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PEPSIAMERICAS: BUILDING AN INFORMATION SAVVY COMPANY

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PepsiAmericas: Building an Information Savvy Company

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Title: PepsiAmericas: Building an Information Savvy Company

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Abstract: In 2009 PepsiAmericas was learning how to leverage an information backbone designed to provide information to the firm's decision makers at all levels of the organization. The firm had built this information backbone—and the business capability to use it effectively—over an 8-year period beginning in 2001. This case describes how business and IT leaders worked together to create an information savvy organization. It describes the stream of IT investments, organizational changes, and metrics that helped PepsiAmericas evolve from a regional business that shipped truckloads of Pepsi and Mountain Dew to an enterprise that delivered hundreds of SKUs as needed to powerful national retailers. PepsiAmericas' IT-enabled capabilities helped the firm respond to drastic market changes and enhance business competitiveness. The question PepsiAmericas management faced going forward was how to leverage its information-based business capabilities in a global market.

17 Pages



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PepsiAmericas: Building an Information Savvy Company

In 2009, PepsiAmericas (PAS), the world's second largest manufacturer, seller, and distributor of Pepsi beverages, faced the pressures of a global economic downturn. The recession, however, was a less potent threat than two important long-term challenges: (1) a declining U.S. market for carbonated soft drinks; and (2) increasingly powerful retail customers.

Recognizing these challenges, PepsiAmericas' management team was transforming the business to address these challenges. In 2001, PepsiAmericas' business results had depended on the individual efforts of the firm's truck drivers. By 2009, PepsiAmericas relied on strong central oversight of the price-volume dynamic and nation-wide retailer relationships. To make this shift, PepsiAmericas had converted from a relatively low-tech firm to one that was highly dependent on information and technology:

Ten years ago, if our IT systems blew up, we could still run our business with manual backup processes. Today, we can't. All of these processes are so integrated that, literally, we could not operate without them.
—Ken Keiser
President and COO

The systems and technology changes were accompanied by major process changes:

If you want to be around—and we want to—you have to learn how to adapt and change... We're going through the adaptation stage right now in a very, very big way... We basically have to reengineer our systems from a go to market perspective, from plants, to how we warehouse, to how we produce, to how we sell, to how we deliver. —Ken Keiser

PepsiAmericas was learning how to use technology not only to automate processes but also to inform decision making. The company began building technology and data management capabilities—and learning how to apply them—in 2001:

We've been doing change for nine years. It's been constant change. —Ken Johnsen
SVP and CIO

The journey had not been easy, but the results were noteworthy.

Company Background

The soft-drink bottling industry experienced significant consolidation starting in the seventies and stretching to the early 21st century. The

This case study was prepared by Cynthia M. Beath of the University of Texas, Austin and Jeanne W. Ross of the MIT Sloan Center for Information Systems Research. This case was written for the purposes of class discussion, rather than to illustrate either effective or ineffective handling of a managerial situation. The authors would like to acknowledge and thank the executives at PepsiAmericas for their participation in the case study.

number of franchises declined from a high of around 400 to fewer than 100 in 2009. Reflecting this consolidation trend, in 2000, PepsiAmericas, which itself had been created in mergers of existing Pepsi Cola bottlers, merged with the Whitman Corporation, which owned a bottler serving 10 states in the USA and four countries in Central Europe. The new combined entity served 17 states in the USA, four countries in Central Europe, and several countries in the Caribbean.

As of 2009, PepsiCo had a 44% ownership share of PepsiAmericas. As most soft drink manufacturers do for their bottlers, PepsiCo created new products, managed the brands, and developed national marketing campaigns. PepsiAmericas managed manufacturing, logistics, and retailer relationships.¹

By 2009, PepsiAmericas operated in 19 U.S. (mostly Midwestern) states (69% of sales), Central and Eastern Europe (26% of sales), and the Caribbean (5%). (Figure 1 provides details on operations.) With 2008 net sales of almost \$5 billion, PepsiAmericas accounted for nearly 20% of PepsiCo's total US beverage sales.² Despite economic and competitive challenges, PepsiAmericas' revenues grew 10% while operating income grew 9%.

Bottling industry competition was based on brand awareness, pricing and promotions, retail space management, customer service, and product innovations. PepsiAmericas' principal competitor was Coca Cola Enterprises (CCE), Coca-Cola's largest franchise bottler, but the firm also competed with national and regional bottlers of other beverages. From 2002–2008, PepsiAmericas' common stock significantly outperformed that of its primary Coca-Cola bottler rival as well as that of the Pepsi Bottling Group, PepsiCo's largest franchise bottler; it also outperformed the S&P "Bottling Group Index" and the S&P MidCap 400.

¹ PepsiAmericas also had franchise agreements with some other beverage firms.

² The largest Pepsi bottler, Pepsi Bottling Group, accounted for around 55% of PepsiCo's US beverage sales. The remaining 25% of PepsiCo's US beverage sales were divided among almost a hundred small bottling companies.

PepsiAmericas' global operations were the responsibility of President and Chief Operating Officer Ken Keiser. The heads of worldwide supply chain, information technology, human resources, international operations, and U.S. operations all reported to Keiser. Keiser, in turn, reported to Chairman of the Board and Chief Executive Officer Robert Pohlada, as did EVP and CFO Alexander Ware. (See Figure 2 for a partial organization chart.)

Addressing a Changing Market

When PepsiAmericas was formed, the firm served its customers through conventional route sales. In this model, truck drivers were salespersons who estimated each day's requirements and loaded product at a distribution center. The driver/salesperson then called on customers, writing and filling orders and stocking shelves with the products from the truck. Conventional route sales had long met the needs of the soft drink industry:

Our industry was built on big mega brands. Pepsi and Mountain Dew were 90% of the business. Marketing and advertising were very basic. Network TV was the major medium, reaching 90% of households, so it was effective in getting product and promotion news to the consumer. The can package made up 70% of the volume. Cans were very efficient to produce, transport, warehouse and deliver.

—Ken Keiser
President and COO

By the time PepsiAmericas was formed in 1999, the conventional route sales approach was becoming impractical. The company's product line quickly grew to include water, energy drinks, juices, ready-to-drink coffees, teas, and a variety of other drinks.

Packaging was also more diverse. Water was mostly sold in plastic bottles, which were bulkier than cans and a truck could carry only 1,000 cases of water compared to 2,400 cases of canned soda. President and COO Ken Keiser estimated that the number of SKUs had grown from around 35 to 40 in the early nineties to nearly 400 15 years later. Truck drivers could no

longer estimate the optimal mix of product that needed to be loaded on a truck for the day's sales.

And the challenges were growing. Even as sales of bottled water were rising, consumers were voicing concerns about the ecological effects of the proliferation of plastic water bottles. Executives at PepsiAmericas noted that constant innovation would become a trademark of the bottling industry:

Consumers want and demand variety in the flavor and package offerings of our products. The ability to react to these changes quickly and without disruption to the supply chain and the entire organization is critical to our success.

