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SOUTHERN CALIFORNIA

Case version 1.2 – April 27, 2010

BUSINESS INTELLIGENCE AT GUTHY-RENKER:
THE PROMISE AND CHALLENGES OF SENSING THE PULSE[1]

Steve Johnson came out of a meeting feeling like a million bucks. He had just heard Guthy-Renker's Vice President of Marketing Planning and Analysis, Rob Reynolds, tell the attendees that for the first time, he had been able to make a meaningful prediction about the future, based on data, and watch that prediction come true. As Vice President of Information Technology, Steve was in charge of the business intelligence project that made it possible for managers like Rob to get the data and analysis they needed to make timely and well-informed decisions.

The praise he just heard was the latest of several recent, unexpected signs that the business intelligence project was turning a corner. Just the previous week, the Executive Vice President of Marketing loudly thanked Steve for the "daily flash" report, "I love it, I use it daily, and it's the number one report in my tool kit!" What made this so extraordinary was that, only six months earlier, the same EVP had firmly asserted that the daily flash was less than useless. After nearly two years working mostly behind-the-scenes – acquiring new data sources, improving IT capabilities, and re-engineering processes – the project was beginning to yield real dividends for managers at all levels, winning over hearts and minds in the process.

When Guthy-Renker's then-CIO placed Steve in charge of business intelligence two years before, it had been a parochial project of the IT department that automated labor-intensive tasks but had little impact on business processes in other departments. The CIO had a vision of using it as a driver of organizational transformation, and to realize this lofty goal, Steve and his team would learn many important lessons along the way. Steve measures success by asking himself, "Are people involved? Are people invested in the project?" and he is proud to say that now, in 2010, the answer is "definitely yes."

Nevertheless, Steve realized many challenges remain. The IT staff under his leadership are still learning how to develop technology in cooperation with business users – whose ways of working and communicating are very different from those of software developers. Steve has been able to provide several business users with intelligence of genuine value, but is still only beginning to learn what effects this information will have on the way people work – and what unintentional side-effects will follow. And looking to the future, Steve has to decide how best to provide a business intelligence infrastructure for Guthy-Renker's development into an increasingly virtual, increasingly international organization.

GUTHY-RENKER: FROM INFOMERCIAL STUDIO TO DIRECT RESPONSE MARKETING LEADER

Guthy-Renker is one of the largest and most respected direct marketing companies in the world, with distribution in 61 countries. Since 1988, Guthy-Renker has discovered and developed dozens of well-loved, high quality consumer products in the beauty, skincare, entertainment and wellness categories. Known for award-winning productions and marketing campaigns featuring some of today's biggest stars, Guthy-Renker has been credited with transforming the broadcast direct marketing industry.[2]

Direct marketing is a business model based on what Guthy-Renker's website calls "the immediacy of great ideas", designed to get products into consumers hands as quickly and directly as possible, with equally quick and measurable feedback on marketing campaigns. It is distinct from other forms of marketing in two primary ways: first, it reaches consumers directly with a sales proposition, or "call to action", instead of pursuing more indirect goals such as brand-building; second, it is designed to elicit immediately measurable responses from customers. The broad category of direct marketing includes direct mail, telemarketing, email marketing, and other forms, as well as **direct response television marketing** – Guthy-Renker's specialty.

> **direct marketing:** "delivering targeted offers to identifiable targets through specific media and measuring the response"
>
> Source: Frankland, D., Anderson, E., & Joseph, J. "The Direct Marketing Services Ecosystem". Forrester Research. www.forrester.com

The basic business plan is simple: find products that offer genuine value to a wide range of consumers, produce infomercials with celebrity spokespeople that demonstrate the value in a compelling way, add a "call to action" such as a toll-free number, buy the media, and measure the responses from each campaign – how many calls came in, how many orders were placed, and how many people became repeat customers.

> *From www.guthy-renker.com:* "With so many options for consumers in our media-soaked culture, you need to create highly-targeted communications programs. At Guthy-Renker, we go directly to the consumer with meaningful and transformative products. And we present the benefits of these products in such a way that consumers can begin to experience the effects of having the brand in their lives. The pure chemistry between our products and high-profile celebrities is a refreshing truth in a time of deep consumer skepticism. As we've discovered over the years, a compelling, honest, and authentic demonstration of remarkable products is the most direct way to move our brands into fast-forward mode."

The directness and authenticity of the direct response marketing model is refreshing not only for consumers but also for the marketers, who are able to roll out campaigns very quickly upon adopting a product, and measure the performance of products and campaigns very quickly and unambiguously. Not all products are well-suited to direct marketing (see sidebar for Guthy-Renker's product criteria) but plenty of them are – enough for Guthy-Renker to report sales of more than $1.5bn per year and an average annual growth rate of 25% per year over the past decade.[3]

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[2] Source: www.guthy-renker.com.

[3] Source: www.guthy-renker.com.

Guthy-Renker got its start in the mid-1980s as an infomercial marketing partnership between Bill Guthy and Greg Renker. Their first breakout success was marketing Napoleon Hill's "Think & Grow Rich" series of books and lectures, grossing $10 million in 1987. They came to believe that there was substantial opportunity in owning the products they marketed. Instead of merely making infomercials to advertise other companies' products, they would acquire and control their products from development to marketing to distribution, and in 1988 they founded Guthy-Renker to put this idea into practice.

Unlike a traditional marketing agency, Guthy-Renker takes ownership of the product designs, and manages them all the way through from manufacturing to order-taking. The firm now markets no fewer than sixteen products in the categories of beauty, fitness, health and nutrition, entertainment, personal development and business opportunities. By far its star product has been Proactiv® Solution, a skin care treatment that has fuelled Guthy-Renker's growth for the past 15 years.

Guthy-Renker continues to seek new opportunities. The growth strategy currently focuses on international expansion as a way for the company to stay among the leaders in its industry. Each year, international sales typically account for about 30% of Guthy-Renker's revenue. Over the years, the company has launched offices in India and Russia, and it also owns offices in Sweden, Finland, Germany, Japan, China, Australia, and the UK. Guthy-Renker continues to expand its consumer brands product portfolio through acquisitions. In 2008 it paid $15 million to buy Scalp Med, a line of hair care products that stimulate hair growth. The next year it signed an agreement to begin promoting CyberDefender computer security software, its first foray into technology products.[4]

> Guthy-Renker considers product submissions from many outside sources. According to their website, products must meet the following criteria:
> 1. Not yet sold at retail
> 2. Extremely visual and demonstrable
> 3. Perceptibly beneficial to consumers and offer genuine value
> 4. Impulse driven
> 5. Encourage repeat buys and backend/continuity sales
> 6. Appeals to the masses in multiple demographics

Exhibit 1: Proactiv® Solution acne treatment, Tony Robbins's Ultimate Edge™ motivational program, and Heidi Klum's In An Instant™ skin care products, are representative of Guthy-Renker's product portfolio.


Guthy-Renker's key to success is its enrolling of customers into a "club" to ensure repeat business. The firm usually takes a loss on the initial order due to expenses of infomercial production, media buying, and telesales. This is offset by the revenue generated from the repeat or "continuity" orders that are highly profitable. The key to a successful campaign is selecting products that will entice customers to remain in the club for a long time.

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[4] Source: Hoover's.

BUSINESS VALUE NETWORK AND "THE FUNNEL"

Today, Guthy-Renker is the entrepreneurial hub of a group of businesses that make up its value network. Guthy-Renker produces the infomercials internally, but almost all other functions – product design, manufacturing, media, call centers, fulfillment, shipping, customer service – are outsourced. Yet Guthy-Renker owns the intellectual property (such as product formulas), the customers, and the data, and thus plays the leading role in determining the future of the whole network. This makes Guthy-Renker the ideal vantage point from which to evaluate and manage not only its own performance, but that of the entire network.

