DOI:
10.1016/j.jbusres.2016.03.015

Learning to become a High Reliability Organization in the food retail business

Luciano Ciravegna, International Development Institute, King's College, University of London. Email: luciaLucianovegna@kcl.ac.uk

Esteban Brenes, INCAE, Costa Rica

Please cite as follows: Ciravegna, L. & Brenes, B. (2016) Learning to become a high reliability organization in the food retail business, *Journal of Business Research*, doi:10.1016/j.jbusres.2016.03.015

Learning to become a High Reliability Organization in the food retail business

Abstract

This case discusses Selectos, a retail chain based in El Salvador, which was put under severe strain when Walmart entered its domestic market, threatening the leading position it had acquired through many decades of investment. The case illustrates that Selectos succeeded in competing Vis a Vis Walmart because it implemented the principles of High Reliability Organizations. First, before Walmart entered the market, the Salvadoran company invested time and financial resources to audit its routines, finding several areas of improvement. Second, its core strategy was to focus on continuous improvements in its operations. Third, it engaged its workforce, and especially the shop floor managers, in the process of executing its strategy at the whole corporate level. Fourth, through consultation with the managers of its functional areas, it enacted systems to manage unexpected events, ranging from hurricanes to violent attacks on its facilities (preparation for unexpected events). The case is designed to illustrate how a domestic firm from an emerging market competes with a leading multinational corporation, emphasizing the importance of organizational learning, especially the development of routines and mechanisms that allow for flexibility and adaptability to changes in conditions.

Key words: High Reliability Organizations, food retail, business strategy, emerging economies, domestic companies, MNCs

Learning to become a High Reliability Organization in the food retail business

Between the year 1970 and 2013 Selectos, a family business from El Salvador, had become the largest food retail group, accounting for over 63% of the domestic market with its 91 stores (Kiste, 2013). In the year 2004 Walmart approached Carlos Calleja, the Vice-President of the chain, to discuss a possible acquisition. It was a turning point: Carlos knew that soon Walmart would be entering the market, threatening the comfortable position of market leader that Selectos had won through years of organic growth. It was not a truly unexpected event for Carlos, as Walmart had already entered and captured the majority of markets in the neighboring countries of Central America (Agin, & Ogien, 2011). However, whereas Carlos suspected that Walmart would eventually threaten Super Selectos' position in El Salvador, his preoccupation was not shared at the corporate level. Area managers, for example purchasing and distribution managers, were unaware of the fact that in a very short time they would be facing the most formidable competitor in the world in their own turf. Even after they learned about the imminent threat, most managers did not seem to think that the arrival of Walmart would change their tasks. Carlos realized that unless his worries about Walmart were shared across the company, and a learning process began, the battle was lost before having begun. The other possibility was selling to Walmart and achieving a substantial financial reward. Carlos decided not to sell. It was a tough choice, which put at stake his family business, and the jobs of his managers and employees.

Carlos and his management team decided that to compete against Walmart they did not need to experiment with a new strategy. After all, their strategy gained them the leading position in the domestic market (Brenes & Montoya, 2011). Selectos' brand was well recognized, its network of shops covered most of the country, and its operations generated healthy profits. What they needed, was a new approach, which would allow improvements throughout the whole corporation.

Knowing they were *the best* in the market, he felt that the company had perhaps stopped questioning what could be done better. The challenge of competing with Walmart had to be shared across the whole organization, which needed to go through a serious self-review process. He estimated that it would be between one and three years before Walmart entered officially the Salvadoran market. Before that happened, they needed to audit their processes, identify areas of weakness, implement new routines, and reduce their vulnerability to the frequent crises that hindered the efficiency of their operations, such as the damages caused by the natural events that often affect Central American countries, including hurricanes and floods (Ibarra, 2005). His plan was to ensure that their strategy was implemented better and more efficiently, and that the organization moved from a comfortable leadership position to a continuous learning, alert position.

Between 2004 and 2006, Selectos implemented a series of organizational changes aimed at becoming a more *mindful* organization, an organization that knows how to learn from itself and how to manage risks and crises (Weick, Sutcliffe, & Obstfeld, 2008).

Literature: High Reliability Organizations, learning and preparing for crises

A High Reliability Organization is a type of organization that performs successfully in highly volatile environments by adopting flexible practices and the continuous pursuit of improvement and learning in its operations (Garvin, 2000; Rochlin, 1993). Some commonly accepted examples of this type of organizations are fire fighting units and aircraft carrier crews, which have to develop a special state of awareness and communication skills in order to perform safely in circumstances where unexpected events may, and often do, occur (Weick, Sutcliffe & Obstfeld 2008). HROs differ from other organizations in the extent to which they prepare for different types of contingencies, investing in measures, routines and systems that allow for superior reliability, even if this results in lower financial results in the short run (Ndubisi, 2012; Porte & Consolini, 1998). HROs often choose to have some redundancies in their structures, ranging from multiple backup systems, to multiple supply routes and human resource allocations (Tamuz & Harrison, 2006). These redundancies generate extra costs, but they also allow them to function even when disruptive forces damage some of their divisions and systems or hinder them from performing their routines as planned (Rijpma, 1997)

