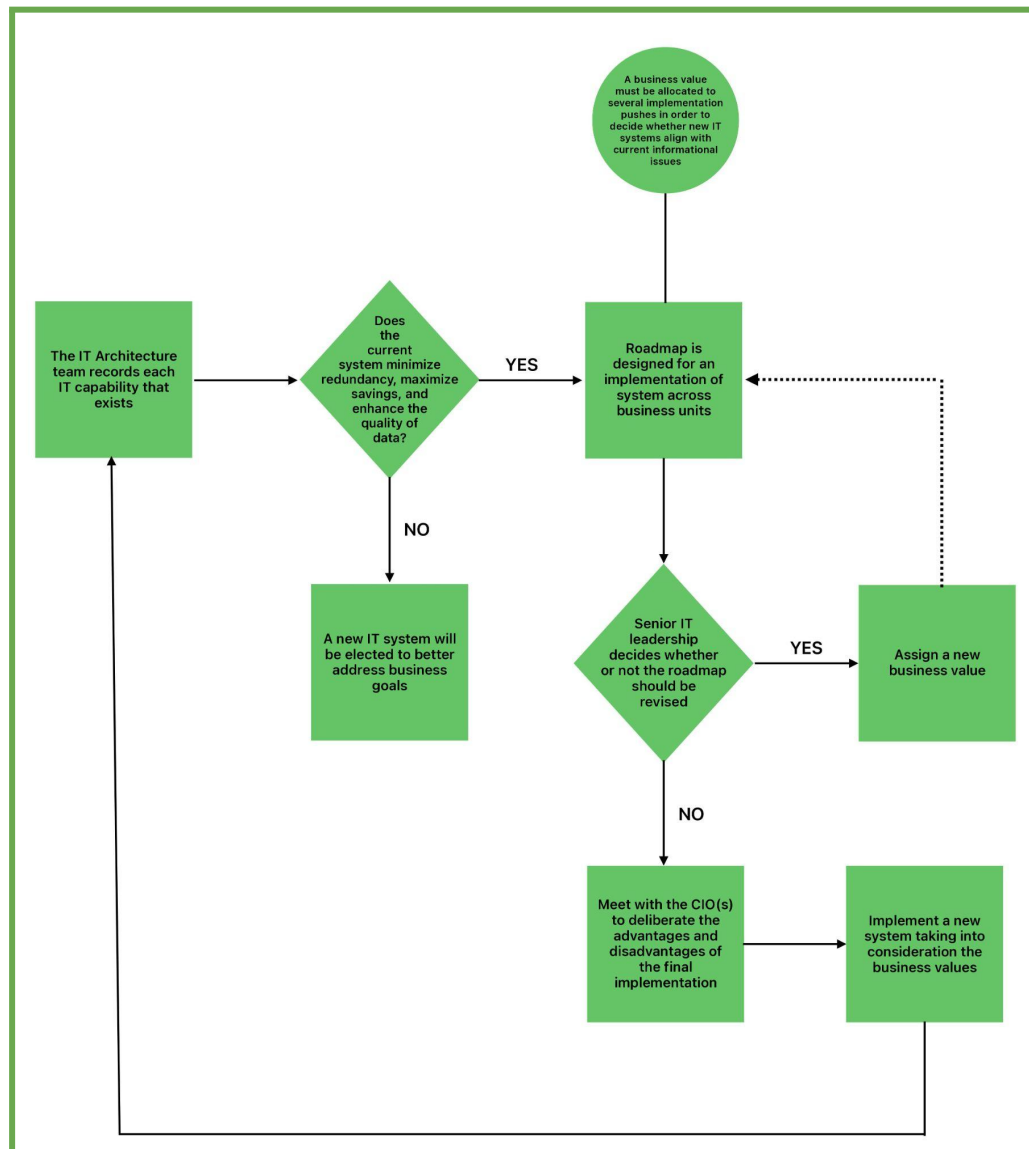
**1. Based on a careful reading of the case...**

- a) What is the primary business focus/value discipline for Fidelity and what evidence do you have to support this choice? What would be the most important secondary business focus/value discipline for Fidelity and what evidence do you have to support this choice?**

