

Food Safety Management by Retailers: An Assessment of In-Store Food Safety Practices

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CIES GLOBAL FOOD SAFETY INITIATIVE
WORKING PAPER 06/01

JANUARY 2006



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Acknowledgements:

The authors would like to express their gratitude first to the CIES members who volunteered to participate in this study. Second, the expertise of our colleagues Penny Timm and Adam Hale of JohnsonDiversey Market Research were invaluable in bringing this study to a successful completion. Finally, we gratefully acknowledge the support of Nicolas Gedda, Serban Teodoresco, Werner Linders, and Ralph Neller for the time and resources they made available throughout this project.

Disclaimer:

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Project Overview

A document summarizing discussion of Good Retail Practices (GRP's) at the 2003 CIES meeting for Chief Executive Officers included the following statement:

"Retailers use best practice to manage food under their control, but their efforts are largely unrecognized. These practices differ on a national and regional basis, and there is little exchange of information concerning GRP, mostly due to the absence of a suitable forum."

To create this forum and to facilitate the sharing of "Best Practices" the CIES initiated a project to deliver:

- A reference document that provides a perspective on the legislative framework surrounding GRP's;
- An insight into the GRP's currently operating within the retail industry of selected countries
- An inventory of GRP resources, and
- A baseline assessment of the current state of global in-store food safety standards.

The first phase of the project involved desktop research to establish the framework for retail food safety for 9 countries; The Netherlands, France, Germany, Ireland, UK, Switzerland, Australia, Mexico and the United States. An inventory of food safety resources available in these countries was also identified. The details of phase one were reported in January 2005 as CIES Global Food Safety Initiative Working Paper 05/01.

The second phase of the project has involved the use of a web based questionnaire to collect data on the development, status and maturity of food safety management systems of CIES member organizations. All collected data was processed anonymously, with only the country of origin used as an identifier to enable comparative analysis. Three data-sets are presented in this report representing the United States, Switzerland and Europe as a collective group.

Desktop Research - Executive Summary:

A benchmarking tool known as Hygienomic™ matrix mapping has been used to assess and rank the data collected from a 33 question survey of retail organizations food safety management systems in the United States, Switzerland and collective European Union countries.

The survey questions were organized around six principal components of a complete Food Safety Management System (FSMS):

- Auditing Programs
- Training Programs
- Regulatory Compliance
- Standards & Policies
- Management Systems and
- Business Culture

The rating system used for comparative purposes, has 4 generations, each signifying, a different stage of development of a successful food safety management system, these being:

- Generation 1 = Gaining Control
- Generation 2 = Achieving Compliance
- Generation 3 = Seeking Continuous Improvement
- Generation 4 = Attaining Best Practice

For three of these markers; Auditing, Regulatory compliance and Standards & Policies, all three countries/regions had reached a Generation 3 level of seeking continuous improvement.

For the auditing marker this is indicative that organizations are seeing benefits from their audit programs, that both internal and external audits are being used, and that senior management is involved in some capacity with the audit program. Control and compliance has largely been achieved and the industry status is one of looking to improve further.

For the Regulatory Compliance marker, retailers from all three regions judged themselves to be mostly or fully compliant with regulations. It should, be noted, however, that the questionnaire was completed prior to 2006, and the changes

in EU HACCP regulations at the beginning of this year may impact on the level of compliance in the short term. In addition, the US does not require HACCP systems for the retail industry and so a significant element of a Food safety management system does not come under enforcement control.

For the Standards & Policies marker, generation 3 is indicative of consistent standards, with commitment to improvement and full policy documentation that is implemented and reviewed.

Training was rated at a Generation 3 status for both the US and European Union countries. Swiss retail organizations, however, judged themselves to be slightly lower in achievement, resulting in a Generation 2 rating. Strong results within the training marker are seen when there are well developed training programs that are matched to job responsibilities and accountabilities, structured plans for training, traceability of personnel training records, and review of program content and instructor capabilities to seek improvements where appropriate.

The Management Systems marker rated all three groups as Generation 2 status, with the US giving responses that indicate they are the weakest in this area. One of the key drivers for achieving generation 3 categories for management systems is the involvement of senior management to drive, seek improvements, and define strategy, and set targets and objectives for the food safety management system.

The last marker used in the matrix mapping exercise was for **Business Culture**. This indicator is included because of the belief that to have a fully functioning, “best practice” food safety management system, the subject of food safety has to be embedded in the “way of life” of the organization. Effective communication, senior management commitment, and an understanding of food safety throughout the organization are all required to create this culture. The responses from Switzerland were most positive in this area with a Generation 3 rating; while the US and EU were rated less highly and achieved Generation 2.

This study was designed to provide a benchmarking tool for retailers seeking to measure their own food safety management practices against global standards and best practices. The results of phase 2 of the total study demonstrate that retailers, certainly from the countries that have responded to the survey, have fairly well developed management systems that have in the main transcended

control and compliance status and are now looking for continuous improvement to achieve return on investment. The sharing of information via this study therefore provides an additional resource for retailers to use for benchmarking their own systems.

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1.0 Introduction

The need for effective food safety management by grocery retailers is a subject that needs no introduction. In all developed societies, market trends and developments over the past 20 years have created many opportunities for retailers, but at the same time have created many potential hazards that need aggressive management.

To satisfy consumer demand, the average supermarket today stocks 3 – 5 times the number of SKU's that it did 20 years ago. Many more of the items are imported than ever before, and some items, especially fresh produce, may be imported from developing nations where sanitation standards are not yet consistently controlled.

The change in customer lifestyles and shopping behaviors is significant and in many countries daily purchase of fresh goods is an activity consigned to history. The customer, however, still demands fresh foods with a longer shelf life, as opposed to frozen, dehydrated or canned products and this demand impacts transportation, storage, handling, and display controls that the retailer needs to observe.

The continuing trend of an ever-increasing percentage of meals consumed outside the home, which currently represent 52% of food purchases in the U.S., ⁽¹⁾ has placed retailers in direct competition with restaurants in trying to capture a significant share of this revenue. To compete effectively, retailers have modified their business, adding in some cases in-store kitchens that may prepare a variety of value-added, ready-to-eat, ready-to-warm, or prepared, ready-to-cook entrees. Many of these items require extra handling in the store or commissary kitchen, potentially exposing them to cross-contamination and sometimes requiring multiple cook-chill cycles that can allow microbial growth if not adequately monitored and controlled.

In a similar vein, the provision of in-store restaurant and cafeteria type facilities to enhance the shopping experience and extend customer service is another trend

that has become firmly established in many food retail outlets over recent years. Again, this addition to the traditional food-retailing portfolio has increased the complexity and needs for the management of in-store food safety.

The examples above demonstrates just some of the challenges that retailers have/are facing with respect to food safety in order to meet the desires and wants of the consumer, compete effectively and deliver customer service.

CIES Two-Tiered Response

In recognition of these added risks, CIES leadership initiated the Global Food Safety Initiative (GFSI) in May 2000. The stated objectives of the GFSI were to enhance food safety, to ensure consumer protection, strengthen consumer confidence, benchmark requirements of food safety systems, and to improve cost efficiency throughout the food supply chain. Toward those ends, GFSI created a Guidance Document that described detailed benchmarking requirements for food safety standards to be used by suppliers throughout the food chain.

As a complement to that far-reaching effort, the CIES leadership recognized the need for a second component to their food safety management program, a component focusing on in-store practices throughout the global retail industry. CIES launched in 2004 a two-year study of in-store practices worldwide, a study of which this report is a product.

Changing Regulatory Requirements in the EU

This study has been carried out against a dramatically changing regulatory background within the European Union. Beginning in 2006, new EU-wide food safety legislation will come into effect, supplanting the national legislative requirements that have, until now, been in effect in the member nations.

Inherent in the new EU-wide legislation is the application of the legal principle of strict liability to food safety regulation. First incorporated into Food Safety legislation in 1990 in the UK, the doctrine of strict liability holds that, in both civil and criminal matters, it is not necessary for the prosecution to prove that the accused party had intent to cause the offense, or had prior knowledge of the probable outcome, or was reckless in committing the offense. In order to support a judgment against the accused party, under strict liability it is only necessary to prove that the accused is responsible for the action or neglect that caused the

offense. Against charges of this type, the accused party has the opportunity to raise a defense of due diligence.

The primary means of demonstrating due diligence is for the defense to establish that he or she took "all reasonable steps" to prevent the incident or offense from occurring. The requirement to take "all reasonable steps" places a significant onus on the accused, particularly since there is no standard interpretation of what constitutes all reasonable steps. However, courts of many nations have identified some of the essential steps that may be taken to demonstrate due diligence:

Systems

- Draft and follow a sound Food Safety Management System (FSMS)
- Institute a system of prevention (such as a HACCP System)
- Routinely audit compliance with FSMS and HACCP requirements

Personnel

- Ensure employees have adequate skills to perform their jobs
- Provide on-going training and instruction
- Make sure employees have access to required information
- Monitor and supervise employees effectively
- Consult experts when necessary

Communications

- Maintain logs and records
- Ensure information is shared between management and employees

Physical

- Use proper equipment
- Ensure equipment is properly maintained

All of the measures identified above may exist as part of a Food Safety Management System. If such a system is in place and effectively implemented, it will provide many of the elements necessary to demonstrate that due diligence was delivered. An effective FSMS will create a business culture that encourages and rewards internal vigilance and self-regulation.

A Culture of Continuous Improvement and Benchmarking

Business organizations in every sector are challenged more than ever today by issues of quality, risk management, cost, competitiveness, and new technology. Strategic initiatives dot the corporate landscape. The most universal business need is to make better-informed decisions by getting more and better information. (2)

Benchmarking, the process of improving performance by continuously identifying, understanding, and adapting outstanding practices and processes, is an important systematic methodology for achieving an organization's strategic objectives.(3)

When specific metrics are selected for benchmarking, they can fall into two general classes: performance metrics and diagnostic metrics. Performance metrics assess *what* is being done; they assess overall performance in the area being measured. Diagnostic metrics seek to ascertain why a process is performing at a certain level, and are usually associated with internal processes and procedures.

Benchmarking that is focused only on performance metrics may miss the most valuable opportunity presented by benchmarking: learning about how best performance is generated. Complete benchmarking focuses on the improvement of an organization's practice by studying "best practices" rather than merely measuring best performance. Best practices are the cause of best performance, and studying best practices provides the greatest opportunity for gaining a strategic, operational, and financial advantages.

While benchmarking as a business tool dovetails well with TQM, continuous improvement and the learning organization, it "doesn't support abstract postulations about arcane management concepts. It promotes the discovery of best practices that embody important concepts in real-world situations." (4)

Benchmarking's positive influence extends beyond the improvement of a particular business process. It promotes the emergence of a "learning culture" throughout the enterprise – a key to continuous improvement, total quality management, and competitiveness over the long term.

A learning organization embraces an ethic that essentially says, "We seek to continually learn by example." Inherent in this ethic are several potent ideas:

- The desire to continually improve;
- A willingness to consider existing systems, ideas, and methods open to change;
- The resolve to look outside the organization for inspiration and ideas;
- A commitment to meet and beat the best known performance standards.

Benchmarking adds value not only by improving a process but also by helping organizations evolve more effectively into learning organizations with a total quality culture. In the struggle for customers and profitability in the global economy, learning organizations will increasingly respond to a changing landscape with greater facility and evolve winning practices more effectively.

A Benchmarking Tool

This study was designed to provide a benchmarking tool for retailers seeking to measure their own food safety management practices against global standards and best practices. Phase I of this study, which was reported in January of 2005, described in-store food safety practices and policies that are required of retailers by regulatory authorities in nine different nations. That study was based on the description and analysis provided by experts who were recruited for each of the nine nations included in the study.

