

Customer Facing Software/Database**WISDOM to work by:**

1. **Know your strategic areas of focus.**
This will enable the SMB to work on the right stuff.
2. **Know your strategic drivers.**
Know what is important when selecting technology.
3. **Remember there is almost never a good reason to build software from scratch anymore.**
Practice component and tool kit integration. Roughly eighty percent of all software development projects fail.
4. **Make someone responsible.**
Establish IT strategic teams to own and execute the strategy. Establish one team per strategic area of focus.
5. **There is no way to manage what you do not measure.**
Time reporting is the key to knowing project capacity and one of the keys to project execution. Know the three simple time measures that need to be tracked.
6. **The business owns the IT strategy.**
Establish an IT council and conduct regular meetings.
7. **Make them participate.**
Hold regular meetings with the business. Make standardized reporting a part of your project management arsenal.

A. Customer Facing Applications Software/Database Strategy**1. Introduction**

As defined in *IT is about the Strategy*, the next or second strategy that the SMB should embrace is the business model strategy. In general, the business model strategy identifies the customer facing applications that are either key components or critical impediments to business growth. The applications are arrived at through the use of a business model, which is a document that shows how the product or service provided by the business is delivered. This business process generally begins with a sale or order and proceeds through the internal business processes culminating in order fulfillment for the customer and revenue to the business. The goal of the business model is to define and document a description of the core business processes with accompanying business parameters. It provides a process view of the business. Please refer to Appendix 4-1 for a pictorial view of this strategy.

The business model strategy assumes that the business layer strategy has been enacted and that the business layer tactics have been successfully completed. If this is not the case please refer to Chapter 3. The primary focus of the business model strategy is on customer facing applications. This is the most important aspect of the business model strategy. This is the layer of software applications that are used to interact with customers. This third layer, like the back office or second layer resides on and runs on top of the infrastructure. It consists of applications that enable the SMB to do business with their customers no matter what their reason for being in business.

Strategically, this is where the business can differentiate itself and develop a competitive edge. While outsourcing, standardizing and basically homogenizing the first two layers, the solutions here need to be unique and creative. These are the systems that are customer facing and support the delivery of product or services whatever the core reason for being in business. These are the systems that support the existing client base or enable the business to secure new markets or new clients.

2. The technology model

In preparation for tactical execution, develop and document the customer facing application component of the technology model. For the first two components (hardware/platform and network) see the infrastructure strategy. As a reminder, the technology model is a multi-page document (views) showing how IT has constructed the various technology systems in support of the business system. A technology model in this case lists the software and database components assembled in support of the customer facing processes of the business. The relevant technology model view is the customer facing software/database view excluding back office applications. It is easiest to depict in a flow chart form. Please refer to Appendix 6-1 for an example. Also provide a narrative appendix that lists the various customer facing application solutions that have been deployed to support the business model. An example of this can be found in the third tab of Appendix 1-2.

The customer facing component of the strategy should be completed in the form of a written report. It needs to first contain the strategic areas of focus. These are the broad strategic technology areas where the IT department should be working. Please refer to Appendix 6-2 for a pictorial description of how the entire customer facing strategy builds and fits together. Examples of strategic areas of focus from this strategic exercise include broad technology areas like the following:

- Document management
- Call center management
- Distribution management
- Customer profiles and touches management
- Financial information gathering management
- Insurance handling management

The strategy is also comprised of the strategic drivers. These are the governing parameters for making tactical decisions. Examples of some sample strategic drivers are attached as Appendix 6-3. Based on the strategic areas of focus and tempered by the

strategic drivers the SMB can make practical decisions about projects by getting the projects identified and initiated.

