

How to Transition from a Traditional to an E-Business Enabled Real Estate Agency

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Abstract

A framework is developed to enable transition from a typical real estate agency towards an e-business enabled business environment, based on an agency configuration located in Townsville, Australia. This transition is modeled according to a number of stages. In the strategic audit stage, a TOWS matrix is suggested which combines Porter's Five Forces Model of Competition, adapted with a SWOT analysis. The next stage of an e-business case development for this real estate setting differentiates among inside partners, nearside partners, and external partners. Stage three states the composition of the systems analysis team, whereas in stage four the system architecture and infrastructure are specified, including a number of relevant legislative issues. Subsequently, the web interface design-stage is elaborated on, including accessing issues by different user groups. Two extreme examples of customer interfacing are presented to illustrate the need for the interface to be flexible, information gathering, and execution focused. These four stages summarize the transition process real estate agencies may work through to become fully e-business enabled.

1. Introduction

Real estate in Australia has been slow to embrace e-business. Without a direct and immediate impact on revenues, some entrepreneurial businesses have trouble justifying the expenditure. Others, viewing real estate as a "people" business, consider e-business a hindrance to relationships. Still others cite the idiosyncratic nature of real estate transactions and portfolios, the difficulty of adapting off-the-shelf software to meet their specific requirements and the high cost of custom programming [2].

It is our belief that real estate management may not have a good grasp of what a total e-business solution has to offer in today's real estate environment, and moreover, not a clear picture of how to progress from a "traditional" (albeit basic Web-supported) business setup towards an e-business enabled configuration. This paper attempts to address this very issue, and presents a framework for

making this transition a reality, while illustrating how e-business enabled real estate interactions and transactions could enhance business and create new opportunities. This framework is applied to a real estate business in Townsville, Australia; which, for confidentiality purposes, is referred to as company XYZ in the remainder of the paper.

2. Local Industry Environment

With the current trend to smaller families, people remaining single longer and the ageing population, there will be an ongoing need for residential accommodation and commercial business to service the population as it grows.

Townsville, North Queensland, in Australia enjoys a broad economic base which is underpinned by manufacturing, government administration, defense, port facilities, extensive educational facilities, a stable and ever increasing tourist industry, and a large self supporting retail sector.

Townsville and environs count in excess of 60 real estate agencies. Of these, at least 9 belong to major national and international franchise groups including L.J. Hooker, Century 21, Knight Frank and Ray White. In addition to the real estate firms, there are the residential land developers who provide about 900 newly developed blocks each year to service the Townsville market. The real estate firms also play a part in selling the residential land on behalf of the developers.

A further subset is the building industry which builds spec homes that the agents are engaged to sell. This generally results in a flow-on effect when the new home buyer looks to vacate the existing family home by selling it through an agent, and so the circle continues.

The real estate industry in each state has its representative body in the various Institutes, such as the Real Estate Institute of Queensland (REIQ) in Queensland. These disparate bodies tend to work independently of each other, and of the national body, the Australian Real Estate Institute. As a result, there are varying policies and procedures that make it difficult for agencies to reconcile. An example is the variety of key principles and guidelines that have been developed to accord with changes to the Australian Privacy Act.

Company XYZ consists of four offices, employing 25 staff. Each of the offices has an administrative officer who is responsible for day-to-day activities, receiving and redirecting inquiries, attending to agents needs and the preparation of sales documentation. In addition, there is a central administration manager who attends to the "business" of the business, that is payroll, financial management and maintenance of the rent roll.

The real estate wing of the value chain has a marketing manager who works with agents and the clients to ensure that the properties are featured in such a way as to gain maximum exposure and have maximum potential for sale. The marketing manager has graphic design and copy writing skills that are used in advertising and promotion of both the real estate business and the properties it represents.

A manager oversees the operations of the four offices, aided by an administrative assistant responsible for tasks such as preparation of routine correspondence, travel arrangements, appointments, compilation of statistical data for reporting and follow-up. A sales force of 17 real estate agents, directly accountable to the manager, completes the staffing requirement.

All sales people are employed under Australian Workplace Agreements that guarantee them a retainer and a share in the commission structure. Commission is charged to clients in accordance with the recommendations of the REIQ (5% of the first \$18,000 and 2.5% of the balance of the gross sales price for residential properties). Generally, negotiations take place on commercial property sales which can equate to between 1% and 2% on the gross sales price. The Principal of the company XYZ pays agents a 30% share of the normal commission, 20% on commercial sales, and negotiates commission on major commercial and industrial sales in excess of \$500,000. The company generally resists negotiating away the standard REIQ commission rate with residential vendors so as to maintain consistency.