Fidelity places a high value on **customer relationship management** as their primary business focus/value discipline. To ensure maintaining strong, long-term relationships with their customers, they have a dedicated information system in place. Additionally, as mentioned in the case, Fidelity has a team of over 200 investment research professionals whose job is to conduct research to maximize returns for their investment, institutional, and individual clients. Given their established system, Fidelity has guaranteed one-second transmission times for stock trades, and failure to do so meant waiving their commission. This is an example of a customer-friendly approach that is designed to increase their value to clients. Lastly, Fidelity has an Asset Management (AM) division, which is dedicated to delivering the best customer experience in the financial services industry

The most important secondary business focus/value discipline for Fidelity would be **product leadership**. As evident in the case study, the firm allocates a substantial amount of money towards research and development, as they invest upwards of \$2.5 billion annually in technology for internal operations and analysis to continuously enhance their offerings, as well as make financial expertise accessible and effective in helping their customers obtain the lifestyles they want. As a result, Fidelity created Fidelity Labs, also known as Labs, which acts as the technology and research arm of the company and focuses on future technologies that can be implemented company-wide within the next three to five years. Fidelity is dedicated to this mission, as they have drawn up a large-scale budget for this project and have appointed more than 150 researchers, strategists, creatives, technologists, and problem-solvers to enhance their technologies. Moreover, Fidelity offers industry-leading features, such as their AM division and virtual reality visualization of financial data, enabling customers to better understand their investments, generate higher returns, and reinvest those returns back into Fidelity, resulting in higher growth.

- b) Describe the business process (from *Fidelity's* perspective) of the Asset Management division's "more disciplined" IT governance approach using a process flow diagram. Your process diagram should have at least five steps and at least two decisions. You are free to use whatever flowcharting application/digital tool you wish (MS Visio, MS Word by inserting shapes, etc). Do not submit a hand-drawn flow.



*Figure 1: Business Process of the Asset Management Division at Fidelity*

2.

- a) Describe the relevant application software and its role in addressing operational information problems for Fidelity Asset Management. [Hint: Be sure to show clear alignment between the information problem and the application software]. Since applications are not valuable unless used, also describe how to improve the likelihood of use and end-user satisfaction for each software application you mention.

*Note:* A single information problem might be addressed by multiple software applications and a single application could address multiple information problems.

Operational Information Problems Addressed	Application Software	How to Improve Likelihood of Use and End-User Satisfaction
<ul style="list-style-type: none"> <li>• Clients are able to make payments online through their online profiles/accounts</li> <li>• Recording clients' payments and subscriptions (ongoing and canceled)</li> <li>• Staying connected with clients and providing them with access to key data</li> <li>• Maintaining consistent and accurate data throughout the firm</li> <li>• Ensuring that employees are providing value to the company</li> <li>• Ensuring the company is earning profitable returns</li> </ul>	<ul style="list-style-type: none"> <li>• <u>Software for online payments:</u> enabling customers to make payments and automated customer account profiles to encourage timely payments and a more seamless, organized customer experience</li> <li>• <u>Software for Customer ID:</u> each client will be provided with their unique customer ID consisting of their chosen username and password</li> <li>• <u>Point-of-sale (POS) system:</u> easily keep track of client payments and subscriptions, as well as key historical data</li> <li>• <u>ERP system:</u> enable easier access to information about the company to prioritize and increase customer intimacy</li> <li>• <u>Customer feedback system:</u> allows clients to take surveys and provide feedback in</li> </ul>	<ul style="list-style-type: none"> <li>• Ensuring a secure and regulated payment software would increase the likelihood of clients making purchases online</li> <li>• POS system would help employees better understand client preferences, needs, and wants, given that there would be more data regarding their purchase habits, i.e. subscription patterns</li> <li>• Enhanced organization of the company's database can motivate employees to be more productive and improve their overall performance, thus strengthening the firm as a whole</li> <li>• Employees will be able to maintainin stronger and</li> </ul>