Why is it important to study HRO's? Weick and Sutcliffe (2007) point out that centralized and heavily structured strategic planning may lead organizations to stop searching for gradual but continuous improvements in their operations, thereby loosing the ability to anticipate, perceive and manage different types of threats. The terrorist attacks of September 2001, the 2008-2009 financial crisis, as well as the Japanese tsunami, the London riots of 2011, and the Hurricane Katrina illustrated that *black swans*, events that are considered to be unpredictable and unlikely to happen, do occur, generating disruption even in the most sophisticated markets, such as Wall Street, and the most developed and global cities, such as London and New York (Harrington, Weiss & Bhaktavatsalam , 2010; Taleb, 2007). Managing in uncertain macroeconomic, social, political and environmental conditions is becoming an ever more important source of competitive advantage for corporations, especially those operating in emerging markets (Bremmer, 2005; Brenes, Montoya & Ciravegna, 2014). By becoming more mindful, and more reliable, companies can also learn to manage volatility and crises (Leveson, Dulac, Marais, & Carroll, 2009; Waller & Roberts, 2003)

According to the literature, there are five core features that characterize HROs: *monitoring for small failures, reluctance to accept simplification, sensitivity to operations, commitment to resilience, and deference to expertise* (Weick, Sutcliffe & Obstfeld 2008). The first three of them deal with mechanisms to prevent failure. When an organization *monitors for small failures* it can understand their causes and take action to minimize risks before they aggravate. Being *reluctant to simplification* means avoiding to classify unexpected events in known categories, instead communicating with others within and without the organization and searching for alternative solutions and sources of critical information. *Remaining sensitive to operations* is the ability of an organization not to lure itself into believing its system is fully capable to mitigate risks because they have not occurred yet. HROs keep auditing their procedures and operations (Schulman, 2004).

The other two principles of HROs help managing problems once they have taken place. C*ommitment to resilience* is the ability to put systems under stress in order to determine if it is possible to absorb it, keep working and learn from it. According to Nemeth and Cook (2007, p.263), Resilience is "*the ability of systems to survive and return to normal operation despite challenges".*

HROs practice *deference to expertise* when they do not rely exclusively on hierarchy to managing problems as they occur, they understand that some individuals may be better skilled to deal in some circumstances than others and expect them to step up and take control (Weick, et al., 2008; Vogus, & Welbourne, 2003).

Another extremely important practice that helps to adopt HRO's principles is *a good communication policy*. Quarantelli, (1988) emphasizes the *importance of communication*, especially in *what* is communicated instead of *how* is communicated and defines five types of communication to be observed in order to be effective at managing crises: (1) intra-organizational; (2) interorganizational; (3) from organizations to the public; (4) from the public to the organizations; and (5) within systems of organizations. Others authors support the role of a good communication policy; for Roberts (1990) it is important to have several channels enabled to report when an incident has occurred. Not relying only in an *official* channel which can fail or deliver biased information. Hopkins (2009) indicates that a *mindful leadership* should encourage the bottom-up communication of bad news, and not to be afraid of reporting when a small, but not yet critical, failure has taken place. Roberts, Bea & Bartles (2001) emphasize that an HRO is characterized by fluid communication across the hierarchical and functional borders of the organization, which contribute to its superior alertness and mindfulness (Cooke & Rohleder, 2006; Hopkins, 2009).

In spite of the rich theory supporting the importance of HROs, and the unfortunate recurrence of multiple unpredicted crises, HRO practices remain, by large, the domain of organizations operating in specific industries, such as aviation (Ndubisi, 2012). This case contributes to the HRO theory by illustrating that applying its principles allowed for superior performance in the food retail industry of El Salvador.

El Salvador – Business Environment

With a Gross Domestic Product (GDP) of US $23.8 billion, approximately US $3,800 per inhabitant, El Salvador's economy was ranking fourth in the region of Central America and Panama for 2012, with Guatemala, Costa Rica and Panama ranking first to third respectively (World Bank, 2013). According to the Central Bank one of the country's main sources of income was family remittances from the United States that reached US$3.9 billion in 2012, a 7.2% growth over 2011. It represents a monthly income for a family of five members of US$257; in El Salvador, the minimum wage for a worker in industry is US$245 before taxes and other law deductions. (Ministerio de Trabajo y Previsión Social, El Salvador, 2013).

ECLAC (2012) has an estimated average inflation rate for Latin America and Caribbean close to 7.0% for the period from 2010-2012. According to El Salvador's Banco Central de Reserva, from 2001 to 2008, inflation rate has been stable around 5.0%. In December 2009, El Salvador experienced a cumulative inflation rate of -0.2% (deflation). Since then, annual inflation rate has remained, on average, in less than 3.0% (0.8% in December 2012).

In the year 2008, income related consumers were classified by El Salvador's Consumer Protection Agency into three levels; about 100 municipalities rated as *low-income markets*, exhibiting extreme poverty rates of 40.2% and average household incomes of US$201 dollars; 146 municipalities rated as *moderate-income markets*, with extreme poverty rates of 19.4% and an average household income of US$308 dollars; only 16 municipalities obtained a rate as *high-income markets* with one-digit extreme poverty rates (7.6%) and an average family income of US$534 dollars (see Table 1). In urban areas, 63.6% of consumers had no preferences regarding fresh or processed food; only 35.7% preferred fresh food and a small proportion (0.7%) only processed food. In rural areas, unlike urban areas less consumers (55.4%) preferred fresh and processed goods, and there was a noticeable increase of consumers who buy only fresh (44.3%), while those who bought only processed remained similar (0.4%).

El Salvador is characterized by a turbulent past. It suffered from a civil war that lasted between the late 1970s and 1992, causing over 75.000 deaths (Meyer, 2012). Since the end of conflict El Salvador has been affected by high levels of armed violence, caused by the diffusion of organized crime gangs, called *maras*. As a result, El Salvador has some of the highest murder rates in the world (Costa, 2012; see Table 2). This legacy of violence has resulted in El Salvador been ranked as 141 out 142 in the index: *Business Costs of Crime and Violence* compiled by the World Economic Forum, where the higher the riskier (World Economic Forum, 2011)

The Salvadoran market is also affected by natural disasters. In the year 2001, for example, earthquakes affected more than 1.2 million of people and killed about one thousand. In 2005, Hurricane Stan and the eruption of Volcano Ilamatepec hit the country bringing devastation for thousands of people (SNET, 2008)

This contributes to make El Salvador a highly volatile and difficult environment where to operate, especially for businesses that have long and complex supply chains, such as those of the food retail industry.

