



PROCESSES, SYSTEMS and AUTOMATION: BECOMING A SUPERIOR BUILDER

White Paper

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NOTE: This White Paper is the result of collaboration between Microsoft Business Solutions and Shinn Consulting, a homebuilding industry expert with more than 35 years experience. Shinn Consulting has developed superior performance systems and procedures which are in use today by many of the most successful homebuilders.



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Introduction

Homebuilding is a great business where the entrepreneurial spirit is flourishing. In 2004, residential construction represented 5.7% of the Gross Domestic Product, or almost \$12 billion; and builders are experiencing the 13th consecutive year of growth in an industry where the business cycle typically turns down every five to seven years.

Yet, market conditions can be full of surprises. How you respond to these surprises can mean the difference between success and failure for your company. Shortages of available land, increasing demand for information, rapid changes in technology, rising costs (for land, material and labor), and increasing cycle times. The alert builder will identify and take advantage of challenges, and convert them into opportunities to achieve superior results; they will become more efficient and have the improved profit margins to show for their effort.

In the following pages, we will take an in-depth look at each of these challenges; and responses to them which will help the builder not only cope, but grow through the process to become a stronger company - financially sound, more efficient and more effective. How do you determine what systems or procedures you need; how do you tweak your methods of operation to bring out the best in your company and its employees, the trades and your buyers? Making changes can be challenging and time consuming - but can yield huge rewards. Come with us as we take a look through these, and many other questions and their solutions.

**Builders are feeling the pressure from a wide variety of sources.
Does this sound familiar?**

LAND

Homebuilders have enjoyed 13 years of growth in the homebuilding industry. The on-going demand for land has challenged homebuilders in their search for affordable and appropriate land for the product. Land price increases are being driven by shortages and a feeding frenzy by builders trying to maintain their own land inventory. Developers have seen the cycle time (the amount of time it takes) of the entitlement process increase in length. Longer cycle times create shortages in the near term, making the need for land more immediate.

DEMANDING BUYERS

Buyers require more from both the builder and the builder's organization; in part because they are used to receiving a higher level of customer service. Some sectors of the retail and automotive industries aim for an exceptional purchasing experience; and buyers of high end homes expect more service, and more individualized service. They are better informed; frequently using the internet for help with purchasing decisions. Statistics show that between half and three quarters of buyers use the internet when making a home purchase. Lower interest rates have enabled many buyers to afford more than they previously were able to afford, and, as a buyer pays more, expectations rise.

RISING COSTS

Rising costs are affecting homebuilding in all markets. Demand for labor and material appears to exceed supply in some markets today, with some builders experiencing shortages of both. Under these conditions, costs generally increase. However, many builders are also now in a position where demand generally exceeds supply, meaning price increases are more palatable, and more understandable, to the buyer. Yet, a small increase in interest rates or a softening of demand will curtail the ability to raise new home prices. As new home prices go from elastic (able to raise prices), to inelastic (unable to raise prices, or being forced to lower prices), profit margins could decline. Some analysts are discussing a potential "housing bubble" where rapidly increasing prices and speculation could cause a rapid collapse of the housing demand; thus

forcing the builder to accept smaller profits. Many builders simply do not have high enough profits to cope with the potential of declining margins.

COMPETITION

Recently, large national, or public, builders have begun to compete head to head with small and mid-size builders. In the past, these builders worked primarily in the tier one, or large metropolitan areas, such as Phoenix, Las Vegas, Washington D.C. and Dallas. Now, in an effort to grow according to Wall Street expectations, they are reaching into tier two and tier three markets (the smaller metropolitan areas) such as Fresno, CA; Vancouver, WA; Richmond, VA; and Austin, TX. These areas all have multiple national builders competing for both land and buyers, which were previously the domain of the smaller builder. Many markets seem to be more competitive; and the majority of builders we polled expect to increase their volume over the next two years. Additionally, small builders are competing for the same trade resources as the large builders; and we are seeing the demand for subcontractors and suppliers out-stripping the supply, contributing to increasing costs.