—Rich Frey
VP, Sales Operations

Reflecting its history of mergers, PepsiAmericas was organized into 13 regional divisions responsible for production, distribution, and sales. Leaders within the regions designed their systems and processes as they saw fit, and the mission of PepsiAmericas' centralized IT group was to address their individual needs. However, the regional structure was not efficient for manufacturing an increasingly diverse product line, nor was it effective in meeting the demands of increasingly powerful national retailers. In 2001, PepsiAmericas management initiated a series of IT-enabled business changes to address changing market demands.

Next Gen: Defining a Common Platform

The first business change initiative, called "Next Gen," involved redesigning the sales and distribution process. Next Gen replaced the conventional route sales process with a pre-sell process that involved taking orders from retailers prior to loading the truck.

Pre-sell divided what had been the truck driver's responsibilities among three specialists: a sales representative who worked with customers to place orders; a driver who picked up the ordered goods at a distribution center and delivered them to stores; and a merchandiser who stocked shelves and built product displays. To enable these new roles, PepsiAmericas introduced a

common systems and technology platform across its 13 regions:

We had at least four different suites of back office, selling, and supply chain systems across the combined company. None of them could support the move to pre-sell, so we had to build that. We leveraged our PeopleSoft ERP to the extent we could, and we used a combination of custom and best of breed package solutions for the call center, selling, delivery, and order management type systems. That was a three-and-a-half year initiative. —Ken Johnsen
SVP and CIO

The new platform provided both salespeople and drivers with handheld devices. The handheld captured order data that could then be used to plan the truckloads, and to plan and execute the picking and loading of trucks. PepsiAmericas' drivers had been using handheld devices for some time, but their prior equipment couldn't do much more than print an invoice.

The implementation of the handheld was challenging. IT managers were unable to find any handheld devices on the market in 2001 that could meet the firm's expanded needs. Instead the IT unit developed a handheld device for pre-sell:

All the components had problems. The handheld ran out of battery, the wire to the handheld was not ruggedized, so it would break, and then it went to a Motorola cell phone where the connection to that would break. So we were constantly fixing it. But that was the only choice we had. There was no integrated device back in 2001. —John Kreul
VP, Applications and Customer Service

Because of these technology issues, business leaders tended to think of Next Gen as "the handheld project," but the technology problems represented the tip of the iceberg. In addition to introducing the handheld device, Next Gen implemented new processes; redesigned roles; and built a call center to take customer orders and provide customer service. Senior managers

later acknowledged that they had underestimated the impact of the change:

We didn't realize how much work it would create from an IT and a business process standpoint, how much change was associated with the innovation.

—Rich Frey
VP, Sales Operations

Because PepsiAmericas was formed from mergers of small businesses, the company had a strong entrepreneurial culture. Thus, despite the potential for pre-sell to eliminate the guesswork about what products to load onto a truck, management was reluctant to dictate a change that would diminish the autonomy of the regional heads. Eventually, management agreed to the single call center, but regional leaders retained a great deal of discretion on how to implement Next Gen systems and processes:

We had a lot of deviation between the divisions on when they would send the orders, when their cutoffs would be, how their processes would work.—John Kreul
VP, Applications and Customer Service

When Next Gen was completed, PepsiAmericas had a common technology platform. This platform enabled the rapid integration of an independent bottler, Central Investment Corporation, which the company acquired in 2005. However, deviations in local processes limited both efficiency gains and the ability to meet customer needs. Most of PepsiAmericas' managers considered Next Gen's success to be mixed and the experience to be painful:

But Next Gen was still a great thing for our company, because there was no way we could have kept up with the increasing number of SKUs or the demands of the customers. We had to do it. It's just that our process maturity was growing and the technology maturity was growing at the same time, so we were all kind of going through it together. —John Kreul

Customer Alignment: Centralizing to Meet Customer Needs

Over time, senior leaders came to believe that the firm needed to reorganize to accommodate the firm's national customers:

We were organized around ourselves versus around our customers and the way we should be going to market.—Mike Durkin
EVP, U.S. Operations

The power of national retailers was growing and the inconsistencies in PepsiAmericas' business processes and duplication of effort from region to region limited the company's ability to serve those retailers consistently:

We would have multiple people calling customers who said, "You know what? I want one call. I want one person to come to my headquarters, not to the division offices or the store." The retailers had started to consolidate, but we hadn't adapted. —Ken Johnsen
SVP and CIO

PepsiAmericas' Customer Alignment initiative reorganized the firm around centralized functions. Regional sales and distribution structures were abandoned in favor of an organization based on customer segmentation. One segment addressed the needs of large customers who mandated shipments to company warehouses. A second segment served the needs of large customers accepting direct store delivery (DSD), while a third segment focused on smaller DSD customers. A fourth segment focused on the unique needs of foodservice customers, such as restaurants and facilities with vending machines.

Customer Alignment triggered very little IT work. For the most part, the people in the newly centralized functions had been using, and continued to use, the technology platform developed for Next Gen. However, Customer Alignment drove considerable process centralization. Eleven hundred account sales managers went to large and small format stores to take pre-sell orders. Another 225 call center workers captured orders for 60,000 small customers. This process rationalization improved control and enhanced decision making data:

With Customer Alignment, we really want more of a command and control environment. Decisions are made at the top and they're executed locally. Before, you could have two customers one block apart and their pricing might be different, depending on who interacted with that customer. Customer Alignment means more standardized pricing, more standardized activities with the customers. —Tim Gorman
SVP and Controller

Pricing was a particularly important process for PepsiAmericas because of its impact on the firm's bottom line. While PepsiAmericas attempted to closely manage both volume and price, the bottom line impact of a 1% increase in prices equaled the impact of a 3% change in volume.

In redesigning the firm around customers, PepsiAmericas empowered account sales managers to address the needs of their most powerful customers. One executive recounted a meeting with Wal-Mart and representatives from other PepsiCo companies. Wal-Mart proposed a promotion offering a discount on a basket of PepsiCo products.

We were the only one at the table that said, "Yeah, we like that idea and we're in." Everybody else said, "That's interesting but I'm going to have to go back and check." At PepsiAmericas, the person at that meeting owned that account; he had full accountability. And he oversaw all of large format accounts, so he understood how this program was going to fit within the context of all his other customers."

—Alex Ware
EVP and CFO

By 2007, Customer Alignment had created savings of US\$15–17 million through increased sales and distribution efficiencies. More importantly, by aggregating data and realigning responsibilities, PepsiAmericas had begun to expose the opportunities that improved data could create for the business.

[Customer Alignment] opened our eyes, particularly on the data management side, to how many opportunities there were. We

didn't know what we didn't know, right? Then we said, "Holy Cow, thank God we did what we did!" And that led to a whole set of projects that we've embarked on.