Table 1 and Table 2 here

The Global Retail Industry

During the last twenty years, two trends characterized the retail business. First, the average size of stores increased. Second, the adoption of information and communications technologies (ICTs) centralized the management of operations. By the year 2009, massive layouts as hypermarkets and supermarkets became the trend in retail business accounting for a total of 46.4% of the retail market in the world, convenience stores with 30.7% rated second while other smaller and specialized stores as food and beverage; pharmacies and beauty goods with 16.8%. Big store types as wholesale stores with membership clubs with 1.6% (Datamonitor, 2011)

Since the late 90's, technological progress made in computing and telecommunications, especially on the internet, made possible for retail chains to have a better inventory management, allowing them to minimize waste and compromised financial resources on goods with no satisfactory turnaround by reducing the in-stock time of merchandise and re-stocking time (Holmes, 2001). State-of-the-art information technology made possible to offer their products at a lower cost than competitors (Foster, Haltiwanger & Krizan, 2002)

Loreto (2005) indicates that some of the most important retailers started using their own brands in some type of goods, and that allowed them to compete with better prices and not to depend too much on suppliers. In general, suppliers who were able to differentiate their product had moderate power over the retailers, as long as their products were demanded by final consumers, but brand recognition not always represented consumer's loyalty (Datamonitor 2011). Walmart has been the world leader in deploying the Every Day Low Prices (EDLP) strategy. EDLP means offering lower average prices than competitors on all products, everyday. This contrasts with retailers that have a niche strategy, for example offering a broader range of products at slightly higher prices than EDLP, or specializing in organic products. It also differs from the Hi-Low strategy. The Hi-Low strategy, which Selectos deployed long before the arrival of Walmart, entails attracting consumers with promotions on selected products, which change frequently. The products on promotion tend to be heavily discounted, below the prices of EDLP retailers, whereas all of the products outside of the promotions are sold at higher prices, which is why the strategy is defined as

Hi-Low. *Hi-Low* strategies entail higher organizational costs. Unless promotions are a one off affair, having a *Hi-Low* strategy throughout the year means planning and launching a high number of different discount packages, market them to attract potential clients, and change the way in which supplies are planned, delivered and redisplayed in shops accordingly.

Walmart United States of America

Walmart, the largest retailer in the world, has been from its beginning linked to EDLP strategy, and a large part of its success may be explained because it adopted some of the HRO's core principles. Walmart has remained sensitive to operations, refusing to believe they have developed a perfect system: In 1962, after going public, Walmart invested its new financial resources to build its distribution centers network, which allowed it to buy cheaper and store until distribution was necessary. In 2010, Walmart's distribution network in United States included 129 centers. As a result, Walmart's distribution costs represented 2-3% of its income while 4-5% for its competitors (Walmart, 2012). In tune with global tendencies in retail business, the use of the latest ICTs allowed it to manage its sales and inventory information from a monthly basis in the 60s, to a weekly basis in the 70s and finally, in real time by the end of the 90s. As if the later was not enough, Walmart started involving their suppliers even more, which is the case of the Central Retail Link, a inter-enterprise platform that allowed suppliers to have sales data from point of sales (POS), sales trends in previous years and inventories of their product by store. Thus suppliers constituted another vigilant eye for the success of the supply chain. It was estimated that the cost of the center was approximately US $4 billion (Oberholzer-Gee, 2006).

Walmart also practices deference to expertise: although been the biggest retail chain in the United States, Walmart doesn't rely on a highly centralized hierarchy, as a example, product selection is not the same for every store as Walmart sold products based the particular needs of each store and store managers have to give their inputs to stay in tune with their customers Initiatives like *Volume Producing Item* contest, in which managers had to look for and promote items that had the potential to increase income, managers were motivated to analyze and improve their decision-making constantly.

Other important principle of HROs which Walmart adopted from his founder; *maintain commitment to resilience*: For Sam Walton, his *partners* or associates were the most important ingredient in achieving and maintaining success. His policies and practices included a practice that enabled them to face changes in industry, a communication inter-departmental, as Walton promoted sharing performance information with personnel, asking for employee ideas, offering incentives and participation in stock options and maintaining an open-door policy among others (Walmart, 2013). Walmart committed more resources than other retailers on training and prefer promotions form inside for its managers which constitute positive working conditions. However, all initiatives were conditioned in order to maintain a strict limit on payroll expenses, which at one time represented half of total operating expenses. Walmart employee's salaries are usually close to minimum wage plus a bonus that varied depending on the goals accomplished with respect to profit and losses.

The Retail Industry in El Salvador

The retail business in El Salvador is concentrated in few competitors. In 2011 (USDA, 2011) Calleja SA and Walmart Central America dominate the market with 165 stores between them. Group Saca -ceased operations in 2013- (El Mundo, 2013) owned four supermarkets and one hypermarket; Pricesmart had 2 Club Outlets. Other type of stores include: about 138 convenience stores (USDA, 2011), mostly located at gas stations. Approximately, 70,000 neighborhood stores, most of them manage inventory of less than US$500 and less than $3m^2$. And *City markets* which offered fresh fruits and vegetables, basic grains, beef, pork, poultry, eggs and fish, with locales measuring 3x3 meters. In El Salvador, it was estimated that the Capital City, San Salvador, had around seven markets, or at least one in each town (Salinas, 2008)

El Salvador's retail market before 1950 consisted exclusively in public plazas or city markets, with no appropriate sanitation. In 1951, the first self-service retail store to appear in El Salvador's was called Sumesa. One year later, refrigeration systems allowed it to offer fruits and perishable foods.