	<p>various ways regarding their interactions with employees</p> <ul style="list-style-type: none"> <li>• <u>Customer purchase tracking system</u>: allows employees to track purchases made by clients when they visit the Fidelity website, as well as provide insight into behavioral information, such as which products they are buying and their prices</li> </ul>	<p>more personalized relationships with clients, as well as be able to customize product and price offerings in response to consumer behavior</p>
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- b) Assume Fidelity needs to initiate a new IT project in order to customer build/develop one of the application software/systems you mentioned above. Select *the most complex* information system you mentioned above. Assume Fidelity will retain business process ownership, but that some IT outsourcing will be needed to complete the project and make your assumption about the outsource approach explicit (i.e., the contract *pricing model* and *duration*).

***Application Software/Information System:***

Enterprise Resource Planning (ERP)

***Outsource Approach:***

**Business Process Outsourcing (BPO):** BPO should be viewed as an ERP in which several business processes can be outsourced simultaneously. BPO providers can leverage technology to collect and manage data for Fidelity.

**Pricing Model:** To ensure high-quality service, Fidelity should opt for a contract with a performance-based pricing model. As a result, this would offer financial motivation for the selected vendor to deliver exceptional service to Fidelity.

**Duration:** Outsourcing an ERP solution for an entire department would be a transformational

undertaking that would have company-wide effects instead of impacting just one unit or department. Fidelity should establish a medium to long-term contract in order to complete the change and entirely reap the benefits of outsourcing.

*Benefits:* Some benefits of the proposed solution include enabling Fidelity to overcome major obstacles in project management, resulting in a faster and more efficient process. This, in turn, would allow Fidelity to maintain its focus on exceptional customer intimacy and innovation.

*Risks:* Some questions to consider are: Is Fidelity willing and ready to completely revamp their system and adopt a new set of features and functionalities? What is the expected timeline for employees and clients to get onboarded and adjust to the new system?

Given the above outsourcing approach, complete a table describing the likely **project management challenges** and describe ways to address them.

Project Management Challenges	Ways to Address Challenges
Hidden costs of outsourcing IT solutions	<ul style="list-style-type: none"> <li>● Draw up a budget to compare expected vs. actual costs during the project</li> <li>● Evaluate TCO considerations</li> <li>● Lean on external advice or expertise for negotiating an outsourcing contract (i.e. Legal)</li> </ul>
Potential scope creep and maintaining a positive vendor relationship	<ul style="list-style-type: none"> <li>● Be sure to include all work in the contract (transparency)</li> <li>● Track priorities and value drivers throughout each step of the project</li> </ul>
Producing and maintaining high-quality output throughout the project	<ul style="list-style-type: none"> <li>● Conduct quality assurance throughout the project to ensure none of the project terms are being violated by the outsourcing company, as well as to ensure value creation for Fidelity aligning with the business focus</li> </ul>
Efficient schedule tracking and management	<ul style="list-style-type: none"> <li>● Break down the project and evaluate how long</li> </ul>

	<p>each section of the project will take</p> <ul style="list-style-type: none"> <li>• Ensure the project is on track by using a timeline</li> <li>• Establish milestones associated with deliverables</li> </ul>
Risk management	<ul style="list-style-type: none"> <li>• Analyze significant risks of the project (i.e. profitability, consequences, transparency/visibility, etc.)</li> <li>• Craft responses and contingency plans for different possible scenarios to better manage risks associated with the project</li> </ul>

**3. In addition to the application software/systems you listed in Question 2; Fidelity needs an information technology (IT) infrastructure**

- a) Complete a table below with your recommendations for the various components of Fidelity's IT infrastructure to support or enable the application software you listed in Question 2a. Include in your table the role the IT infrastructure plays in supporting/enabling the application software.