—Mike Durkin
EVP, U.S. Operations

Building an IT-Business Partnership

The Next Gen initiative convinced senior executives that they needed to drive value from technology initiatives. They agreed that the difficulties associated with implementing Next Gen had stemmed, in part, from a misunderstanding of the capabilities and limitations of IT:

I have emphasized that IT initiatives are equally about people, process, and technology. But if anything goes wrong, it usually looks like a technology problem.

—Ken Johnsen
SVP and CIO

At one point during Next Gen, IT managers fielded complaints that the new handhelds were making pricing mistakes. Subsequent analysis revealed that the equipment was fine, but new prices were often submitted after the scheduled time for downloading prices onto the handhelds.

Early on, when PepsiAmericas was managed as 13 distinct regions, the IT unit had served as an order taker from the 13 regional heads. As technology provided a common platform for standardized business processes, IT began to take on more of a leadership role. Between 2001 and 2004, CIO Johnsen had initiated a number of management changes to enhance the leadership capabilities of the IT unit. (See Figure 3 for a timeline of the firm's major business initiatives and related IT capabilities.)

Johnsen's first initiative created an IT governance board that included the CEO Robert Pohlrad, the COO Ken Keiser, and most members of the senior executive team. Members of the board regularly attended meetings, but, in deference to the firm's entrepreneurial culture, were reluctant to centralize decision rights. Thus, they shied away from allocating IT funds based on enterprise priorities. As a result, until

around 2006, IT projects mostly supported functional and tactical business goals.

When management defined the Customer Alignment initiative, senior executives started to recognize the need to establish IT investment priorities. Eventually, Ken Keiser assigned a subset of his world-wide leadership team to a council that made decisions on project prioritization:

Every request for IT resources—and there could be hundreds of them—goes through this council. —Ken Keiser
President and COO

Projects were evaluated based on their internal rate of return (IRR), and expected cost cuts were baked into the next year's expense budget. But the council was particularly guided by the firm's strategic priorities:

Revenue management, pricing projects are going to be the highest priority. Margin improvement is going to be the next highest priority project for us. Customer requirements, customer flexibility, and customer wants and needs will be the next priority. Volume would be the next priority... So we take all the projects and assign these different value drivers to the projects. Then from that grouping we can go back and say, all right now, how do we deploy our limited resources against these projects to get them done.
—Alex Ware
EVP and CFO

Another IT management change was the formation of a project management organization (PMO). The PMO helped to implement a more disciplined project management and systems development methodology. To support the new methodology, PepsiAmericas assigned executive business sponsors to each project. These sponsors took high-level responsibility for implementation and business benefits. In addition, business leads were paired with IT leads to manage projects on a day to day basis. For major projects, PepsiAmericas created execution teams:

[Execution teams] are all people that came out of the business. None of them have IT backgrounds. They are all ex-dispatchers

or ex-warehouse people or ex-ASMs that wanted to learn something new, how to do change management. So they come into the PMO and they go deploy all these new solutions. —John Kreul
VP, Applications and Customer Service

Gradually, the more disciplined project life-cycle, the increased role of senior executives in IT governance, and the involvement of business sponsors and execution teams led to a stronger IT-business partnership:

Our partnership with IT has probably been the biggest change for us as an organization. We truly are partnering in a proactive, not reactive, way. There is an IT representative at my staff meetings, and our people go to the IT staff meetings, to make sure that we're in sync and working together... I think we recognize that as business leads, we are dependent on this collaboration. IT is not just this support department off to the side. They have to be part of our strategy as we move forward.
—Rich Frey
VP, Sales Operations

Rich Frey's IT partner, John Kreul, noted that the partnership was a two-way street:

We're partners. And we work very well together. I think you need that type of partnership for success. So, they're working on the processes and we're working on the technologies, but we flip back and forth. I mean, we're constantly recommending process changes, and if the technology is not working the way it needs to work, they're constantly collaborating on that. —John Kreul

Competitive Edge: Building IT Infrastructure for Business Agility

In 2006 PepsiAmericas' IT unit worked with an outside consulting firm to develop an IT strategy. They identified eight critical future business capabilities: customer and partner connectivity; accurate planning and forecasting; metrics driven execution; workforce mobilization; flexible distribution; selling/revenue management; and asset

management. These capabilities aligned with the firm's stated strategic planks (See Figure 4):

Once we defined the future business capabilities, we looked at our IT systems. They were all already on a common platform, but we needed to better centralize our data... And we needed to build a mobile platform where we could plug in different devices, a handheld or a cell phone or something else [to capture and access operating data]. —Irina Raff
VP, Architecture and Infrastructure

The Competitive Edge initiative developed the IT infrastructure needed to support PepsiAmericas' critical business capabilities. Competitive Edge had two major components: (a) an information backbone; and (b) a mobile platform.

Information Backbone

The Customer Alignment initiative improved performance through reorganization and business process standardization. However, the new processes exposed inconsistencies in data definitions. For example, there were idiosyncrasies in customer naming conventions that made it impossible to roll up data from the individual regions and provide consolidated data for a national chain:

Customer Alignment threw the rug back and all the dirt was there. And so now we're sweeping it up. —Tim Gorman
SVP and Controller

PepsiAmericas wanted accessible data for both operational decision making and business analysis. Based on these business needs, the IT unit created two important data assets (see Figure 5):

1. A central data repository (CDR), that is, a set of master files and transaction files from which core applications could obtain or store data; and
2. A data warehouse (DW), which extracted and organized historical—and some external—data for subsequent analysis (see Figure 6).

The CDR served as a gateway to shared transaction data, isolating data from existing and new applications. Thus, once a customer record was

stored, any application that needed the customer data would interface directly with the CDR rather than its own customer records. This allowed data sharing across applications, which reduced data redundancy and increased data integrity (see Figures 7 and 8). The CDR also allowed PepsiAmericas to rapidly develop their eCommerce capability and to interact with external customers. It also reduced development time, because developers were writing to standard data interfaces rather than creating new data sources or linking multiple existing data sources:

We got our [new] pre-sell application up in months, and that was a year project before. If it's a CDR enabled application, I think the time to deliver is cut in half. —John Kreul
VP, Applications and Customer Service

The CDR permanently stored master data, like customer records. Transaction data, like orders and invoices, were stored in the CDR only until they were processed. Long-term they were stored in the DW, where all the transactions associated with a single customer (for example) could be matched for purposes of reporting, analysis, or history:

In the data warehouse, we're building a 360-degree view of our business. So for each customer, now you'll be able to see what was ordered, what was delivered, what was forecasted, what was paid, what were the CDAs [customer development agreements], the special discounts, what was accrued, what's going to be paid, what types of displays and ads from the syndicated data, the demographics of the customer's market, forecasts of sales, and demand forecasts. By centralizing that, you can start analyzing, well, are we giving the right price to our customers for us? —Irina Raff