Exhibit 2: Guthy-Renker's value network
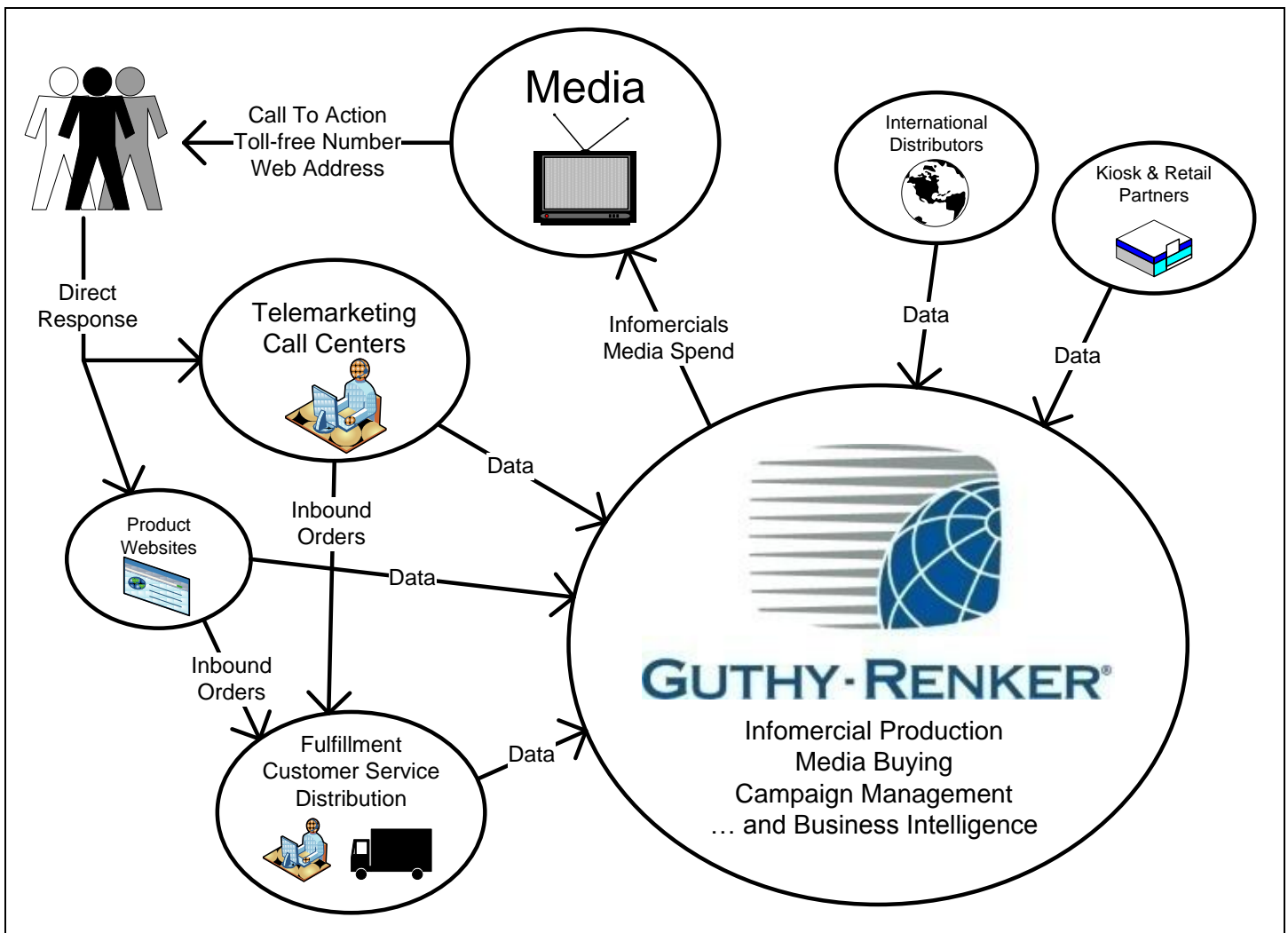
The success or failure of direct response marketing depends on the business's ability to convert "responses" into "net shipped orders" (that is, orders paid for and shipped, minus any that have been returned). Steve Johnson uses a diagram called "The Funnel" to illustrate the steps in this process, and the numerous ways a response can "drop off" and fail to become a net order (exhibit 3).

Exhibit 3: "The Funnel" with drop-offs explained on the left side

"The Funnel"

Drop-offs

Definitions

NOT CONVERTED

TELEMARKETING

Calls Received

Calls Answered

Order Process Started

Abandoned Calls

Customer Service

Lead – Contact Info Collected

Lost
Not sent to FFC ←

Gross Order

All orders taken
Sent to FFC

Rejected ←

Net Order

After Credit Screening, Address Validation, and Order In-Stock

OOS ←

Gross Shipped

Everything shipped

Returns ←

Net Shipped

After returns

Profit

Managing "the Funnel" requires the ability to evaluate what is happening in many parts of the value chain, such as the telemarketing call centers , the fulfillment centers, shipping , and customer service – all of which are outsourced activities. Gathering information from all of these partnerships is tricky, but is essential to evaluating and improving performance.

BUSINESS INTELLIGENCE: DISCIPLINE AND METHODOLOGY

Vital to successful competition in a dynamic and turbulent business environment are a company's abilities to collect and analyze data, to sense and respond to changes, and to make decisions informed by the latest and most accurate information. For a largely virtual organization like Guthy-Renker, whose stock-in-trade is information, this need is even more acute.

Since its earliest days, Guthy-Renker has met the need for information by relying upon its IT department to acquire data and produce reports – phone calls received, orders placed, products shipped, etc. That required a lot of time

and labor – IT staff were often crunching numbers manually in one-off Excel worksheets – and IT didn't understand the business well enough to provide sophisticated analysis beyond just reporting the data. Before long, the company's growth and the accelerating pace of business demanded a more formal and professional approach to decision support.

Over the same time period, the business-technology discipline of **business intelligence (BI)** ("a broad category of applications, technologies, and processes for gathering, storing, accessing and analyzing data to help business users make better decisions")[5] had grown increasingly sophisticated in its capabilities and practical accessibility to new users.

Not long ago, a business intelligence capability typically referred to a few highly-trained analysts crunching a firm's historical data on powerful computers in search of patterns that could inform future decision-making (also called "data mining"). Over the past few years, however, the BI paradigm has morphed into an approach that strives to provide business users at all levels of authority and technical skill with the information they need, at the time they need it, to make informed decisions. Based on the adage, "what gets measured, gets done", BI has become faster, cheaper, easier-to-use, and pervasive throughout the organization.

Guthy-Renker realized that in order to make the most out of its products, customers, and marketing campaigns, it would need first-class capabilities to collect data from its partners and produce timely, accurate reports of what was happening at all stages of "the Funnel". In 2006, it launched its first formal business intelligence project.

EARLY BI COMES TO A STALEMATE

Before the BI project, Guthy-Renker's data was managed with FoxPro, a database management system (DBMS) and programming language (now called Visual FoxPro and distributed by Microsoft). The FoxPro database was obsolete, poorly structured, and unable to scale up with the business. Furthermore, it required an enormous amount of manual work by the IT department, which had to import and format data, run queries, and produce reports, with little automation. The FoxPro system incorporated data from some of the partner companies, but not all, and the IT department was too burdened with its maintenance to develop more advanced capabilities.

Guthy-Renker's first business intelligence project scope was, to quote Steve Johnson, "kill FoxPro". The project replaced the outdated DBMS with IBM Cognos business intelligence software, running on an Oracle database, with Informatica as ETL (extract, transform, load) tool. However, this initial project lacked what Steve calls "methodology" – it primarily replicated the same table structure as the old, inadequate FoxPro system, and was undertaken without seriously thinking about how to serve business objectives.

> *Steve Johnson:* "When the CIO asked me to help, the first thing I noticed is that we didn't fix the data, we just replicated the poor FoxPro table structure. Secondly, I noticed that the business was involved in the discussion, but not the vision. An oversight that can lead to frustrated business users later on.

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[5] Watson, H. J. (2009). "Tutorial: Business Intelligence – Past, Present, and Future." Communications of the Association for Information Systems 25, article 39, pp. 487-510.

As the business began to use the new tool, and compare the results with what they were receiving from the partners, the data did not match. Since the BI tool was new, the assumption was that BI was wrong. This led the business to hold BI in suspect and therefore they began to abandon the tool altogether."

By failing to consider the business's data needs, Guthy-Renker's IT department had developed a costly new tool that failed to provide any meaningful new capabilities for the business, built a bad reputation for business intelligence, and arrived at a sort of stalemate in which no one used the tool. In order to trigger a "change wave", around 2008, Guthy-Renker's CIO asked Steve Johnson and Manish Gupta to take over the BI project and put it on the right track.

THE NEW BI TEAM: DEVELOPMENT WITH METHODOLOGY

Steve Johnson's title is Vice President of Information Technology, and Manish Gupta's is Director of Information Technology. Though neither Steve nor Manish had extensive experience with business intelligence, they are both IT leaders with many years of experience, who had worked together before and enjoyed a consistent track record of success on projects such as enterprise resource planning (ERP) implementation as well as Supply Chain Management. It was because of their track record that the CIO placed them in charge of turning around the business intelligence project. Steve and Manish immediately realized that business intelligence was a different kind of IT project that required its own methodology.