Phase II of the study is based on a self-description of retail practices by representatives of retail firms who volunteered to participate in a 33-question internet-based survey. The authors wish to express their gratitude to those conscientious volunteers who graciously participated in the survey.

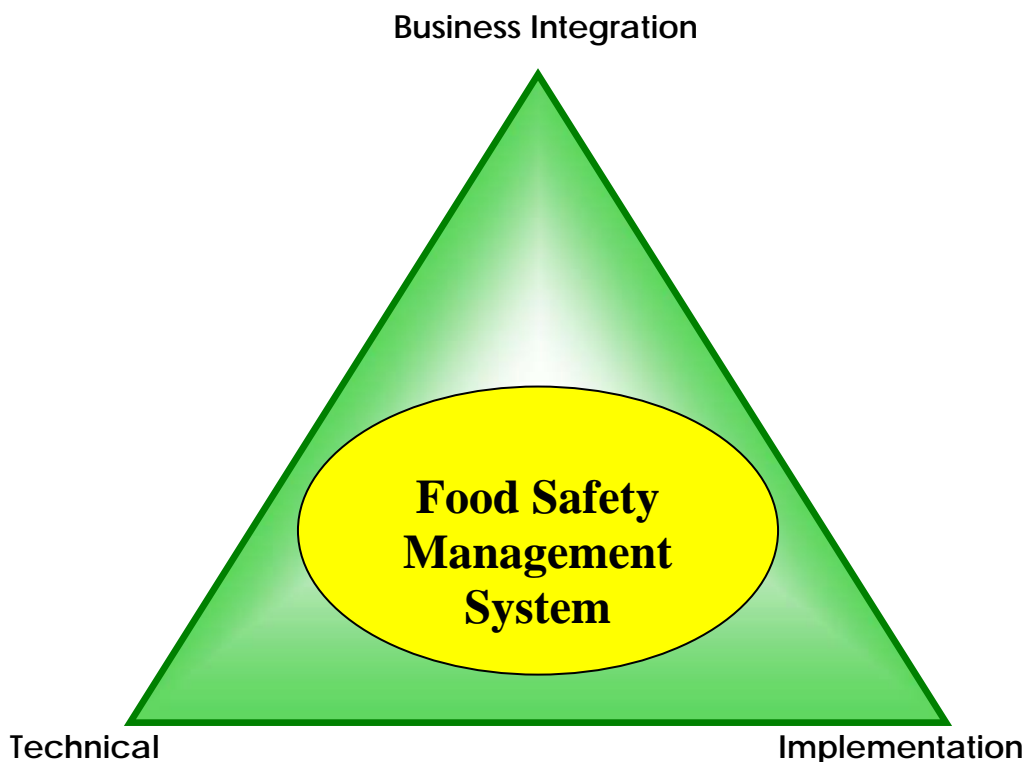
2.0 Hygienomic™ Matrix Methodology

The Hygienomic™ Matrix methodology is a descriptive and analytical tool used to assess the status of development and performance of food safety management systems. It is based on the identification and assessment of the key drivers and indicators for consistent, efficient, and successful managerial control of the subject matter that is being managed. There are three fundamental principles of Hygienomic™ Matrix mapping that direct the use of this assessment tool.

Principle 1: Essential Management System Characteristics

The first principle involves the acknowledgement that an effective, efficient and economic management system has three essential characteristics that must operate together if business excellence is to be achieved. These three are:

- Technical Data and Tools
- Implementation Strategy and Delivery and
- Business Integration



Technical Resources: Technical resources, data, and tools are at the heart of a food safety management system: policies, procedures, and instructions, forms and records, calibrated equipment, internal and/or external expertise, etc. Designing and defining the technical elements is comparatively straightforward in that it is relatively easy to write sound policies and procedures for food safety; however, these are useless without effective implementation at the point of use and will be inoperable unless the real world business environment has been taken into consideration during the technical development phase.

Many organizations pride themselves on well written and neatly bound policies and instructions issued from the corporate center. However, procedures, actions and activities that may be technically intended to manage food safety do not necessarily work on the “factory floor” or in a “miles from anywhere” retail outlet. The practicalities of performing even simple tasks or checks in both the normal and abnormal operating environment are frequently not taken into consideration in the technical development phase and this can repeatedly lead to failure. At best these may be minor incidents of non-control that are identified before a full food safety incident occurs. At worst, unsafe food is in the marketplace and customers are affected.

Implementation: Implementation strategy and execution are obviously critical success factors in achieving food safety management, and flaws in implementation and execution of FSMS are areas that cause many of the problems and crises food safety control.

For example, “one-off” training programs are delivered where there is no link between theory and the actual work environment. Personnel are trained in just the food safety aspects that involve their current role and within a week they have moved onto a new position with different food safety risks and no additional training. Worse still, people are not trained; they are just told to start doing tasks and checks without any understanding of the importance of these activities or the appropriate tools to conduct the checks.

To evaluate food safety system implementation, many organizations use either internal and/or external audits or inspections to measure performance. However, most audit protocols are compliance based and frequently the corrective actions only address the immediate deficiency and do not attempt to or look to see if there is a root cause of the problem. Equally, audit results over a

period of time are not effectively reviewed to identify repeat non-conformance, which would highlight that corrective actions being applied were not effective in correcting the root cause of the problem. The use of audits can be valuable source of information on the effectiveness of the food safety system. They can also lead to a false sense of security when there are inappropriate audit protocols, insufficient review of audit results, and limited understanding of the "real" cause of non-compliance.

One of the reasons that pure compliance audits may not be fully effective in providing an accurate reflection of the status of the food safety management system is that, over time, store personnel become familiar with the audit process and what is going to be checked, and focus their efforts only on the items that will be inspected. This drive for good results may be an understandable trait of human nature, but it leads us onto the third essential attribute of a functioning management system and that is business integration.

Business Integration: The starting point of any system, in this case food safety, is the triggering recognition that something needs to be managed. This trigger could be something external such as regulatory requirements from the authorities or could be internal, for example a new strategic initiative from senior management. The origin of the trigger is immaterial; initially there will be no policies and procedures on the subject, no training, and no auditing.

This is a starting point of zero and it is very easy to focus on the technical development and implementation phases of the project, but of equal importance is ensuring that the management system becomes integrated into the business culture of the organization. With respect to food safety this can be difficult because traditionally this subject has been seen as the sole responsibility of the quality or technical department of an organization. In reality the majority of actual "day-to-day" practices that can impact on the safety of food have nothing to do with the quality/technical department and ownership of the system has to be a collective responsibility.

Many initiatives fail because of a lack of understanding, responsibility and accountability at both the individual and collective level. If operational personnel have five personal business objectives and none of these relate to food safety then it is hardly surprising that ensuring their personnel receive food safety training is not a priority, particularly if there is a shortage of staff or a very

high turnover of staff. If the financial objectives of the purchasing department are to make savings of 10% on materials and services purchased then there is a danger that some of the essential food safety management requirements may be affected due purely to a lack of understanding of the criticality of the goods or service. If the Human Resource department imposes a recruitment ban because of a strategic realignment of staff project then this may impact on having the right people in the right places if personnel choose to leave the company. The examples quoted are fictional, but they serve the purpose of demonstrating why a food safety management system could and probably will fail if it is not fully integrated into the total business culture.

Effective communication is critical to the integration process and it lies to the senior management to unequivocally communicate the policies and standards that govern food safety. Other areas of support such as budget provision, defining responsibility and accountability, setting goals, targets and objectives in the area of food safety are also an important role of senior management if effective business integration is to be achieved.

Principle 2: Dynamic Management Systems

The second fundamental principle of Hygienomic™ matrix mapping is the understanding that management systems are dynamic. Technical requirements may change, new products are introduced, and there are new customer demands or different regulatory requirements, or other conditions that call for system change. Business pressures, changing priorities, or new initiatives also occur continuously within an organization, and these are just some of the drivers for change.

A food safety management system therefore has to be dynamic in terms of technical content and implementation strategy but it also has to demonstrate operational efficiency beyond a level of control and compliance. Business pressure will demand that the system is capable of demonstrating performance improvement and is thus a cost benefit to the organization. It therefore follows that following on from control and compliance there are continuous improvement and benchmarking stages to be accomplished before the status of best practice can realistically be achieved. Operational improvement and efficiency can be realized via review and continuous improvement with the setting of targets and goals that in turn get achieved and reviewed; a cyclical pattern.

Initially, this may be at an internal individual or collective level, but in time this moves to sharing information externally for benchmarking purposes with like minded peer companies.

Principle 3: Longitudinal Mapping is Essential

The third core principle of Hygienomic™ matrix mapping is the understanding that to move from a zero starting point to a fully functioning food safety management system that incorporates best practice takes time. It is an evolutionary process and there is not an “off the shelf” solution that can be purchased. Hygienomic™ assessments categorize this evolutionary process into four generations.

Generation 1 = Gaining Control

Generation 2 = Achieving Compliance

Generation 3 = Seeking Continuous Improvement

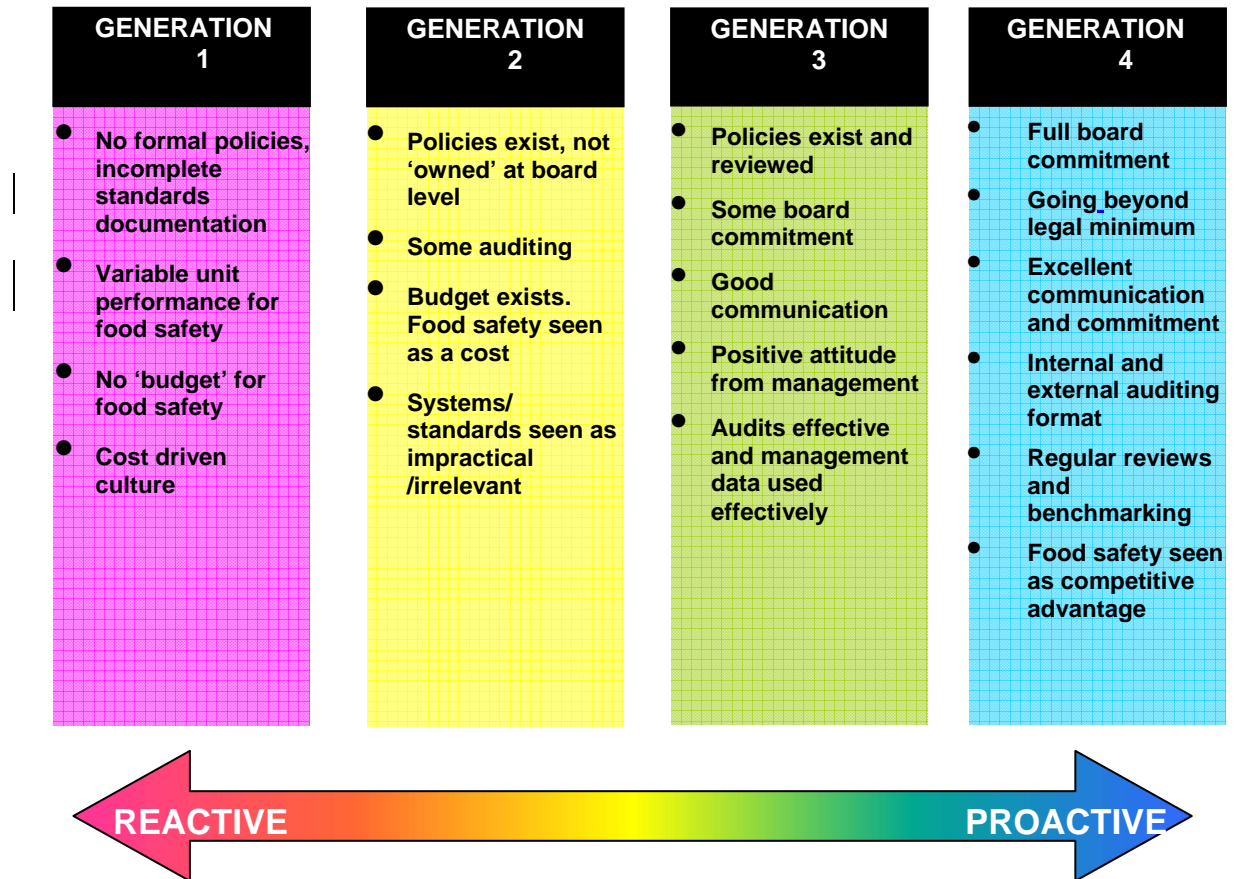
Generation 4 = Attaining Best Practice

Generations 1 and 2 are classified as reactive phases of food safety management development; gaining control and achieving compliance and demonstrating that the technical data and implementation strategy characteristics are operating effectively.