The IT unit designed the CDR and DW based on its strategy work. The idea was to create data that would be used across the enterprise, rather than ask individual business leaders what data they wanted. The IT unit formatted the data to meet PepsiAmericas-specific enterprise data needs:

The format defines how we want to use that data throughout our enterprise. That way, we become vendor-independent, which was very important in our concepts. So it's not the PeopleSoft design, it's what we think is the best way to design our data stores. That took a long time to figure out. —John Kreul
VP, Applications and Customer Service

Following initial design of core master and transaction data and selection of tools to access the data, the information backbone was introduced to business users to stimulate thinking about how to use the new data:

We built a showcase that I took on a marketing tour, to different functional staff meetings. To do that, we needed to anticipate the information that no one was receiving, but would like to have, and a few business people helped us with that. From our strategy work, we knew they were starved for the right information. When we knocked on some doors to get help developing our showcase, we said, "We're really close to finishing, and this is what we think we can offer you. What do you think? Let's build something jointly to see." Their responses were like, "Wow! How far along are you? When can I get it? My team can help!" —Irina Raff
VP, Architecture and Infrastructure

IT was able to build the core of the CDR and DW capability with \$2.5 million in seed funding. Going forward, the IT unit would build out the information backbone on an as-needed basis. For example, in 2008, neither merchandising nor field service were connected to the CDR. Both were old systems that would connect when they were eventually replaced.

Business Leadership of Value Extraction from the CDR

Competitive Edge, an IT-owned project, led to two initiatives focused on driving value from the information backbone. Both initiatives were headed by business leaders in Finance. Tim Gorman, SVP and Controller, was responsible for driving value from the central data repository

through Enterprise Data Management. He focused on workflow, to ensure that data was in the right place at the right time and that it was entered and maintained by the right person:

With Customer Alignment, we changed the organization, but the information doesn't necessarily track with the new organization. We need to redesign the information so that it actually flows the way the organization is set up, so that if we set up a new customer, they go into the correct customer group, the correct market area, and they're under the sales person that they're supposed to be under. —Tim Gorman
SVP and Controller

Tim Gorman established a cross-functional governance council to oversee data standardization and to be the permanent owner of the data dictionary. People rotated into the council from the functions, so that many people would have the experience of making decisions about data:

The governance council decides, do we move data attributes directly into the CDR and then feed them to all the applications so that you know it's consistent within all the applications, or not? These should be the critical data attributes that we're really going to maintain, define, measure, and ensure that they're accurate. —Tim Gorman

Gorman's team was not only looking at data, they were also looking at the processes that created and maintained the data. They were also identifying data owners who defined their data and determine how it should be captured and processed. The team started with pricing data. The process of cleaning the pricing data revealed instances where a deal was not entered or was entered twice. This kind of error caused prices to default to full wholesale:

Before, the number of cases a week that went out at full wholesale was in the 70,000 range. After putting in this process, we're now down to around 11,000 cases a week. —Tim Gorman

Sandy Mathias was responsible for the Enterprise Reporting and Analytics project. This project leveraged the data warehouse and took advantage of a new business intelligence tool from Cognos. Its goal was to encourage a more analytical approach to the business:

...getting away from the analysis happening in a small group of brainiac people, to everybody knowing what they are doing, being smart enough to look at what's happening and having some ideas about what's wrong or what needs to be fixed.

—Sandy Mathias
VP, U.S. Finance

Sandy Mathias emphasized that this was not just a data management or business intelligence endeavor, it was a major change management effort:

For these initiatives to affect the entire organization or big pieces of it, you need to have a serious change management element to the project team. And that involves communication and education and training, and training after the fact.

—Sandy Mathias

Senior executives felt that change management related to business intelligence would be well worth the effort. As reliable data and metrics became available, executives envisioned a more informed workforce responding quickly to valuable information:

In our low growth domestic business, to me the perfect state would be where we would have performance measures such that a person could look at their score card at the end of every day and see how they've done. That would be nirvana for me.

—Alex Ware
EVP and CFO

Mobile Platform

To build a foundation for mobile applications, PepsiAmericas focused on handheld devices:

We use handhelds in three processes, and we have a thousand people that use

them to take orders for our large format and retail accounts. —John Kreul
VP, Applications and Customer Service

IT managers could not find a reputable software vendor able to meet the firm's needs, so PepsiAmericas did much of the work in-house:

To be tied to a vendor that has 20 employees and is on the verge of going under at any given time is not a good idea. So we made a strategic decision to bring mobile custom development in-house. Mobile is so important to our business that we've invested. —John Kreul

The decision to bring the handheld in-house meant that PepsiAmericas' IT unit needed strong technology capabilities at a time when many cost-conscious firms were outsourcing IT. PepsiAmericas expected to drive benefits from its technology expertise by reusing technology, data, and business process components:

We upgraded the handhelds in such a way that we can reuse parts for inventory handhelds, for merchandising, for replacing our delivery handhelds. Building it so that you can reuse it takes longer, but then once you build it, you can leverage it quickly. —Irina Raff

VP, Architecture and Infrastructure

Reuse was expected to reduce the cost of developing and maintaining IT systems, while enhancing business agility. The IT unit introduced a new "design" stage (between plan and build) into the system development life cycle. During this stage, IT architects had an opportunity to identify opportunities for reuse or to recognize opportunities to create new—or alter existing—reusable components.

Customer Optimization³: Reaping the Benefits

The Competitive Edge initiative had provided a technology foundation for a more informed and responsive business. But management found that it took time and experience to learn how to apply the capabilities provided by the information backbone and mobile platform. Initiated

in 2007, Customer Optimization³ (CO³)³ was a series of projects focused on driving business value from the business capabilities the company had been building. In particular, CO³ intended to use data to improve the performance of cross-functional processes linking sales and supply chain activities. CO³ had three components.

Demand Planning

In PepsiAmericas' traditional regional model, demand planning had been based on field-based forecasts of demand for each SKU. Following Customer Alignment, PepsiAmericas decided to centralize demand planning. CO³ used sophisticated algorithms to calculate demand, drawing on historical sales and expected retail prices. Management anticipated that centralized demand planning would increase the accuracy of sales forecasts and improve warehouse inventory management:

So we've gone from 40–50% accuracy on a one-week-out basis to now we're at 71% accuracy two weeks out. We have that deployed across the whole company. And we are definitely seeing drops in out-of-stock percentages at the warehouse, which had been 3–5%. We are at 2.48% and our target was to get warehouse out-of-stocks down to 2.5%.

—John Kreul

VP, Applications and Customer Service

With demand planning, PepsiAmericas could avoid under-producing (leading to out of stocks) without over-producing (leading to excess inventory).