> *Manish Gupta:* "Very early in the game I realized unlike other enterprise projects I have done, BI is not a fixed duration project but it's a journey with continuous evolvement. The important thing is to understand big picture. The only way we can navigate and enjoy the ride is to make all stakeholders part of that journey – business users, technical team, stakeholders and other leaders in the organization."

The third pillar of the business intelligence team at Guthy-Renker is Trinus Corporation, a 15-year-old consultancy founded by industry veteran Sanjay Kucheria and with expertise in data integration, data warehousing, business intelligence, and enterprise planning. Guthy-Renker was initially introduced to Trinus by IBM, the provider of the Cognos software, thus beginning a partnership Johnson describes as "an incredible, non-stop, momentous effort since then." Trinus' team includes several highly-skilled Cognos and Informatica architects and developers, and is led by Vijay Manickam, whose title at Trinus is Director, Client Services. His role at Guthy-Renker has been that of a project architect and agenda-setter:

> *Vijay Manickam:* "Within Guthy-Renker I play the role of business intelligence 'lead' or 'solutions architect'. The solutions architect is responsible for the development of the overall vision that underlies the projected solution and transforms that vision through execution into the solution. The solutions architect doesn't look only at technology, but also is involved in process re-engineering and providing leadership to the development team to achieve the common vision. I work very closely with the business to understand their 'pain points' and convert their pain points into actionable items which results in actually fixing those problems."

The Trinus team's expertise confirmed Steve and Manish's own intuitions about what needed to be done, helping them to generate the initiative and momentum to get the new BI project rolling. The team has articulated a methodology for the BI project that calls for attention to three parallel "management tracks": technology readiness, business process re-engineering, and organizational readiness (or "change management").

Exhibit 4: Guthy-Renker's BI methodology
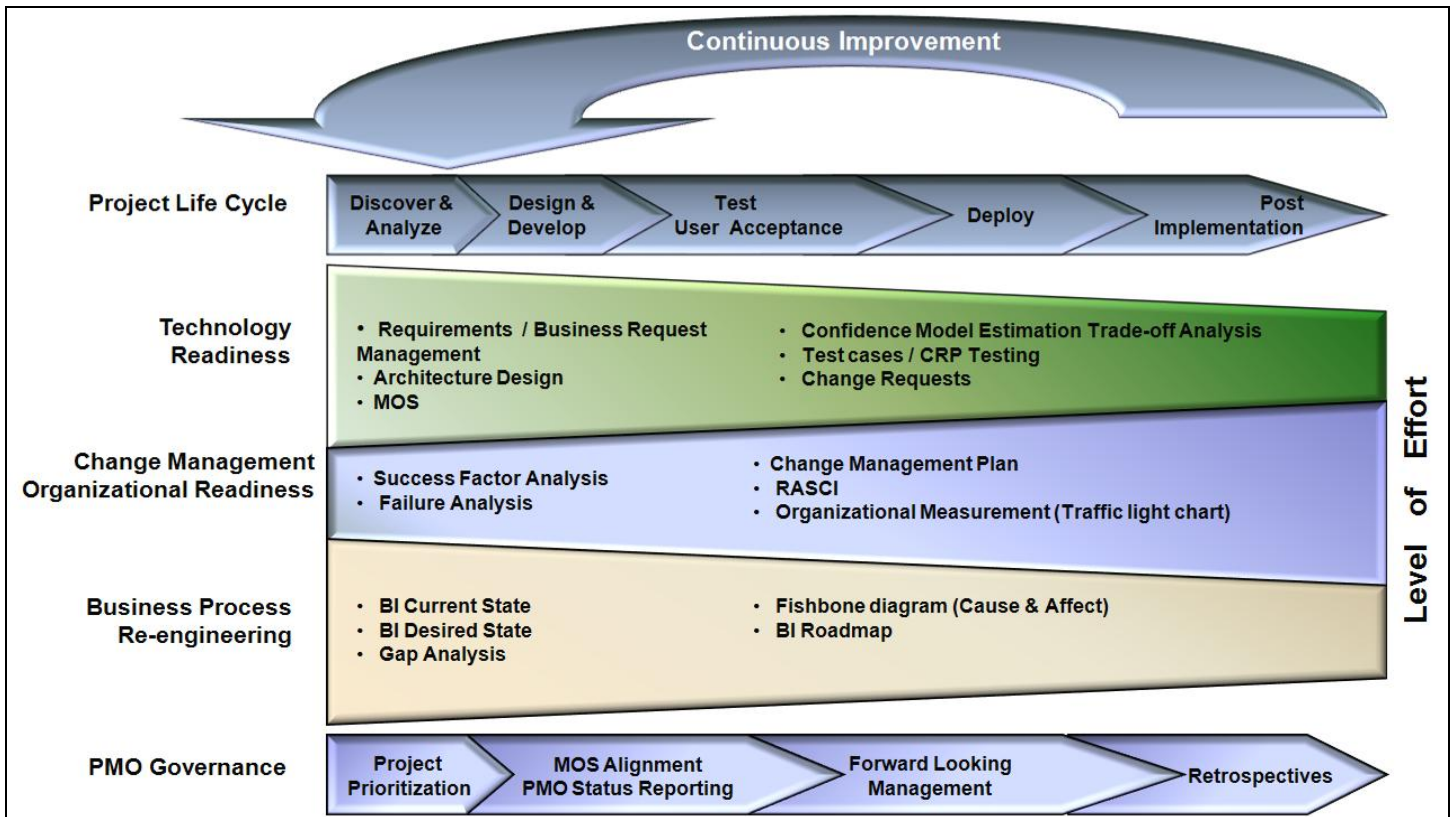
TECHNOLOGY READINESS

The technology readiness track is the primary responsibility of Manish Gupta, who recognizes that "good ideas are only good if you can execute them" and has worked relentlessly to improve the BI team's ability to execute on management's vision. From the unsuccessful BI project in 2006, Manish took away one important lesson: switching to a new technology is not enough to bring about a vision for business transformation, if you merely migrate the same bad processes, bad data, and bad behavior from the old systems. Changing the "attitude and aptitude" of the development team is a vital necessity for a successful project, even if it is invisible to end users.

When Manish took the reins, he conducted a full audit of the BI project, discovering a dysfunctional software development environment and shoddy programming practices instituted as standard operating procedures (for example, a blurring of the lines between development and production servers). Early on, he overhauled the development infrastructure and instituted best practices in order to create "the right environment for the right work," an organizational investment that has reaped dividends in terms of the team's ability to execute on tasks.

In addition to improving infrastructure, Manish knew he would have to "shake up" the developer team. By shuffling team members' responsibilities, he hoped to disrupt habitual ways of thinking so that his developers would not repeat the errors of the past. Getting it right also meant that the team would need experience with *successful* BI implementation. One of the problems of the first BI project had been that the project leader didn't know who to trust for quality advice. Manish rebuilt the BI team by changing roles, bringing in new developers, and importantly, by bringing in Trinus's consultants, resulting in a team that was ready to move the ball forward.

One of the ongoing challenges in technology readiness includes the fully-outsourced nature of Guthy-Renker's business model. Each of Guthy-Renker's vendors has its own independent technology infrastructure, and they vary widely in sophistication, quality, and speed. Manish has recently been working with the vendor management team to make sure that a commitment to technology investment is part of each new or renewed vendor agreement.

> *Manish Gupta:* "Because of Guthy-Renker's business model, since most of the information resides outside; as an organization we felt that we need full command of managing information across analytical and operational processes for organizational excellence. The key here is to have a common data model for all data of interest regardless of the data's source, so we have taken the hub-and-spoke model approach where Guthy-Renker's BI system collects the information from all sources, validates it and then redistributes to other partners for consumption."

ORGANIZATIONAL READINESS

Organizational readiness is the primary responsibility of Steve Johnson, and it has become one of the most important parts of a successful business intelligence project. Managing organizational readiness means "selling" BI to the business, teaching people how to use it, and advocating and evangelizing adoption of the new tools. Focusing on organizational readiness is a key improvement upon the previous BI projects at Guthy-Renker, which were mainly technology-oriented and were rejected by business users.

One of the keys to preparing the organization for new BI capabilities is to involve business users at various stages of the design and implementation process (see business process re-engineering, below). But not just anyone is chosen – Steve's team "cherry-picks" business people who are open-minded to the new tools, or are well-positioned as "change agents", to convince others to enroll into the vision. Only later are people considered "hard to convert" brought in for training or otherwise involved.