Since then (1950) until today, El Salvador retail chain industry has evidenced new participants begin and going out of business, while it has evolved to a more concentrated market: Since the 70's until the late 90's, there have been almost a dozen different competitors. In 2011, there are two main competitors (Grupo Calleja S.A. and Walmart Mexico and Central America) with an estimated 85% of market; for 2013, Selectos' market share is 63%

Other important characteristics: the main competitors cover almost the complete territory, but while Walmart's preferred store type are discount and warehouse stores ($400m^2$ -$700m^{2)}$ (Rodas, 2013), Grupo Calleja established Selectos Market brand for cities far from San Salvador, these stores have supermarket-type service in a 600 square meter store and lower prices than a full size supermarket store but most expensive than a discount store.

Walmart in Central America

Walmart’s entrance in Central America took place in September 2005 by acquiring one-third of the Central American Retail Holding Company (CARHCO), a commercial alliance among Grupo La Fragua (Guatemala) with Royal Ahold (Holland) owning two-thirds between them; and an additional third belonging to Corporación Supermercados Unidos (Costa Rica). By acquiring a quote of CARHCO, Walmart became the co-owner of seven hypermarkets, 55 supermarkets, one warehouse membership club and more than 190 discount stores, for a total of 254 stores all over Central America,(El Diario de Hoy, 2011). The next year, Walmart Mexico acquired an additional 17,7% in order to become the controlling shareholder with 51% of the alliance which changed its name to Walmart Centroamerica.

In El Salvador, Walmart Centroamerica acquired the ownership of 56 stores that prior belonged to CARHCO which can be disaggregated in 31 La Despensa de Don Juan Supermarkets, two Hyper Paiz and 23 Despensa Familiar. Since then, Walmart decided to grow by relying on warehouses or discount stores: in 2013 there are a total of 81 stores, 28 new Despensa Familiar (discount store), and three new stores from a new brand called Maxi Despensa (also discount store); in the other hand, supermarket type stores like La Despensa de Don Juan have reduced their amount of stores to 25 (Walmart, 2013)

By the year of 2010, Walmart Mexico merged with Walmart Central America, the new company’s name is Walmart Mexico y Centroamerica both operations totaled 519 stores, 11 distribution centers and agro-industrial operations that supplied perishable goods to stores in the region (Wal-Mart de México, 2011). This decision proved to be effective by increasing their production capacity by 3.7% and their total sales by almost 7% or a total amount of more than 3.6 billion dollar.

In spite of its positive results, Walmart Mexico and Central America decided that they had still space to improve on lowering costs, especially on operational efficiency, which would help to transfer savings to product prices and, therefore, competing better with local rivals. Some of the actions taken, for example, included adopting LED lighting systems, and bettering their distribution center's logistic processes in order to reduce suppliers waiting time to deliver goods by 15%, as well as the amount of stores served by 30% (Brenes & Montoya, 2011)

But something was missing in Walmart Mexico and Central America: since its arrival there was a feeling that they were not competing as a *true Walmart*. Some measures had to be taken (Brenes & Montoya, 2011). The Executive Vice-president and COO for Central America, Alberto Ebrard mentioned:

The first thing was to redefine the correct client that each store targeted and redirect business strategies based on those clients. For example, even though the Maxi Bodega format is a warehouse, it had much higher prices than discount store formats. We are re-launching the Bodega, lowering prices, improving selection and changing the name to Maxi Pali or Maxi Despensa to put it under our umbrella of discount stores. (Walmart México, 2011)

Other important changes considered were stop using CARHCO brand names for supermarkets and hypermarkets, they must start incorporating Walmart's brand to supermarket stores and changing hypermarkets to Walmart Supercenters.

Scot Rank, Walmart Mexico and Central America CEO, and Alberto Edbrard, suggest that the best manner to exploit Walmart’s advantages should be switching from the regional strategies adopted until the date by Central America operations, in which every country has its own characteristics to aligning to Walmart’s global strategy and start benefiting of its efficiency in operations (Walmart, 2011). Clients and suppliers should start noticing changes to be implemented in the next years.

Selectos

In the year 2013, Selectos had a market share of 63%, (López, 2013) 91 stores across the country, including the first online grocery shop. At the same time, it has increased its presence throughout the country, its products and services are adapted to each community and have implemented computing systems in order to have a better logistics management, especially regarding to inventory control; but their success is not explained by those actions only. Selectos has achieved its leadership position by mastering some core principles of High Reliability Organizations that led it to take the right decisions in times of heavy uncertainty: the years after Walmart made clear its intentions of entering the Salvadoran market.

In 1963, the supermarket chain Sumesa, one of the pioneer retailers in El Salvador, was acquired by Daniel Calleja, who founded Grupo Calleja SA is born. The same year, Grupo Calleja opened the first Super Selectos store.

In 1978, Selectos bought *Todos* Supermarket (five stores). Then, in the 90's, acquired other three supermarkets chains: El Sol (four stores), *Multimart* (one store) and La *Tapachulteca* (13 stores). After that, in 2000, Selectos, acquired a retail chain called *Todos por Menos* (14 stores) and changed their brand mark to *De Todo*; the new stores measured an average 600m^2 and served municipalities and cities far from the Capital City area, San Salvador. Thus, in 2000 Selectos totaled 69 stores through the entire country, and three different brand marks: *Super Selectos*, *La Tapa Supermarkets* and *De Todo supermarkets* with a payroll of more than 5,000 employees.