IMPENDING MARKET CHANGES

In spite of 13 years of continual growth, the marketplace of potential buyers is shrinking; as the baby boom generation has passed its peak buying age of 43, in 2001. Other impending changes to market conditions include increasing interest rates (presently at a historic low), the lessening of price elasticity, and sky-rocketing prices for land.

GROWTH and TRADE ISSUES

Some markets are beginning to experience a downturn in buyer demand in spite of being in the 13th year of the boom cycle. The continual growth requires the builder to deal with increased workload, increased paperwork, and increased staff sizes. Trade partners may leave the builder if they cannot get requested price increases or do not like the performance demands placed upon them. There is enough work in most markets to support this attitude. Additionally, trades have been growing at the same pace, or faster, than the builder, also without regard to their internal capacity. In some markets the trades have seen an opportunity arise, and many former trade partners are now competing as builders in the same market.

So, how do we relieve some of this pressure? Systems and automation are tremendous tools for relieving pressure.

Systems allow the builder to delegate tasks, both to people and to a way of doing business. The best systems are designed to ensure the right information gets to the right person at the right time. There are proven methods, or best practices, for builders to assign tasks and delegate workload. When evaluating examples of good systems and good management practices, look for things like key performance indicators (KPIs, or measurements), and good summary management reports (two-minute reports). A two-minute report (sometimes called a dashboard) is a management report where all the information necessary to a specific task can be reviewed within two minutes. Exceptions can be reviewed in detail by drilling down to determine the problem and evaluate its remedy.

Before the builder can delegate tasks to automation, or to a process oriented system, he/she must first get out of crisis management mode. Builders often work in crisis mode and as a result may have developed a fire-fighter mentality. What exactly does this mean? As problems arise, the builder fixes them, throwing whatever resources are available, and even some that are not, at the problem until it is resolved. The solution often is not the best, nor is it permanent - as long as it appears to solve the problem. Sometimes these stop-gap solutions are at the expense of other processes within the builder's organization. While this method provides an immediate remedy (it cures the symptoms), the builder is still fighting fires, and seldom finding the long-term solution (the root cause of the problem). Homebuilding operations are commonly accepted to be

one of crisis management; however this method of operations works to the detriment of the organization. Builders often feel they are too busy to make the changes; perhaps it is an excuse, or they do not have the manpower to handle it, or just don't know how to do it or where to start.

The most effective way to relieve the pressure is to improve communications. Builders communicate with buyers and trades (external communication), and those within their own company (internal communication). When working with the buyer, the builder must be clear and accurate. This helps meet the expectations of the buyer; the first step in providing superior customer service. The buyer wants, and sometimes even demands, regular updates on schedules, progress reports on mortgages, and closing information. Status of options and selections is often also desirable.

Builders must realize that the expectations of subcontractors and suppliers are equally important, and also must be managed. Information should be presented in a clear and detailed manner. This information can include the scope of work; who is responsible for quality control; detailed drawings (including house plans and options); and, the committed schedule. Scheduling information needs to be communicated regularly and specifically in order to have cooperation from the trades. The trade partner uses this information to set their own schedules and manage their crews. Also, the trade partners need house-specific information, including specifications, plans, options, selections and changes made during the construction process.

Communication within the builder's organization is vital. Information such as selections, changes and contract documents must be available to every department within the organization.

The principal reason for a builder to implement systems and automation is to provide additional **control**. Being out of control is part of the fire-fighter mentality - to break the habit, the builder must change. A shift in thinking is necessary to become proactive, rather than reactive. It requires planning and monitoring (both proactive functions). A builder who is proactive in using systems and automation generally has an organization which is more consistent and more reliable. As a result, the builder becomes more - predictable, consistent, reliable, efficient, effective, and more disciplined. These qualities are appreciated by buyers, trades and staff alike.

Being proactive requires the builder to develop policies, procedures and rules to control behaviors, thoughts and actions. These become an integral part of the builder's systems. Defined processes allow the builder to delegate to systems as well as people, and facilitate decision making within their organization. Definition is the first step; being disciplined through the implementation is the second step. Then, adherence to these systems enables the builder to develop the necessary elements to have access to information - when they need it, where they need it, and in the way they need it.