Power Pre-sell

Expanding on the capability provided by the Next Gen handheld device, Power Pre-sell introduced a new handheld device for the firm's 1100 frontline selling people. A statistical forecasting algorithm was used to produce a "suggested order," that took into account current inventory, two years of sales history, seasonality, external

³ CO³ stood for "Customer Optimization to the 3rd power – Planning + Selling + Delivery." CO³ was a program intended to reduce out-of-stocks, increase productivity, and improve customer service.

data, and retail price points. The suggested order was automatically downloaded to the handheld. Although account sales managers could override the suggested order during a sales call, they were unlikely to do so:

One of our more experienced Account Sales Managers said, "You know, I was really skeptical at first and then I just kept finding that the handheld was doing a better job than I was generating an accurate order."

—Rich Frey

VP, Sales Operations

Using cell-phone technology, the handheld immediately transferred final orders to the warehouse.

While demand planning reduced out of stocks in the warehouses, Power Pre-sell and the suggested order it generated reduced out of stocks in the stores. By mid-2009, out of stocks in stores had decreased from 14% to 3.7%. These improvements were realized while back room inventory in stores dropped 52%.

Perfect Pallet

Traditionally, PepsiAmericas had hundreds of loaders using load sheets to pick products, put them on a pallet, and load the trucks. For Direct Store Delivery (DSD) customers, drivers were responsible for the accuracy of the loads, but the loads were checked at the gate each morning as the trucks departed. At large warehouse locations, checking out 100+ trucks in the morning could take hours. To eliminate the bottleneck, the initial CO³ plan would have inserted quality assurance staff to check pallets and verify accuracy at the point of the pick. However, this plan would increase headcount by about 200 people.

IT leaders became convinced that technology support could eliminate the need for additional quality assurance staff. The Perfect Pallet initiative called for a standard warehouse layout with loaders wearing "Voicepick" headsets that prompted them as they made their way through the warehouse. With the help of voice recognition technology, the Voicepick automatically identified any out of stock items and adjusted the customer invoice. This process also triggered replenishment of the SKU.

By ensuring accuracy at the time of pick, PepsiAmericas avoided additional QA headcount, while also eliminating the gate checks, thus saving drivers' time. Random audits ensured that Voicepick processes were working. PepsiAmericas' target was for the invoice to be 100% correct at delivery 99.8% of the time:

In terms of invoice accuracy, let's say that we were in the low 90s. That's probably generous. We are now 99.81% accurate. We can measure it, and we can do picker productivity, we can tell each picker how many cases per hour they're doing, how many of their pallets have been QC'd, how many of their QC pallets were accurate. And now we're putting scorecards within the warehouses.

—John Kreul

VP, Applications and Customer Service

All three CO³ initiatives used PepsiAmericas' IT capabilities to continuously improve the firm's business processes. Business executives noted that effective use of IT involved ongoing experiments and assessment:

There's this notion of, "Hey, let's get it out and get 80% of what we need." We might think we know what the next 10% should be, but we'd be guessing about that. I might think it's one thing and you might think it's something different. So let's get it out and use it, and then we'll have a better understanding of what we need.... We need a sustained effort. We have to keep making enhancements. That's a core part of moving this thing forward.

—Jay Hulbert

EVP, Worldwide Supply Chain

Pursuing Business Growth

While PepsiAmericas was attempting to optimize business process efficiencies in the U.S., the firm's goals in Central and Eastern Europe focused on business growth. The economies of their CEE countries were growing (See Figure 9) and per capita consumption of beverages was increasing. Moreover, the CEE populations were large—PepsiAmericas' US market made

up only one quarter of the total consumer population the firm served world-wide (see Figure 10):

These economies, while just emerging, are bringing unbelievable growth. The GDPs are growing 6%, 7%, 8%, so consumers are getting more income and more money to spend on beverages.

— Ken Keiser
President and COO

The structure of the European business reflected the series of acquisitions that had characterized PepsiAmericas' expansion. Poland, Slovakia, Czech Republic, and Hungary became part of PepsiAmericas with the Whitman merger in 2000. A single management team led those four countries and some functions were centralized. Subsequently, PepsiAmericas acquired Romania and the Ukraine, each of which had a separate management team.

CEE was the most profitable segment of PepsiAmericas' business. Labor and other costs were lower there. In addition, the dollar had been comparatively weak, and the CEE product mix yielded higher margins. While PepsiAmericas wanted to reuse some of the IT and business process capabilities it had developed in the United States (e.g., the Central Data Repository), it was clear that the structure and architecture of the CEE was different from the States. In fact, the businesses in the CEE were different from one another.

PepsiAmericas' strategy for IT in Europe reflected the fact that the CEE businesses were focused on revenue growth while the U.S. business was focused on securing efficiencies:

The IT strategy for the European businesses, including Ukraine and Romania, is to get them all on a common SAP backbone. And when I say backbone, it's primarily accounting, inventory management, HR, and finance. And then we'll use a best of breed approach for things like demand planning, selling, delivery, those types of things. Ideally those "best of breed" solutions would be the same across all of our geographies, but to the

extent that it isn't beneficial, the solutions could vary.

—Ken Johnsen
SVP and CIO

Johnsen noted that the reasons for establishing centralized and standard services were different for CEE than for the United States:

Shared services might be to fill a capability void, not necessarily a cost play; in fact, it may increase your costs because the labor is so cheap there, especially in the really developing countries. You create shared services not because it's going to be cheaper, but because you can't do it otherwise. These back-office capabilities aren't a "nice to have," you have to have them because of Sarbanes-Oxley.

—Ken Johnsen

Management recognized that over time the European business could overtake the U.S. business:

When you have U.S. growing revenue at 2% or 3% and international growing at three times that, eventually international could overtake the U.S. And then if we expand into other areas of the world, well, one day we won't be PepsiAmericas. Our name will be something different.

—Ken Keiser
President and COO

Given the opportunity, PepsiAmericas wanted to get IT right in its CEE business. Management was busy trying to determine what that meant.

Epilogue

In August, 2009, PepsiCo announced that it would acquire its two largest bottlers, The Pepsi

Bottling Group (PBG) and PepsiAmericas (PAS).⁴ In announcing the merger, PepsiCo Chairman and Chief Executive Officer Indra Nooyi said:

PepsiCo has had a constructive partnership with PBG and PAS over the past 10 years. While the existing model has served the system very well, it is clear that the changing dynamics of the North American liquid refreshment beverage business demand that we create a more flexible, efficient and competitive system that can drive growth across the full range of PepsiCo beverage brands... The fully integrated beverage business will enable us to bring innovative products and packages to market faster, streamline our manufacturing and distribution systems and react more quickly to changes in the marketplace... Ultimately, it will put us in a much better position to compete and to grow both now and in the years ahead.

PepsiAmericas Chairman and Chief Executive Officer Robert C. Pohlad said:

Over the past nine years, PepsiAmericas and each of our employees have helped build a remarkable organization. The success we have achieved is reflected in the agreement reached with PepsiCo.