In addition, there are unique share arrangements with land developers and builders, negotiated on an individual basis. The company 'conjuncts' on commission when a listed property is sold by another agency, and expects the same in return when it sells a property listed by another agency. The business also retains a rent roll.

A proposed organizational structure is shown below.



Fig 1: Company XYZ: organizational structure

XYZ currently services the residential market through the sale of existing houses, builders spec houses and its property management services. It also specializes in commercial and industrial property and vacant land sales on behalf of the developers. Initially, XYZ was established primarily on a platform of residential house sales that provided the majority of the revenue to the business, particularly in the early establishment phase. Moreover, Townsville is home to some 10,000 military personnel who are housed generally in rental accommodation owned by the Defence Housing Authority (DHA), or leased by the DHA from private owners. XYZ is one of a number of real estate agencies which provides real estate services to the DHA.

A natural extension to the residential unit was commercial sales, where more particular expertise is required to enable an understanding of turnover-, value-, and potential-issues, leading towards the hiring of specialist agents in this area on the sales team.

In addition to the above revenue streams, XYZ has a rent roll of some 1,000 properties. This is managed primarily by the Principal, with the assistance of the office manager, who undertakes the day-do-day administrative functions, inspections and maintenance arrangements. XYZ realizes a 7.5% management fee on all rental payments, as well as a commission fee for the arrangement of maintenance services to the properties. XYZ is also the managing agent for two neighbourhood shopping centres in Townsville, for which a management fee is paid, based on a percentage of tenancy rent.

XYZ is looking at further expanding its business into areas such as entrepreneurial activities, project management, financial planning and lending services to complement the current business activities.

3. Transitional Framework

3.1 STAGE 1: Strategic Audit

For this purpose, Porter's Five Forces Model of Competition [10] could be adapted with a SWOT analysis into a TOWS Matrix [9], asking two critical questions: First, what is the structure of the industry, and how is it likely to evolve over time: Second, what is the company's relative position in the industry?

The TOWS Matrix, shown below, is the Threats-Opportunities-Weaknesses-Strengths matrix that enables an organization to assess the best strategies after assessing how the strengths, weaknesses, opportunities and threats relate to each other and how they can be used to highlight areas that need an avoidance strategy and areas that offer advantages. For instance XYZ's decentralized system and geographic spread allows it to serve communities across the Townsville region and take advantage of local neighbourhood opportunities because of its in-situ status. This would fall into the SO Strategies Square.

	Strengths (S) List Strengths (1 → 10)	Weaknesses (W) List Weaknesses (1 → 10)
Opportunities (O) List Opportunities (1 → 10)	SO Strategies Use Strengths to take advantage of Opportunities	WO Strategies Overcome Weaknesses by taking advantage of Opportunities
Threats (T) List Threats (1 → 10)	ST Strategies Use Strengths to avoid Threats	WT Strategies Minimize Weaknesses to avoid Threats

Fig 2: Company XYZ : TOWS matrix structure
(source: Miller, A., 1998)

This results in the preparation of a blueprint that maps out where the company is going over the next five years. Underpinning the strategic plan must be a business plan which details the operational allocation for the activities

planned for the next year including goals, objectives, financial allocation, key performance measures and projected outcomes. In addition, monthly short-term plans are developed for company reporting, including sales figures, listings and financial performance.

Strategic information systems can be viewed as one of four types in a step-wise progression [11]:

Step 1: Those that share information via technology based systems with customers/consumers/ and/or suppliers and change the nature of the relationship.

Step 2: Those that produce more effective integration of the use of information in the organization's value adding process.

Step 3: Those that enable the organization to develop, produce, market and deliver new or enhanced products or services based on information.

Step 4: Those that provide executive management with information to support the development and implementation of strategy (in particular, where relevant external and internal information were integrated in analysis).

The move towards an e-business enabled agency can therefore be seen as a progression to step 3, and eventually step 4 in the information systems strategy.

3.2 STAGE 2: Development Of An E-business Case

An e-Business case must be systematically assembled to enable a clear and concise plan to be formulated from the following questions:

Strategic justification: "Where are we going?"

Operational justification: "How will we get there?"

Technical justification: "When will we get there?"

Financial justification: "Why we will win?"

Collaborative justification: "Who will we be taking with us?"