So, now that we've identified that systems and automation can help a builder, how does a builder go about making the right technology choice?

First, identify your business needs. Do this by evaluating your current processes - take a close look at what works within the company, and what does not work; then actively develop plans for solving the specific needs. This may involve using technology, and it may not. Generally, taking advantage of technology can generate significant rewards. Once you have identified the issues, you can immediately start to solve them.

Second, determine what type of software would best meet your particular needs. One option is to implement a fully **integrated process management software program**. This choice is a complex decision and not without its own challenges of implementation; but a decision to implement an integrated system comes with great and distinct rewards. The choice of an integrated solution requires **planning**, as it will cause change throughout the organization; it requires **discipline**, because you will have to look at every process interaction and make decisions based on those needs; and finally, it requires **hard work**, because you will be asking your team to continue to do their jobs and implement a new system simultaneously.

The builder must decide if their organization is ready to make the commitment to an integrated process solution. An integrated solution has a significant cost to the builder: the cost of the software; of implementation assistance; and the internal cost. These costs are measured in both time and dollars, but generally a well-disciplined builder who selects an integrated solution will reap the rewards and benefits far in excess of their investment.

Builders unprepared to go to a fully integrated solution may choose a **process specific solution**. There are several reasons a builder might make this decision. First, implementing a specific solution generates results more quickly than an integrated solution. These quicker results are primarily due to shorter implementation time and lower demand for implementation resources. Second, it can be very attractive to look at specific solutions because these solutions can be deployed incrementally. This means you can eat the elephant one bite at a time.

One thing to keep in mind about specific solutions is that they should be planned and implemented as part of an overall plan. Solve the biggest and most pressing business needs first, while keeping an eye on how the specific solution fits into the “big picture” of the organization.

How do Microsoft and their partners address homebuilding? Microsoft has focused much development in the area of shared data.

Let's examine the value of **shared information** to a builder. We will look at sharing data both internally and externally. **Internal** data is the data that goes between processes, roles and tasks within the homebuilding enterprise. This is generally common information that is shared across multiple processes. Today, the builder demands not merely data, but information; information to manage the enterprise, information from which to make decisions. Things like buyer name, color selections, agreed-to contract pricing, cost of material and labor, and schedules are examples of data that is shared by multiple processes. Ideally, this shared internal data is generated from a single data entry point, entered by one party. You should strive to **never** enter information multiple times, including into spreadsheets and text documents (multiple entry is problematic because it creates the opportunity to make mistakes). Additionally, internal data should be warehoused, or kept, in a single database that is well-documented, easy to access, and backed up regularly.

In talking about sharing **external** data, we mean the data shared between the builder, their trades, and the buyers. This is different from internal data sharing, because the data or information is no longer under the control of the company. It is very important that the information shared be correct and timely. Good information sharing systems can be the single source of answers for both trades and buyers. By creating a source for others to obtain answers, some time-consuming interruptions can be eliminated.

Identifying Problem Areas

How do you identify problem areas? Start by developing a measuring system which includes the tools to report, evaluate, and change your internal processes and systems. The builder must establish quantifiable goals with detailed implementation plans, then measure the progress toward their achievement. These measurements, or KPIs (key performance indicators), help convert data into information. The measurements establish accountability within the organization: accountability of your systems; of your people; and of your processes. Microsoft provides tools developed specifically to alert the builder to problems and provide access to ways to correct them.

Microsoft's tools use the builder's coding system to produce charts and graphs (visual tools); and become part of the builder's workflow management system (a system that facilitates, monitors and measures the flow of work from one task, activity, or process to the next). They continue to provide leadership in converting data into information. They do this in part through the use of spreadsheets, as well as using SQL as a data warehousing tool.

Let's evaluate whether you could benefit from using Microsoft tools within your organization. We will look at specific questions a builder can consider, to help perform their own needs analysis to solve business problems.

