

In Search of the Magic Bullet or “The Safety Manager and the Chamber of Secrets”

**Richard Cooper, MSc. CMIOSH. MASSE
Senior Manager
Safety Health Environment and Quality Assurance - Europe
Level 3 Communications (Global Crossing)
Basingstoke Hampshire UK**

Introduction

First let me apologise to J.K. Rowling; Paraphrasing your title was a mark of respect, for I thought it conveyed part if not all of just what it was I wanted to get across in this paper.

Very recently I had a communication from another safety professional organisation, it said, “You have been a member for 25 years. Thank you!” This, believe it or not, started me thinking as to just what I have learned in those 25 years plus as a safety professional and what legacy I would be able to leave when I finally complete my career. Could I say that I have left the working environment a ‘safer place?’ Could I leave anything positive behind me?

So this paper then is a reflection on those 25 years in the ‘business’ as a way of leaving to the newly qualified, appointed safety professional some thoughts as to navigating through that minefield of application of the theory and what is practical in the working environment.

When I started in this ‘safety profession,’ I was convinced that there were some secrets, some magic bullet that, if I discovered it, I would not only find my fame and fortune but would make a major contribution to the safety and welfare of my work colleagues.

I didn’t appreciate that there was even such a concept as a ‘*wicked problem*’ and that is something bears a few moments of our time to explore. The concept of a wicked problem was, as far as I can see, first outlined by Horst W.J. Rittel and Melvin M. Webber, two Berkeley professors in an article published in *Policy Sciences* during 1973. (1) Before we get too technical, it will be worth defining the difference between *tame* and *wicked* problems:

- A *tame problem* is in essence one for which we know the starting point and we know when we have a successful outcome to the solution that we have devised and implemented.
- A *wicked problem* is therefore one in which there a degree of uncertainty as to the causation and certainly difficulty in ensuring a successful outcome.

Let me try and put that into a ‘safety related’ issue. It is well understood that working with computers (display screen equipment) can cause a multitude of physical ailments, (work-related upper limb disorders). It is probably fair to say that this is well understood by

not only those of us in the safety profession but also by the vast majority of individuals within the general public as well.

The problem at first appears a 'tame problem.' We know that working with computers can cause the physical issues; we know what to do about it (training, assessment intervention by provision of special equipment) and therefore we should in essence be able to achieve a successful outcome to the problem, in other words an elimination of WRULD.

However, this is of course not the case. Individuals ignore the instructions to undertake the training, take no notice of the requirement to undertake the assessment and certainly the only time that they consider that they need to do something is when they are suffering with a WRULD issue. So despite all our efforts this apparent 'tame' problem is in fact a 'Wicked' problem we cannot ensure a successful outcome as the solution is not being applied by those to whom it is directed.

Now that perhaps I have started to attract your interest, it is time to get a little more into the science of it all. Jeff Conklin (2001) (2) certainly gave an amazing explanation of tame and wicked problems;

A tame problem:

- Has a relatively well-defined and stable problem statement.
- Has a definite stopping point, i.e., we know when the solution or a solution is reached.
- Has a solution which can be objectively evaluated as being right or wrong.
- Belongs to a class of similar problems which can be solved in a similar manner.
- Has solutions that can be tried and have been abandoned.

Wicked problems are completely different. Wicked problems are ill-defined, ambiguous and associated with strong moral, political and professional issues. Since they are strongly stakeholder-dependent, there is often little consensus about what the problem is, let alone how to resolve it. Furthermore, wicked problems won't keep still: they are sets of complex, interacting issues evolving in a dynamic social context. Often, new forms of wicked problems emerge as a result of trying to understand and solve one of them.

It is certainly this author's thoughts that the issues we face as safety professionals are strongly stakeholder-dependent and that the issues are very much a part of dynamic social interactions or context.

Perhaps then for the new safety professional, this is an important concept to appreciate. The need to understand and solve an issue will result in a lot of frustration for often the complexities of the issues are not apparent at first. But fear not, an understanding of how individuals perceive their own issues, and understanding of how they approach problems, can assist you in designing the solution to the outcome that you desire.

If we refer back to our first practical scenario that of display screen equipment (DSE) working, perhaps we could argue that because the solution is known in respect of posture and provision of the correct equipment, this is perhaps a 'behavioural' issue. Now that is a minefield in its own right and one I know that there have been a lot of learned papers written on. But let me just try and peek a little way into this Pandora's Box:

I hold in very high regard such individuals as; Dr. Thomas Krause, Dr. E. Scott Geller and Dr. Dominic Cooper. All of these individuals have defined and enhanced our understanding of the process of safety and in particular behavioral safety. So let me just try and define what we mean by that;

Behavioural Safety

Promoting safe behaviour at work is a critical part of the management of health and safety. Good behaviour turns health and safety management systems and operational procedures into reality and can be used to minimise errors, and reduce potential for accidents and near misses. In effect reduce the base of the “accident triangle.”