These basic guidelines are not new – all good IT project leaders devote some resources to involving and convincing business users – but Steve Johnson has gone further, developing a professional methodology for managing organizational readiness. One of the tools that his leadership team uses is a version of Guthy-Renker's organization chart, color-coded to indicate degrees of "conversion" to business intelligence.

Exhibit 5: Part of a "traffic light chart" (names changed)
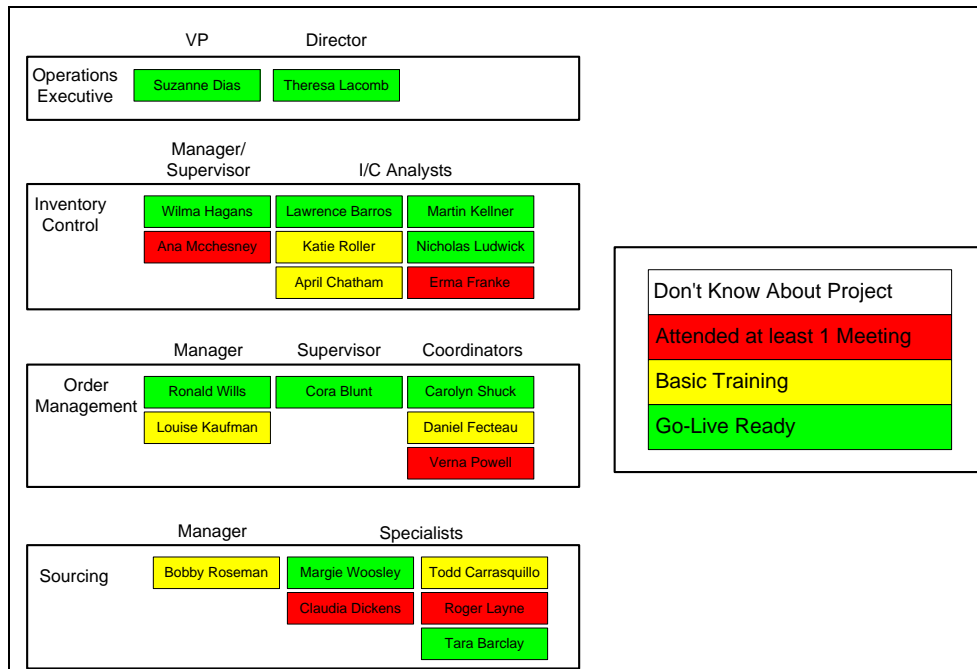
This "traffic light chart" allows project managers to decide who needs persuasion, training, or other attention; it also helps them identify departments or groups that are particularly likely to have problems with the new tools. Some of these problems can be particularly serious – especially where jobs are threatened by the new technology – so Steve's team has developed strategies for mitigating them. One such strategy is an "ambassador plan", in which "fully-converted" project ambassadors are positioned in departments that may resist the new tools, either to address problems when they appear or to make sure conflicts "bubble up" instead of quietly boiling.

BUSINESS PROCESS RE-ENGINEERING

At the intersection of technology readiness and organizational readiness, business process re-engineering (BPR) is where much of the value of business intelligence is created. In the BPR track, business analysts identify the "gap" between the current way of doing things, and the best possible way to do them. This requires an understanding of the needs of the business as well as knowledge of the capabilities of technology, so that the team can go beyond the question, "Can the tools do what the business wants?" and ask, "Can the tools enable us to do *more* than the business realized was possible?"

The term "processes" in this context includes business rules, the way the data is transformed, ownership of data, report reviews by business users, and more. One example is the way that conversion rates of calls to orders was calculated; before the BI project, different departments such as telemarketing, fulfillment, and accounting may have had different ways of calculating the same metric. The BI team introduced a standard approach by implementing a process to determine metrics that are commonly adhered to by the enterprise, helping to create a "single version of truth" that the business could use to make better decisions.

Vijay Manickam: "The process of consuming data by the business was not standardized before - i.e. without any governance. BI introduced data governance and data stewardship - standardized the definitions, improvised the insights into data and delivered the data at the right time to the right people."

The BPR track is where the needs of the business are translated into action items for the BI developers. Trinus's Vijay Manickam helped Guthy-Renker develop a "get well plan". "We came in from a strategic standpoint, where we said 'Let's try to understand what is going on. Let's try to list out every 'pain point' that we have in this organization at this point.'" Trinus looked at the way processes were performed, and proposed ways to improve them. These action items, along with explicit requests from the business, were prioritized according to their potential for creating value. Although led by IT, the effort is jointly "owned" by other business departments.

Vijay Manickam: "The business of course shares ownership of the data. Steve leads the Business Intelligence team in the capacity of the VP of IT. However, BI is driven by Business Interests! The prioritization of what needs to be made available for analysis is completely owned by business. We leverage their expertise for validation and approval of data and reports."

BPR at Guthy-Renker proceeds in several "levels" of both current and future state and at each level, different members of the business are invited to collaborate with the IT team. At the first, highest level meetings, high-level managers are invited to help IT leaders understand the major activities of the enterprise, and determine what kinds of BI capabilities are needed. At the second level, middle managers might be brought in to explain the processes and transactions that make up a particular high-level activity. This allows the IT staff to begin planning the technology solution, and to identify the specific hands-on users that will be using the tool. In a third or fourth round of BPR, these hands-on users are brought in, and IT can begin to write training manuals and SOPs (standard operating procedures) for the yet-to-be-built systems.

The BPR track goes hand-in-hand with technology readiness and organizational readiness. It supports technology readiness by helping IT to understand business problems and determine the solutions that they must implement. It supports organizational readiness by giving business users a chance to participate in the development and make sure the tool suits their needs. When business people feel that their input is incorporated into the development process, it's far more likely that they'll "buy in" and feel positively inclined toward using the new tool.

GOVERNING BI

One of the lessons Guthy-Renker has learned from experience is that a successful project requires effective governance. The three project management tracks – technology readiness, organizational readiness, and business process re-engineering – are overseen and reviewed by a project management office (PMO), and their high-level agenda is set by a steering committee including VP-level executives from several departments. These layers of governance serve two important purposes: to learn and improve the efficiency and effectiveness of project implementation, and to make sure business intelligence remains aligned with Guthy-Renker's strategic and tactical objectives.

The steering committee is fortunate to have the sponsorship of Guthy-Renker's two co-CEOs, Kevin Knee and Ben Van de Bunt.[6] Their sponsorship of the project gave it the momentum it needed to begin winning the trust of

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[6] Founders Bill Guthy and Greg Renker are now co-Chairmen of the Board.

managers who had been disappointed by the previous BI implementation, and encouraged the steering committee to align BI with the company's strategic objectives. As a multi-disciplinary team, the committee's major role is to prioritize BI initiatives, taking into consideration the company's strategy but also their own goals. Forcing departments to agree on which projects will be done first makes each of them think about which of *their* projects will have the greatest impact on performance. Being involved in the governance committee motivates executives to take "ownership" of the BI reports and capabilities they request, and to make sure their employees use them.[7]

Though Steve, Manish, and Vijay are all part of the IT team, they stress that business intelligence would be doomed to failure if it came to be seen an "IT project". At its heart, the goal of implementing BI is to transform the way Guthy-Renker does business – to create new ways of evaluating performance, uncover hidden opportunities, and make new information-based strategies possible. IT has an important job to do as far as architecting and building the technology, but it is the partnership with other departments, and the multidisciplinary leadership, that makes BI a "digital transformation" project. In the next section, we describe how the project has unfolded.

A NEW ARCHITECTURE FOR BUSINESS INTELLIGENCE

The changes implemented at Guthy-Renker are best visualized by comparing Exhibit 6, the state of data processing at Guthy-Renker before the first business intelligence project, with Exhibit 7, the BI team's goal scenario. The earlier FoxPro-based IT system was characterized by few data sources, a few simple reports for a limited group of users, and several labor-intensive manual steps (represented by the blue arrows in Exhibit 6).

One of the implications of the manual effort required in the "before" scenario was that it limited IT's ability to add capabilities to the system. FoxPro developers already spent many hours gathering and formatting data to be put into FoxPro, and many more hours querying the database and producing reports. Adding new data sources and producing new reports would have multiplied their work. To get from this scenario to a practical business intelligence implementation required not just an increase in scale or computer power, but a new IT *architecture*.

Exhibit 7 shows the ideal business intelligence architecture envisioned by Steve, Manish, and Vijay. A key difference is that all data sources supply data directly to a business intelligence system (such as a *data warehouse* – see next section), by way of automatic ETL (extract, transform, and load) tools, so that IT staff no longer have to manually load data every day, week, or month that they are produced. Then developers and analysts who want to produce reports deal directly with the BI system, and don't have to worry about the quirks and idiosyncracies of the original data sources.