1. Are the houses you're building costing you more than you estimated?

Assume the answer is yes; let's look at the processes and the theory behind this business need. First, let's consider the purchasing process - assuming that you have a purchasing process (many builders do not). Do you start construction of your home with an **estimate**? Have you estimated (not just a guess or a hope) your anticipated cost for either the work or the material necessary to complete a specific task? Did you answer no? Without an estimate, you have no means by which to control your cost.

Next, are you receiving **invoices**? If you answered yes, then the invoices you receive can allow your costs to vary, or to be controlled by your vendor or supplier. Consider using a purchase order, which requires your trade partners to deliver specific goods or services at a pre-determined, non-fluctuating, price. There is a clear value in evolving your organization to be purchase order driven, as opposed to being reactive to your vendor's invoices.

Once you have the purchasing process defined, you can take advantage of **automated cost tracking**. You must have a purchasing process first, because automated cost tracking comes directly from the relationship between an estimate, a budget, and a pay point. This relationship should be direct, automatic, and enforced. This one-to-one-to-one relationship is the cornerstone of an automated cost control system. The estimate IS the budget, and it IS the purchase order, and it IS the amount paid, in an automated cost control system.

Once automated cost tracking is in place, we need to measure any deviation from the plan (estimate). This deviation from plan is called a **variance**, and builders need to have a defined variance management system. Variances should also be considered learning opportunities. When a variance is noted, the reason why the deviation occurred should be established; and ways to prevent it from occurring again should be documented and implemented. While homebuilding is a repetitive process, variances should not be. When the variance is captured, you must establish a practice to eradicate it and prevent any recurrence.

Microsoft and its partners have developed tools to help identify and control costs.

2. Do you want to stop the paper chase in your office?

Homebuilders are notorious for generating mountains of paper. Builders use drawings, selection sheets, detailed specifications, option sheets, change orders, purchase orders and . . . wow, that's a lot of paper! Multiple copies of this information can be found all over the office, but can also be found in "the file". The file is the place where the accurate information is gathered for a specific house being built for a specific buyer. The problem is - no one knows where the file is or who has the file. The result is multiple copies and portions of the needed information being held by various individuals, each performing various tasks. No complete paper file can exist because paper is static, while electronic data is dynamic - there is no out of date information, and there is one source for all information. We wonder why builders tend to be fire-fighters - this is one reason! Think of the confusion and opportunity for errors when you try to distribute revision notices and/or changes.

To get out of the paper chase, you need accurate information. Get away from trying to find out where the "latest and greatest" copy of the information is actually kept. Accurate information should be captured one time and shared by trusting your systems and your people. If you don't have the latest information, or if inaccurate information is distributed, the cost of curing these inaccuracies can be significant.

Accurate information also means complete information, because without complete information you cannot facilitate communication across functional areas, like sales to accounting or field supervision to customer service. Once systems are in place, you do not need to ask who has the best information and how to get it. Fewer interruptions mean your organization is beginning to trust the systems and data instead of the knowledge of individuals and separate systems. This results in information when you need it, where you need it; and will facilitate the decision process, guided by policies, procedures and rules, and help eliminate the crisis management within your organization.

Microsoft and their partners are leaders in document sharing and management.

3. Are you having trouble getting information to others? How are you communicating with prospects, buyers and trade partners?

Specific methods must be developed to handle external communications. How do you communicate; when do you communicate; how often and to whom do you communicate; and how does the information come back to you? There should be a consistent approach. When we're talking about consistency in external communication, we are really talking about the fundamentals of workflow management - consistent communications needs a consistent format. Define what you need to communicate and make sure this information is agreed to and understood by both parties. Determine who is going to have access to the information, and how that access is to be controlled.

Microsoft and their partners provide leadership in using the web to communicate with customers and suppliers.

4. Are you aware that most new home sales involve the internet? What sort of information do you provide on your web site?

Information posted to the web site must be kept current. Can the update occur automatically; will it consist of live data and are choices available to the buyer posted on the web site? Choices such as lots, plans, options, selections and colors? Remember, your website is a *tool* that is exceptionally useful for communicating information to your prospects and to your buyers; for homeowners to communicate with the builder; for the builder to communicate with the homeowner; and for communicating to your trades and vendors.