Key benefits

Significant organisational benefits are associated with introduction of behavioural safety programmes. This is not just restricted to health and safety. The benefits include:

- Significant reduction in number of accidents caused by inappropriate behaviour
- Good opportunity for management and workforce participation
- Can improve visibility of managers
- Behaviours and actions influence culture through attitudes and perceptions
- Behaviours determine the performance of systems

Significant risks are often ignored at expense of high frequency “attrition risks,” e.g., slips and trips versus fire and explosion.

Key features

Behavioural safety programmes involve workplace observation of unsafe acts or conditions, with a procedure for follow-up action and reporting system. Behavioural safety programmes typically require:

- Organisational readiness
- Definition of “safe” and “unsafe” behaviour
- All staff to be involved in observation of behaviour in workplace
- Feedback on observations
- Reinforcement of safe behaviour
- Intervention and re-education to prevent unsafe behaviour

Organisational Readiness

Before commencing a behavioural safety programme organisations will need to establish “their readiness”. Indeed changing individual behaviour without considering necessary changes to how people are organised, managed, motivated, rewarded and their physical work environment, tools and equipment, can result in treating the symptom only and result in damage to credibility and effectiveness of an existing health and safety management system.

(Source IOSH Food and Drink Group,

http://www.iosh.co.uk/groups/food_and_drink_group/recipe_for_safety_-_iosh/behavioural_safety.aspx (3))

I make no apology for quoting in full this definition for certainly I think behavioural safety is a very complex and certainly important element of what we are trying to achieve. My fear is that because it is so complex and in some respect time consuming that it becomes that ‘magic bullet’ that we are all seeking.

It is worth noting from our definition above perhaps the logical extension which is often mentioned in the 'same breath' that of safety culture: The following definition of safety culture is provided:

Safety Culture is the set of enduring values and attitudes regarding safety issues, shared by every member of every level of an organisation. Safety Culture refers to the extent to which every individual and every group of the organisation is aware of the risks and unknown hazards induced by its activities; is continuously behaving so as to preserve and enhance safety; is willing and able to adapt itself when facing safety issues; is willing to communicate safety issues; and consistently evaluates safety related behaviour.

To support the assessment and management of Safety Culture, the six main components (called Characteristics) of Safety Culture are described:

1. Commitment
2. Behaviour
3. Awareness
4. Adaptability
5. Information
6. Justness

(Source: European Aviation Safety Agency,
<http://easa.europa.eu/essi/ecast/main-page-2/sms/> (4))

Perhaps it is because behaviour is a critical element of the definition of safety culture that they are mentioned together.

It has to be said from my perspective these are just two of the many jewels awaiting the newly qualified safety professional as they enter the Chamber of Secrets. Certainly when reviewing the situation's vacant pages, the knowledge, experience and successful application of behavioural safety and manipulation of safety culture is often a requirement.

Perhaps the nice thing about being towards the close of my career, rather than moving along with years to come, is that I can be somewhat of a heretic; for to me, we have yet another element of our 'wicked problem' in so much as we are taught that safety should be integral to the workplace and way of achieving. So perhaps here I am opening up the debate on one of those elements we find in the Chamber that needs a great deal more; more than that which will be contained in this paper as to:

If culture in an organisational sense is defined as "the way we do things around here and safety is integral to the workplace how, can we define and quantify safety culture?"

But again we have a 'wicked problem.' Here is an alternative definition that the Oxford English Dictionary give us: "the total of the inherited ideas, beliefs, values, and knowledge, which constitute the shared bases of social action." This also fortunately brings us to this definition: "development or improvement of the mind by education or training."

Now that is something that we can work with: development of the mind by education or training. From a safety perspective, it is something we do, being concerned with core

competencies not only in respect of safety or accident prevention but also being able ensure that the product of the company does not suffer loss.

We have to go back, not that many years ago, when the concept of safety moved from being one beyond that of just an injury-oriented approach to encompass the broader accident-oriented approach.