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[7] For more on the role of executive sponsors and the steering committee, see: Eckerson, Wayne W. (2009). "Performance management strategies: How to create and deploy effective metrics." TDWI Best Practices Report. Accessed April 17, 2010 from: http://tdwi.org/research/2009/01/performance-management-strategies-how-to-create-and-deploy-effective-metrics.aspx?sc_lang=en

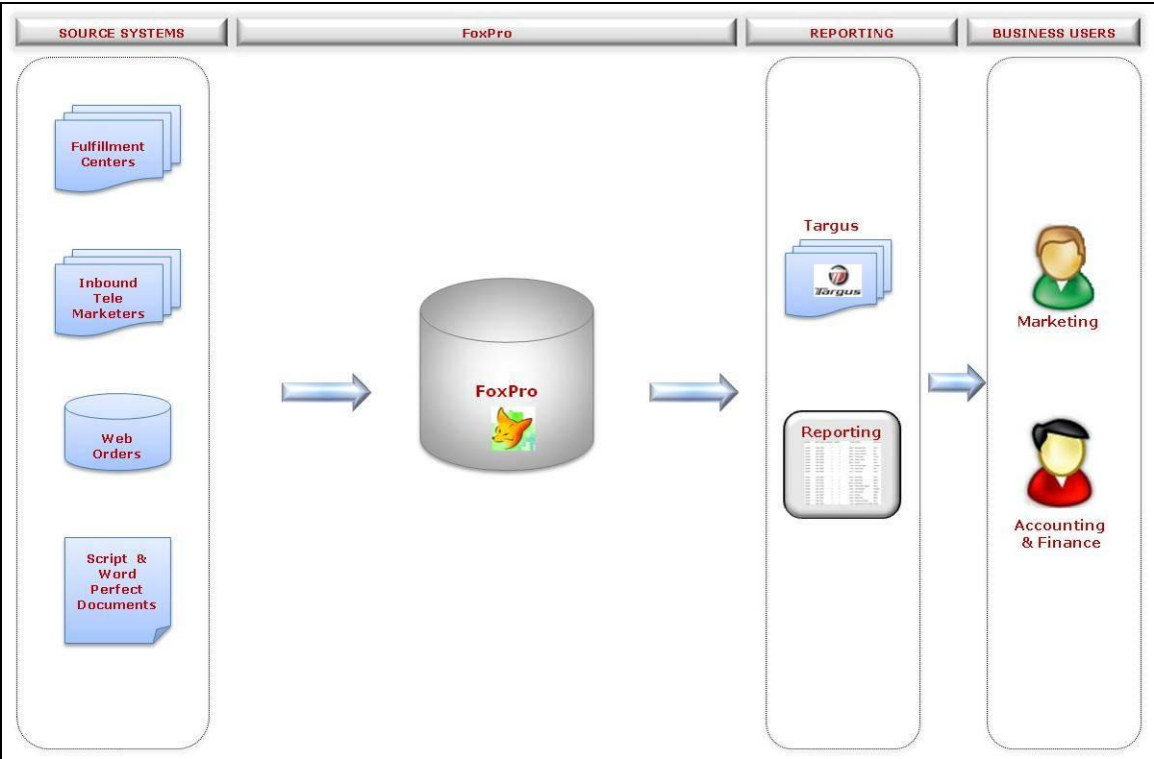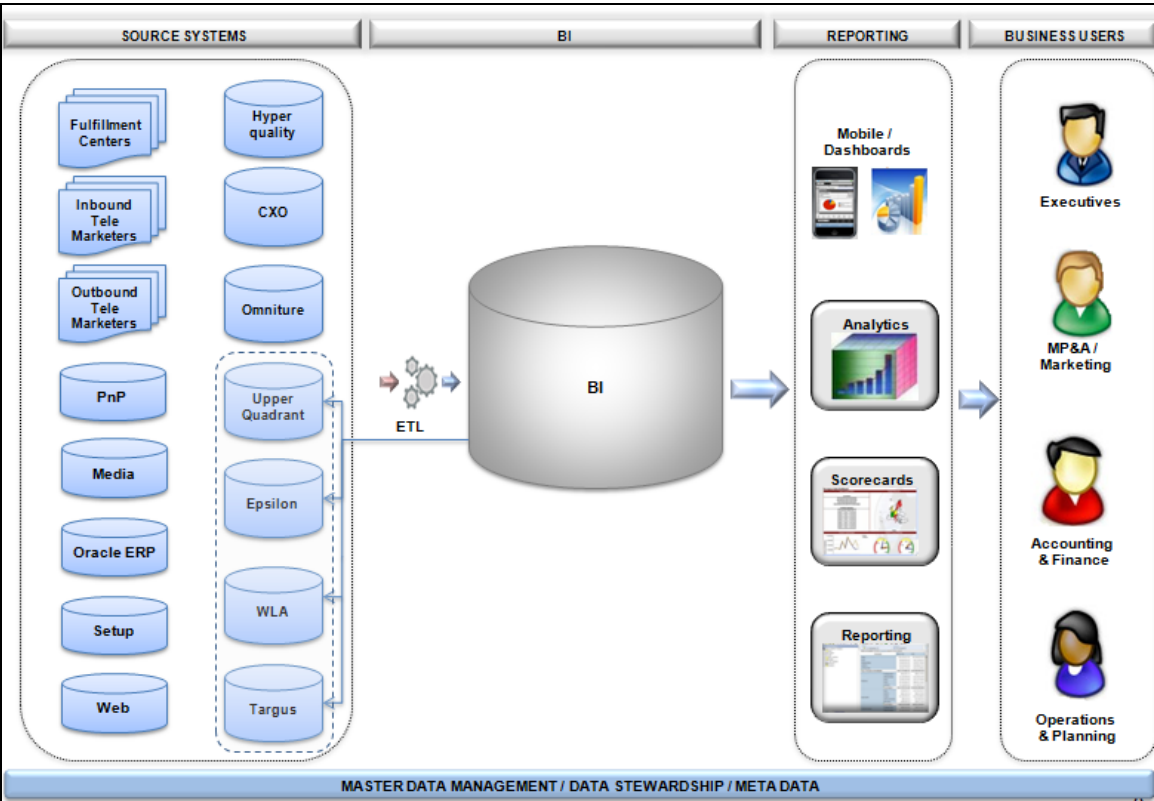Exhibit 6: Processing data at Guthy-Renker before BI

Exhibit 7: Intended BI architecture at Guthy-Renker

In order to achieve the ideal architecture, therefore, IT had to first get to work upgrading its behind-the-scenes capabilities and automating the most tedious work. Some of the first improvements were the implementation of audits, balances, and checks ("ABC") to improve "data hygiene" and reduce the manual corrections that need to be done in data loading. One these tasks were complete, the BI team was able to add new data sources and roll out new reporting tools for a wider range of business users. The next section describes the components of the business intelligence system Guthy-Renker is building.

ELEMENTS OF A BUSINESS INTELLIGENCE SOLUTION

Data source systems
Part of implementing a business intelligence solution is identifying and locating the relevant data within an organization. These may be structured data stored in relational databases, or unstructured data kept in spreadsheets and other formats. They may be dispersed among departments and functions, or centralized. In Guthy-Renker's case, most of the data originates from its partners and vendors, each of which may use different technologies and terms. Potential problems include redundant data, stored in multiple sources with varying levels of accuracy and completeness.

Enterprise Data Warehouse (EDW)
A data warehouse is a central repository for organizational data, built to ensure that all data is validated, consistent in its definition, and permanently stored for historical analysis. It solves the problem of redundant and inconsistent data sources, by reconciling all data into "one version of the truth" that all business users and BI analysts can draw on. Guthy-Renker is in the process of rolling out an EDW, and currently uses an **operational data store (ODS)** instead, a more dynamic kind of data repository with the principal difference being the lack of complete data history.

Extract, transform, load (ETL) tools
Data from diverse sources are "cleaned", rendered consistent, and loaded into the data warehouse or ODS by means of an ETL tool. Before Guthy-Renker adopted business intelligence, its FoxPro developers had to clean and transform data manually by manipulating complex Excel spreadsheets, wasting countless hours. Implementing ETL software to automate this work was a major "behind-the-scenes" fix that freed up the IT staff to work on higher-level functionality like providing new reports for business users.