To successfully create an inter-enterprise community it is necessary to examine the links organizations have with one another, with the strategy for capturing electronic channels [8].

The methodology includes the following steps:

Define power relationships among the various players and stakeholders.

Map out the extended enterprise to include suppliers, buyers and strategic partners.

Plan the electronic channels to deliver the information component of products and services.

The discussion of how to gain power raises two important questions:

How might alliances with other firms across industries or even with competitors help us?

How do we need to restructure ourselves to seize the opportunity or ward off a threat?

Participants in the inter-enterprise organization of Company XYZ are shown in Figure 3 below:

Inside Partners	Nearside Partners	Network Partners
Information Technology Providers Agents Administrative Staff Management	Buyers Sellers Landlords Tenants Solicitors Conveyancers Real Estate Agents Purchasers' Financial Institutions Vendors' Financial Institutions	Councils Land Titles Office Office of State Revenue Other Government Departments (eg. Main Roads, Contaminated Sites Registry) Insurers Telephone Companies Electricity Companies Newspaper Delivery Army housing etc.

Fig 3: Partners of collaborative inter-enterprise organization of company XYZ

These strategic partners are classified as inside partners, nearside partners, and network partners [1]:

Inside partners; those required for the development and support of the business plan.

Nearside partners; those that will assist in the tactical implementation.

Network partners; that will assist and enable the business model but will not require close day-to-day or strategic coordination

Each of these partnerships is elaborated on next:

3.2.1 Inside Partners – systems architecture

These partners are sourced for building or modifying the architecture required to create an e-business extended enterprise for the real estate agency. Issues that need to be explored when choosing this partner include:

Experience – how many marketplaces have they built so far, what is the transaction flow through those marketplaces, how do they compare to what company XYZ is intending to build?

Ownership – What is the company structure? Can XYZ buy into the partner company, giving them an equity position and a say in the future direction and management of company XYZ?

Cost – what is the total cost? XYZ-benchmarks need to be set, and limits of exposure established, so that the expense doesn't spiral out of control.

Integration – the new marketplace needs to be fully integrated into the other applications within the company,

such as any legacy systems, and new off-the-shelf applications [3].

3.2.2 Nearside Partners - The Selling Process

Nearside partners in the real estate selling process are financiers, conveyancers, and valuers. By integrating the processes and workflows of these partners, XYZ can provide a faster and more efficient service to customers. For example, when a sales agent executes a sales contract, a workflow is generated for the conveyancers to conduct a title search on the property. This title search is raised only once, and is stored online so that it can be 'shared' by all three parties. Currently, all three would conduct their own search independently of one another, and pass on the cost to the customer. (\$12.60 per search). Using EDI, each of the partners can access and use a secure section of the system to post and track information required to complete the transaction. By combining and coordinating all the aspects of the process, a more efficient and cost effective customer delivery channel is created. Savings from these synergies can be treated as a benefit to the individual partners bottom line, or used to generate increased market share through packaged incentives, such as a finance/conveyance package.

3.2.3 Nearside Partners - The Rent Roll

These include trades people, cleaners and general maintenance services, providing services to both landlords and tenants. Landlord and tenants can go online and choose one of the service providers listed, and detail the specific job that is required.

Again, a workflow is created, allocating the job to the required service provider. Payment for the service is coordinated, yielding a commission to XYZ for its involvement. By incorporating the service provider into the workflow management, it enables XYZ to maintain control over supply and the level of the service delivery offered. By providing consistent and effective service delivery to its tenants and landlords, XYZ creates customer loyalty.

An integrated CRM system collates the data of services used, and prompts future potential business. For example, twelve months ago a landlord used one of XYZ maintenance services to clean the gutters on their rental property. The CRM system raises an event notification that sends an automated response letter to the landlord asking if they would like XYZ to arrange to have the gutters cleaned again. The letter requests the landlord to either log in on XYZ's secure web site, or call a customer service representative. The landlord is pleased at the level of service, the service partner is happy for the additional work, and XYZ has generated some additional revenue.

3.2.4 Network Partners – External Support

Network partners include organizations, such as the local authority and other statutory bodies involved in the

industry, i.e. the urban land development committee, media and industry associations, and the like.

After partners have been selected, a program of ongoing measurement needs to be developed to ensure that the partnership is the best possible for the desired outcome, and that all partners are embracing the common goals of the alliance.