Generations 3 and 4 are proactive phases of development and the positive traits of business integration and management systems through culture, communication, accountability, and responsibility linked to the food safety program need to be demonstrated.

The chart shown on the next page highlights some of the “traits” that may be exhibited in an organization and their placement in the generational rating map.

Hygienomic™ 4 Generational Matrix Model



To perform a Hygienomic™ matrix assessment on a food safety management system it is necessary to break down the appraisal into the key drivers or markers that are the principle components of a complete and functioning system. Each of these markers is then evaluated, normally through a process of interviews, visual observations and documentation checks. This three dimensional approach aims to ensure that a thorough, holistic and predictive assessment is achieved and provides an appraisal with insight into both existing and future risks.

The assessment is systematic, and uses both relevant food sector standards and a benchmarking approach based on knowledge of same sector best practices from similar Hygienomic™ evaluations.

The division of the assessment into evaluation of individual markers is a practical benefit for both the assessor and recipient of the evaluation. The markers normally used for Food Safety Management systems are:

- Auditing Programs
- Training Programs
- Regulatory Compliance
- Standards & Policies
- Management Systems and
- Business Culture

Once the key indicators have been investigated, the overall situation is represented in a four-generation matrix representing company performance from a reactive to a proactive status; in essence it can provide the basis for continuous improvement plans.

Hygienomic™ Matrix Assessment Map – Case Study

Indicators / Score	Generation 1	Generation 2	Generation 3	Generation 4
Auditing				
Training				
Regulatory Compliance				
Standards & Policies				
Management Systems				
Business Culture				

As previously highlighted, the development of a food safety management system evolves with time and it is reasonable to expect that some markers will be more advanced than others in terms of generational rating.

It is also reasonable for companies to decide that they don't actually want to progress to Generation 4 or even Generation 3 in some or all of the markers. For many organizations, achieving control and compliance with respect to food safety is sufficient attainment. Indeed, the majority of the regulatory requirements, and many external standards, have been intentionally written so that the final goal is one of control and compliance.

Sound food safety performance can be achieved through the creation and effective communication of policies and standards and their continued reinforcement through well designed assessment and audits throughout the organization. This is the basis for a Generation 2 company and it is may well be decided that this is an acceptable level of ambition.

If the goal, however, is to exceed minimum regulatory requirements, to reach "gold standard" or "world class" status, Hygienomic Matrix mapping can provide a method and can generate a roadmap to realize that high ambition.

3.0 Survey Methodology

One of the pitfalls of benchmarking is to attempt to apply the benchmarking process to systems that are too large and complex to be manageable. A process is a group of tasks or procedures, while a system is a group of processes. Consequently, rather than trying to benchmark the entire Food Safety Management System, this study broke the system into its component parts and assessed each component separately.

The survey questions were organized around six principal components of a complete Food Safety Management System (FSMS):

- Auditing Programs
- Training Programs
- Regulatory Compliance
- Standards & Policies
- Management Systems
- Business Culture

For each of these six FSMS components, referred to as “Markers”, six to ten questions were asked of the study participants. In each question, participants were asked to describe in quantitative terms the characteristics of food safety practices among their retail organization in their specific country of operation.

The survey was administered via the internet: volunteer participants logged onto a website through a link provided on the CIES site. The site that hosted the survey was a third-party provider that also maintained the data generated by the responses to the survey. A third-party provider for data gathering was selected in order to preserve the anonymity of the survey participants and the confidentiality of the data. The names and company affiliations of the participants were not tracked or recorded.

When initially posted, the survey consisted of 54 questions (including 6 demographic questions about the participant). This number of questions was burdensome and limited the response and was subsequently shortened to 33 questions. In its shorter version, the survey took approximately 25 minutes to complete.

Participants in the Food Safety Survey - Demographics

Approximately 120 usable survey responses were received from volunteer participants. Usable responses were complete or nearly complete. With the longer survey used early in the study, a larger number of incomplete surveys were submitted by participants.

Seventy three of these responses (61.9% of total usable responses) were from participants whose operational responsibilities were located either in the United State, in the European Union, or in Switzerland. For this reason, responses from these three regions will be compared and contrasted throughout this report in order to highlight differences in food safety management practices between these regions.

The type of retail operations that were represented in the study was diverse. The percentage of conventional format supermarkets was 56.2%, multi-format markets represented 28.8, and other retail formats (hypermarkets, hard discount stores, and convenience stores) represented the remaining 15.0% of survey participants.

The size of the operations represented in the survey participants also showed significant diversity, but larger retailers were more heavily represented among study participants, as follows:

Number of stores owned by the respondents' retail organizations					
1 - 50	51 - 100	101 - 500	501 - 1000	More than 1000	TOTAL
11.0%	8.2%	19.2%	28.8%	32.8%	100.0%

The job roles held by the study participants was largely technical management, as would be expected. The job roles of participants broke down as follows:

Job role held by respondents				
Senior Executive	Technical Management	Operations Management	Store Level Management	TOTAL
12.3%	69.9%	15.1%	2.7%	100.0%

Finally, survey participants were asked to identify the frequency with which their stores offered selected ready-to-eat products that are associated with a higher risk of potential foodborne illness.

Frequency with which stores offer these prepared on-site ready to eat foods					
	Take-out Foods	Hot soups or entrees	Cold buffet (salads, entrees)	Sushi	On-site café or restaurant
Always or sometimes	90.4%	75.3%	89.0%	50.6%	76.7%
Never	9.6%	14.7%	11.0%	49.4%	23.3%

In any survey of any diverse population, there are many variables that can influence the statistical reliability of the results and the conclusions that are drawn from them. In the present case, this survey was not designed by statisticians and cannot claim to be truly representative of the entire global retail industry. There are several factors that limit the statistical verifiability of our observations and conclusions. First, the sample population is very small relative to the size of the retail foods industry worldwide, and the demographics of the survey respondents, as reported above, do not reflect the full diversity of the food retail industry or the people within it.

The second limiting factor derives from the fact that the sample was self-selected. That is, respondents volunteered to participate in the study. Why were the respondents motivated to respond? Perhaps because they have a specific personal and/or professional interest in food safety, are more passionate about the subject and convinced that it is important to their organizations. People who consider food safety a trivial subject probably would not take the time to respond to a time-consuming, complex survey on a subject that they do not care about. Of course, the absence of people who are more indifferent to food safety issues from the survey population skews the results in a somewhat biased fashion.

Finally, food safety management systems are large, complex, and difficult to measure. The lack of pre-defined metrics in assessing the degree of development of a FSMS – for an individual company, or in this case for an entire industry, calls for the use of semi-quantitative methodology. We have asked respondents

to rate and rank their organizations for various elements of a complete FSMS. These ratings and rankings have been compiled and evaluated using a matrix-based method – the Hygienomic™ Matrix – that relies on the effective use of non-parametric statistics to describe a system.

With the statistical limitations in mind concerning the development of appropriate metrics from a small, biased population concerning a complex subject, the Hygienomic™ Matrix assessment is a proven method for carrying out just such a difficult task. While the specific algorithms used within the Hygienomic™ Matrix to convert non-parametric data into generational ratings are proprietary intellectual property, the transparent portions of the methodology behind the Hygienomic™ Matrix assessment are described in the preceding section.

4.0 Survey Results – Presented by Marker

For each of the six principal components of a complete Food Safety Management system, results for each of the 6 markers will be presented in turn. Within each set of marker results, several elements will be presented for discussion

First, there will be a discussion of the marker itself – its identity, implementation, and significance within the complete FSMS. Second, the specific questions from the industry survey that were used to generate the ratings and rankings upon which the Hygieneomic Matrix generational ratings are based will be described.

Third, the generational ratings for the three geographic regions used for comparison will be presented and discussed. Finally, examples of Best In-Store Practices that relate to the specific marker will be identified.

Assessments as to the status of each marker and country in terms of progressing forwards, backwards or static has not been possible in this study due to the limitations of using a single, “point in time” question and fixed answer based survey.

4.1 Auditing Programs

Auditing: An Essential Component of a Complete FSMS

A well-designed auditing program is an essential building block for developing a robust, reliable, and sustainable food safety management system. All of the other essential components of the FSMS, including regulatory compliance, HACCP and prerequisite program development - are evaluated and linked into a comprehensive whole by a program of well-designed and effectively administered audits.

Within the retail industry, the perception by retailers of the usefulness and value of store audits has changed greatly over the past 10 - 15 years. Prior to 1990, auditing of retail facilities was regarded as part of a regulatory process, an inherently governmental function performed primarily by inspectors from the health authority at the state, local or national jurisdiction.

Today, business and regulatory pressures on retailers have completely changed the role of auditing. The technical capability to design audit protocols and to conduct internal food safety audits now resides within most retail organizations. Whether performed by a corporate staff or independent third-parties, store audits are now a routine part of food safety management for most retailers.

Assessment of Retail Auditing Programs

In assessing the degree of maturity of auditing programs, the Hygienomic Matrix considers the following aspects:

- Whether both internal and external audits are performed;
- How the audit protocols are developed and revised;
- How responsibility for developing, maintaining, implementing, and reviewing the auditing program is delegated;
- Accountability of the auditing team members;
- How effectively audit results are communicated and actioned;
- Whether audit information is correlated with food safety information from other sources;
- How the effectiveness and consistency of the audits and auditors are monitored and measured;
- How the value of auditing is perceived and communicated between various levels of staff.

Survey Questions About Auditing

Nine questions were asked of survey respondents about the auditing programs in their stores and in the retail industry in general in their country of operation. Each question was accompanied by a range of response choices, which will not be listed here. The complete survey is included as an appendix to this report.

The survey questions which follow, and a short selection of some of the most salient responses from the three comparative regions that were used to generate the Hygienomic Matrix ratings.

1. Who conducts food safety audits within your company?

A weighted ranking showed that combinations of both internal and external audits are used in the US and the EU, while external audits are less heavily used in CH (Switzerland).

2. *For each of the internal (job) functions listed below, describe their responsibility for your company's auditing program.*

One measure of program development was the involvement of senior management in the auditing program in any capacity. Involvement of senior management was most common in CH, was somewhat less common in the EU, and significantly less common in the US.

3. *Please indicate what aspects of your retail operation are addressed by audits.*

The inclusion of HACCP documentation in the scope of the audit was used as an auditing program metric. This was almost universal in CH and the EU (where HACCP programs are mandatory) and significantly less common in the US. It was also notable that in all 3 regions, the scope of food safety audits did not always include temperature control in stores.

4. *How are the results of audits communicated to your company's managers?*

In the US, audit reports were generated in electronic format in a large majority of responses, while this was much less frequently reported in the EU and CH.