3. Strategic areas of focus

In *IT is about the Strategy*, I focused on how to use the business and technology models to select the strategic areas of focus. I would like to take the opportunity to expound on that here. Every business seems to think that they are unique. I would submit that if the SMB is able to take a step back from what it feels makes it unique, and objectively view the core business processes through the business model, they might come to a startling revelation. The uniqueness the business feels may be in the product or service being offered, as well it should be, but the commonality of core business process functions are strikingly similar from business to business. That is to say the product or service may be unique but the other processes are the same. Those processes include marketing, sales, billing, revenue recognition, shipping, inventory control, accounts receivable and handling, and so on. This commonality is the primary reason that the infrastructure and back office should be standardized, homogenized and outsourced. I would like to take that thought even further and submit that in customer facing applications as well there are common processes for things like touching customers (call centers, web applications), handling orders (order processing, web orders), or providing services (service delivery, service tracking, quality assurance, work flow). These like processes allow for like solutions. The key is to understand the business at a process level and seek functionality at a process level. The tools and techniques are available as long as the business looks for the process commonalities and not at the uniqueness of their business. Many businesses seem to be fooled into thinking that the uniqueness of their product or service leaves no choice but to build custom applications from scratch through line by line coding. They fail to look instead for a general set of tools that can be customized and combined in unique ways.

4. Strategic drivers

I would like to expound on strategic drivers as well. These are the governing principles used during tactical execution for making decisions on tools and technologies. Please refer to Appendix 6-3 for some sample strategic drivers. Technology selection is very difficult to begin with. If there are no guiding principles or restraints, no guidebook or restrictions, the decisions made will be the wrong ones. I believe many businesses will attempt to ignore this step because it has a slight academic tinge. I strongly recommend against ignoring this step. The important determining factors for solution selection could, and does often come down to, strategic drivers.

Please allow me to use an example. I think a common question in many SMBs is whether to customize their services. Let's use a financial example. The SMB is performing a financial service for a group of other companies and the performance results are sent back to the customer in the form of printed or electronic reports. If the SMB does not make a decision early to not customize their reporting, then every customer will insist on having the data in their own particular format. Without a standard the sales people could

also fill the void by offering to provide whatever the customer wishes. Financial reporting is likely to become a nightmare. Instead of maintaining a dozen standard reports selected by the SMB themselves, the IT department will eventually have to handle hundreds of custom reports that vary only slightly by a field here or a heading there. Also, the IT department will be stuck with either coding the many reports or purchasing a report or data generator and spending hours and hours developing, configuring, and maintaining this custom reporting capability. This could prove to be expensive and negatively impact the cost of offering the service. The SMB can make a conscious decision about customization by discussing, developing and using a customization strategic driver. If the SMB feels they have enough clout and leverage to offer only a set number of standard reports then the cost of doing business is greatly reduced. If customization is selected as a strategic driver then the SMB has made a business decision. They should then try to leverage this customization in data reporting as a competitive advantage by investing in the best tools and technologies available. Using this way of thinking about strategic drivers the business makes a business decision instead of leaving the decision to chance.

One of the key differentiators between IT organizations that have been successful and those that have not is the selection and adherence to not only the strategic drivers but to the right strategic drivers.

B. Customer Facing Applications Software/Database Tactics

As a reminder, execution (or tactics) consists of converting IT strategic areas of focus into projects and executing these projects. The strategic exercise is now complete. The business has a blueprint for changing the technology backbone of the company. Execution now becomes the key. The amount of change that will be required should not be underestimated. I recommend the following sequence of events:

- Establish IT strategic teams (one for each strategic area of focus)
- Identify the projects (within each strategic area of focus)
- Sequence the projects (based on business drivers)
- Execute the projects (using a structured project management methodology)

IT is about the Strategy goes deeply into business model tactics so please refer to that book for overall guidance here. To supplement, that work there are additional tactical tools and techniques that can be deployed to enhance and improve customer facing application selection. This methodology will also be discussed in detail below and in Chapter 13.

C. Customer Facing Applications Software/Database Tactics Execution

1. Introduction

Before discussion about specific steps to tactical execution it is important to understand the wealth of options available to construct a software application. Besides the number of pre-built software applications, there are numerous component and tool kit options available to the SMB for constructing needed functionality. Remember that

there is almost never a case for developing software from scratch anymore. Most software development projects fail. Most software development projects take long periods of time to accomplish even in the unlikely event that they do succeed. I recommend building applications from components or tool kits and avoiding the custom software development nightmare. Below are a few examples of tools and products from which an SMB can craft an application without resorting to coding. This only scratches the surface of the numerous available options. By the way, I offer these only as an interested third party and have had no contact or affiliation with these companies.