3.3 STAGE 3: Systems Analysis Team

Company XYZ's systems analysis team consists of:

The principal (to keep the all on task and focused on desired company directions)

The administration manager (for practical advice and input in relation to the historical operation of the business)

The marketing manager (to sell the product to strategic partners, both during the development and implementation phases)

A senior sales agent (to provide input from their field experiences)

An IT consultant (to advise on appropriate software, hardware and interactive web site design)

Management consultants (to undertake customer/staff surveys, facilitate focus groups, liaise with preferred strategic partners, facilitate change management and training issues)

A scribe or person (to record all activities of the project meetings)

End-user representation (to provide agent/customer input and feedback)

3.4 STAGE 4: System Architecture And Infrastructure

Company XYZ currently operates with independent computer systems located at each of the offices. The systems communicate via email. Financial management is carried out at the main office, with little feedback to the branch offices. Development of systems architecture and infrastructure is required to support the inter-enterprise e-business initiative.

A local area network (LAN) is to be set up between the branch offices, the main office, and participating partners, enabled by ISDN data links to form a wide area network (WAN), and designed to incorporate G3 wireless application protocol (WAP) devices. In the main office, an application server is to be installed. Data sources include:

General public queries on available properties and data requests from strategic partners

Queries and requests of owners of properties managed by XYZ.

Field data and requests from sales agents (through notebook computers, PC's, WAP devices, etc.)

Requests, links, and feedback from government agencies and regulators.

A number of legislative issues, as they relate to XYZ, for future attention and integration into the new e-business enabled platform include:

Retail Shop Leases Act 1994

Residential Tenancies Act 1994

Property Agents and Motor Dealers Act 2000 Code of Conduct

Land Act 1994

Duties Act 2000

Privacy Act 1988

Auctioneers and Agents Act 1971

Electronic Transactions Act 2000

Trust Accounts Act 1973

Property Law Act 1974

Land Titles Act 1994

Land Sales Act 1984

Traffic Infrastructure (Roads) Act 1991

Integrated Planning Act 1997

Fair Trading Regulation 2001

Anti Discrimination Act 1991

XYZ staff must become cognisant of consumer and contract law as it applies to the real estate industry. For example, the company's trade practices and consumer protection responsibilities, issues covered by intellectual property, copyright and patents legislation and its responsibilities in relation to keeping and reporting against a Trust Account, Local Authority regulations regarding services, requirements and charges, such as cost of rates, water and water allocation, and even rubbish collection days.

National Privacy Principles need to be integrated into the new platform. The discussion about privacy essentially encompasses those things that a company can and cannot do with personal information. "Personal Information" is information from which a person can be identified either by use of their name or a description of them or their circumstances.

The Privacy Act regulates the way personal information is handled at all stages. This includes:

How the information is collected

How the information is used

To whom the information is disclosed

How the information is handled and stored

When the information is destroyed

In this context "privacy" is distinguished from security and confidentiality. "Security" relates to the way in which personal information in a system, (either manual or computerize, is protected from misuse and loss and from unauthorized access, modification or disclosure. "Confidentiality" relates to the secrecy afforded to particular information and prevents its disclosure in certain circumstances. Whilst security and confidentiality go hand in hand in protecting information, privacy is broader and covers the whole "information lifecycle".

As was illustrated above, strategic partners operate within a complex legislative structure, which must be adopted across the network of partners.

4. Web Interface Design

The web interface links the real estate customer to the inter-enterprise organization, and is the 'front end' basis of a new e-business model for the company XYZ.

In this context, XYZ must meet specific web design criteria. It must work with its web design project team and develop its initial site design. The QFD model, proposed by Hamilton and Selen, (2002) [4] may provide a starting point for determining the initial design parameters. The web site design incorporates active learning [6] to enhance interest and marketability.

A detailed specification is prepared in consultation with the web designer and the XYZ Systems Analysis Team to ensure that all the criteria are addressed and included.

The XYZ Systems Analysis Team must consider a variety of web related features, including:

Web Site Design, Site Hosting and Web Metrics
Network and Database Management
Training, Support and Site Management
Web Content Management Solution
Multi-channel/Systems Integration
The Customer's Online Experience
Bulletin Boards and Event Calendars
Real Estate Listing, Ordering, and Editing
Maps, GIS and Visuals
Cost of Mortgage Calculators
Solicitors, Schools, Medical Facilities, Shops,
Community Organizations, Transport, etc
Relevant Databases
Finance and Legal Details
Purchase, Rental, Facility Management and Lease Data
Allowed Transactions
Ethics and Security.

The following simple questions will determine if a Web page is well designed:

How quickly does it download?