5. *Who in your company has responsibility to insure that corrective actions are properly implemented at the store level?*

In all 3 regions, responsibility was primarily in the hands of store level personnel. However, in the US, responsibility was reported more frequently to be shared among more levels of management.

6. *To what extent do you agree that effective food safety audits benefit your company in the following areas?*

The perceived value of audits was significantly higher among respondents from the US than from either of the other 2 regions. In particular, US survey respondents perceived benefits from auditing that included reduced company liability, increased customer loyalty, increased product shelf life, and enhanced brand value – benefits that were less commonly perceived by respondents from the EU and CH.

7. *In your country of operation, do you agree that the retail industry, through trade associations or other cooperative efforts, spends enough time and resources (a)*

developing audit protocols, (b) Providing retailers' access to qualified auditors, and (c) Providing guidance to retailers on corrective actions?

Survey respondents from retailers in the EU were more than twice as likely to agree that enough resources are expended on auditing programs by the retail industry as respondents from CH. Respondents from the US were between the two extremes in their level of agreement.

8. *From an industry perspective, do you agree that there is value in conducting audits that address the following issues: (a) HACCP programs, (b) Training programs, (c) Standards and policies, (d) Personal hygiene, (e) Cleaning and sanitation procedures, (f) Pest control, (g) Temperature control?*

Overall perception of audit value was highest in the EU, followed by the US and CH. In the US, audit focus on HACCP was seen as less valuable compared to the other 2 regions, where HACCP programs are mandatory for retailers. HACCP programs are not required for retailers in the US.

9. *To what extent would your company be willing to anonymously share food safety audits with other retailers for benchmarking purposes?*

About 60% of respondents in all 3 regions indicated a willingness to share at least some auditing data with competitors for the purpose of benchmarking. At the same time, a higher percentage of respondents from the EU indicated their companies would not share any audit data with other retailers for benchmarking.

Hygienomic Matrix Ratings

Generational Ratings - Auditing Marker					
Region	Rating	1	2	3	4
US	3.4				
EU	3.4				
CH	3.1				

The development of effective auditing programs in the three comparative regions is assessed overall as having both a high degree of maturity, and having a dynamic character with continuing progressive development. All three regions rated above Generation 3, which indicates that both internal and external audits are used, and auditing programs are more proactive and focused.

Switzerland is shown as lagging slightly behind the other two regions because of the lower perceived value of audits, the lower degree of reliance on external third party audits, and the persistence of paper audit reporting over electronic.

Best Retail Auditing Practices

1. Thorough training and continuing calibration of internal and external auditors to a defined level of proficiency.
2. Standardized audit protocols across all regions and stores with periodic review and revision.
3. Protocol to include guidance to auditors on complex issues – e.g. decision tree.
4. Balanced time expenditure by auditors between checking documentation and direct observation of conditions and practices within facility.
5. Regular self-assessment. Lack of sufficiently frequent self-assessment is the leading observation in food facilities of all types by external auditors.
6. Use of electronic media for recording of audit data – this facilitates all aspects of data management and archiving. Archived data to be used easily for benchmarking, calibration, and follow-up on corrective actions.
7. Structure for all audits, internal and external, to include pre-audit meeting and an exit interview.
8. Pursuit of root cause analysis to eliminate repetitive non-conformances.
9. Availability of sampling and testing (environmental monitoring) to supplement auditor observations.

4.2 Training Programs

Training: The Foundation of Food Safety Management

In any organization, upholding the value and the image of the brand is a vital mission that is shared between all levels of management and staff. Everyone has a role to play in the process and everyone requires some degree of training to carry out their role effectively.

Since an incident or an outbreak of foodborne illness could devastate the value of a brand almost overnight, food safety is an exercise in brand protection that must be shared at all levels of the organization. Training managers and staff members in the basic scientific principles that underlie food safety, and training that goes on to teach practices that contribute to operational control over hazards and risks are absolute necessities in any retail organization today.

Governments around the world have also recognized this necessity and some type of food safety training is mandatory in almost every developed and developing nation. In most countries, food handlers at the line level must be trained. In others, the US for example, training is only required for managers in a food retail or foodservice firm.

Like the auditing function, employee training and education is an element underpinning all other food safety programs and strategies in the total protection program, from HACCP to GRP's to proper cleaning and sanitation. One retail manager said on the subject of training,

"If you don't finish the job with good employee training, the food safety gains that you have worked so hard to achieve will be lost with the next set of turnovers at the operator or supervisory levels."

Training programs must deliver indelible messages so that untrained employees are not placed into situations where they are asked to operate or manage a critical process without having the knowledge to be successful. This means that training materials must be delivered in formats that are understandable to all educational levels and that transcend language and cultural barriers.

Promoting a sound understanding of food safety is the single most important aspect of food safety management. In an interview in Food Safety Magazine, a manager from Kraft stated an essential truth:

“It is about personal integrity – people want to do the right thing. Our responsibility is to provide the training in a consistent and effective way. When employees understand the impact that their practices can have on food safety, they will bend over backwards to do the right thing.”

Assessment of Retail Training Programs

In assessing the degree of maturity of food safety training programs, the Hygienomic Matrix considers the following aspects:

- How responsibility for developing, maintaining, implementing, and reviewing the training program is delegated;
- Whether both internal and external trainers are utilized, and how they are integrated;
- How training materials and formats are developed and revised;
- Accountability of the training team members;
- Whether training covers all of the relevant aspects of food safety management (*for example, are staff members taught how to clean and sanitize their work environment effectively*);
- How the effectiveness and consistency of the training is monitored and measured;
- If food safety training is an integral part of career development;
- How the value of training is perceived and communicated between various levels of staff.

Survey Questions About Training

Ten questions were asked of survey respondents about the training programs in their stores and in the retail industry in general in their country of operation. Each question was accompanied by a range of response choices, which will not be listed here. The complete survey is included as an appendix to this report.

The survey questions which follow, and a short selection of some of the most salient responses from the three comparative regions that were used to generate the Hygienomic Matrix ratings.

1. *How do you think food safety training is viewed within your company*

Approximately the same percentage of respondents from the US and EU viewed food safety training as a way to enhance their company's brand. Respondents from CH were 12.2% less likely to view food safety training as a means for brand enhancement. 64.7% of CH respondents reported that training is viewed as an unavoidable cost, a due diligence requirement, and/or as insurance against loss.

2. *What types of food safety training programs are available within your company?*

In the US and EU, temperature control was reported as a significant gap in coverage of food safety training programs. CH respondents reported less emphasis on cross contamination and pest control. All other program areas were reported as well covered by training programs.

3. *How is your food safety training process structured?*

Survey respondents reported a big gap between the format and structure of food safety training in the US and the EU compared to training in CH. In the US and the EU, training was 42% more likely than in CH to include higher level, enhanced format training such as interactive on-line training. Also, proficiency testing or certification as a measure of training effectiveness in the US and the EU was much more commonly reported than in CH.

4. *Who performs food safety training within your company?*

Again, survey respondents reported a significant difference between the source of food safety training in the US and the EU compared to training in CH. In the US and the EU, training was much more likely than in CH to be provided by a corporate trainer or from an outside third party trainer. Training in CH was almost twice as likely to be provided at the store level only compared to the US.

5. *To what extent does your company track the level of training within your work force?*

A weighted ranking of all of the tracking alternatives again showed parity between the US and EU, with CH lagging slightly in tracking the level of food safety training in the work force.

6. *How is the effectiveness of your food safety training program measured?*

Swiss respondents reported more frequently that the number of customer complaints was the primary measure of training effectiveness.

7. *In your country of operation, is food safety training a legal requirement?*

Food safety training for some or all retail food employees is a legal requirement in all of the countries in each of the three regional groups. There was the same relative degree of unawareness (8.8% of all respondents) of legal requirements in all three of the regions.

8. *Who provides most of the food safety training for the retail industry in your country of operation?*

There was less reliance in CH on training delivered from any sources outside the retail company. In the US and EU, third parties provide a significant percentage of retail food safety training (55.1%), while in CH the percentage was only 40.2%.

9. *Do you agree that the retail industry in your country of operation spends enough time and resources on food safety training?*

Only 25% of survey respondents from retailers in the US were satisfied that enough time and resources were spent on training. The percent reporting satisfaction was 37.5% in CH and 42.9% in the EU.

10. *Rate your level of satisfaction with the retail industry's efforts, through trade associations or other cooperative efforts, to assist individual retailers in developing effective food safety training programs.*

The results for this question seem paradoxical in view of the results for the preceding question. More than 50% of respondents from the US rated themselves as at least somewhat satisfied with industry training efforts, compared to 32% in the EU and only 15% in CH.

Hygienomic Matrix Ratings

Generational Ratings - Training Marker					
Region	Rating	1	2	3	4
US	3.4				
EU	3.6				
CH	2.8				

The development of effective training programs in the three comparative regions was strong and dynamic in the EU, with food safety training programs showing a high degree of development in their content, structure and format. Continued progress in the areas of tracking and measuring the effectiveness of training will drive this marker to a Generation 4 level in the EU.

Training is relatively mature in the US, with a Generation Rating of 3.4, but it has also been rated as static. The principal reason for this static rating is the lack of uniformity in training requirements among the hundreds of different regulatory jurisdictions in the US. There is no single national food safety policy, and the various jurisdictions have widely differing requirements regarding training. In some jurisdictions, no training is required, and in others the content, the frequency, the level of food safety training is far from uniform. Because there is a regulatory compliance issue with training, this lack of uniformity is seen as the greatest barrier to industry in improving food safety training programs.

Switzerland is seen as lagging significantly behind the other two regions in several key aspects of training. First, the perceived value of training reported by CH respondents is lower than in the other two regions. Training was more likely in CH to be carried out by store personnel, and the formats for training showed less sophistication. Measuring the effectiveness of training was also less developed in CH as compared to US and EU, and the overall satisfaction expressed by CH respondents with training efforts by the retail industry was quite low.

Best Retail Training Practices

1. Basic training content standardized across regions and store formats;
2. Training content to also include job-specific skills, perhaps through the incorporation of discrete modules for different job functions;
3. Training content reviewed and updated regularly;
4. Thorough training and continuing calibration of trainers in both mastery of the content and effective instructive technique;
5. A combination of internal and external trainers should be used to continuously develop new training ideas and approaches;
6. The effectiveness of training measured using a variety of metrics, including proficiency exams for students, on-the-job observations of food safety practices, and occasional demonstrations of knowledge requested of line and supervisory staff.
7. Training records maintained and used as an integral part of career development;
8. Training formats that allow for differences in education levels, as well as cultural and language backgrounds;
9. Training materials, formats and training aids that fit the learning style of young people today.

4.3 Regulatory Compliance

Compliance With Legislative Food Safety Requirements

In many ways, compliance with regulatory requirements in the area of food safety is the end result of advancement in the other marker activities. If effective training programs have been implemented, if consistent self-assessment is practiced through internal and external audits, if solid written policies, standards and procedures are in place, if food safety is an integral part of management systems and the business culture, then regulatory compliance will be effectively assured.

However, the regulatory landscape is changing, at least in the EU. As previously mentioned, in 2006, EU-wide food safety legislation will supplant regulations in place at the national level.

"The New Year brings a new level of protection for EU citizens as these food and safety rules become applicable"

Markos Kyprianou, EU
Commissioner for Health and
Consumer Protection

Not only are the new EU legislative requirements mandatory across all the EU member states, but there are new provisions for retailers to contend with. One such example is the new requirements contained in EU No. 2073/2005: *Microbiological Criteria for Foodstuffs*. This piece of legislation focuses on three microbial pathogens - *Listeria monocytogenes*, *Staphylococcus aureus*, and *Salmonella spp.*, and requires food producers, distributors and handlers to determine what microbiological criteria apply to the different foods they sell, and to then institute an appropriate program of microbiological testing. This testing may apply to certain foods, or may be directed towards microbiological monitoring of the food handling environment. This new provision will require many retailers in the EU to develop a wholly new set of competencies in determining how to effectively monitor their products and work environments.