Improving communication with the buyer is an area undergoing improvement within homebuilding. Websites are helpful in improving the buyer experience. How? A well designed website can set and help manage the buyer's expectation of the builder, and their expectation of the homebuilding experience.

A website, unlike the builder, is available 24/7, allowing the buyer to control a small portion of the home buying process, according to their own schedule and time commitments. Use your website as a tool to go beyond improving the buyer experience - a good website will differentiate you from other builders. It not only pushes information out into the marketplace, it can also be designed as a listening device: to analyze and see what prospective buyers are interested in (what they've viewed); where they are spending their time (how long they have spent on a page); and, areas of specific interest. Additionally, by posting live information on house schedules, selections and changes, the buyer will see information on their new home and gain confidence in the builder's organization and the builder's ability to communicate. This increased confidence results in an overall sense of trust in the builder. Trust in the builder's capability leads to higher satisfaction ratings, higher perceived quality, and ultimately, to a happy buyer and referrals.

Microsoft and their partners are at the forefront of using the web to work with customers.

5. Are your delivery dates real?

Scheduling systems and the management of schedules are essential to builders, trades, vendors and buyers. For the builder, it provides predictability and confidence in ordering work and the delivery of materials for each home. It is also critical to effectively predict cash flow, and to be able to automate the invoice approval process. Good schedules help the trades run and manage their business, and to understand when and where the builder needs them. And, for the buyer, the value in a good scheduling system is in providing dates for pre-specified meetings (such as pre-construction, framing walk, or homeowner orientation); a real closing date; and a predictable move-in date. Trades must be involved to make your scheduling system work. This can be your primary communication tool to order work done on a house, and for the trades to indicate the work is delivered. The schedule must be both consistent and reliable. Your field personnel and the trades need to buy-in to the schedule and trust the schedule dates.

One of the major benefits to your trade partners will be the reduction, and eventual elimination, of dry runs. Dry runs are those trips to the job site where the trade is unable to do any work. Our surveys indicate that for some trades up to 60% of their scheduled work for builders result in dry runs. Not only does this add to operating costs for the trade, it also results in additional travel charges and price increases to the builder. In a supplier's market like we are experiencing now, having a consistent and reliable schedule will help you become *the builder* the trades want to work with, or, what we call, "the builder of choice."

By being the builder of choice, your company is *the* company where all the trades want to work; where they will do the work, possibly for less money; and where they will respond first to any additional work or warranty claims. A consistent and reliable schedule (meaning materials and labor will be at the right place at the right time) will help you become the builder of choice - in reality, not just in theory. It is a significant step toward a true partnering relationship (as opposed to the prevailing employer - subcontractor relationship).

Microsoft understands project management and has long had the leading tools to develop consistent and reliable schedules.

6. Are your buyers demanding 24/7 access?

It is important to manage the expectations of your buyer. You do this by keeping the lines of communication open, providing the buyer with real-time information, and performing in a manner that builds trust in your ability to meet their expectations. Buyers put a real value on builders who make themselves open and available to them. This can be done in a wide variety of ways. The theory is to create a shared experience between the builder (your company) and the buyer, as opposed to managing an experience separate from the buyer. When you deal with demanding buyers, you should work to eliminate the things the buyer perceives as problems, or crises. The first step in the elimination of these crises is developing a high level of trust from the buyer. With an absence of accurate and complete information, the buyer will not understand your processes and will tend to feel events are a crisis situation for them. Your goal as the builder should be to create clarity from what may appear to be the chaos of new home construction, and the buyer will perceive this as your desire to meet their needs and to deliver a high quality home.

Microsoft and their partners can help control the relationship between the builder and the home buyer.