In 2003, Walmart expressed its intention of buying Selectos. The Group responded by opening its 70th store, located in Mall MultiPlaza. Since then, Selectos has increased its presence to 91 stores, including the first online store foods: www.superselectos.com (López, 2013).

By the year of 2010, in order to best serve different type of customers, especially those outside of San Salvador area, Selectos started relying in only two brand-marks under which to work: Super Selectos (67 stores) with an average area of 1,250 m^2, located mainly in urban areas, oriented to middle and upper income clients and offering more than 35,000 SKU's. And, Selectos Market (15 stores) with an average area of 600 m^2 and 15,000 SKU's serving smaller towns with low to middle-income, it price level was 5% to 7% lower than at Super Selectos. Although Selectos Market aims to serve lower-income customers, it is not a discount store. In both concepts, customer service was similar: both offered air conditioning, provided grocery bags and advertised more than 800 promotions per month. These similarities made clients perceive both types of stores simply as *Selectos* (See Table 3)

Table 3 here

The most obvious question is how a domestic firm could compete to a leading multinational company and consistently make the right decisions to become the leader in its market? A major component of success of Selectos has been the practice of reviewing (auditing) processes and strategy, learning from its mistakes and taking the necessary decisions to overcome them, led by the will of the CEO to ensure the company *learned* and improved instead of simply being content with its market leader position.

Some of the processes audited before the arrival of Walmart include Marketing: Hi-low has been the Selectos preferred marketing and pricing strategy. However, the management team considered that it was necessary to understand Selectos customer's perception in order to align it with its vision. Store design was also re-evaluated, as well as the manner of how goods are arranged in shelf and other basic issues such as hygiene and quality processes. As a result of such processes, Selectos obtained some inputs to diversify its range of products and services, create a new and true customer service culture and allocate more resources in a more effectively manner to advertising and promotions. These audits by themselves increase mindfulness. By asking questions to get people talking, organizations review past crises as learning opportunities (Weick & Sutcliffe, 2007)

HROs focus on operations; technology systems are essential components for a retailer strategy and they are permanently under stress and have many *close calls* that prove that something is wrong because it almost crash (Weick & Sutcliffe, 2007):   The literature on High Reliability Organizations points that information technology systems are one of the areas particularly vulnerable to crisis as they tend to lack flexibility (Roberts, Bea & Bartles, 2001;). Before the arrival of Walmart, Selectos had deployed information technology only in certain areas of the business. Through its auditing, it found that several functional divisions suffered from poor coordination, for example there was unreliable information regarding sales and scheduling. This made it particularly difficult to monitor theft, which in some of the geographic areas where it operated amount to about 15% of the value of its sales. In spite of being the dominant player, there was much that could be improved. The senior management responded by providing information about the losses the company was unnecessarily facing due to theft and bad coordination. Before investing in new technological systems, the company went through a training campaign aimed at ensuring that all of the employed understood that reducing these inefficiencies would help preserving their jobs in the future. As Pearson and Clair (1998) point out, communication throughout the corporation is an essential feature of HROs, which ensures that strategies and objectives are shared and understood.

Selectos subsequently invested US$3 million in technology systems that helped managing the supply chain, sales, and stocking more efficiently. They began using an Integrated Business Management System (IBMS) (Control Logistics System, 2011) and a Point of Sale (POS) Information System (ALFASA, 2011). In 2006, one year after Walmart's official entrance in the market, all of their stores had these systems, which allowed them to plan operations better. In order to avoid vulnerability to systemic failure, Selectos invested in multiple back-ups for its data, which protected the information accumulated from viruses, hackers, and also physical damage to one of its information technology hubs. Used to operate in a region affected by hurricanes, earthquakes, and also civil disturbances and unrest, Carlos wanted to ensure that automation would not result in the risk of temporary break down of his supply chain. He choose to invest rather more than the strict necessary, prioritizing reliability over efficiency, and ensuring that the systems adopted were flexible and adaptable in case of emergency (Weick et al. 2008; Leveson et al., 2009).

Improvement is a process that occurs through *learning* and sharing of knowledge. From identifying areas of concern, through discussing them with people involved; and then, the use of expertise (Porte & Consolini, 1998). Walmart's entry in El Salvador forced Selectos to initiate a process of organizational restructuring in order to improve processes and create knowledge within the company. A renewal in key management (especially the purchasing and category management) had to be implemented, new managers should have more skills, better economic incentives tied to the company's goal of evolving from family to professional enterprise; for Weick and Sutcliffe (2007) expertise is *not simply an issue of content knowledge*. Instead, it consists of knowledge plus *credibility, trust and attentiveness*. Selectos also took the opportunity offered for friendly supermarket chains in Central America and acquired the best practices after adapting them to the Salvadoran culture.

Once Walmart accomplished its entrance to El Salvador, Selectos had already completed important upgrades to how they managed operations but maintained its commitment to improve. Selectos decided to stick to its Hi-low pricing strategy and pursue continuous improvements in the way it executed it as opposed to imitating its much larger competitor Walmart. One of the elements of *weakness* they identified during the auditing process was the fact that some of their food suppliers struggled to comply with their requirements, which became ever stricter as they improved their operations management. The continuously changing demand pattern that characterizes retailers adopting Hi-Low strategies entailed the need for flexible and yet very reliable suppliers. Store managers provided strategic information revealing that in some product areas the problem was affecting performance. After having consulted with purchasing, distribution and store managers, the CEO of Selectos decided to vertically integrate production in the areas where issues were identified. The Salvadoran company set aside US$13 million to build an agro-industrial meat and poultry processing plant, fruit and vegetable packaging plant, and bakeries. By 2010, goods produced in house accounted for an average of 3% to 4% of annual sales.