Reports, Dashboards, Scorecards, and Alerts
From the point of view of most business users, business intelligence is about asking business questions and getting timely answers. There are a number of "interfaces" by which BI can satisfy their needs. **Reports** can be daily, weekly, monthly, or on-demand documents that provide information in a pre-defined format. Guthy-Renker's reporting capabilities have significantly matured from the FoxPro days; with Cognos they can provide more types of reports, faster, with analysis, charts, graphs, and other content that was not possible before. **Dashboards** and **scorecards** represent simple interfaces that allow users to monitor a small set of **key performance indicators (KPIs)** in near real-time via a computer screen, web page, or mobile device. **Alerts** are software programs that monitor KPIs and send an e-mail or some other kind of message when a condition is met, such as a KPI falling below acceptable levels.

Analytics/Cubes

In addition to pre-defined reports, dashboards, scorecards, and alerts, business users also need to be able to ask one-off, "ad hoc" **queries** of the data, and receive answers on the fly. Some of the tools for this include **data marts** and **OLAP cubes**, bounded subsets of data prepared for specific types of questions, which can be queried much faster than the entire data warehouse. Power users and professional analysts have always demanded these capabilities, but the trend in BI software design is to try to make them more accessible to common users.

Reports, dashboards, scorecards, alerts, and analytics interfaces like OLAP cubes serve different goals for different users. They may serve operational, tactical, and strategic purposes for everyone from line managers to executives, casual users to professional analysts. Trinus describes these interfaces in terms of a "BI continuum":
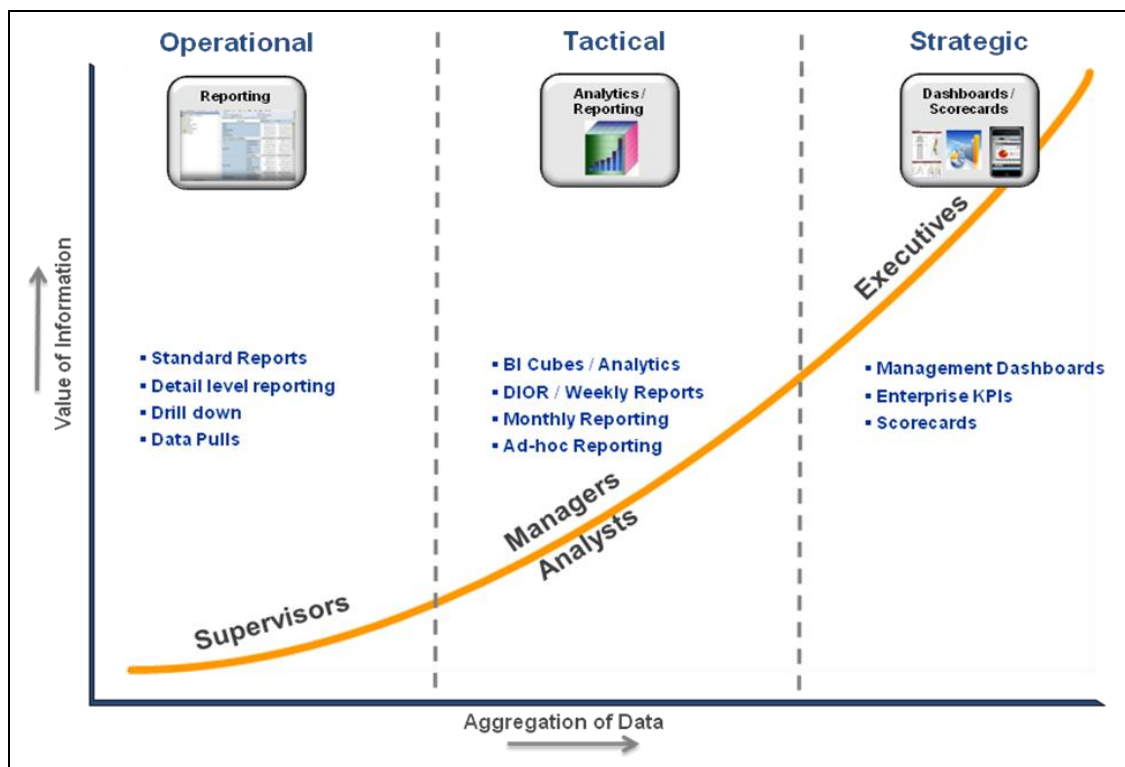
Exhibit 8: The BI continuum

Exhibit 9 (next page) shows what some of Guthy-Renker's report, dashboard, and analytics interfaces look like.

Exhibit 9: Samples of Guthy-Renker Reports and Dashboard Interfaces

BI SOFTWARE PLATFORM

Guthy-Renker's business intelligence project employs IBM's **Cognos** BI platform and Informatica's data integration platform. Cognos is one of the top BI solutions on the market, and competes with such brands as SAP's Business Objects, Oracle's Business Intelligence, SAS, and MicroStrategy. Cognos distinguishes itself from its competitors by offering a comprehensive package based on open standards, modular deployment, and compatibility with third-party software. Its appeal to business users is that it can leverage the investments they have already made by integrating the data from legacy systems seamlessly into the new Cognos interface; its appeal to IT departments is that they can deploy Cognos module-by-module and scale up and out as the business's needs grow. IBM's marketing for Cognos stresses the different, and at times hard-to-balance, needs of business and IT:

> *IBM:* "Business intelligence epitomizes the classic struggle between IT and business. Business users will not embrace business intelligence until they can get it on their own terms. They protest that they can't wait for IT and need direct access to information. They say they need to see things their way. They may say BI is too hard to use and they prefer a different interface.
>
> Still, IT has an important job to do. IT delivers the platform that secures information, integrates data sources, provides a foundation that masks the complexity of heterogeneous data sources and provides complete, consistent access to information throughout the enterprise. Only IT can ensure the security, availability and reliability of business intelligence."[8]

Some of Cognos's key features include:

- Reports, dashboards, scorecards, and alerts designed for users of very different levels of technical skill, including casual users. Role-based security makes sure each user gets access to all the data they need, and no more. Easy interfaces empower users to take advantage of self-service BI without needing to know SQL or be technically savvy.

- Complete, consistent access to information the business understands. Multiple data sources in numerous locations can be integrated seamlessly. Data is explained by a common business model that makes it intelligible to casual users without deep technical expertise.

- Service-oriented architecture (SOA), based on open standards, and completely environment neutral. These features facilitate scaling up and out as business needs change. The modular architecture and open API means that Cognos modules can incorporate, or be incorporated by, third-party applications.

INFORMATICA PLATFORM

The foundation upon which Guthy-Renker's Cognos BI system is built is the **Informatica** data integration platform, also referred to as an ETL (extract, transform, load) tool. A data integration platform is "a comprehensive set of technologies for accessing, discovering, cleansing, integrating, and delivering data to the extended enterprise", and

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[8] IBM (2008). "The full promise of business intelligence" (white paper). Accessed March 31, 2010 from: http://www-01.ibm.com/software/data/cognos/products/cognos-8-business-intelligence/capabilities.html

it is a vitally important behind-the-scenes technology that makes BI possible.[9] Informatica allows Guthy-Renker to draw upon data from a variety of sources from within and without, and importantly, to maintain access to the data as projects and technologies change.

One of the biggest problems as a business intelligence project grows is the burden of ongoing maintenance. Informatica's website states that "a new data integration challenge is born with every IT project" but the burden of maintaining integration solutions remains even after the project is finished. Over time, a larger and larger amount of an IT department's time becomes dedicated to maintaining existing systems, and less time is available for developing new ones. Informatica offers solutions to this problem:

- **Reusability** of skills and assets from project to project helps developers avoid reinventing the wheel.

- **Shared metadata** means that every BI application built on the Informatica platform draws on the same metadata ("data about data" such as the location, meaning, and business rules that define a data source) so that new coding doesn't have to be done each time.

- **A unified software engine** means that software upgrades don't have to be coordinated enterprise-wide; if a new version of Informatica comes out, the system can be upgraded in one place and done, without breaking any connections between subsystems.

Informatica is the leading ETL platform, and its website claims that "three times more developers know Informatica than any other data integration software on the market". It differentiates itself by offering a complete package of tools that serve the entire "data integration life cycle": access (data from all kinds of sources without and within an organization), discover (the meaning, structure, and rules of each data set), cleanse (the data to ensure quality, accuracy, and completeness), integrate (multiple data sources into one resource), and deliver (the right data at the right time to the people who need it).