Similarly in the US, the focus on *L. monocytogenes* (Lm) is echoed in stated objective of the President's Council on Food Safety to reduce the occurrence of infections with Lm by 50% over a 5-year period. Toward that end, a comprehensive Listeria Risk Assessment was published in final form in 2004. One of the significant sources of Lm contamination identified in the Risk Assessment was recontamination of foods with Lm during retail sale, particularly in service delis

and salad bars. Pilot programs now in place with retailers in the US will result in new food handling regulations designed to reduce the occurrence of this pathogen.

The change in food safety legislation in the EU brings a large measure of regulatory uniformity to this region. Such uniformity is not present in the US, nor is it likely to be present in the near future. There are over 2,500 regulatory jurisdictions in the US, each with separate food safety requirements. This is the largest single barrier to regulatory compliance for retailers that operate across multiple jurisdictions.

In Switzerland, food safety is regulated at the national level and enforced at the local level. While there may be difference in enforcement practices between jurisdictions and even between individual inspectors, the legislative requirements are uniform for all.

In this regard, however, a long-standing challenge to the continued development of food safety management systems is to avoid an over-reliance on regulatory compliance as a single-point indicator of adequate control over food safety. This challenge is present for all sectors of food handling in all regions and at all points along the farm to fork distribution chain. Regulatory compliance is absolutely critical to the success of the retail enterprise, but compliance by itself does not adequately describe the state of control over food safety issues. Internal standards, policies, and procedures must be developed, and staff members must be trained in their implementation and execution. Then, facilities and operations can be effectively audited for compliance with those internal standards which are expressly designed to meet or exceed regulatory requirements.

Assessment of Regulatory Compliance Levels

In assessing the degree of maturity of food safety training programs, the Hygienomic Matrix considers the following aspects:

- The presence of an adequate knowledge base within the organization so that staff members have a full understanding of regulatory requirements and the measures required for compliance;

- How responsibility for developing, maintaining, implementing, and reviewing the compliance program is delegated;
- How accountability for regulatory compliance is distributed throughout the enterprise;
- Whether compliance efforts result in quick and temporary corrections or in long-term sustainable and preventative solutions;
- Whether regulatory issues, solutions, and experiences are shared with others;
- How the records of compliance are used to evaluate individuals, facilities, regions, and to guide long-term planning;
- Whether relationships with regulatory officials are confrontational or collaborative;

Survey Questions About Compliance

Eight questions were asked of survey respondents about regulatory compliance in their stores and in the retail industry in general in their country of operation. Each question was accompanied by a range of response choices, which will not be listed here. The complete survey is included as an appendix to this report.

The survey questions which follow, and a short selection of some of the most salient responses from the three comparative regions that were used to generate the Hygienomic Matrix ratings.

1. Today, at what level would you place your company's regulatory compliance efforts?

Over 90% of respondents from the US reported their organizations as mostly or fully compliant with regulatory requirements. The corresponding percentages for EU and CH respondents were 85% and 80%, respectively.

2. Who is responsible for monitoring and enforcing regulatory compliance within your company?

In the EU, survey respondents reported that responsibility was largely concentrated in the QA department, while more responsibility was placed on operational managers in the US and CH. Also, retailers in the EU were more than twice as likely to depend heavily on independent third parties for compliance efforts compared to those in the US or CH.

3. *Please rate and characterize the authority that the person responsible for regulatory compliance has in enforcing food safety within your company.*

In the US and the EU, respondents reported significantly more authority vested in the managers responsible for food safety compliance. In those two regions, 86 – 88% of respondents reported that compliance managers could initiate or withdraw a product and administered a budget for food safety contingencies. Only 66% of respondents from CH retailers reported this type of authority.

4. *Does your company actively work to influence regulatory requirements through trade associations or other cooperative efforts?*

In the US, 77.8% of respondents answered that their organizations worked regularly to influence regulations, compared to 60.0% in the EU, and 33.3% in CH.

5. *How would you describe the approach of the government regulatory agency toward the retail industry?*

90.5% of US respondents described their relationship with regulators as either cooperative, in substantial agreement, or as a partnership. The corresponding response rates from the EU and CH were 71.4% and 52.9%, respectively. However, approximately the same number of retailers from each of the three regions characterized their relationships with regulators as adversarial.

6. *Today, at what level would you place the regulatory compliance efforts of the retail industry as a whole in your country of operation?*

The responses to this question were directly opposite to the earlier question that asked about compliance in the respondents' own companies. In the US, 52.4% of respondents reported that retailers were compliant most or all of the time, while the corresponding figures in the EU and CH were 60.7% and 80.0%, respectively. This suggests that respondents saw more variability in the state of compliance among retailers in the US, while retailers in the other two regions saw more uniformity. Hence, the level of compliance for their own stores was the same as for other retailers in their country of operation.

7. *Is there one or more trade association or other cooperative effort by the retail industry that is actively involved in seeking to influence regulatory requirements?*
8. *If you answered yes to the question above, do you think that cooperative effort is effective?*

Respondents from the US and EU reported almost universally that retail trade organizations actively sought to influence regulations, and that those efforts were effective. In Switzerland, only 50% of respondents reported effective regulatory activity by retail trade associations.

Hygienomic Matrix Ratings

Generational Ratings – Regulatory Compliance Marker					
Region	Rating	1	2	3	4
US	3.6				
EU	3.5				
CH	3.2				

Compliance with regulatory requirements is equivalent in many ways between retailers in the US and the EU. Retailers in both regions judge themselves and their industry to be mostly or fully in compliance with regulations, but the US retailers report more collaborative relationships with regulatory authorities. The retail industry in the US also reports that it is slightly more proactive in working to influence regulations through its trade organizations and other cooperative efforts, and that responsibility for compliance is more widely distributed between operational and technical managers. For these reasons, the generational rating is slightly higher for the US than for the EU.

However, as discussed previously, the lack of uniformity in regulatory requirements among the many jurisdictions within the US is a formidable barrier to further development of compliance levels, particularly for retailers that operate in many states.

Switzerland is seen as lagging demonstrably behind the other two regions in several key aspects of compliance. First, the level of both company and retail industry compliance was reported at significantly lower levels by CH respondents compared to the other two regions. Swiss respondents cited a lower authority level vested in the retail compliance managers, less proactive efforts to influence regulatory criteria, and a significantly lower incidence of collaborative relationships with the regulatory authorities.

Best Regulatory Compliance Practices

1. Continual training as part of professional development to help insure thorough familiarity with regulatory requirements;
2. Tracking of compliance issues and corrective actions to be used as part of a proactive program for continuous improvement;
3. Moving beyond exclusive reliance on regulatory inspections to provide a scorecard for food safety control;
4. Development of internal standards, policies, and procedures that meet or exceed minimum regulatory requirements;
5. Self-assessment of facilities, people, and procedures by conducting internal audits to insure compliance those with internal standards;
6. Root cause analysis of non-conformances to insure that proper corrective actions rather than short term patches will prevent reoccurrence of the same issues;
7. Subjecting proposed expenditures directed at improved compliance to risk-benefit analysis to build a business case for the investment and to highlight the gains and advantages of proactive compliance ;
8. Sharing and benchmarking both within and between organizations of information and experiences regarding regulatory compliance issues, including non-conformances, corrective actions, and programs for continuous improvement.

4.4 Standards & Policies

Definitions of Terms

This marker is concerned with the development, implementation, monitoring, communication, and review and updating of two sets of written documents: Food Safety Standards and Food Safety Policies. We are concerned with defining these terms because these documents exist in a hierarchical relationship to each other, and both are essential to consider in their proper context to understand their interrelationship. From the Oxford English Dictionary come definitions for these two terms:

Standard (*noun*) **1.** a level of quality or attainment. **2.** a required or agreed level of quality or attainment. **3.** something used as a measure, norm, or model in comparative evaluations. **Origin:** Old French *estendart*, from *estendre* 'extend'.

Policy (*noun*) **1.** a course or principle of action adopted or proposed by an organization or individual. **2.** archaic: prudent or expedient conduct or action. **Origin:** Greek *politeia* 'citizenship', from *polis* 'city'

The Random House Dictionary of the English Language expands upon those two core definitions:

Standard *n.* **1.** an object considered by an authority or by general consent as a basis for comparison; an approved model. **2.** anything, as a rule or principle, that is used as a basis for judgment.

Policy *n.* **1.** a definite course of action adopted for the same of expediency, facility, etc. **2.** a course of action adopted and pursued by a government, ruler, political party, etc.

In our application, then, a Standard is concerned with an agreed upon level of attainment, i.e. a goal or objective, in the area of food safety. A Policy, on the other hand, charts a specific course of action, or a procedure, that will be followed in order to attain the goal stated in the Standard.

Food Safety Standards

Food safety standards state our specific commitment to food safety objectives. A HACCP standard, for example, states that food safety risks will be assessed and that adequate control measures will be implemented using the seven steps of HACCP. Similarly, a Quality Standard would be an overarching commitment to the principles of quality management that will be implemented through specific

policies. A Standard might state a company's commitment to comply with an external standard such as ISO 22000 or SQF 2000 standard. Standards provide the bridge between the aims expressed in the mission statement and the procedures that are carried out on a daily basis.

It is critical not only that Food Safety Standards be in written form, but that they are communicated clearly to employees, and then systematically reviewed and updated as conditions or objectives change. They form the basis for the procedures that will be followed in day to day management of food safety within the enterprise.

Food Safety Policies

Policies are tactical documents that link a company's actions to its strategic objectives and standards. The establishment and maintenance of policies and the supporting arrangement of procedures and work instructions are essential components of a properly structured FSMS. We need policies to direct our actions in many critical food safety areas:

- Supply chain management;
- HACCP monitoring;
- Implementation of corrective actions;
- Cleaning and sanitation activities;
- Time and temperature management;
- Employee hygiene;
- Implementation of supporting programs;
- Allergen management;
- Labeling control;
- Product recall;
- Crisis management.

These policies go on to form the basis of our training – we train employees to implement our policies. When we audit our facilities, the audit protocol is designed to measure compliance with our policies.

In a mature business culture that truly emphasizes food safety, these policies are integrated into job descriptions, into performance reviews, and into work rules, helping to create a sense of shared ownership of quality and food safety standards throughout the organization.

Assessment of the Standards & Policies Marker

In assessing the degree of maturity of food safety Standards & Policies, the Hygienomic Matrix considers the following aspects:

- How standards and policies are developed;
- Whether standards and policies reflect a science based approach to risk management;
- How standards and policies are monitored, reviewed, and updated;
- How accountability for developing, maintaining, implementing, and reviewing the compliance program is distributed throughout the enterprise;
- How the effectiveness of policies is measured;
- How standards and policies, including policy changes and updates, are communicated throughout the system;
- Whether food safety policies are integrated into job descriptions and performance reviews;
- Whether standards and policies for the basis of training content and audit protocols.
- How the records of compliance are used to evaluate individuals, facilities, regions, and to guide long-term planning;
- Whether relationships with regulatory officials are confrontational or collaborative;

Survey Questions About Standards & Policies

Five questions (including several questions with multiple parts) were asked of survey respondents about regulatory compliance in their stores and in the retail industry in general in their country of operation. Each question was accompanied by a range of response choices, which will not be listed here. The complete survey is included as an appendix to this report.

The survey questions which follow, and a short selection of some of the most salient responses from the three comparative regions, were used to generate the Hygienomic Matrix ratings.