IT Infrastructure	Role of IT Infrastructure
Personal Computers	<ul style="list-style-type: none"> <li>• Enable employees easy access to customer and real-time market data</li> <li>• Enable employees to scope investment opportunities for customers in order to keep up with market data and behavior</li> </ul>
Servers	<ul style="list-style-type: none"> <li>• Allow Fidelity to retain substantial customer and investment data</li> <li>• Streamline processing within the organization (rapid process)</li> </ul>
Firewall Security System	<ul style="list-style-type: none"> <li>• Organize and sort through incoming data</li> <li>• Keep an eye out for any inconsistencies and alert the company in the event of a possible breach</li> </ul>
Data Management System	<ul style="list-style-type: none"> <li>• Helps to create databases (i.e. charts, tables, reports, etc.) while ensuring consistent data redundancy across systems</li> <li>• Enhances the reliability of Fidelity's data</li> </ul>

	<ul style="list-style-type: none"> <li>• Reduces costs associated with maintenance and development by creating a one-stop-shop for storing data</li> </ul>
LAN, WAN, VPN	<ul style="list-style-type: none"> <li>• LAN: Connects all personal computers across the Fidelity office</li> <li>• WAN: Allows data sharing between Fidelity offices that are not in close geographic proximity</li> <li>• VPN: Enables employees to access servers remotely and assist customers securely</li> </ul>
Utility Software	<ul style="list-style-type: none"> <li>• Supports Customer ID software by way of keeping track of customer's login data (i.e. usernames and passwords)</li> <li>• Helps to update passwords as customers change <ul style="list-style-type: none"> <li>◦ Pushes customers to update their passwords every so often to guarantee data integrity and reliability</li> </ul> </li> </ul>
Network Management System	<ul style="list-style-type: none"> <li>• Manages Fidelity's complex network</li> <li>• Allows network diagnostic and further monitoring</li> <li>• Cost-effective: one system administrator manages the entire system</li> <li>• Monitors employees' devices to track their productivity and ensure that their output aligns with Fidelity's corporate goals</li> <li>• Can alert the company in the event of data disruption</li> </ul>

**b) Given the application software and IT infrastructure components you mentioned, what recommendations would you suggest to address Fidelity's likely information security issues? Keep in mind both internal and external parties as part of your recommendations regarding what Fidelity can do to reduce the risk of data breach/compromise for business data and theft of intellectual property**

	<b>Reducing the Risk of Data Breach/Compromise for Business Data/Theft of Intellectual Property</b>
Information Technology	<ul style="list-style-type: none"> <li>• Ensure that Fidelity's virus and malware protection is up-to-date</li> </ul>

	<ul style="list-style-type: none"> <li>● Implement an encryption system to ensure that sensitive company information (i.e. client information, banking information, etc.) can be accessed only by Fidelity employees</li> <li>● Establish data back-up and recovery functionalities to lessen the duration of system downtime, guarantee that only a small amount of data is lost, and continuously back up data in real-time</li> <li>● Install network security devices, like a firewall, to prevent incoming threats and obstruct servers and data centers from losing access to key customer information</li> <li>● Implement two-factor authentication to ensure only the right people with the right credentials can access their accounts</li> <li>● Strengthen VPN for employees who are abroad or not in person to access the Fidelity system remotely</li> </ul>
Internal Parties	<ul style="list-style-type: none"> <li>● The CIO of Fidelity should exhibit effective IT leadership by providing resources and expertise</li> <li>● Employees should be required to complete compliance training through security exams to raise awareness for common threats, i.e. scams, phishing, etc.</li> <li>● Define access levels for each department; restrict data access to employees depending on their level at the company to be prepared in the event of a breach</li> <li>● Plan for business continuity and recovery <ul style="list-style-type: none"> <li>○ Have a contingency plan as Fidelity cannot afford to lose its extensive data and information</li> <li>○ Ensure continuous data back-up; back up to a third-party system in case the main system stops functioning</li> </ul> </li> <li>● Evaluate valuable assets within the company to protect them</li> <li>● Initiate a security policy clearly addressing the roles and responsibilities of functions such as HR, Legal, Finance, etc., in the event of a breach</li> </ul>



External Parties	<ul style="list-style-type: none"> <li>List key stakeholders to call in the occurrence of a breach, i.e. clients/customers, external stakeholders (investors), business and industry executives, etc.</li> <li>Draft a press release to explain the breach and include an action plan to compensate those impacted; have the press release vetted by the Legal team</li> <li>Take into consideration the US Consumer Privacy Bill of Rights</li> </ul>
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4.