7. Are your trade partners demanding 24/7 access similar to buyers?

As with buyers, communication is a tool to help manage the expectations of the trade partners. This communication needs to be real time, and is the first step in developing trust between you and the trade. When a trade demands access to your team, it is for information and problem resolution, so you must serve the needs of the trade partner by being both open and available. This is not to say the trade runs the builder. Being open and available means you get out of crisis mode because the trade has access to the information they need. Your value added partners need to “know now” when it comes to schedules and conflicts in information. Conflicts in information include things like changes, selections and colors. Trades need to know what work has been completed, what work is scheduled, and when the work is scheduled. Not knowing now creates a crisis situation and causes interruptions in the normal day-to-day processes a builder relies on. These crises can be eliminated by being proactive and providing the information to the trade, both when they need it and how they need it.

Microsoft and their partners can help control the relationship between the builder and the trade partners.

8. Are your employees effective and efficient in the performance of their jobs?

Efficiency and effectiveness come from strong systems - this is where it all starts. The cornerstone of efficiency and effectiveness includes the implementation of the management principles: management by objective (MBO); and, management by exception (MBE). Builders benefit greatly from these principles. Weak systems are neither effective nor efficient.

You must first develop an objective, and document the expected results. Once the objective is established, provide visibility by developing, documenting and implementing a plan. You need not just a plan, but an executable plan, a plan where progress can be measured, that has incremental wins, and where you and your team can celebrate the success. Measurements (KPIs) must be developed and then monitored to track the progress toward the objective. Finally, the builder needs to enforce discipline and accountability to monitor the success or failure of the plan. This is an iterative process, one that is intended to be repeated with included improvements, over and over, to achieve the established objectives. Use these principles as tools to measure and monitor the efficiency and effectiveness of your entire team.

Microsoft and their partners use databases and reporting tools to manage accountability.

Conclusion

We have spent a considerable amount of time discussing how Microsoft and their partners can work with you, the builder. Ultimately, selecting a technology partner is a matter of trust. You must expect a strong commitment. Here are some questions you should consider in evaluating your technology partner:

- Are they committed to homebuilding as a line of business?
- Are they in it for the long haul - committed to the homebuilding market and to the product, interested in meeting the builder's needs with the best product possible?
- Do they have the industry experience and expertise you expect in a partner?
- Is the technology partner new to the homebuilding industry and inexperienced with their unique needs?
- Can they provide you with integrated solutions and process-specific solutions to meet your growing business needs?
- Do they have pricing specifically for the homebuilding industry?
- Does this vertical pricing allow the builder to purchase systems according to the way they do business, rather than the way the software company does business?
- Is the technology partner financially stable?
- Does your technology partner have the financial means to keep pace and make changes to their products to take advantage of advancing technologies?
- Is your technology partner truly dedicated to the homebuilder marketplace?

So, what does the future demand?

The future demands profits for the builder; for without profits, builder organizations cannot exist. Profits will begin to erode as the current condition of price elasticity no longer allows the builder to make price increases to the buyer. Reduced sales volume will be a major problem. Builders with high profit margins and cash accumulation will create opportunities for themselves - opportunities to purchase the best land at reduced prices, and to respond to changes in product to meet the needs of the buyer. The future will also demand superior customer service. Buyers are becoming more and more sophisticated, and so are the demands they put on the builder. This is driven by the buyer understanding what is happening in other industries - look at the impact the internet and technology have had on retail sales operations. Look at the sophistication the automotive industry is putting in the hands of the buyer. J.D. Powers created a new industry in the measuring of customer service and satisfaction, scoring all industries.

The future will also demand on-time and accurate information. This information will be expected by buyers, by trades and by homeowners. Builders will need to differentiate themselves in order to become the builder of choice. The future will demand that builders use technology wisely. They will do this through strategic partnering and by selecting technology partners and tools to drive them into the future. These technologies will be "applied" technologies - applied to processes and procedures, and they should not expect these technologies to be "supplied" by their technology partner. Ultimately, it is the application of technology to process, that will move a builder into the future.

Builders will need to differentiate themselves within the marketplace. The future holds increased competition for buyers, trade partners and employees alike. Technology will provide a competitive edge for builders that adopt, and adapt to, successful technology platforms.