⁴ This epilogue on the PepsiAmericas acquisition is based on material at: http://investors.pepsiamericas.com/release_detail.cfm?ReleaseID=400925

Figure 1
PepsiAmericas' Operations 2009

	United States	Central and Eastern Europe	Caribbean	Total
Population (millions)	50	151	8	209
Per Capita Consumption	1,555	672	866	-
Percent of Total Company Net Sales 2008	69	26	5	100
Employees	12,200	7,600	1,000	20,800
Production Facilities	17	13	3	33
Distribution Facilities	127	45	5	177

Figure 2
PepsiAmericas Partial Organization Chart

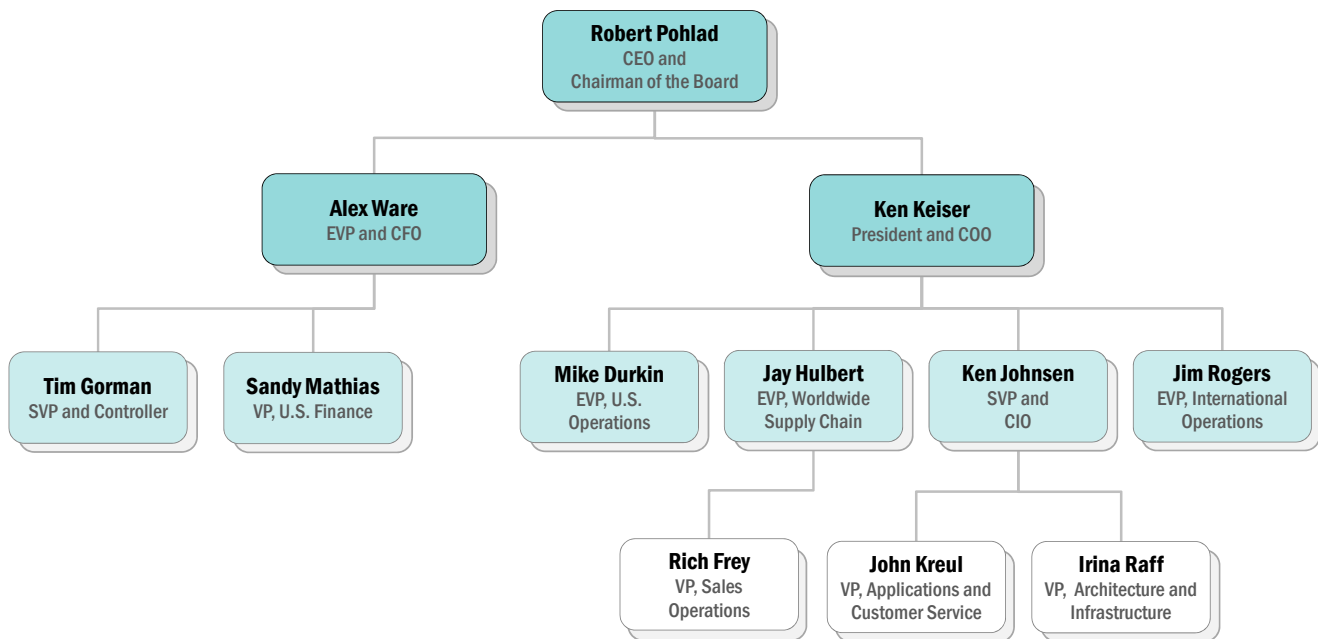


Figure 3
Timeline of PepsiAmericas Business and IT Initiatives

Year	Business Initiative	IT Capability Initiated
2000	Merger of PepsiAmericas & Whitman	
2001	NextGen: Common platform and move to pre-sell	Project Governance—Functional IT Steering Committee
2002		
2003		<ul style="list-style-type: none"> • Succession Management • Program Management Office
2004		<ul style="list-style-type: none"> • System Development Lifecycle (SDLC) • Project Execution Team
2005	<ul style="list-style-type: none"> • Acquisition of independent bottler - Central Investment Corporation (CIC) • NextGen Platform Completed • Customer Alignment 	
2006	<ul style="list-style-type: none"> • Competitive Edge: Information Hub, Data Warehouse, Reporting & Analytics, eCommerce, Mobile Platform • Acquisition of Pepsi bottler in Romania 	Enterprise Data Management
2007	<ul style="list-style-type: none"> • CO³ • Acquisition of Sandora juice company in Ukraine 	<ul style="list-style-type: none"> • Business Relationship Management (BRM) • Quality Assurance
2008	Global Growth Program (GGP)	Project Governance—Global Steering Group
2009	PepsiCo Transaction	