1. To what extent is your organization actively seeking quality certification from ISO or other recognized external body?

Retail organizations in the US lagged significantly behind retailers in EU and CH in seeking certification through formal external bodies. The

percentage either already certified or actively seeking certification was only 35% in the US, compared to 48% in EU and 60% in CH.

2. *Do you agree that your company has effective written standards, policies, and specifications in place covering the following areas?*

Survey respondents reported that retailers in CH were significantly more likely to have HACCP standards and policies in place than their counterparts in the US or EU. The percentage indicating the presence of HACCP standards and policies was 75.0% in CH, 57.1% in the EU, and 57.1% in the US. On the other hand, retailers in the US and EU were more likely to have policies and standards addressing pest control and crisis management than in CH. Although different policies were emphasized or more prevalent in the three regions, the overall percentage of respondents reporting effective policies in place was approximately equal in the three regions (70.0% +/- 3.6%).

3. *Who within your company is responsible for establishing and enforcing standards and policies?*

In Switzerland, it was significantly more likely that standards and policies are either developed or enforced at board level or at senior management level (CH = 82%, EU = 56%, US = 61%). Having board level involvement in the formulation of policies and standards is strongly indicative of a proactive approach to food safety within the business culture.

4. *To what extent do you agree that the retail food industry, through trade associations or other cooperative efforts, has developed model standards and policies in key areas to be used by individual retailers?*

The responses indicate that there is not much cooperative effort in the development of food safety standards or policies in any of the three regions. In the US, 34.3% of respondents answered that model standards and policies were available, while the percentages were only 24.5% and 16.9% in the EU and CH, respectively. Industry wide standards and policies were significantly more likely in the US to include allergen management and temperature control than the other two regions.

5. *To what extent do you exchange information between companies regarding food safety best practices in key areas of food safety practice?*

The willingness to share at least some best practices information was much more commonly reported in the US (84.0%) compared to the EU (59.5%) and CH (21.1%)

Hygienomic Matrix Ratings

Generational Ratings – Standards & Policies Marker					
Region	Rating	1	2	3	4
US	3.2				
EU	3.3				
CH	3.2				

Although there are some differences between the three regions in the subjects to which standards and policies apply, the ratings are very close. In CH, there is more board level involvement in standard setting, but less willingness, or an insufficient forum to share this information and benchmark standards and policies with other retailers in the country.

In the EU, there are policies and standards for most, but not all food safety areas. There is significant board level involvement in the development of standards, relatively low willingness to share information, and moderate activity industry wide to develop model standards and policies.

In the US, there are also gaps in the coverage of standards and policies, most notably HACCP programs, which are not widely adopted by retailers in the US. While there is only moderate level of board involvement in the development of standards and policies, there was a high willingness to share information with other retailers.

In order to progress to a Generation 4, more progression must be shown in all these areas in all three regions.

Best Retail Practices: Standards & Policies

1. Clearly defined standards and policies should be available for all of the activities that are covered by the scope of the food safety management system;
2. A document control system to manage up-dating and revision should be in place;
3. Documentation must be available for use at an operational level and should be written to be easily understood and with minimal complexity;
4. Record keeping should be defined in terms of retention time and should be set so that customer complaints, product failure investigations can be carried out;
5. Standards and policies should be subjected to regular review;
6. All relevant functions that may impact on the performance of the food safety system within an organization should be involved during document generation and review;
7. Senior management/Board level management should endorse and communicate any high level documents relating to food safety standards and strategy, for example mission statements, food safety policy document;
8. Where available, appropriate external standards should be used to benchmark internal standards and policies.

4.5 Management Systems

The Accountability of Management for Food Safety Direction and Achievement

This marker pulls together many of threads that run through the other markers by focusing on the management and in particular Senior Managements role within the food safety system.

As the discussion of standards and policies highlights, a food safety management system has a number of elements that need to be operating in a harmonized manner to ensure the desired outcome. It therefore follows that the first step of food safety management is defining the scope of the system.

Once the system has been mapped and the linkages understood, it lies to senior management to unequivocally communicate the policies and standards that govern food safety. This is a key senior management responsibility that should not be delegated to anyone. Communication has to come from the top and be cascaded down, if a business culture that "lives and breathes" food safety is to be created.

Communication should not just be in the form of a strongly worded memo or a signature on a policy document. Communication also means assigning a leading position to food safety review on meeting agendas, reviewing performance statistics, rewarding excellence and taking action for poor achievement.

To accomplish review, the indicators for effectiveness must be measured. A combination of metrics should be used for this review, including internal audit results, customer complaints, product withdrawals or recalls, legal non-compliances identified internally or through enforcement authorities. These are the product and process indicators that can be measured, but there are also other characteristics of the food safety management system that should be reviewed such as training plan achievement, communication and document control effectiveness, vendor assurance planning, etc. The mechanisms for measurement of effectiveness need to be just as carefully designed and mapped as the activities to achieve food safety, and should also be considered as critical elements of the "management system".

In a 1999 study, the descriptions of more than 2000 food poisoning outbreaks were reviewed. Invariably, the causal factors of the outbreaks were expressed in mechanistic or biological terms and the underlying reasons were not explored or understood. This is a common trait when measuring effectiveness; a compliance score is sought and little thought or action is given to investigating why a failure occurred. Via the study, the most common management system failures were listed as:

- A failure to carry out a risk assessment on new products or processes;
- Lack of contingency planning;
- Lack of effective communication to front line staff;
- Non recognition of flawed procedures;
- Lack of post incident evaluation;
- Lack of stability in operations;
- Absence of consistent procedures;
- Misuse of equipment;
- Unrealistic demands in operations.

It is relatively easy to review the results of audits, describe any trends that emerge, and to determine whether corrective actions were carried out in a timely manner. However, unless the root causes of the non-compliances are actually understood, the corrective actions, more often than not, will be short term solutions, repeat failures will occur, and system improvements will not be generated. Consequently, an assessment of management review mechanisms and approach is an important feature of Hygienomic™ Matrix mapping.

Two further areas that are examined within the management systems marker are the setting of goals and targets for continuous improvement, and benchmarking techniques that may or may not be used by an organization. These practices are not necessarily just a feature of well established food safety systems that already demonstrate control and compliance. Indeed a benchmarking exercise to establish the generational status of the organization at any stage of the development process helps to focus ideas, objectives and resources to the area most in need. Realistic, achievable goals and targets can then be set to sponsor motivation and achieve the desired business culture for food safety.

Assessment of Retail Management Systems

In assessing the degree of maturity of food safety management systems, the Hygienomic™ Matrix considers the following questions:

- Who is responsible for managing food safety and product legality systems within an organization, including at Board level?
- Are senior level management involved in discussions and decisions on food safety?
- Do senior management communicate effectively to operational levels on the subject of food safety?
- What systems are in place to measure the effectiveness of food safety and product legality?
- Are there short and long term plans for food safety?
- Does the organization investigate the causes of food safety failures to determine underlying causes?
- Are food safety projects and initiatives undertaken or proposed with goals and target setting?
- Are benchmarking initiatives performed by the organization?

Survey Questions About Management Systems

Seven questions were asked of survey respondents about the management systems in their organization and in the retail industry in general in their country of operation. Each question was accompanied by a range of response choices, which will not be listed here. The complete survey is included as an appendix to this report.

The survey questions which follow, and a short selection of some of the most salient responses from the three comparative regions that were used to generate the Hygienomic Matrix ratings shown below.

1. Is food safety a subject of scheduled, regularly recurring discussion at Board of Directors level?

Respondents from CH were the most positive in this area with 85% suggesting that the answer was yes but this figure drops significantly for EU respondents at 61% and even further for the US at 48%.

2. *Does Board commitment to food safety lead to specific directives and policies?*

Again the Swiss were most positive in their responses with 89% affirmation of the activity, however this contrasts significantly with the US data whereby only 37% of respondents report Board level input to food safety initiatives.

3. *Does your company have a food safety strategic plan which clearly identifies short and long term goals?*

All three regions /countries scored highly in this aspect of the marker indicating that their individual companies do have strategic plans for food safety.

4. *Please indicate which internal functions most closely describes who is responsible for specific aspects of the food safety program?(A number of specific food safety responsibilities were available and respondents were asked to match organizational levels with role, and multiple responses were possible)*

A lot of interesting information could be gathered from the responses; Both EU and Swiss organizations had a high level of goal setting for food safety from the Board of Directors approx 90% but this figure drops dramatically to 56% for the US market. The figures for input from Quality Assurance/Risk Management departments for setting goals is significantly lower and only 22% of US and Swiss organizations responded that these departments were involved, with the figure being slightly higher at 42%.

All three regions/countries reported that Board of Directors had no involvement with implementation of food safety programs and for CH the quality/risk management departments are not involved in implementation either. EU respondents reported minor involvement of quality/risk management departments in implementation programs at 15% and the figure was highest in the US at 55%. CH respondents also reported that the Board of Directors had no involvement with evaluating program effectiveness.

5. *Do you use any internal benchmarking measures to determine progress in your company's food safety program? (various options given and respondents were asked to select which were applicable)*

All respondents indicated that benchmarking was used within their organizations predominantly for store by store comparisons and department vs. department comparisons. Comparison to industry standards was less common particularly in the EU where only 34% of respondents indicated that they used this technique. Benchmarking to specific customers was even less common with only 18% of US and 21% of EU respondents identifying that they used this technique.

6. *To what extent do you agree that retail food safety management systems in your country of operation effectively support regulatory, legal and brand value goals?*

All three regions/countries responded in a manner to suggest that there is a high recognition of the value of food safety systems for a number of areas such as increasing customer confidence, reducing customer complaints, supporting regulatory initiatives and crises response management.

7. *In your country of operation, to what extent do external bodies provide motivation and direction for upgrading and improving the food safety management systems?(number of external bodies were listed for multiple selection if appropriate)*

For Switzerland, the respondents indicated that Consumer Groups, the legal system and Government were the most frequently involved in providing direction for upgrade and improvement of food safety management system. In contrast, the EU countries reported that in addition to the legal and Government bodies, industry associations and consultants were frequently involved. For the US, it is primarily industry associations and Government.

Hygienomic Matrix Ratings

Generational Ratings – Business Culture Marker						
Region	Rating	1	2	3	4	
US	2.3					
EU	2.8					
CH	2.8					

The management systems marker gives an equal generational rating for both the EU countries and Switzerland although within the sub-questions of the marker performance scores are not quite the same.

In CH, Board level activity in terms of food safety being a regular occurrence in scheduled meetings with the generation of specific objectives, directives and policies is a high point of this marker, however this is tempered slightly by the notification that the Board of Directors do not have a role or responsibilities in food safety management system implementation or evaluating the effectiveness of the system.

As per the desktop study report for this project (05/01) the lack of available industry association support and direction has been highlighted by this self assessment questionnaire. This may also account for the greater willingness for benchmarking with specific customers than either the US and EU respondents.

The US has received a lower rating than the EU and CH, largely because of the reported lack of involvement at Board level for regular discussions on food safety and the perceived lack of input to food safety directives and policy. As indicated in the introduction of the management system marker and within the business culture marker, there is a perceived strength in having food safety roles and responsibilities throughout the organization, including at Board level.

The EU performance in the management systems marker was fairly solid throughout the question set provided, although very few responses indicted that

benchmarking using external industry standards or comparison against other retailers was in common use.

