ROCKPORT

ASP Solution versus Internal Solution

"Build" versus "Buy"

Part I (Cost)

Overview

Companies struggle with the idea of build versus buy all the time. Sometimes, the correct answer is abundantly obvious. Very few firms would choose to try and build their own phone systems, or perform their own electrical work. However when it comes to other types of systems, such as Commercial Real Estate Systems, some firms are less sure.

This white paper explores what the reasonable cost to build and maintain a Commercial Real Estate System would be, and thereby whether it makes more sense to build internally or buy an already built external system.

The Assumptions

It will be necessary to set some base assumptions for the purpose of this analysis. These are not meant to be accurate, but instead meant to reflect the absolute best case (in terms of self building). The theory is that by assuming the best case it eliminates the "Oh but we're better than that argument" that inevitably will arise from internal tech groups which feel territorial about system development.
So the assumptions are as follows:

- The development team is extremely talented and has all the key components which without these projects tend to fail:
    - Significant Commercial Real Estate Knowledge
    - Significant Technology Knowledge
    - No Internal Politics which would interfere with the project
    - Heavy user involvement to help spec out dozens of screens and reports
    - Complete support from upper management to continue to put $ into the project

It should be noted just how rarely this convergence of factors occurs. Distractions, politics, employee retention, and lack of integrated knowledge of both real estate and technology are frequently at fault for massively greater costs than the ones included below.

The final assumption is with regard to costs:

- Each project team member in this project will receive $100,000/yr as total compensation. This is highly unrealistic given the highly talented, focused people which have been assumed above, and inclusive of other extras (benefits, other compensation, computers and office space, etc), and the need to retain all the members of the team (since otherwise all their system knowledge leaves with them). Despite this we will use this assumption for the reasons noted above.

The final assumption is that this analysis is strictly of the monetary costs involved in the project. This will not cover the true cost of putting the best people in an organization on a project that will take years before it reaches final completion, thereby depriving the organization of these skilled employees on other projects which are more likely to be revenue producing.

Cost of a system can be broken into 3 components:

1. **Cost to Initially Develop** **(One Time Fixed Cost)**
2. **Cost of Ongoing Development** **(Ongoing Yearly Cost)**
3. **Cost to Maintain Infrastructure** **(Ongoing Yearly Cost)**

Cost #1 – Cost to Initially Develop:

Internal development costs vary widely depending on the scope of the system and the company's threshold for errors or poor performance.

Traditionally internal systems tolerate these defects (errors and poor performance) as they simply do not have the capacity and/or willingness to spend the time and money to fix them (features take precedence). 3rd Party systems have the advantage of a much larger budget base and willingness to spend the money necessary since the system is a revenue center for a 3rd party system.

We will look at two basic scenarios, as well as Rockport's own experience on what a reasonable cost assumption would be.

Basic Traditional, Super Trimmed Down System:

- 100-200 field database,
- ~20 Reports,
- Probably developed in Microsoft Access
    - Not Internet Accessible, deployed only on Internal Network
    - Very Limited/Manual disaster recovery
    - No Audit Features
    - Less Advanced Security Features
- Table Structures will not address all the necessary complexities of Commercial Real Estate:
    - Complex Debt Structures
    - Multiproperty Loans
    - Different Property Types and different Expense/Income line items
    - Multiple Borrowers/Sponsors/Loan Parties
    - Etc.
- No Integrated Excel Underwriting Model (This is an extraordinarily expensive feature to build).
- No other advanced features:
    - Adhoc reporting,
    - Sophisticated Navigation/User Interface
    - Geocoding of Properties
    - Emailing Features
    - Trepp Integration,
    - Etc.

Members of Rockport have built these systems in previous jobs and are well versed in the efforts required.

This type of system probably takes 3 person years of dedicated time to build (meetings with users to determine fields, report layouts, time to develop, testing and QA).

Based on our assumptions this means a cost of $300,000

Classic Internal System (Attempts to be a Relatively Sophisticated System):

This type of system has acceptable levels of disaster recovery, probably uses a SQL Database, typically only includes a few of the many sophisticated features available in Rockport (e.g. Audit Trail, Integrated Excel Underwriting Model, Advanced Report Generation, Ad Hoc Reporting for the end user, etc).

This system will not have any sophisticated interactions with outside 3rd party systems (such as Trepp) as 3rd party systems have a significant aversion to interfacing on a custom basis (all cost, almost no benefit). They will on occasion interface with other third party systems though since the advantages can be spread across significant user bases.