Figure 4
Business and IT Strategy 2006 to 2009

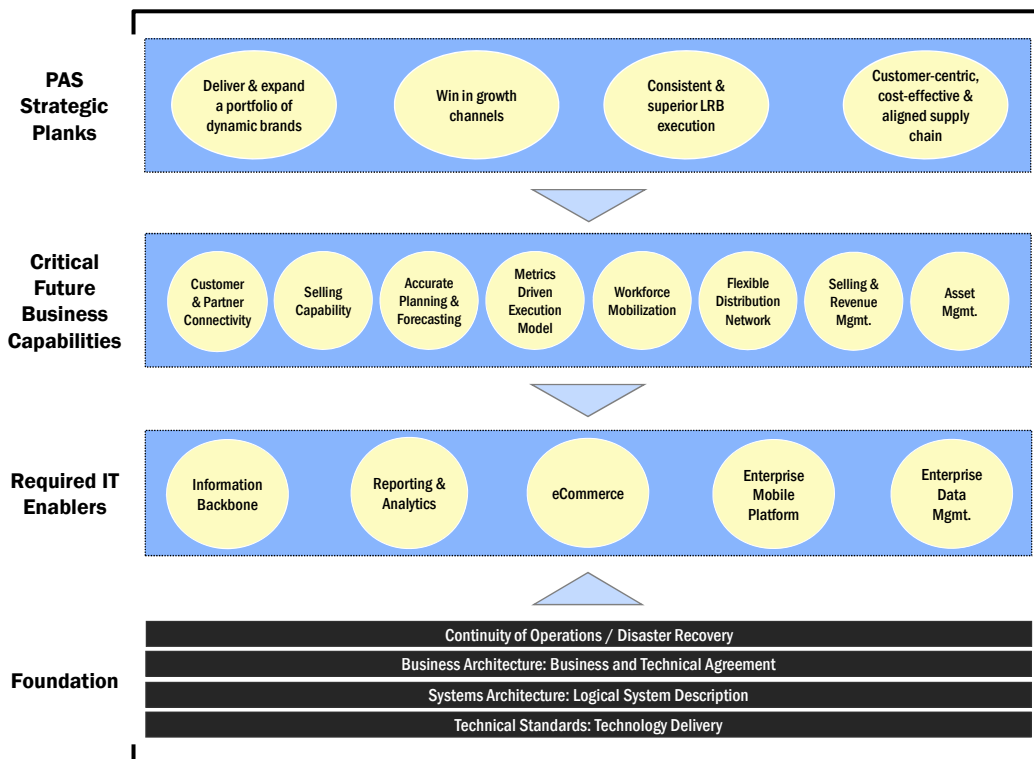
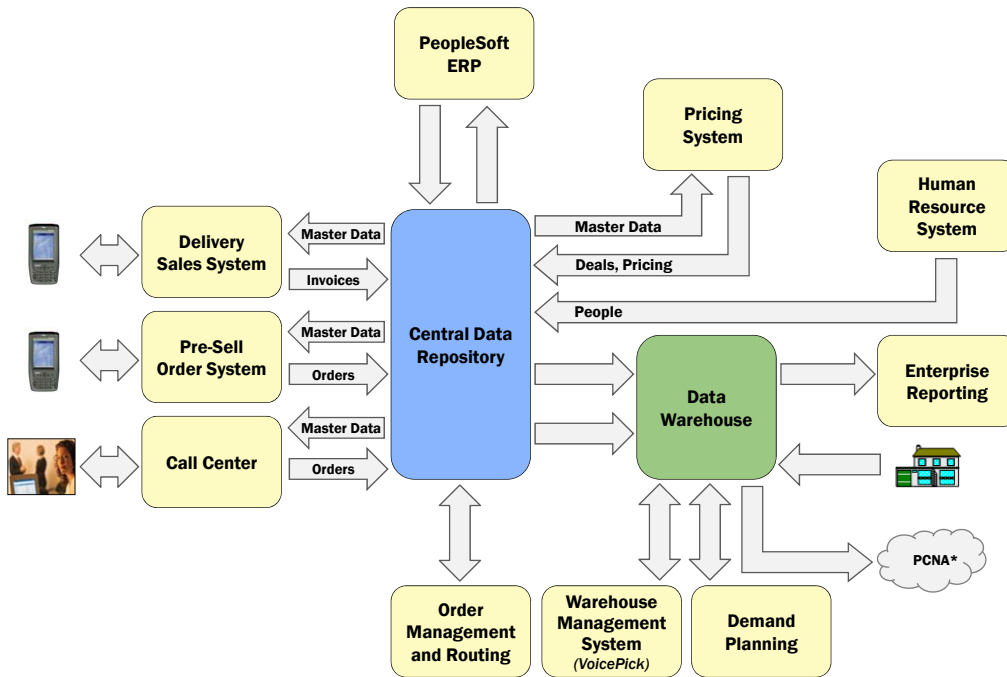