- Adobe Acrobat and associated document and data handling tools. Adobe is doing some very strong things with their product offerings.
- Document repositories for a document database (in contrast to a data database). I have personal experience with OnBase but the business needs to map their requirements to the available tools on this market.
- Web hosting and web building tools and services. These offerings are getting more robust every day.
- Shopping carts and payment handling systems for web shopping and web purchasing.
- Work flow tools which are the enablers for the various tool kits. Work flow is the glue that will hold the set of application components together. Do a simple web search on work flow tools and you will be overwhelmed by the options and the maturity of these products.
- Document scanning, bar coding, imaging, and handling. Document management is a large part of nearly every SMB.
- Microsoft suites like Share Point, CRM, Excel and Access. Microsoft tools should not be overlooked. Coupled with an Exchange Server, Outlook and the Office Suite, there is powerful functionality that can be exploited.
- Web application and database building products like Alpha 5.
- Tracking software like Track It and other tools.
- Fax servers like Right Fax or even outsourced fax server services.
- Full service back office applications like Exact (formerly Macola) These companies market a comprehensive set of packages including things like accounting, finance, inventory control, warehousing, manufacturing, work flow and so on.
- PBX based applications for inbound call handling and management.
- Predictive Dialing applications for outbound call handling and management.
- Shipping software from the various shipping vendors.
- Shipping rate software like Rate Shopper.
- Application generators like Ten Fold, Synopsis and Skyway Software. These are software products that go from requirements to a completed application without coding line by line solutions.
- Portfolio management tools like those from 3 Olive that allow you to track and monitor your project portfolio.
- There are now even full service providers like TraverseIT that offer IT operations and back office components in a bundled solution. This will allow any SMB to treat the first two layers like simple utilities and focus on differentiating the business in the customer facing arena.

I firmly believe that any business can construct a customer facing application suite using these kinds of products without resorting to coding. I have advocated avoiding software development at all costs and I would like to elaborate on this a bit. I am not saying that some organizations will not successfully code and implement a customer facing application. I am saying that for any business the chances are about two out of ten that they will succeed. Historically, roughly eighty percent of all software development projects are deemed failures. The business may roll the dice and prove me wrong. In that case for that twenty percent of the time the business has my congratulations. But in the long term and given the odds, would any business offer a new product or service or otherwise take on an endeavor that has a historical fail rate of eighty percent? I would guess not. So avoid the software development trap. Get good at component and package selection. Research the various solution components. It will be safer and much cheaper in the short and long term.

2. IT strategic teams

As we have learned, developing the IT strategic areas of focus allows the business to develop broad technology focus areas. These will be guided and governed by the strategic drivers. The strategic areas of focus will need to be further broken down into components that will ultimately translate into a series of projects. These projects will need to be owned and executed to enact the strategy. The best method I have found to achieve ownership is through a team effort and something I call the IT strategic teams. These teams are a joint effort between IT and the business created specifically to execute the strategies. IT strategic teams can be tasked with the definition, development and installation of the strategic area of focus through a series of projects. The team needs to be comprised of members from the following groups:

- Senior business management (VP, directors, managers)
- Affected business groups (leads, supervisors)
- IT technology infrastructure team (engineers)
- IT software applications team (relationship managers)
- Independent external integrators and partners (technology experts)

Selecting leadership for each of the strategic teams is the most critical step in determining the success or failure of the team. Leadership translates to ownership and ownership for a particular strategy is serious business. Choose the leadership wisely. The higher up the individual serves in the organization the better.

3. Identify the projects

Using the vehicle of the IT strategic teams this is the creative step of turning all work to date into actionable projects. It requires a series of brainstorming and workshop sessions with the IT strategic team. It should take a number of days. The business members of the team will contribute the current and future anticipated business requirements. This is the required business knowledge. The IT team members will contribute all technology knowledge and previous technology research as well as a structured way to

deal with the requirements. This includes application package research, industry technology knowledge, as well as a range of approaches and solutions that should be analyzed. This is the technology knowledge. The IT team members should also be responsible for bringing in various independent external integrators to make technology presentations and conduct informal educational seminars. Please exercise care here that the business does not jump to the stage of buying. The business should stay at the analysis stage of the process. The business should not be vendor sold or vendor controlled. The outcome of this exercise will be a solidified vision within each strategic area of focus and a series of projects to realize that vision.