Best Practices for Management Systems in Retail

1. Food Safety strategy and objectives defined and communicated throughout the organization with Board Level input;
2. Food safety is discussed regularly at management meetings for initial and ongoing strategy development and for management system review;
3. Measures to monitor the performance of the food safety management system are defined, developed and implemented;
4. Performance data such as customer complaints and enforcement audit results are included in the review process;
5. Management system review includes the use of trending and root cause analysis techniques;
6. Benchmarking to external sources of expertise such as industry standards is in use;
7. Management is committed to continuous improvement;
8. Goals and targets relating to food safety are set annually based on the results of management review of food safety;

4.6 Business Culture

Essentials Factors for a Sustainable FSMS

In any organization, there will be measures of success. To the external world, these are usually communicated as financial results: turnover, growth, profit, market share, etc. A company's food safety record rarely gets communicated in such a positive way, and it is far more likely to be raised in the public arena only when an incident or crises has led to a significant lowering of the financial returns of a company.

In today's business environment - with the unrelenting pressures of globalization, cost reduction, operational efficiency, increasing customer demands, the desire to offer the customers more services and more added value, two questions must be asked:

- 1) Does food safety need to stay on the agenda?
- 2) If the answer is yes, who needs to be involved?

The answer to the first question is almost certainly yes. New regulations, new hazards, technological innovation, new products, new people and audit results are just a few of the reasons that make a food safety management system a continuously evolving, dynamic program.

As an incident or an outbreak of foodborne illness could devastate the value of a brand almost overnight, ensuring food safety has to be one of the foundation stones of a successful organization. Constant attention is required. Any food safety program that is operating in a company that recognizes the importance of brand value and integrity needs to be effective, efficient, reliable and up-to-date.

Moving to question 2, there are many change factors that can impact on the effectiveness of a food safety management system. Departments not obviously linked to food safety - operational departments such as purchasing, human resources and training, distribution, marketing and sales - can all have a negative impact on food safety if there is insufficient awareness of the food safety program.

Awareness is created through communication and there needs to be the understanding throughout an organization that food safety is a team effort. Strategies and implementation of programs that integrate food safety into the business culture of the organization can be as critical to the successful achievement of food safety as any of the other markers covered.

Food safety is achieved as the result of deliberate action. Whilst the system defines order, people are essential in making any system function in the way it was designed. People however are by far the most “variable” parameter in making food safety happen. Motivating personnel is therefore an important factor to be considered and is one of the key areas that need to be addressed to develop a business culture that embraces all of the elements that ensure food safety are achieved as routine “day-to-day” activities.

Management’s role is to determine the food safety strategy and objectives, as well as to implement the plans necessary to ensure food safety. As important is the continuous commitment to the objectives in order to secure continued motivation and achieve sustainability.

Ultimately business success depends on customer satisfaction as this will result in repeat sales and new customers thus securing both business stability and growth. Failures in food safety may well undermine this success and sustainability.

Assessment of Retail Business Culture

In assessing the degree of maturity of food safety business culture, the Hygienomic™ Matrix considers the following questions:

- How is the importance of food safety/product legality perceived within the Company at different levels within the structure;?
- What methods of communication are used within the Company and are these effective in creating awareness regarding food safety/product legality/
- How is the effectiveness of communication mechanisms monitored?
- Who is responsible for food safety within the company?
- Have the tools and resources required to manage food safety been supplied?

- Who takes responsibility for corrective actions - monitoring their effective and timely implementation?
- Are food safety issues discussed at meetings and at what levels within the organization?
- Is the company represented on external bodies such as trade associations and food safety committees?

Survey Questions About Business Culture

Seven questions were asked of survey respondents about the business culture in their organization and in the retail industry in general in their country of operation. Each question was accompanied by a range of response choices, which will not be listed here. The complete survey is included as an appendix to this report.

The survey questions which follow, and a short selection of some of the most salient responses from the three comparative regions that were used to generate the Hygienomic Matrix ratings.

1. How well do you think that food safety principles and practice are understood by retail employees within your company

Respondents from CH were 7% more likely to agree that food safety was well understood as a concept across all of their company than those respondents from the US, which in turn was 9% higher than the respondents from the EU whereby 54.5% of respondents agreed or somewhat agreed with the statement .

2. How well do you think that food safety principles and practice are understood by Board and Senior Management levels within your company

CH respondents reported most favorably with respect to understanding of food safety by Board and senior management with a rating of 87.5% agreeing or somewhat agreeing with the statement. EU and US respondents lagged behind slightly with scores of 78% and 67%

3. How well do you think that food safety principles and practice are understood by Hourly and part time levels within your company

US and CH survey respondents reported a fairly high level of understanding of food safety principles and practices amongst hourly and part time staff within their organizations with 76% and 70% agreement. EU

respondents were however slightly less positive about understanding levels at 57%

4. *How would you describe the position of food safety within your company's overall vision?(A number of specific options were available and respondents were asked to select one)*

From a negative standpoint 16% of US respondents and 12% of EU respondents felt that food safety was a necessary and unavoidable cost. Nobody from CH responded in this manner. On the more positive side, 42% of US respondents, 35% of CH respondents and 28% of EU respondents felt that food safety was an opportunity to build brand value. 51% of CH respondents felt that food safety was a point of differentiation for their company.

5. *To what extent is food safety identified within your Company's Mission Statement or Marketing Strategy? (3 options given and respondents were asked to select one)*

89% of CH responses indicated that specific food safety goals were outlined with the remaining 11% having food safety mentioned as critical but no specific goals. In comparison only 25% of US respondents had specific goals and 50% stated food safety was not mentioned at all and within the EU 60% of respondents had specific goals for food safety with only 10% stating there was no food safety mentioned in their Mission statement

6. *To what extent do you agree that the importance of Food Safety is well understood and communicated within the retail industry of your country?*

89% of EU respondents reported that they felt food safety was well understood and communicated within the retail industry whereas this figure drops to 80% for CH and 69% for the US.

7. *In your country of operation, to what extent does the retail industries actively support food safety through trade associations or co-operative efforts?*

Only 50% of Swiss respondents work with trade associations and support food safety initiatives via co-operative working. This figure increases slightly in the US at 62% and is highest in the EU at 82%.

Hygienomic Matrix Ratings

Generational Ratings – Business Culture Marker						
Region	Rating	1	2	3	4	
US	2.4	Red		Yellow	Yellow	Yellow
EU	2.9	Blue		Yellow	Yellow	Yellow
CH	3.2	Green			Yellow	Yellow

From the summary data above, there appears to be a clear difference between the maturities of the business cultures of Switzerland and the US, with the EU being closer to that of CH.

For the US, the lower rating has largely been generated via the responses for (a) lack of inclusion of food safety goals or even as a subject in the Company mission statement; (b) the perception that only 67% of Board members and senior management understood food safety principles and practices; and (c) the higher level of responses that indicated that ensuring food safety was a necessary and unavoidable cost or was only seen as insurance against loss.

Switzerland showed the strongest performance in this marker and one of the strengths shown was the fact that all respondents indicated that food safety was included in their Company Mission statements with the vast majority having specific goals in this subject. Many CH respondents also indicated that they felt food safety was a point of differentiation for their company which in itself indicates a certain amount of pride with what is being achieved within their organizations.

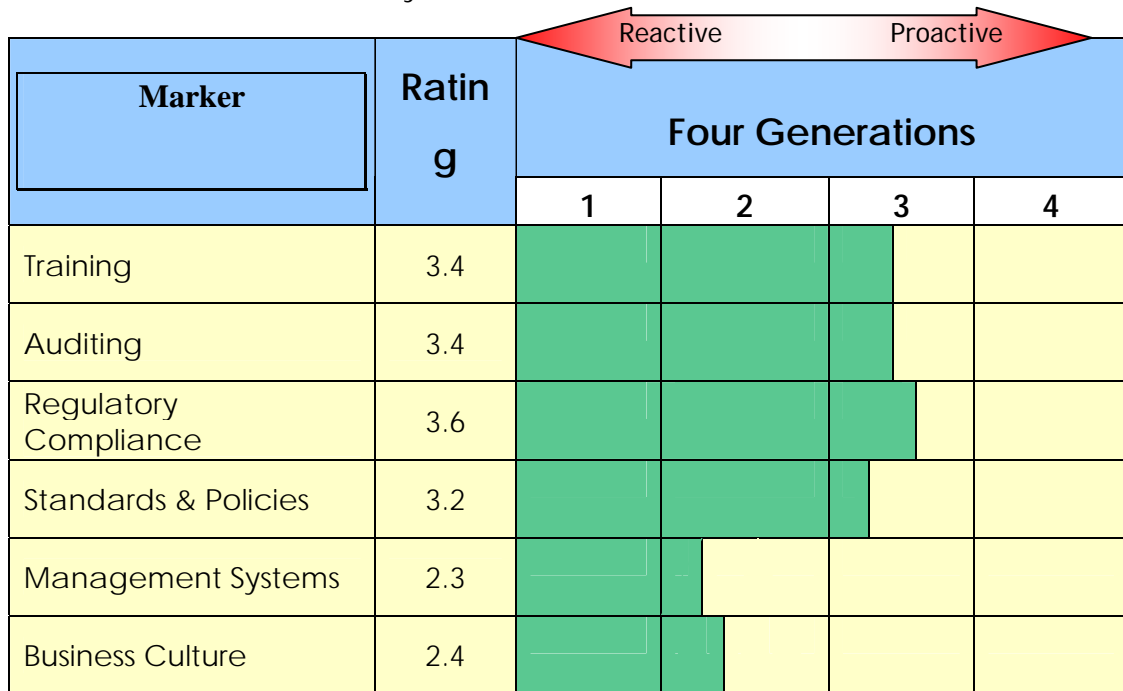
The EU countries that responded were very positive with respect to available support for the retail industry from trade associations and this bodes well in terms of the generation of industry Good Practice guides as per recent EU food safety regulations.

Best Practices for Business Culture in Retail

1. Food Safety strategy and objectives defined and communicated throughout the organization;
2. Food safety is supported through the provision of budgets and resources;
3. There is clarity of responsibility for food safety;
4. Awareness of food safety radiates throughout the organization including non technical and operational departments ;
5. Personnel coordinate and teamwork to manage food safety;
6. Senior management takes an active role in communicating food safety on a continuous basis.
7. Goals and targets relating to food safety are set annually;
8. Measurements for effectiveness of the food safety processes and business culture should be reviewed frequently at board level to drive improvement throughout the company;
9. External benchmarking as a mechanism for continuous improvement is undertaken;
10. A "due diligence defence" in the eyes of the law is possible in the event of a food safety incident.