Exhibit 10: Informatica Platform Diagram
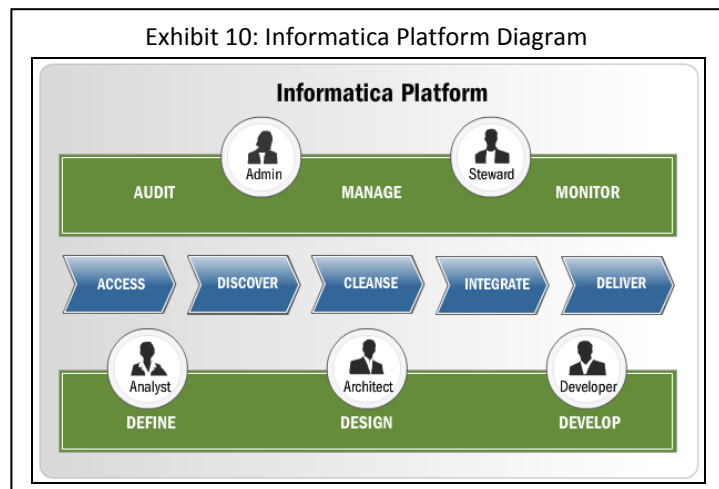
 Among the platform's other features are role-based tools for different kinds of BI developers and team members to help administrators "audit, manage, and monitor" the platform, and to help developers "define, design, and develop" data integration processes. Like Cognos, Informatica is also an open platform, designed to allow IT departments to use it with other software from almost any brand. This not only allows Guthy-Renker to leverage existing investments in legacy systems, but is also indispensible in integrating data from its vendors' and partners' databases. Informatica helps Guthy-Renker move from "keeping the lights on" to bringing new projects to light.

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[9] Informatica (2009). "The Power of the Platform: How a data integration platform can help IT organizations lower costs, improve efficiency, and deliver greater value to the business" (white paper). Accessed April 22, 2010 from: http://www.informatica.com/products_services/Pages/index.aspx

DELIVERING KEY PERFORMANCE INDICATORS AT GUTHY-RENKER

Business intelligence is based on the philosophy that "what gets measured, gets done", and BI capabilities are often described in terms of key performance indicators, or KPIs. KPIs are more than just measurements; they are measurements that embody strategic objectives. They help executives to evaluate performance but also to communicate strategic and tactical goals to their departments. For IT, the challenge was figuring out how the data could be collected, but for the project's business participants, an equally important question was what *ought* to be measured, and *when* the data needed to be known.

> *Steve Johnson:* "We approach data in what do we need to know daily, weekly, and monthly. Secondly, just because we historically did things in monthly cycles did not mean that we had to continue using the same cycles. We identified what data we could access more frequently and determined if it made sense to calculate on a shorter cycle time.
>
> The Daily Flash is the focus of daily reporting (the pulse). This represents how many times the phone rings, how many calls are converted into orders, and this is represented by the channel from which the order derived. Weekly reporting is a reconciliation of shipments to orders and the revenue generated. This would represent both acquisition (starts) as well as retention (continuity) orders. Monthly is geared towards contra revenue transactions (returns), closing the general ledger, forecasting, and identifying trend lines against the Enterprise Key Performance Indicators."

Exhibit 11 highlights some of the most important KPIs for Guthy-Renker.

Exhibit 11: Guthy-Renker KPIs

	P & L		
	Marketing / Sales	**Customer Experience**	**Supply Chain Management**
Enterprise KPI's	• Cost Per Order • Call to Order Ratio • Conversion Rate • Abandon Rate • Total Average Order Volume • Average Order Value (AOV)	• Customer Life Time Value • First Call Resolution • Cancel Save • Retention / Attrition Rate (stick rate) • Fill Rate • Returns / Refunds • Order to Ship Rate	• Fill Rate • Back Order • Inventory Turns
Departmental KPI's	• Return on Promotional Investment (ROPI) • Return on Variable Investment (ROVI)	• Average Talk Time • Return Rate by Ship Date • First Call Resolution • Abandon Rate	• Order to Ship Rate • Back Order Percentage
Operational KPI's	• TBD	• TBD	• TBD
Standard Reporting (daily, weekly, monthly)	• BI DIOR • Weekly Budget vs Shipment • Shipped % by Channel	• TBD	• TBD
Analytics (data marts, cubes)	• Orders – USA • Telemarketing Orders – USA • Web Orders & Campaigns	• Sales & Financial Returns • Sales Attrition	• Back Order

Of the several KPIs implemented to date, three in particular represent important milestones in the evolution of the business intelligence project:

COST PER ORDER

One of the most important KPIs for a direct response marketing company is media **cost per order** (CPO). It is simple division – the cost of media spending on a product, divided by the numbers of orders that come in. Guthy-Renker has been able to approximate this figure since its very earliest days, but business intelligence has enhanced the KPI significantly. Now, instead of dividing total media spend by total orders, the company can calculate the number of orders for an individual infomercial – based on the time the calls come in, and unique toll-free numbers assigned to each campaign.

CUSTOMER LIFETIME VALUE

Since Guthy-Renker operates on a "club" model, enrolling customers to make multiple, "continuity" purchases of products like Proactiv® Solution, some of the other important metrics are retention rate and **customer lifetime value** (LTV). Even at a relatively high CPO for initial orders, Guthy-Renker can have a very profitable campaign if its products have a consistently high retention rate. The initial CPO is offset by repeat purchases, making for a high lifetime value. Potentially, the company can also distinguish between types of customers in terms of lifetime value – customers who return products often, or fail to pay their bills, are less valuable to the company than those who make consistent repeat orders. Distinguishing between customers allows Guthy-Renker to decide which customers are worth targeting with "win-back" campaigns if they fall off "the Funnel" at any stage, and which customers are worth just letting go.

RETURN ON PROMOTIONAL INVESTMENT

Steve Johnson considers the latest, greatest success of the BI project to be the development of a new KPI: **return on promotional investment** (ROPI). Essentially, it divides the lifetime profit from a group of customers back to the cost of the individual infomercial that brought them in. Calculating this KPI represents a monumental effort in data collection, data integration, and analysis. Consider what goes into the calculation:

- For each new order, BI has to determine which *specific* infomercial (at what time, on what channel, at what cost) brought the customer in. This relies on the new CPO capability just recently rolled out.

- Everything that happens with that order has to be kept track of; in the past, many of the databases used by Guthy-Renker's partner companies were inconsistent. The order number used by the call center might be different from that used by the fulfillment center. Guthy-Renker would know how many orders were taken, how many credit cards were rejected, how many orders were returned, and so on, but could not tell *for any particular order* what happened to it, whether it was a profit or a loss. The solution to this problem required implementing a **persistent order ID** (POID) uniting *all* of the databases so that orders, shipments, and returns could be tracked back to the initial call.

- Similarly, when customers called to order more of a product, Guthy-Renker had to know *which* customer was making a continuity order. It was not enough to simply calculate the average retention rate based on the ratio of continuity orders to initial orders. BI first had to develop a **continuity ID** for each individual

customer, again connecting multiple databases, that gave them the abilty to determine each customer's LTV, including initial and repeat orders as well as returns and customer service costs.

Only when the lifetime value of every customer, including every order, return, repeat order, and customer service costs, could be tracked back to the individual infomercial that they responded to, could BI implement the ROPI report. It was a landmark achievement in terms of integrating the data from all of Guthy-Renker's partner companies.

Exhibit 12:POID and Continuity ID make the ROPI calculation possible

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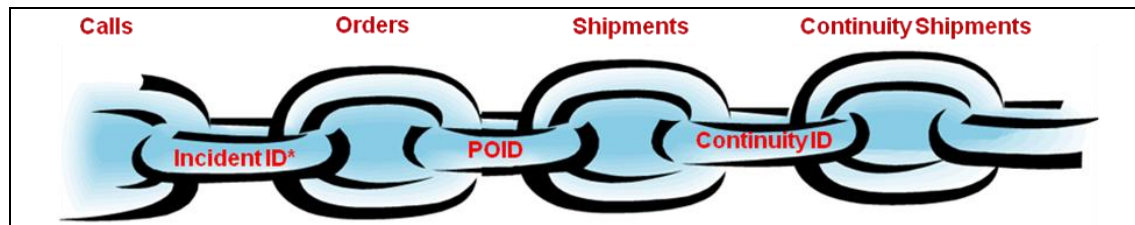
ONGOING CHALLENGES

IT DEVELOPMENT FOR AN "ATTENTION-SHIFTING" ORGANIZATION

Steve describes Guthy-Renker as an organization of high-energy entrepreneurs; constantly shifting the focus of their attention to new initiatives. This poses a difficult challenge for cooperation between IT and business, because software developers are trained to complete their projects in a linear, step-by-step manner, whereas entrepreneurial managers need to be able to test ideas and evaluate feedback in a quick, cyclical manner. The greatest advantage of the direct response marketing business model is the near-instant feedback loop, and to take advantage of this, Guthy-Renker's managers need to be able to change plans frequently. They would rather have "good-enough" reports immediately than perfect, bug-free reports months later.