4. Sequence the projects

Next the projects need to be sequenced. This can be done in any number of ways or by one of the following exercises:

- Start at the beginning process of the business model and work toward the end process in a linear fashion.
- Understand the dependencies between the projects and schedule the projects based on the interdependencies and sequencing requirements. This means installing foundation tools and technologies first and building on these.
- When dependencies and sequencing are not an impediment, let the budget dictate the sequence. Do the projects when the business can afford them.
- Make sure the projects with the largest pay back are done first or at least early in the strategy. This generates momentum and reinforces the value of the strategy.

Once the projects are sequenced the business can turn to project execution.

5. Execute the projects

The IT team members will begin to execute the projects. The efforts will be managed and guided by the IT strategic teams. The team will use the appropriate project management methodology detailed in Chapter 10. Project management is but one challenge. Project and time reporting is another.

a. Project and time reporting

The IT strategic team has translated the strategic area of focus into projects and sequenced these projects into a project list. IT must now execute. It is critical that IT develops a time reporting methodology that adequately summarizes activity.

Project planning and project reporting begins with time tracking. There is no way to manage what you can't measure. My experience is that time tracking measurements generally suffer from trying to measure too many things or trying to measure the wrong things. Time reporting like project management is generally viewed in the SMB as a time wasting bureaucratic exercise. I believe that is because time reporting gets bogged down in trying to measure too much and trying to measure at too granular a level. Speaking as an IT manager there are three

broad categories that need to be measured. These measures need to explain how much time is spent in the following areas:

- Daily operational support (break/fix, move/add/change, questions)
- New project work (formal project tasks only)
- Administrative and all other lost time

Basically that is all IT management needs to know to manage the department. Tracking more than this can be a waste of time. Knowing at a high level the hours in each of these categories allows IT management to plan projects, track activities and provide costs back to the business. IT management can show how time is spent and justify those expenditures. They can develop meaningful project estimates and provide a more accurate schedule of activities to the business. If IT management has a time tracking system that can provide these simple measurements they are poised to make use of the tools provided below. If not, IT management needs to buy and implement something immediately or modify their current time reporting to make these measurements immediately available. Time tracking is a critical component of project execution.

b. Project estimates

Using the list of identified projects and the desired sequence of project execution IT management must now establish the project estimates. These project estimates are developed in man hours at the project task level and in the aggregate. Project estimates establish from the onset what can be realistically expected of IT and determine what IT should realistically accomplish. The goal here is to identify the required IT project resources, decide where they will be deployed and select the projects that can be undertaken. This is done by mapping the project estimates to the available project resources thereby establishing a schedule of projects for a given time period. At a minimum IT management needs to develop rough project estimates for each identified project in terms of broad man hour estimates. This will support the high level planning and scheduling.

For a schedule I recommend quarterly scheduling. Monthly is too short and anything longer than a quarter quickly becomes irrelevant. I recommend that IT conduct this exercise at the beginning of each quarter. Establish the quarterly schedule to coincide with the fiscal calendar and number the quarters as simply Q1 through Q4. The following three components comprise the project estimating exercise:

- IT development capacity
- Project estimates
- Map estimates to capacity

c. Available development hours - capacity

At the beginning of each quarter IT management should begin by identifying the available development man hours. This is simply put the project capacity for the quarter. If IT management has a time reporting methodology in place, begin with

how much time was devoted to new project development in the previous quarter. Let's use an example of 2,880 hours meaning IT reported 2,880 man hours of time to new development projects the previous quarter. Next factor in any adjustments that must be made for the upcoming quarter. Use known impacts such as staffing deletions, vacations, known support problems eating into development time or anything else affecting capacity for the coming quarter. These adjustments reduce or enhance the available capacity. Let's assume we lose 180 man hours to vacations and that we add a development resource and can expect an additional 360 hours from that person. Based on the previous quarter, known impacts and extrapolation calculate the estimated time that can be spent on new development projects in the coming quarter. In our example that would be roughly 3,060 man hours. This is the IT development capacity from a planning perspective. Please refer to Appendix 6-4 for an example of project capacity and planning.