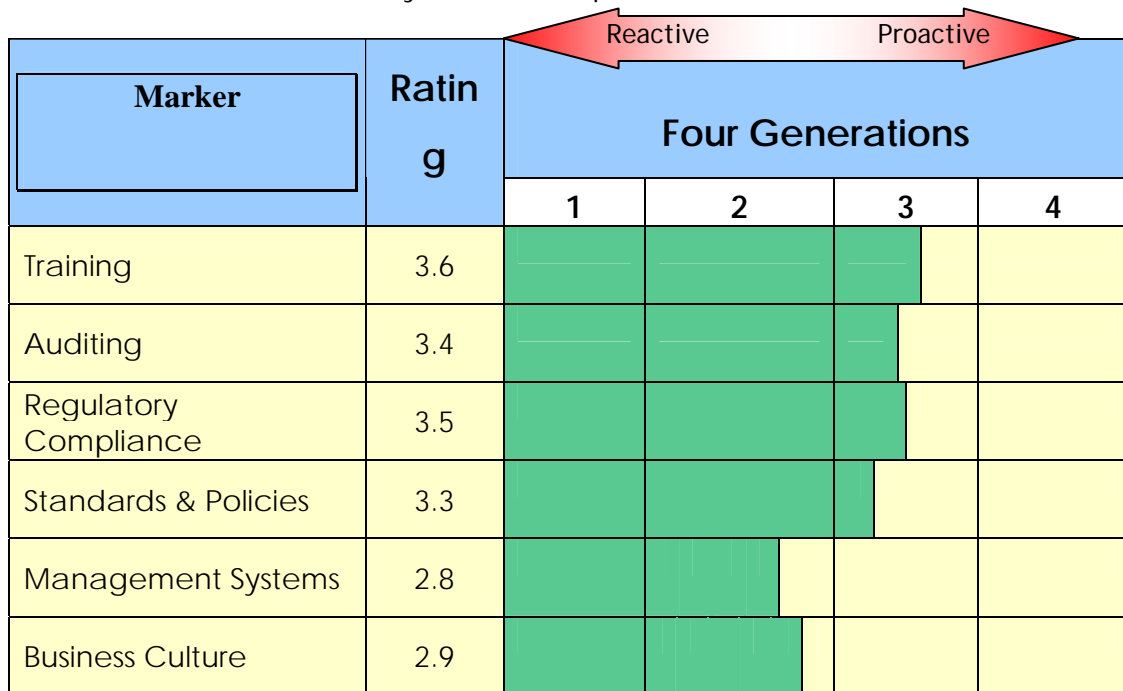
5.0 Survey Results – Presented by Region

5.1 Food Retail Industry in the U.S.



Hygienomic Matrix – Retail Industry in US

5.2 Food Retail Industry in the European Union



Hygienomic Matrix – Retail Industry in EU

5.3 Food Retail Industry in Switzerland

Marker	Rating	Four Generations			
		1	2	3	4
Training	2.8	█	█	█	█
Auditing	3.1	█	█	█	█
Regulatory Compliance	3.2	█	█	█	█
Standards & Policies	3.2	█	█	█	█
Management Systems	2.8	█	█	█	█
Business Culture	3.2	█	█	█	█

Hygienomic Matrix – Retail Industry in CH

6.0 References

1. J. W. Wesner et al, *Winning with Quality*, Addison-Wesley, Reading, MA, 1995
2. Camp, Robert C., *Business Process Benchmarking*, ASQC Quality Press, Milwaukee, WI, 1995.
3. American Productivity and Quality Center, *Organizing & Managing Benchmarking*, APQC, Houston, TX, 1995
4. Bogan, Christopher E., and English, M.J., *Benchmarking for Best Practices*, McGraw Hill Inc., NY, 1995, p. 13.

7.0 Appendix

CIES Short form Self Assessment Questionnaire

A. Introduction (background, survey purpose, and methods)

B. Instructions for completing this survey

C. Demographics

1. What type of retail firm do you work for?

- Supermarkets
- Hypermarkets
- Convenience stores
- Hard discount
- Multi-format

2. How many sites/units does your company have in total?

- 1 – 50
- 101 – 500
- 501 –1000
- more than 1000

3. In what country is your company's corporate headquarters located?

Drop down box
of country names

4. Your responsibilities with your company are for what country of operation?

Drop down box of
country names including
multi-country
responsibility

5. What is your job role?

- Corporate Level
 - Senior Executive (CEO, CFO, VP)
 - Technical Management (QA, QC, Food Safety)
 - Operations Management
- Regional Level
 - Technical Management
 - Operations Management
- Store Level
- Department Level

6. Does your company offer ready-to-eat foods that are prepared on site that are sold in the following formats?

- | | Yes | No | Sometimes |
|------------------------------------|-----|----|-----------|
| Foods for take-out | | | |
| Hot buffet (soups, entrees, meals) | | | |
| Cold buffet (entrees, salads) | | | |
| Sushi | | | |
| On-site café or restaurant | | | |

D. Assessment of Specific Markers

Marker 1: TRAINING

Within your company:

7. What type of food safety training programs are available in your company? *(check all that apply)*
- HACCP systems
 - Cleaning and sanitation
 - Personal hygiene
 - Pest control
 - Cross-contamination
 - Regulatory compliance issues
 - Other, please specify
8. How is your food safety training process structured? *(Please check all that apply)*
- Food safety training demo on the job for new employees
 - Brochures given to new employees
 - One time on-line food safety training
 - Interactive food safety course with certification
 - Food safety course modules based on job w/certification
 - Specific certification training mandated for promotional opportunities
 - Other, please specify
9. How is the effectiveness of your training program measured? *(Please check all that apply)*
- On-the-job observation
 - Proficiency testing
 - Audit results
 - Number of customer complaints
 - Other, please specify

Marker 1: TRAINING

Within the Retail industry in your country of operation:

10. In your country of operation, is food safety training a legal requirement?
- Yes - required for all
 - Yes - but only for some employees
 - No
11. Rate your satisfaction with the retail industry's efforts, through trade associations or other cooperative efforts, to assist individual retailers in developing effective food safety training programs.
- Very Satisfied
 - Somewhat Satisfied
 - Neither Satisfied nor Unsatisfied
 - Somewhat Unsatisfied
 - Very Unsatisfied

Marker 2: FOOD SAFETY AUDITING

Within your company:

12. For each of the internal functions listed below, describe their specific responsibility for the auditing program within your company.

1	2	3	4	5
Develop the audit protocol	Choose auditing company	Manage audit implementation	Carry out corrective actions	No audit responsibility
Quality Assurance Risk Management / Loss Prevention Operations Maintenance/Engineering Food Departments (Meat, Produce, Dairy, Deli) Senior Management Purchasing				

13. Please indicate what aspects of your retail operations are assessed by audits.

- HACCP documentation and training
- Food safety training program
- Food safety standards & policies
- Hygiene and sanitation procedures
- Pest control
- Quality assurance standards
- Other, please specify

14. Who in your company has responsibility to insure that corrective actions are properly implemented at the store level?

- Corporate Management
- Quality Assurance Director
- Operations Director
- Maintenance/Engineering
- Store Managers
- Department Managers (Meat, Produce, Dairy, Deli)

15. To what extent do you agree that effective food safety audits benefit your company in these areas?

1	2	3	4	5
Disagree	Somewhat disagree	Neutral	Somewhat agree	Agree totally

- Increase customer loyalty
- Reduce company liability
- Reduce employee turnover
- Increase shelf life of food
- Increase consumer confidence
- Increased consumer awareness
- Market differentiation for brand
- Reduced food losses
- Enhance brand value

Marker 2: AUDITING

Within the Retail industry in your country of operation:

16. Do you agree that the Retail industry, through trade associations or other cooperative efforts, spends enough time and resources on the following:

1	2	3	4	5
Disagree	Somewhat disagree	Neutral	Somewhat agree	Agree totally

- Developing standardized audit protocols
- Providing retailers access to qualified auditors
- Providing guidance to retailers on corrective actions

Marker 3: MANAGEMENT SYSTEMS

Within your company:

17. Is food safety a subject of scheduled, regularly-recurring discussion at the Board of Directors level in your company?

Yes No Unsure

18. Does your company have a food safety strategic plan which clearly identifies short and long-term goals?

Yes No

19. Do you use any of the following internal benchmarking measures to determine progress in your company's food safety program? (Please check all that apply)

- Department vs. department comparison
- Store vs. store comparison
- Comparison to industry standards
- Comparison to specific competitors

Marker 3: MANAGEMENT SYSTEMS

Within the Retail industry in your country of operation:

20. Do you agree that retail food safety management systems effectively support the following points?

1	2	3	4
Disagree	Somewhat disagree	Somewhat agree	Agree totally

- Increased customer confidence
- Improved customer communication
- Reduced customer complaints
- Effective selection of suppliers
- Support regulatory initiatives
- Due diligence obligations
- Crisis response management

21. Rate the following groups on how often they provide motivation and direction for upgrading and improving the food safety management system for retailers:

	Frequently	Occasionally	Rarely	Never
Industry Associations				
Government				
Consultants				
Trading partners and suppliers				
Universities and colleges				
Consumer groups				
Legal system				

Marker 4: BUSINESS CULTURE

Within your company:

22. Do you agree that food safety is well understood and communicated at each of the following levels within your company?

1	2	3	4	N/A
Disagree	Somewhat disagree	Somewhat agree	Agree totally	

- Board of Directors
- Senior corporate management
- Operations management
- Human Resource managers
- Information Technology managers
- Sales managers
- Store managers
- Hourly employees
- Part-time employees

23. Is your company actively involved in trade associations or any other cooperative efforts dedicated to food safety?

	Yes	No
Trade associations		
Co-op efforts		
None		

24. How would you describe the position of food safety within your company's overall vision? (Please select only one response)

- An occasional nuisance
- A necessary and unavoidable cost
- Insurance against loss
- An opportunity to build value for the brand
- A point of differentiation for your company
- Other: _____

Marker 4: BUSINESS CULTURE

Within the Retail industry in your country of operation:

25. To what extent do you agree with the following statements about Food Safety and business culture?

1	2	3	4	5	N/A
Strongly Disagree	Somewhat Disagree	Neither Agree nor Disagree	Somewhat agree	Strongly agree	

A. The importance of Food Safety is well understood and communicated within the retail industry.

B. The retail industry actively supports food safety initiatives through trade associations or cooperative efforts.

Marker 5: REGULATORY COMPLIANCE

Within your company:

26. Today, at what level would you place your company's regulatory compliance efforts in the following areas? (Please choose only one of the following)
- My company struggles to be in compliance
 - My company is compliant, but not on a consistent basis
 - My company is compliant most of the time, but not all of the time
 - My company is totally compliant, all of the time
27. Who is responsible for monitoring and enforcing regulatory compliance within your company? (Please select all that apply)
- Operations Director
 - Quality Assurance Director
 - Legal department
 - Independent third party
 - Other (specify): _____

Marker 5: REGULATORY COMPLIANCE

Within the Retail industry in your country of operation:

28. How would you describe the approach of the government regulatory agency for the retail industry?
- Adversarial approach to industry
 - Aggressive enforcement
 - Cooperates with industry on some cases
 - Substantial agreement on major policy issues
 - Partnership with industry
29. Today, at what level would you place the regulatory compliance efforts of the retail industry as a whole in your country of operation in the following areas? (Please choose only one of the following)
- Struggles to be in compliance
 - Compliant, but not on a consistent basis
 - Compliant most of the time, but not all of the time
 - Substantially compliant, all of the time

Marker 6: STANDARDS AND POLICIES

Within your company:

30. To what extent is your company actively seeking quality certification from a recognized external body (ISO, HACCP certification, etc.)

Not at all	Not seeking now, but plan to in the future.	Will be seeking within the next six months.	Already certified by a recognized external body.
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31. Do you agree your company has effective written standards and policies specifications in place covering the following areas?

1	2	3	4	
Disagree	Somewhat disagree	Somewhat agree	Agree totally	N/A

- HACCP systems
- Product handling
- Employee hygiene
- Cleaning and sanitation
- Temperature monitoring
- Product recalls
- Pest control
- Allergen control
- Crisis management

Marker 6: STANDARDS AND POLICIES

Within the Retail industry in your country of operation:

32. To what extent do you agree that the Retail food industry, through trade associations or other cooperative efforts, has developed model standards and specifications in the following areas for use by individual retailers:

	1	2	3	4	5
N/A	Strongly Disagree	Somewhat Disagree	Neither Agree nor Disagree	Somewhat agree	Totally agree

- HACCP systems
- Product handling
- Employee hygiene
- Cleaning and sanitation
- Temperature monitoring
- Product recalls
- Pest control
- Allergen control
- Crisis management

33. To what extent do you exchange information between companies regarding best food safety practices in each of the following areas?

1	2	3	4	
Will not share	Currently do not share	Share specific information	Share all information	N/A

- HACCP systems
- Product handling
- Employee hygiene
- Cleaning and sanitation
- Temperature monitoring
- Product recalls
- Pest control
- Allergen control
- Crisis management