When Steve and Manish took over the BI project, the tension between IT and business was palpable – every mistake they made was met with anger and rejection, as the business had no patience for the failed BI undertaking. Indeed from Steve's point of view, one sign that the project has turned around now is that BI can make mistakes and expect forgiveness.

BI has adapted its approach to suit the organization. Instead of the classic "waterfall" development approach favored by software engineers who want to bring projects to perfect completion, Guthy-Renker's BI development team uses an "agile" approach that allows them to serve the business's needs and deliver frequent, small successes. "One of the things we try to do is to add incremental value. So maybe we're not hitting a home run, but we try to hit a single

waterfall approach: "a sequential software development process, in which progress is seen as flowing steadily downwards (like a waterfall) through the phases of conception, initiation, analysis, design (validation), construction, testing and maintenance"

agile approach: "a group of software development methodologies based on iterative development, where requirements and solutions evolve through collaboration between self-organizing cross-functional teams"

Source: Wikipedia

every month, or at least a couple of singles in a quarter."

Steve's idea of the best possible relationship between BI and the business is one characterized by dialogue, feedback, and "hefty debate" that helps them to make sure they've thought of everything that needs to be done, and smoothes the launch of new BI tools.

MANAGING OVER-REACTION

When Steve Johnson prepared to take on the organizational readiness part of the problem, he expected to deal with lots of legacy reports, data silos, and inconsistencies between BI and third party reports – typical problems of organizational resistance to adopting new technology – but one problem took him totally by surprise: the problem of business users over-reacting to new reports.

> *Steve Johnson:* "In a company that literally in the span of a couple of years went from a million points of data, and not really good… to having *true information* that is being measured correctly, quantified, and being displayed in a manner that gets you to the critical piece quickly… has been a bit of a challenge. And, one of the things we had to become acutely aware of was people's desire to over-react to the information they were seeing…

> So all of a sudden we have an organization that's *starved* for information and they start getting it. And they want to over-react. I always use the analogy of ants. Ants march along, they're just on their path and they'll do that all day, every day, until there is no more of whatever it is they're collecting at that spot… but if you drop a leaf in front of them, they kind of go crazy, until someone realizes they can just walk around the leaf and keep going. Well for us, when we started dropping reports for people, reports that people got a sense were valid and accurate and had integrity, that's what started to happen. People just started swarming…

> So when you provide a flash report, the notion of a flash report is it's just a pulse. It doesn't say anything about what the heart's doing… It's going to the doctor and the nurse comes in and takes your pulse. But it's not an EKG. But people wanted it to *mean* an EKG. So how do you get people to understand that?"

Steve's team thought that providing information quickly and accurately would be meaningful, not disruptive, but to their surprise they found that new BI tools caused enormous distractions. In addition to the job they expected, of having to persuade users to adopt business intelligence, they also had to do the opposite: temper expectations and teach business people how to use the data properly.

BI FOR THE VIRTUAL ENTERPRISE

Guthy-Renker is different from many other companies in that it does very little within its walls except infomercial production and campaign management. Almost all the functions of its business, from manufacturing, to order-taking, shipment, and customer service, are outsourced to other companies. Furthermore, the structure of these relationships is hard to fit into the traditional notion of a "supply chain". Instead, Guthy-Renker is the hub of a "value network" or "value ecosystem". Guthy-Renker controls all of the intellectual property for its products and marketing, and works with third-party vendors who are mostly dependent on Guthy-Renker for the bulk of their revenue. (Only the call centers do a significant portion of their business with other customers.) Exhibit 2 (printed again below) captures just some of this complexity.

Adding to the complexity of the situation are Guthy-Renker's international partnerships. International distribution has been the biggest driver of growth for the company in recent years, and it has primarily proceeded by acquisition, so Guthy-Renker's many overseas branches each have their own IT systems with varying levels of sophistication.

Gathering and integrating data from this "extended enterprise" to create a successful business intelligence infrastructure has been no easy task, and it has been an ongoing technical challenge. It is also an organizational challenge, as the control of information is intimately tied up with decision-making authority. Speculating about the company's international expansion, Manish Gupta states, "The first question is how the organization will be structured, then we can determine how to serve the international community with business intelligence." Yet, in addition to challenges, this unusual set of circumstances may offer hidden opportunities for profit and innovation.

Exhibit 2: Guthy-Renker's value network
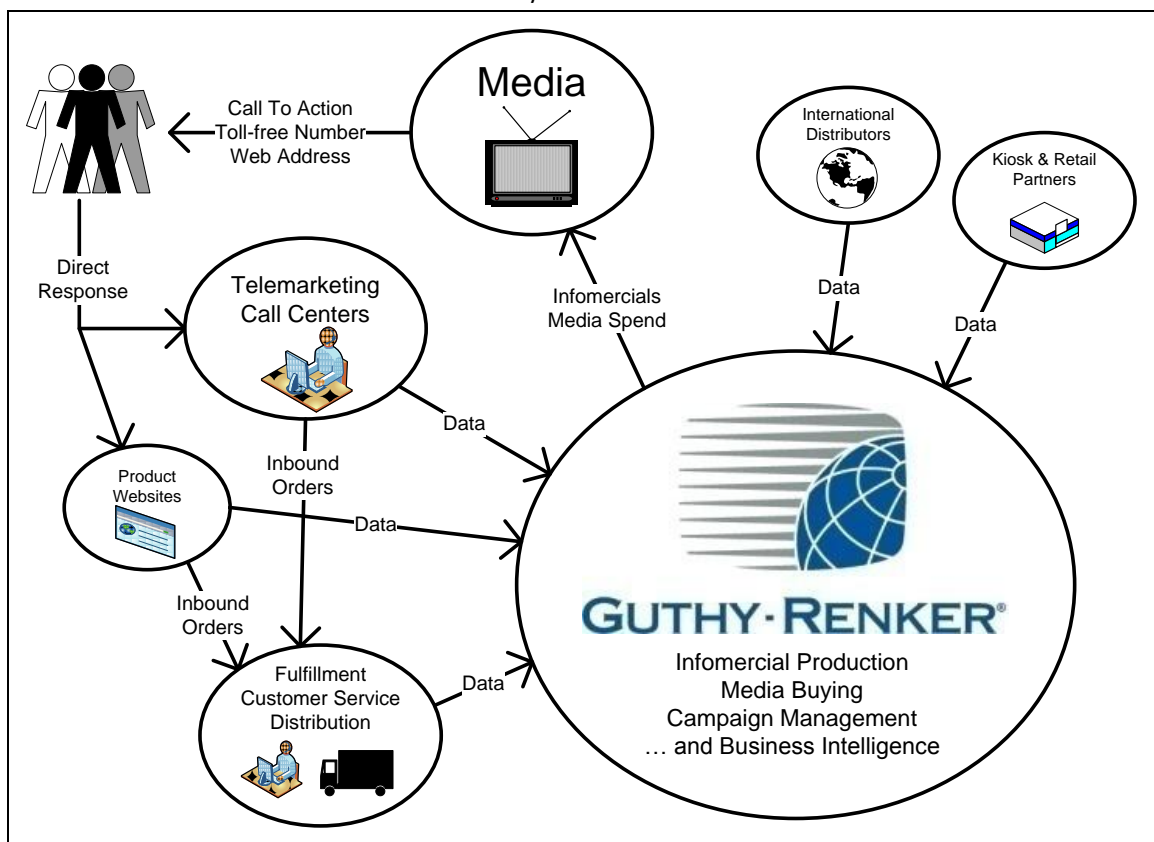
CASE QUESTIONS

Case Question #1: What are the strengths and weaknesses of the IT department's approach to business intelligence deployment and the organizational transformation that accompanied the BI system? What are the potential problems that could result from the business's over-reaction to new BI capabilities? How can Guthy-Renker mitigate this risk?

Case Question #2: Based on the information from the case, what are some other key performance indicators (KPIs) that Guthy-Renker may wish to implement? Focus on two or three, and consider the trade-offs involved in implementing them. How would the data be acquired and used, and what kind of business transformation would you expect? Consider whether Guthy-Renker's "virtual" structure offers opportunities and challenges for implementing KPIs. How should Guthy-Renker's BI team take maximum advantage of this situation?