The investment was risky, and it entailed a further process of organizational learning, moving into the direct production of some of the goods sold, and also into the building and managing of brands. Selectos hired new personnel and re-structured its operations to accommodate the role of the new in-house production facilities. In only two years the investments undertaken allowed it to improve further its operations, reducing the inefficiencies that characterized restocking of certain food items when promotions changed. Exploiting its superior knowledge of the domestic economy, Selectos also invested in searching for local firms that could potentially supply the goods that retailers imported in El Salvador, in particular fruit and vegetables. There were many reasons for doing this. First, Selectos presented itself as a local retailer, and wanted to ensure that it was perceived to be *more local* than its rivals. Offering more local products and communicating to customers the fact that it was making an effort to source locally was in line with its corporate marketing strategy. Second, although imports were in the short run easier to obtain, in the case of disruptions to the main international trade lines, local suppliers would provide a more reliable source of highly perishable products. Again, Selectos invested with a long term perspective that maximized reliability instead of short term profitability (Roberts et al., 2001).

In 2011, after more than five years competing head-to-head with the most effective retail chain in the world, Selectos not only survived, but gained market share in El Salvador. They continued executing their Hi-low strategy; their level of prices ranking in the middle between Walmart's supermarket concept (La Despensa de Don Juan) and Walmart's discount stores (Despensa Familiar). Around of 63% of consumers seemed to confirm it by ranking Selectos as the number one supermarket (Brenes & Montoya, 2011)

According to Selectos, net sales had a inter-annual grow rate of 8%, for the period 2004-2010, accounting for US $551 million at the end of that lapse (See Table 4). Their EBITDA (earnings before interests, taxes, depreciation and amortization) as a percentage of sales rated around 6% (Brenes & Montoya, 2011), Whole Foods reports for 2008-2011 an average operating margin of 4,2% (Whole Foods, 2012).

Table 4 here

According to Weick and Sutcliffe (2007) an organization is resilient if it can *absorb strain* and keep working, even when things are hard, if it can *bounce back* from crises and if it can learn from them. Having deployed the new technology systems, Carlos run the auditing exercise again, trying to find other areas where operations could be improved. After completing this second, yearlong auditing exercise, the management team of Selectos realized that even the most efficient and smoothly run stores often reported problems. After consulting the managers of each store, they found that unexpected and yet not completely uncommon events severely damaged the efficiency of Selectos' operations. Some of the stores, for example, were located in areas where landslides and flood affected infrastructure during the rainy seasons. Although the stores were equipped to function through power cuts, many suppliers were delaying their deliveries citing as their causes problems as road interruption, damages to their refrigerators. Selectos worked jointly with its suppliers to design procedures to follow in order to minimize delays in the event of minor natural disasters. The systems were tested in different moments to verify the response of both the stores and the suppliers. By sharing its organizational knowledge, Selectos developed a more efficient supply chain network, better suited to operate in a volatile environment such as El Salvador. When Hurricane Agatha struck El Salvador in the year 2010 (El Universo, 2010), Selectos quickly adapted to the situation. Having planned for similar events and run multiple simulations helped the company manage through the period of major disruption caused by the natural disaster. Suppliers used alternative routes to deliver their goods, and in some cases they were re-routed to different warehouses, as planned in the simulations. The human resource department managed numerous changes to accommodate for the difficulty of getting to work that many of the employees faced. In house production of certain goods was ramped up in order to reduce reliance on external suppliers. The investments undertaken to manage frequent minor crises proved valuable when a larger natural disaster hit El Salvador. The flexibility and gradually-acquired reliability of Selectos as an organization it allowed it to manage better the consequences of *black swans*, the unexpected events that have the potential to disrupt operations and cause immense damages (Taleb, 2007; Weick et al., 2008). The experience of Selectos has relevant insights for firms, managers and entrepreneurs operating in risky and volatile environments, such as economies affected by frequent natural disasters. It illustrates that investments in reliability, learning processes, flexible systems, and gradual improvements to operations, may in the short run be costly, but in the medium and long run do pay off, even when competing against more resourceful rivals.

References

Agin, D & Ogien T. (2011). Latin 500: Walmart: Latin American Success. Latin Trade, Aug 02, 2011 http://latintrade.com/2011/08/latin-500-walmart-latin-american-success, accessed 17 September 2013.

ALFASA (2011) Sistema de Información de Punto de Venta (P.O.S.), Alfasa.com. http://www.alfasa.com/punto.htm, accessed 14 November 2013.

Bigley, G. A., & Roberts, K. H. (2001). The incident command system: High-reliability organizing for complex and volatile task environments. *Academy of Management Journal*, 44(6), 1281-1299.

Bremmer, I. (2005). Managing Risk in an Unstable World. *Harvard Business Review*, June 2005. 51-60.

Brenes, E & Montoya, D. (2011). Super Selectos: Winning the war against multinationals?. *INCAE Business School*, Case Study 0172.

Brenes, E. R., Montoya, D., & Ciravegna, L. (2014). Differentiation strategies in emerging markets: The case of Latin American agribusinesses. *Journal of Business Research*, *67*(5), 847-855.

Carlton, D. & Perloff J. (2000). Modern Industrial Organization. Addison Wesley Longman, 3rd Edition.

Control Logistic System S.A. (2011). SIGES. Control Logistic System S.A website. http://www.cls.es/frame_gen(a).htm, accessed 10 April, 2011.

Cooke, D. L., & Rohleder, T. R. (2006). Learning from incidents: from normal accidents to high reliability. *System Dynamics Review*, 22 (3), pp. 213-239.