How easy is it to navigate?

How well does the search work?

How readable is the content?

Is the page and the content uncluttered and appealing?

Real Estate is ideally suited to a daily changing web page, incorporating the movement, addition and deletion of properties for sale; informative articles; and tips and hints to prospective customers. Web page maintenance and continuous updating is an absolute imperative.

Customer needs must be efficiently communicated through multiple integrated channels. XYZ must set up seamless complementary interactions between traditional and e-channels; the telephone, facsimile, face to face, web, email. Channels other than face-to-face are to be seen as facilitators. For example, a client may value the

ability to have a comprehensive description of a property with some photographs available online but this will rarely replace a physical examination of the property. In order to secure sales, XYZ must 'push' clients towards physical visits of properties and completion of sales transactions.

The web interface must seek to use existing relationships to grow revenue, use integrated information from all channels for service excellence, and facilitate the provision of consistent replicable multi-channel processes and procedures.

All of the interfaces (and the systems supporting it) should be totally client focused. A number of access points within the e-business enabled real estate agency are elaborated on below:

4.1 XYZ Main Office Staff Resident Application Server

Administrative staff, sales staff and management in the central office access the application through the LAN and WAN for operating the business and for the purpose of administration, sales and rent roll maintenance.

4.2 XYZ Staff Company Application Server

Administrative staff, sales staff and management in the other three offices access the company application server over the ISDN line for day-to-day needs for operating the business and for the purpose of sales and administration.

4.3 XYZ Staff Remote Application Server

Generally remote access will be undertaken by sales agents from notebook computers to access contract templates for sales, as well as statistical data to assist sales.

4.4 Restricted Access

Some areas would require authentication and only be accessible by a restricted group of users. For example, property owners may be able to access restricted sections of the site to view rent collection, management fee payments and allow them to "order" a service such as plumber or gardener. The system will notify XYZ of the request, which will then be arranged and subsequently charged to the property owner's account with a commission payment for the service to XYZ. Other examples include participants to a conveyance accessing a common conveyance 'file', and updating or retrieving information.

4.5 General Public Access

This is the strategic "face" of the organization, the public part of the company's online presence.

The customer must be able to readily tailor and select services and goods to meet their wants. The authors

recently developed an approach for segmenting markets and development of a dynamic web interface for this purpose [4],[5].

Furthermore, the e-business system allows for product customization, pricing and contract management, quote and proposal generation, appropriate commission agreements and promotion management. These require the interfaces with the client to be flexible, as well as information gathering and execution focused.

It must integrate customer content, contact information, end-to-end business processes, extended enterprises or partners (providing inter-enterprise customer care) and all customer applications (such as telephony). It must be focused towards opportunity creation and tracking [7].

Two extreme examples of possible interface interactions are described as they apply to XYZ:

Example 1:

A member of the public is looking for a property in a particular suburb. A click on the suburb will bring up the Graphical Information System (GIS) interface or electronic map that is pre-loaded with all properties available for sale.

The potential customer can then click on social infrastructure find out what parks, schools, churches etc are in the immediate area. The road network layer can be displayed and local shopping centres and other areas of interest.

Once the customer has decided on the area of interest, a click on the GIS locator will display details of properties for sale. For instance, if the area in Smith Street appeals to the customer, a click on the house for sale in that street will result in a photograph of the house being presented on the screen with a drop down box in which the customer can choose to see the price, the size of the land, location of services (sewerage etc) and perhaps a layout plan of the house.

Example 2:

If, however, the customer is looking for a house in a certain price range, then a form can be presented with drop down boxes allowing a choice of queries to be entered to match the customer's criteria, e.g. between \$200,000 and \$250,000; three bedrooms with ensuite and double garage. All of the houses in Townsville listed with XYZ and matching those criteria will then be presented for further investigation.

From there the customer can choose a house and retrieve the photograph and details through the GIS interface described above.

As the customer moves from this web-interface area, a screen should be triggered inviting the customer to enter details of name and contact for enable follow-up. This follow-up occurs in a timely manner, such that sales agents take over with the personal touch to provide further information and make inspection arrangements with a view to completing a sale, deploying internet enabled laptops and WAP devices.

5. Conclusion

A framework was developed to enable transition from a typical real estate agency towards an e-business enabled business environment, based on an agency configuration located in Townsville, Australia. This transition was modeled according to a number of stages, including a strategic audit, development of an e-business case, the setting up of a systems analysis team, discussion of the system architecture and infrastructure, and finally the Web interface- design .

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