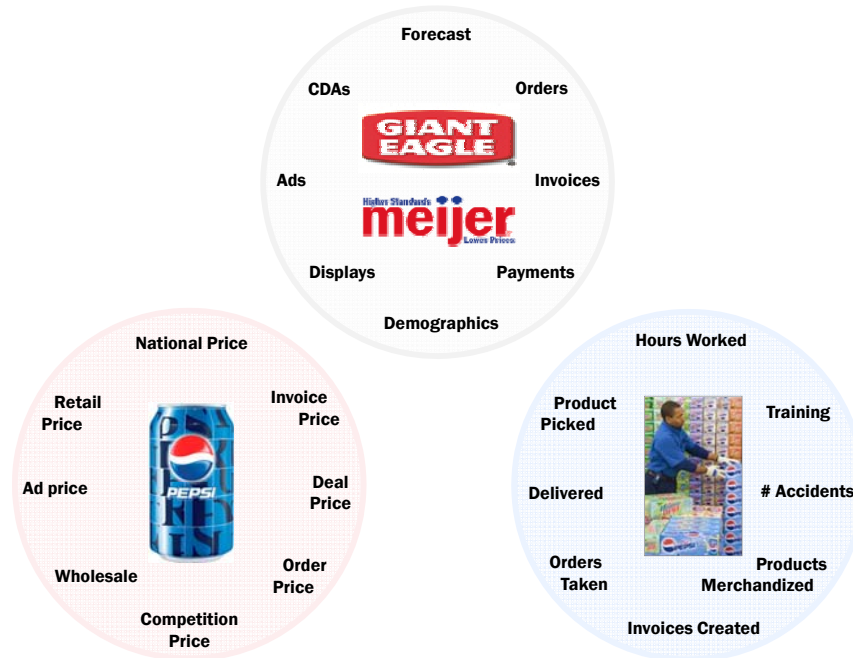
Figure 5
Information Backbone



*PepsiCo North America

Figure 6
Contents of the Data Warehouse

Building a 360 Degree View of Our Business



Enterprise Data Management Is a Key Enabler for This

Figure 7
Information Architecture before 2006

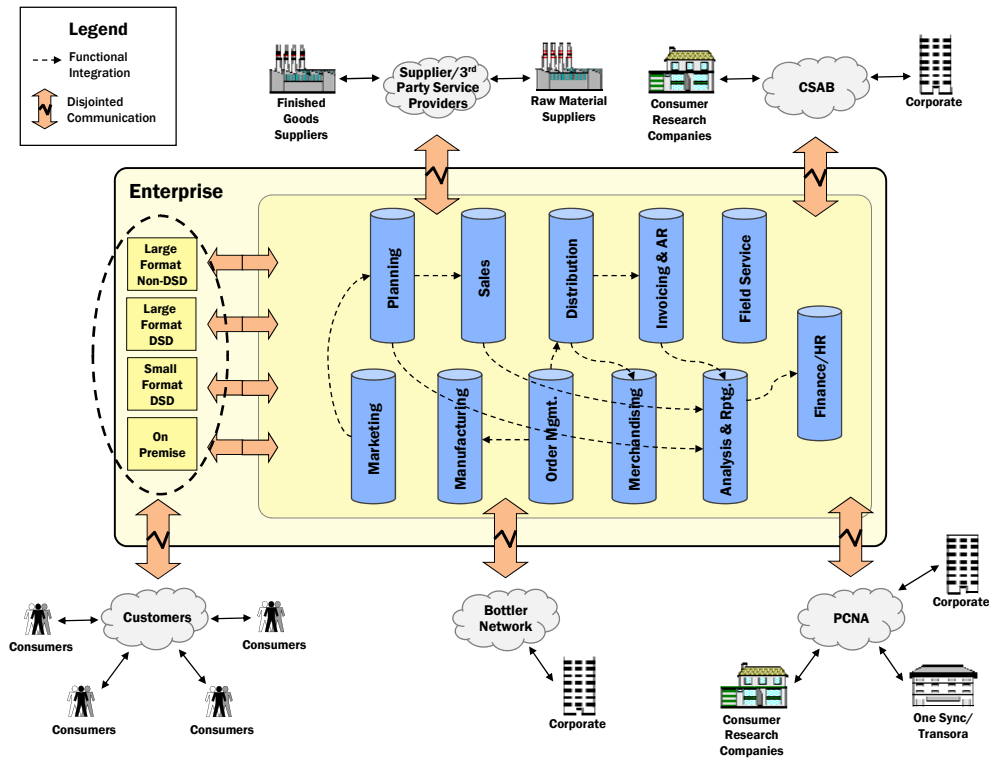


Figure 8
Information Architecture after 2008

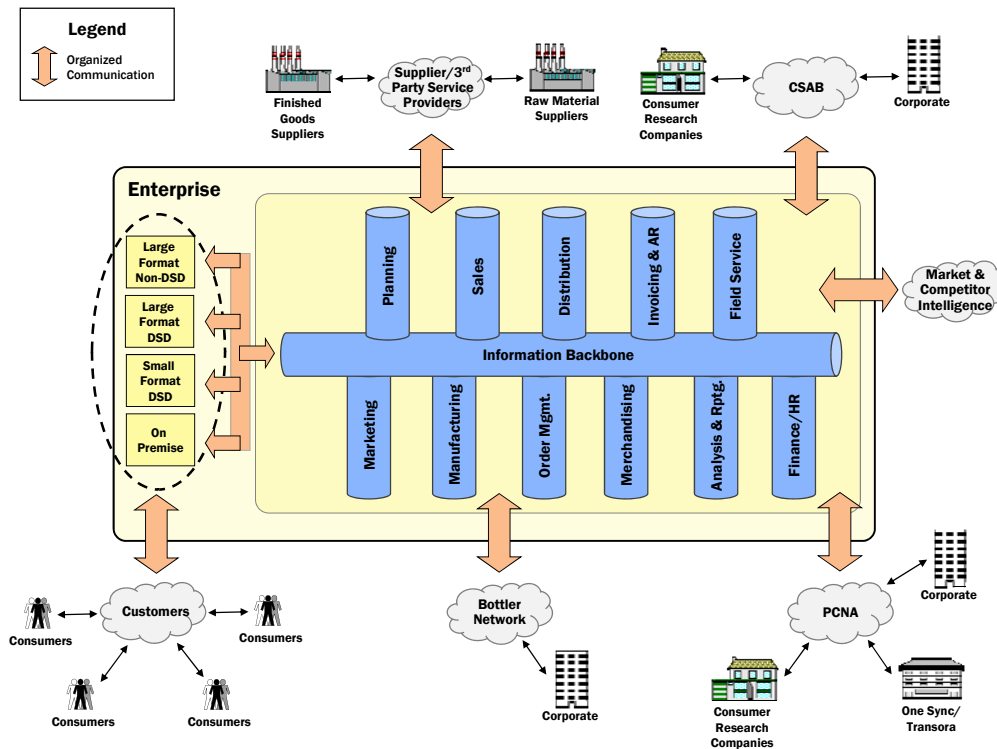


Figure 9
Growing Economies with Growing Beverage Categories

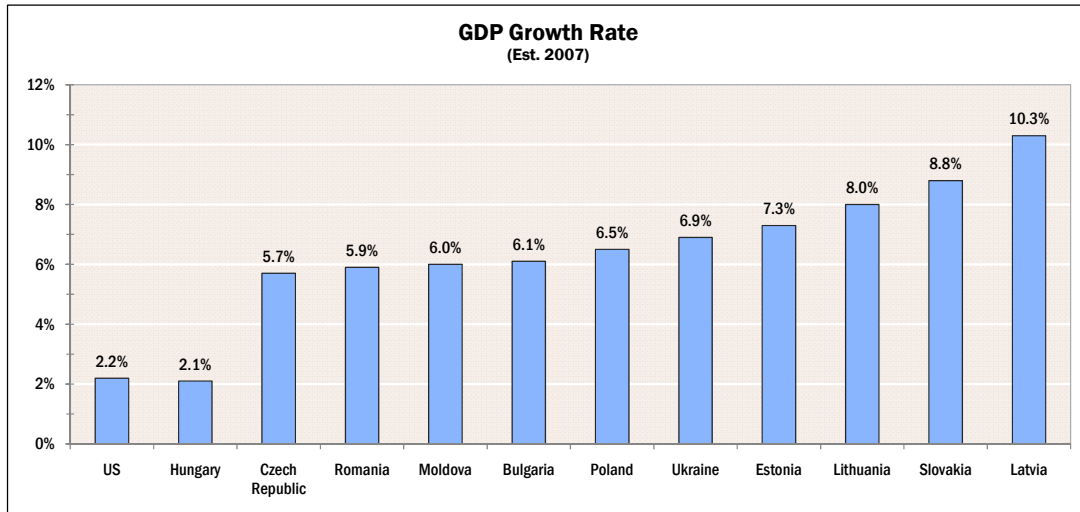
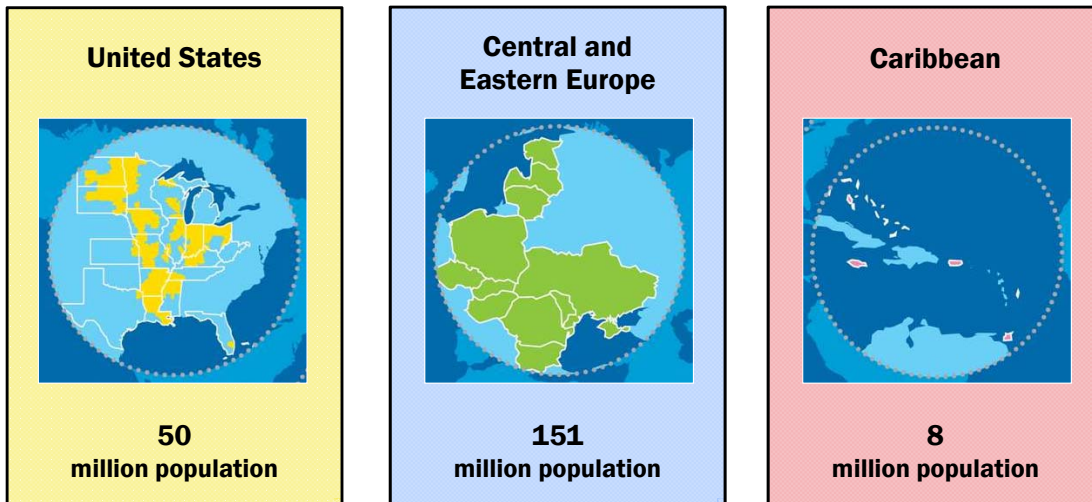


Figure 10
Population in PepsiAmericas' Markets



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In July of 2008, Jeanne W. Ross succeeded Peter Weill as the director of CISR. Peter Weill became chairman of CISR, with a focus on globalizing MIT CISR research and delivery. Drs. George Westerman, Stephanie L. Woerner, and Anne Quaadgras are full time CISR research scientists. MIT CISR is co-located with MIT Sloan's Center for Digital Business and Center for Collective Intelligence to facilitate collaboration between faculty and researchers.

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