This type of system requires a dedicated sizable project team for multiple years to design, build and test. Absolute minimum team required for two years would probably be:

- 3 Business Side People dedicated to Design
- 1 Full Time Report Developer
- 1 Full Time Database Architect
- 1 Full Time Networking Person
- 2 Dedicated Testers to Test the Features/Reports/System

Unfortunately at the end of this time, the system would probably be hardcoded (not flexible to changes in market) and have poor performance (system slowness, and not terribly user friendly)

Based on our assumptions this means a cost of $1,600,000. Although, it would certainly not be out of the ordinary for this team/time to develop to slide into an extra year (or require more employees). If this occurs, the cost could easily be estimated up to $2.5 million.

Rockport Caliber Internal Systems:

Given the sophistication of these kind of systems, the best approach to estimating cost is to look at the comparable systems which have been developed over the last few years.

Rockport has over 100 person years already invested in it, and is adding ~15 more person years each year. The cost of this assuming the lowest price talent of 100,000/year (to keep apples to apples) would be $10 million. The actual cost (with true salaries) is significantly higher.

Outside of Rockport, there have been several other system which were developed to do the same thing. Two examples of these systems would be Deal Central and Capital Thinking (information from publically available sources):

- Deal Central: approx. $50 million invested in its development
- Capital Thinking: approx. $65 million invested in its development

Both failed and went out of business.

System development is not at all simple and is never cheap.

The conclusion to the first set of costs (the costs solely to build the systems):

Cost to Build The System	
System Type	**Average Cost to Develop**
Small Unsophisticated System	$300,000
Standard Internal System	$1,600,000
Rockport Caliber System	$20,000,000+

Cost #2 – Cost of Ongoing Development (Yearly Costs):

Cost of incremental improvements is very variable, based on the company and its ability to live with old systems and the complexity of its business model. The following estimates are based on what we have observed as the ongoing incremental support/upkeep costs to keep the systems 'head above water', make necessary improvements, and keep pace with the changing market.

Cost of Ongoing Development for The System	
System Type / Resources Needed	**Average Cost of Ongoing Development**
Small Unsophisticated System (1 person/year)	$100,000
Standard Internal System (3 people/year)	$300,000
Rockport Caliber System (20 people/year)	$2,000,000

Cost #3 – Cost to Maintain Infrastructure (Yearly Costs):

Internal infrastructure costs are often ignored during the decision making period. Infrastructure costs should not be ignored however has they can have a significant impact on overall project cost.

Small Systems:

Since this basic system which sits on an internal network, has no additional disaster recovery features, and is not internet accessible the requirements are less on the infrastructure side. The additional equipment and support staff to make sure they are running and functional is approximately $50,000 a year. This is assuming basically that it is using shared resources and basically just being billed for incremental use (for instance of the technical support staff).

Standard Internal and Rockport Caliber Systems:

For a standard internal system of respectable size and sophistication the following is a reasonable expectation of cost:

Infrastructure Costs	
Infrastructure Types	**Average Yearly Infrastructure Costs**
Managed Production Datacenter with High Availability Application - Firewall - Intrusion Detection System - Load Balanced Web Servers - Database Cluster - SAN Data Storage - Monitoring Servers	$150,000
Disaster Recover Datacenter	$25,000
IT Staff to Support Infrastructure	$100,000
Total Infrastructure Cost:	**$275,000**

Conclusions:

In conclusion, the combination of these costs (assuming a 3 year period) are as follows:

Cost of a system's 3 components (Based upon our assumptions at the beginning of the paper which were meant to be unrealistically optimistic):

Total Cost to Build and Maintain A Commercial Real Estate System			
Build Schedule	**System Type**		
	Small Unsophisticated	**Standard Internal**	**Rockport Caliber**
Initial Build	$300,000	$1,600,000	$20,000,000
Maintenance Year 1 - System	$100,000	$300,000	$2,000,000
Maintenance Year 2 - System	$100,000	$300,000	$2,000,000
Maintenance Year 3 - System	$100,000	$300,000	$2,000,000
Maintenance Year 1 - Infrastructure	$50,000	$275,000	$275,000
Maintenance Year 2 - Infrastructure	$50,000	$275,000	$275,000
Maintenance Year 3 - Infrastructure	$50,000	$275,000	$275,000
Total Build + 3 Year Term:	**$750,000**	**$3,325,000**	**$26,825,000**

The conclusion drawn from this can only be:

Rockport represents an enormous bargain when compared to the cost to build even the most basic of systems.