Costa, G. (2012). La Situación de la Seguridad Ciudadana en América Latina. Inter-American Dialogue. Working Paper, Feb 2012.

Datamonitor (2011). Global Food Retail. Datamonitor. www.datamonitor.com, accessed 20 June 2011.

Defensoría del consumidor (2008). Perfil del consumidor salvadoreño en el Siglo XXI. PNUD.

ECLAC (2012). Informe Macroecnómico – El Salvador. http://www.cepal.org/publicaciones/xml/5/46985/ElSalvador-completo-web.pdf, accessed 13 October, 2013.

El Diario de Hoy (2011). Grupo Paiz busca alianzas en el país. El Diario de Hoy. November 7th, 2011. www.elsalvador.com/noticias/2001/11/7/NEGOCIOS/negoc2.html accessed, 3November, 2013.

El Mundo (2013). Supermercados Europa cierran operaciones. El Mundo. February 3rd, 2013. http://elmundo.com.sv/supermercados-europa-cierran-operaciones, accessed 10 October, 2013.

El Universo (2010). El huracán Agatha golpea con fuerza a Guatemala y El Salvador. El Universo, May 30th, 2010. http://www.eluniverso.com/2010/05/31/1/1361/huracan-agatha-golpea-fuerza-guatemala-salvador.html, accessed 29 October, 2013.

Foster, L., Haltiwanger, J. & Krizan, C.J. (2002): The Link between Aggregate and Microproductivity Growth: Evidence from Retail Trade. National Bureau of Economic Research, Working Paper N° 9120.

Garvin, D.A. (2000). Learning In Action- A Guide to Putting the Learning Organization to Work. *Harvard Business School Press*. Boston.

Harrington, S., Weiss M. & Bhaktavatsalam S. (2010): Pimco Sells Black Swan Protection as Wall Street Markets Fear. Bloomberg. http://www.bloomberg.com/news/2010-07-20/pimco-sells-black-swan-protection-as-wall-street-profits-from-selling-fear.html, accessed 27 September, 2013.

Holmes, T.J. (2001). Bar Codes Lead to Frequent Deliveries and Superstores. *Rand Journal of Economics*, Vol. 32, N° 4 (Winter 2001), pp. 708-725.

Hopkins, A. (2009). *Failure to learn: The BP Texas City refinery disaster*. Australia: CCH Australian Limited.

Ibarra, A.M. (2005): *Comarcas Vulnerables: Riesgos y desastres naturales en Centroamérica y el Caribe*. Editorial CRIES. First Edition, pp. 97-108

Kiste, F. (2013). Aumenta a 63% la cuota de mercado de Súper Selectos. El Mundo. http://elmundo.com.sv/aumenta-a-63-la-cuota-de-mercado-de-super-selectos, accessed 15 September, 2013.

Leveson, N., Dulac, N., Marais, K., & Carroll, J. (2009). *Moving beyond normal accidents and high reliability organizations: a systems approach to safety in complex systems. Organization Studies*, 30(2-3), pp. 227-249.

López, A. (2013). Salvadoreño Super Selectos lanza tienda en línea. Estrategia y Negocios, August 26, 2013. http://www.estrategiaynegocios.net/blog/2013/08/26/salvadoreno-super-selectos-lanza-tienda-en-linea/, accessed 27 October, 2013.

Loreto L. (2005). Cambios en la industria de los supermercados concentración, hipermercados, relaciones con proveedores y marcas propias. Universidad de los Andes, Santiago. Published Studies, 97. www.cepchile.cl/dms/lang_1/doc_3472.html, accessed 27 october, 2013.

Meyer, R. (2012). Peacetime Violence in El Salvador and Honduras: A Tale of Two Countries. International Catalan Institute for Peace, Working Paper No. 2012/6. http://ssrn.com/abstract=2206264 or http://dx.doi.org/10.2139/ssrn.2206264, accessed October, 2013.

Ministerio de Trabajo y Previsión Social de El Salvador (2013). Salario Mínimo en El Salvador 2009-2013. Power point presentation.http://issuu.com/prensamtps/docs/salario_minimo_comparativo_2009-2013-11, accessed 20 October, 2013.

Ndubisi, N. O. (2012). Mindfulness, reliability, pre-emptive conflict handling, customer orientation and outcomes in Malaysia's healthcare sector. *Journal of Business Research*, 65(4), pp. 537-546.

Nemeth, C., & Cook, R. (2007). *Reliability versus resilience: What does healthcare need? In Dominguez, C. (Ed.),* Symposium on high reliability in healthcare. Human Factors and Ergonomics Society Annual Meeting Proceedings. pp. 621-625, Baltimore, MD, 1-5 October.

Oberholzer-Gee, Felix (2006). "Wal-Mart's Business Environment." *Harvard Business School*, Case 706-453.

Pearson, C. M., & Clair J.A. (1998). Reframing crisis management. *Academy of management review* 23(1): pp. 59-76.

Porte, T. L., & Consolini, P. (1998). Theoretical and operational challenges of “high-reliability organizations”: air-traffic control and aircraft carriers. International Journal of Public Administration, 21(6-8), 847-852.

Quarantelli, E. L. (1988). Disaster crisis management: A summary of research findings. *Journal of management studies*, *25*(4), 373-385.

Rijpma, J.A. (1997). Complexity, tight-coupling and reliability: Connecting normal accidents theory and high reliability theory. *Journal of Contingencies and Crisis Management*, 5(1), pp. 15–23.

Roberts, K. (1990). *Some characteristics of one type of high reliability organisation*. Organization Science, 1 (2), pp. 160-176.

Roberts, K. H., Bea, R. & Bartles, D. L. (2001). Must accidents happen? Lessons from high-reliability organizations. *The Academy of Management Executive*, 15(3), 70-78.