- a) **List in Column 1 which information systems Fidelity could use for tactical management and control. For each information system, describe its role/use in terms of enabling performance assessment and continuous improvement (add rows as needed)**

Information System	Role/Use in Enabling Performance Assessment and Improvement
CRM	Fidelity can employ a CRM platform to monitor the most sought-after areas of their services by their customers, such as the website, investment tools, and even the staff members. In addition, CRM would also help enable Fidelity to acquire direct feedback from their clients by way of surveys that ask where and how the company can improve. Moreover, CRM can assist Fidelity in examining customer satisfaction rates with the wait times in their call center. Lastly, Fidelity can extend a “financial checkup” to clients to personalize their financial health trajectory and investment preferences.
ERP	Fidelity can use an ERP to regulate communication and cooperation across all branches of the organization. Through this, Fidelity will not only be able to improve firm-wide collaboration, but they will also be able to evaluate the different AM business units and streamline resources appropriately towards less performing AM units.
Personal Voice Assistant for Clients (AI-powered)	By integrating a personal, AI-powered voice assistant into their website and other platforms (i.e. mobile app), Fidelity can enhance user experience by providing a quick, convenient, and efficient process. This feature would benefit clients who encounter difficulty with typing and streamline the overall process.

- b) Assume that Fidelity needs capability and capacity assistance from external IT resources in acquiring the tactical information in 4a, what digital governance and IT sourcing approaches would you recommend and why? Remember to include in your answer treatment of internal and external stakeholders**

#### IT Governance Approach

In order for Fidelity to acquire tactical information, the firm should employ a federalist IT governance approach. This will ensure that all business units are equally represented and allow the business to remain standardized by efficiently managing investment tools. By integrating IT across the business, a federalist approach will allow Fidelity to emphasize the use of technology to solve pressing business issues. One recommendation would be to increase the use of mobile applications in order to remain relevant to younger investors, as business units must constantly modify their problem-solving approaches to keep up with fluctuating trends, patterns, and behaviors.

#### Sourcing Approach

Given that Fidelity invests \$2.5 billion annually on technology, an offsite/offshore sourcing approach is recommended to conserve resources while simultaneously providing key customer information. An example of a platform that can provide value as the CRM is Salesforce.com, and Fidelity executives can work directly with the service provider to make modifications that fit their needs. On-site sourcing would be recommended for the recommendation/feedback system, specifically for customized queries and providing analysis for company needs. Fidelity can utilize on-site support to evaluate and analyze key data. As a result, this will also empower the firm to use RAD to implement new ideas.

### **5. Fidelity is concerned about predicting and riding waves of popular investment and societal trends**

- a) Describe the information systems Fidelity could implement and use to innovate for the future. Identify the use and anticipated Strategic/Learning benefits each type of use will provide to Fidelity.**

Information System	Use of Information System	Strategic Benefits
KMS	<ul style="list-style-type: none"> <li>KMS can enhance employee performance</li> <li>KMS can also increase opportunities</li> </ul>	<ul style="list-style-type: none"> <li>Creates a positive company culture by allowing new hires to learn from veteran</li> </ul>

	<p>for employee development</p> <ul style="list-style-type: none"> <li>• KMS can improve knowledge retention within the organization</li> <li>• KMS can generate financial benefits from tacit knowledge</li> </ul>	<p>employees</p> <ul style="list-style-type: none"> <li>• New hires will easily be able to innovate at Fidelity since some of the most common problems have readily available solutions</li> <li>• Ability to move past previous roadblocks, i.e. generating more precise forecasting of client investments</li> </ul>
DSS	<ul style="list-style-type: none"> <li>• DSS can appraise asset and process optimization, i.e. which investment tools are more valuable to invest in</li> <li>• DSS can also help evaluate employee performance based on client feedback and monetary returns from investments</li> <li>• DSS can also provide a look into historical data to improve forecast of future trends</li> </ul>	<ul style="list-style-type: none"> <li>• Ability to plan and forecast long-term</li> <li>• Ability to compare and contrast investment tools in order to obtain the highest possible financial benefit for the client</li> <li>• Measure company-wide performance and evaluate whether or not the return is adequate</li> <li>• Measure performance of stock by industry to better understand which one the firm should be investing in</li> </ul>
ERP	<ul style="list-style-type: none"> <li>• ERP provides employees with access to ever-changing market and client data</li> <li>• ERP also diminishes the learning curve from department to department, which, in turn, reduces cost</li> </ul>	<ul style="list-style-type: none"> <li>• Grows the business overall, which can allow Fidelity to explore other industries</li> <li>• Establish long-standing and successful external partnerships/alliances with many other companies</li> </ul>

