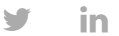


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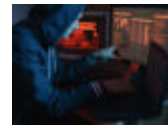
Assessing the Value of Software Applications with Business Capability Models

🕒 May 2, 2019 👤 Leonard Greski 📁 Strategy & Planning



In “Business Capability Modeling: Theory and Practice,” I explained how an organization could model its business capabilities using simple, low-cost tools. Since then I have used the techniques from that article to help organizations make a variety of business and

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technical decisions. Many organizations struggle to quantify the value produced by one or more applications in an application portfolio.

CAPABILITIES IN CONTEXT

A business capability is a unique combination of people, processes, and physical assets that generate measurable value.

At the highest level of abstraction, every company must solve the “strategy-to-results problem.” An organization’s strategy creates needs for one or more business capabilities. Because the costs and benefits generated by capabilities are measurable, they can be used to operationalize business results. Additionally, all organizations exist in a larger environment of customers, other companies, and a variety of regulatory environments.

DEFINING “VALUE”

Value is simply the benefits generated by a capability minus its costs. One of the key concepts in the business capability modeling framework is the idea that a business capability is an asset. That is, capabilities generate value, and we can proactively manage them to increase their value over time.

WHY USE THE CAPABILITY MODEL TO ANALYZE SOFTWARE APPLICATIONS?

Software applications are physical assets within the business capability model framework. Therefore, we can use the techniques described in “Business Capability Modeling: Theory and Practice” to assess how applications contribute to the overall value of a business capability. The capability framework is important because many IT departments are led with a “project” focus, with little attention paid to what happens after projects complete. The capability model provides a more holistic context for a total cost of ownership (TCO) analysis rather than a project-based TCO because it focuses on the on-going operations of a capability, including quantification of benefits and usage.

THE THREE KEY MODELS

To assess the value generated by a software application, one can build three models to describe usage, benefits, and costs:



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- **Benefits Model:** Documents quantifiable benefits expressed in terms of profit or productivity. Ideally the benefits are described as a function of application usage, so that as usage increases, benefits increase in a linear or better (e.g., geometric, exponential, etc.) scale.
- **Cost Model:** Documents direct and indirect costs associated with an application, including labor and non labor sources. Both one-time and ongoing costs are modeled so one can calculate a net present value or internal rate of return for an application.
- **Usage Model:** Documents the frequency with which various features of an application are accessed/used by external customers, employees, or business partners. Usage information is a key component of the model because it is required to calculate a cost per unit of value (e.g., an order in an e-commerce website), which measures the efficiency of spend for an application.

CASE STUDY: CHAT VS. VOICE FOR E-COMMERCE CALL CENTER

A company conducting e-commerce in multiple countries had a problem with its customer service center. Increasing call volume in the service center had a negative impact on the e-commerce division's profitability, due to the low-margin products being offered for sale over the web. The company previously experimented with on-premise chat software with the hope that migrating workload in the call center from voice calls to chats would alleviate the problem, but the incumbent chat software vendor's licensing model made it infeasible to expand the service to multiple countries and business units.

The company decided to solicit proposals for Software as a Service (SaaS) chat capability that could be integrated into the company's e-commerce sites. After reviewing the proposals and some creative negotiations with the finalists, the company was able to secure an "all you can eat" plan for five years with year 1 fees at approximately \$37,000 per month, and annual fee increases capped at 4% or the rate of inflation, whichever was higher. The architecture team built three models to evaluate how the software would be used during year 1 of the deal, and a five-year statement of cash flows.

Usage Model

The e-commerce customer service center supported business to business (B2B) customers in four countries, a global consumer business, and three categories of product support. The product management team worked with customer support to gather information about the timing with which the various customer service teams would be trained to use the new chat system, resulting in the usage model for year 1. Annualized totals were used to calculate benefits in years 2 through 5, with an assumption of a 10% growth in call volume each year.

Cost Model

The cost model includes about \$360,000 in startup costs and approximately \$450,000 in annual operations costs. Given that many applications include a variety of forms of labor, our cost template includes sections for both support and application maintenance. As we did with the usage model, the team annualized and modeled year 1 operating costs with a 4% inflation rate for years 2 through 5.

Benefits Model

Three major types of benefits are generated by this service. First, it allows work done by a high-cost onshore service representative to be effectively handled by lower-cost offshore representatives. Second, after experimenting with chat versus call services, the customer service team learned that a customer service agent can handle two chats simultaneously. Finally, increasing the rate at which a fixed number of agents can answer chats improves the wait time for customers. Beyond the business benefits of chat versus call, a more cost-effective chat service enabled the team to claim significant cost avoidance benefits as they expanded the use of chat across e-commerce customer service teams.

The benefits model demonstrates that even at a 15% ROIC target, the chat application generates more than enough benefits to be operated profitably.

CONCLUSIONS

SaaS Chat Service Is a Financial Winner

For the e-commerce business in our case study, changing from an on-premise chat application with a high software license to a lower-cost SaaS application enabled the company to grow its chat usage in a profitable manner. In fact, the benefits were so compelling that the

project is cash flow positive in year 1, and has a \$13 mil-lion NPV with a 15% hurdle rate.

What a “Healthy” Application Looks Like

At a strategic level the health of an application is a function of its value, the degree to which its benefits exceed its costs. In practice, a healthy application has the following characteristics:

1. Each consumer using the application generates quantifiable benefits.
2. The total annual benefits generated by an application exceed its annual operating cost plus a hurdle rate, indicating that the organization is making a positive return on the application’s operating cost.
3. The usage of the application is stable or growing.
4. The maintenance cost for the application is stable over time and includes sufficient labor capacity to meet or exceed service level agreements (such as time to respond, time to fix, etc.).
5. As usage increases, the operating cost of the application remains flat or increases at a less than linear scale, as observed in a cost per transaction metric.

The central purpose of enterprise architecture in an organization is to be an objective guide to decision making about business and technology capabilities. By using the techniques outlined in this article, enterprise architects can guide organizations to make wise investment decisions in software applications.



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