Rochlin, G. I. (1993). *Defining “high reliability” organizations in practice: a taxonomic prologue*. In K. H. Roberts (Ed.), New challenges to understanding organizations (pp. 11-32). New York: Macmillan.

Rodas, A. (2013). Inauguran la sucursal 52 de Despensa Familiar. ElSalvador.com. 7 October 2013.http://www.elsalvador.com/mwedh/nota/nota_completa.asp?idCat=47861&idArt=8228864, accessed 7 November, 2013.

Salinas, C. (2008). Comprar al fiado en las pulperías. El País. December 14, 2008. Available from: http://elpais.com/diario/2008/12/14/negocio/1229262746_850215.html , accessed February, 2012.

Schulman, P. R. (2004). General attributes of safe organizations. *Quality and Safety in Health Care*. 13, Supplement 2 39-44

Servicio Nacional de Estudios Territoriales (SNET) (2008). Recopilación histórica de los desastres en El Salvador 1900-2005. http://www.snet.gob.sv/page.php?id=414&p=133, accessed 1st November, 2013.

Taleb, N. N. (2007). Black swans and the domains of statistics. *The American Statistician*, 61(3), pp. 198-200.

Tamuz, M. & Harrison, M. I. (2006). Improving safety in hospitals: Contributions of high reliability theory and normal accident theory. *Health Research and Educational Trust*, 41 (4), pp. 1654-1673.

Vogus, T. J., & Welbourne, T. M. (2003). Structuring for high reliability: HR practices and mindful processes in reliability- seeking organizations. *Journal of Organizational Behavior*, 24(7), pp. 877-903.

Waller, M. J., & Roberts, K. H. (2003). High reliability and organisational behaviour: Finally the twain must meet. *Journal of Organizational Behavior*, 24, pp. 813-814.

Walmart (2013). 10 Rules for Building a Business. Wal-Mart website.http://corporate.walmart.com/our-story/heritage/10-rules, accessed 20 October 2013.

Walmart (2013): Our locations – El Salvador.http://corporate.walmart.com/our-story/locations/el-salvador, accessed 20 October 2013.

Wal-Mart de México (2009). Walmart De México Adquiere Operación De Walmart En Centroamérica. Wal-Mart Mexico.http://www.walmex.mx/assets/files/Informacion%20financiera/BMV/BMV/Esp/2009/12062009%20-Adquiere%20Operacion%20De%20Walmart%20En%20CA.pdf, accessed 18 February 2012.

Wal-Mart de México (2011). Webcast Resultados del Tercer Trimestre 2011. Wal-Mart Mexico.http://www.walmex.mx/, accessed 7 February 2011.

Weick, K. E. (1987). *Organizational culture as a source of high reliability*. National Emergency Training Center.

Weick, K. E., Sutcliffe, K. M., & Obstfeld, D. (2008). Organizing for high reliability: Processes of collective mindfulness. *Crisis management*, 3, pp. 81-123.

Weick, K.E. & Sutcliffe K.M. (2007). Managing the Unexpected: Resilient Performance in an Age of Uncertainty. Jossey-Bass, San Francisco

Whole Foods Market (2012), 2012 Annual Report. http://www.wholefoodsmarket.com/sites/default/files/media/Global/Company%20Info/PDFs/2012-WFM_Annual_Report.pdf, accessed 15 October, 2013.

World Bank, (2013). Data -El Salvador.http://www.bancomundial.org/es/country/elsalvador, accessed 20 October 2013.

World Bank, (2013). GDP per capita, PPP (current international $).http://data.worldbank.org/indicator/NY.GDP.PCAP.PP.CD?page=1, accessed 22 October, 2013.

World Bank, (2013). Poverty gap at national poverty line (%).http://data.worldbank.org/indicator/SI.POV.NAGP/countries, accessed 22 October, 2013.

World Economic Forum (2011). *The Global Competitiveness Report*, 2011-2012, Full data. World Economic Forum (1), p.403

Table 1
Classification of Market Segment by Income

Category	Income US$
A	Greater than or equal to 3500
B	2500 to 3499
C+	1500 to 2499
C	1000 to 1499
C-	600 to 999
D	250 to 599

Source: Grupo Calleja

Table 2 –

Business Environment: El Salvador and the USA,

	USA		El Salvador	
	2006	**2011**	**2006**	**2011**
GDP per capita (PPP)	44,623	48,113	6,070	6,856
People living under poverty line (%)	N/A	N/A	30.7	40.6
Ranking in the Business Costs of Crime and Violence (the higher the worst)	36th of 122	81st of 142	118th of 122	141st of 142
Homicides per 100,000 inhabitants	6.0	5.0 (2010)	65	69

Source: World Economic Forum (2011), World Bank, data (2013)

Table 3

El Salvador's retail industry, by type of store (2010)

Type of Store	Brand	Owner	Number of stores
Hypermarket (>2500 m^2)	Hiper Paiz	Walmart	2
	Hiper Europa	Grupo Saca	1
Supermarket (400 - 2500 m^2)	Super Selectos	Calleja S.A**	69
	Selectos Market	Calleja S.A**	13
	Despensa de Don Juan	Walmart	32
	Despensa Familiar*	Walmart	47
	Supermercados Europa	Grupo Saca	4
Club Outlets	PriceSmart	Joint Venture US/Salvadorians	2

* Warehouse - discount store type.

** Calleja S.A or Grupo Calleja, owner of Super Selectos and Selectos Market brands

Source: Grupo Calleja and Walmart.

Table 4

Annual Sales of Super Selectos

Year	Net Sales (millions US$)
2006	403
2007	440
2008	446
2009	514
2010	551

Source: Grupo Calleja