	<ul style="list-style-type: none"> <li>• ERP empowers companies to have a quicker response to change by way of having one singular synchronized platform instead of multiple</li> <li>• ERP can coordinate and align sales and advertising pushes</li> </ul>	<ul style="list-style-type: none"> <li>• Gives rise to product differentiation given that there is data across the organization that facilitates and encourages change</li> </ul>
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**b) Given Fidelity’s size, market, and corporate culture, what are some ways Fidelity can assess and improve strategic IT alignment for its information systems investment portfolio?**

- In terms of Fidelity’s **size**:
  - \$6.2 trillion in assets
  - \$15.9 revenue reported in 2016
  - 26 million individuals
  - 25 million brokerage accounts
  - 400 mutual funds
  - 5,000 financial intermediary firms
  - 45,000 employees (over 12,000 of whom work in technology-related positions)
- In terms of Fidelity’s **market**:
  - Fidelity employees are stationed throughout the world
  - The AM department uses global investment expertise to offer client investment options
- In terms of Fidelity’s **corporate culture**:
  - Fidelity is a financial services company with a significant emphasis on technological growth and innovation
  - Fidelity has a corporate culture of integrity, a commitment to high performance, and a dedication to serving clients’ long-term financial interests, as mentioned in the case
  - Fidelity strongly believes in helping people “live the lives they want to live” — very lifestyle-driven
  - The firm nurtures a work environment that prioritizes attracting the best talent worldwide; commitment to being an employer and service provider of choice

Due to Fidelity's significant size and focus on continuously investing in information technology make it appropriate for the company to implement a federalist approach to IT governance. This approach would bridge knowledge gaps and foster knowledge sharing between business and IT executives across the firm. A recommendation to enhance alignment at each business and operational level would be to cultivate collaboration through the adoption of a common IT language for communication purposes.

Additionally, given Fidelity's widespread global reach within the industry, they must look into establishing standardized IT processes to promote the formulation of effective strategic development. More specifically, there are various asset classes and departments within the AM division. Therefore, a federalist IT governance approach will enable the standardization of all processes across every department, and will be easily accommodated if one specific department requires an additional system.

Furthermore, the presence of a shared platform across various business units and departments will facilitate the smooth integration of new capabilities. This is necessary, seeing as technology is on the rise and firms must adopt a growth mindset and adapt to change in order to remain competitive. For example, given the emergence of technologies such as artificial intelligence and blockchain, it is advisable to invest in and eventually conduct a firm-wide deployment of these emerging technologies.

Fidelity must also look into developing an infrastructure that fosters an agile work environment, which can be done by allocating one IT representative to each business unit or department. As a result, the firm will have a better understand of where to dedicate its investments by way of the feedback they receive.

Fidelity should also consider outsourcing operational tasks, such as payroll and accounting. By performing selective outsourcing to this capacity, Fidelity will be able to focus its efforts towards strategic development and goals, as opposed to other tasks that may decelerate its growth opportunity. In order to implement product differentiation, Fidelity can integrate artificial intelligence, as stated above, as well as virtual reality into its applications and offerings in order to generate more appeal for existing clients and prospective customers. However, this process must be gradual so as to avoid any learning curves or hesitancy from the end-user's perspective. Lastly, Fidelity should provide clients and other prospective users with a solidified user interface by way of seamlessly onboarding users onto projects and systems for them to adjust to the different technologies in place.