This exercise underscores the importance of tracking the time spent each quarter on the broad service categories. For the initial quarter or when other data is not available IT leadership may be forced to use an estimated number. I would use no more than sixty five percent of the total available manpower hours for application integration and no more than twenty five percent for technology infrastructure installation projects.

d. Project delivery schedules

The IT strategic team may now establish the project delivery schedule using the available capacity in man hours, the proper sequencing of the projects and the project estimates that have been developed. IT management may simply schedule the projects selected by the IT strategic team in sequence until their capacity is exhausted. Once this is accomplished the IT strategic team needs to finalize the schedule with the IT council to get their buy in and support. I recommend an initial meeting at the beginning of each quarter. The outcome of that meeting should be a list of projects that can realistically be completed in the upcoming quarter. This project delivery schedule is the schedule that IT will now track and report against. Please refer to Appendix 6-5 for a capacity analysis and project delivery schedule.

6. IT council meetings

In order to communicate effectively with the business on project activity IT leadership needs to establish a forum. I recommend establishment of an IT council with regularly scheduled weekly review meetings. The IT council will serve as the project governing and reporting body as well as the broker for the IT strategic teams. They will resolve any priority or sequencing conflicts. The IT council will be comprised of the top business executives who are the primary stakeholders in the company. The IT council should include all project sponsors as well as any business project managers. Most small organizations do not have dedicated project managers who just manage projects so may get their project management personnel from among the

business management. Project management should have the highest interest in the project activity.

I recommend a weekly meeting. Establish a regular time for the meetings. Take great pains to schedule the meeting at a time where IT can expect the most participation. Feed them if you must. The more participation the better chance IT has of working on what is most important to the business. Limit the discussion to a half hour if at all possible. Instead of a typical meeting, one company I worked with held “huddles” where the participants stood up instead of sitting. Naturally, these meetings were brief.

Deal only with project exceptions and not projects on schedule. I have seen these meetings become poorly attended and eventually become irrelevant. This is a major danger signal. It implies that the projects have become unimportant to the business and that the technology focus is being centered outside of the endorsed projects and outside of IT.

7. Project reporting

Once the initial kickoff meeting is completed and the project schedule is defined the real work begins. In addition to actually doing the projects IT management needs to develop and publish the detailed project delivery schedule based on previously defined project milestones. To create a milestone plan take the major milestones and the project identification information and create an Excel spreadsheet. This becomes the detailed project reporting information for each project. It should provide for anyone interested in the project a detailed snapshot of how the project is being conducted. Please refer to Appendix 6-6 for an example.

Issue the spreadsheet weekly as the IT status report. The focus of the IT council meeting should be on project exceptions. Projects that are going well and meeting milestones should not be discussed. The meeting must not become a general discussion or a complaint session but a progress reporting session. Identify any projects that are slipping and discuss the reasons for slippage. Discuss steps IT leadership is taking to get the project back on schedule. Provide the re-forecasted completion dates. Don't allow for regular project slippage or IT loses credibility. Reforecast dates for a project no more than once during a quarter. Do not reforecast dates for more than one project at a meeting or IT credibility again comes into question. The goal here is to communicate early and often. Do not let projects meander down to a deadline before they become discussion topics and get corrective attention.

As a coversheet for the detailed report develop a one page summary of the project progress. At a glance, this summary will convey the progress throughout the quarter. It might be color coded with red and green codes to depict all is well or the project is off track. This report should be viewed as a status reporting document that can be shared with anyone in the business to reveal project status.

D. Customer Facing Applications Software/Database and Personnel

The customer facing application personnel generally evolve into a team here. In traditional environments the business would see the evolution of the software development team or teams. The IT department would generally have a team of systems

analysts, programmer analysts, programmers, database administrators, business analysts and so on. With the strategic approach of using independent external systems integrators the number of IT employees should be considerably fewer and you do not need a team of development technologists. One IT employee probably cannot handle the vision, direction, vendors, solutions, projects, consultants and relationships for this entire technology focus area. It will take several and possibly one for each strategic area of focus. The organizational structure of the department becomes one layer deeper with a managerial role required for this strategic area.

The IT manager will need to be a visionary. There are numerous mistakes to be made in terms of customer facing applications. Risks include choosing the wrong external integrator, letting the integrator run the relationship, misusing the application, falling behind in releases and upgrades, failing vendors and applications that come to the end of their lifecycle or do not handle new requirements like Sarbanes-Oxley. Another risk is that the SMB will be tempted to take the software development plunge and begin developing applications from scratch. The IT manager needs to be vigilant to prevent this.