Perhaps it was the fact that, as a young safety professional, I was introduced to the works of Frank E. Bird, Jr., as well as George L Germain, (5), which has influenced my thinking with respect to the fact that it was not all about the “save an accident to an individual” but more about ensuring that my employer reduced losses and thereby stayed in business. Certainly, one passage I recall very clearly:

The challenge to management is clear. Safety through leadership is more fulfilling, more rewarding, more economical and more successful than safety by work group imposition or government intervention.

So here perhaps is the greatest secret one which in some respect has been clouded by all sorts of programmes and commercial concerns: Leadership

What a concept to lead employees on a journey through employment which involves safety. But that, I think, is just the start of our journey as safety professionals.

Let me just refer back very quickly to the title of the publication: *Practical Loss Control Leadership*.

Loss control is a concept which needs to be embraced very much in the 21st century.

Now I am going to express an opinion which is mine alone. No one else has to agree but it would be nice if you did!

If we are going to reduce the losses to our employers business, which ensures that we can remain employed, then we must know when to speak with, engage and utilise those individual that are specialists in their own fields. I am referring here to those individuals that have risk management responsibility (insurance), those that specialise in occupational hygiene or ergonomists. Try and engage with these people; they are not there to take over your role but to enhance and add authority to what you need to do.

There is only one boss. The customer. And he can fire everybody in the company from the chairman on down, simply by spending his money somewhere else. (Sam Walton)

If you leave this paper with one thought (and hopefully attend my session), there is a concept I believe that is the real secret which we as safety professionals need to embrace. I am going to express it this way.

Today, boards of directors and senior management are increasingly looking at their environment, health and safety audit programs for ‘comfort statements’ attesting that their organisations are complying with all applicable regulatory and internal policies. (Greeno, Hedstrom & DiBerto) (6) – *The Environmental Health and Safety Auditor’s Handbook* 1988)

This is the real treasure in the Chamber of Secrets!

I say this for one simple reason: As an individual, as a safety professional we have no *right* of employment. Certainly I am fortunate in many respects as the legislation in Europe requires companies to have access to professional competent safety advise. But that can be achieved in many ways. As an individual, I need to know what it is that my customer, my employer, wants, and nine times out of ten, they are looking for those comfort statements. They are not too worried about the stages or processes that we have to achieve in order to provide that assurance or comfort factor; they simply want to focus on what to them is the important element of running the business, the bottom line.

Now here I can see you all saying, "But wait, if we reduce accident we reduce the losses to the business and that improves the bottom line." Yes, you will get no argument from me what however; we need to appreciate is that is not a focus for our management, it is perhaps too esoteric for them. That is not to say that it is not true, it is just that it takes a time to work through. Cost control in a positive produces results now, we are relating to cost control by reduction of loss. I truly believe that we are still at a stage of development or understanding by management that our colleagues in quality assurance experienced in the 1980s. I don't want to forecast or look here into a crystal ball but I certainly think that with all the focus being placed by procurement teams on OSHAS 18001, we may start to move into the mainstream, but it is still a long road.

Before I get to the conclusion of this paper, from a development perspective, there are perhaps two concepts that will certainly assist you in respect of unlocking the secrets that you will find beneficial in your career. The first is not a new concept; I have already alluded to the principle but we are just going to express it in a different way.

The first rule in business is to stay in business tomorrow. That is what we are there to do assist our employers in achieving that goal or objective. We tend, however, to complicate things somewhat insofar as creating new ways of doing the same thing. (Perhaps that is progress?)

The real secret for you as a safety professional is to be able to answer the question: Just what does my customer want from me?

Your customer is, of course, your employer; they are the people that sign your cheque so you need to be able to understand their requirements. Is it to have that comfort statement, or can you go further and develop an overall process that contributes to the sustainability of the business?

Let's deal with this concept of sustainability before we conclude with some concepts of getting the job done. It would be very easy to go off here at a tangent and discuss for a long time but I remember well when I commenced my business life a number of years ago now, an elder colleague advised me: Keep it simple boy. This is just a variation on the KISS principle, a mantra that will be continued to be referred to throughout this paper. Perhaps a principle to assist us in meeting all challenges for the future and not just the challenge of sustainability.

One of the troubles with most of us in safety work is that we tend to complicate the problems with which we are concerned. We attempt to build importance through the development of an organization... We assume

responsibilities that are not rightfully ours. (Merrill C.M. Pollard – *The Journal of the American Society of Safety Engineers*, November 1959, reprinted from *Safety Professional*, November 2011. (7))

Why on earth would any paper which is advocating keep it simple to newly qualified safety professionals appear to want to get that individual to “run before they can walk” by expanding their role within business organisations include a warning from history? Have things changed that fundamentally that we can ignore this very clear expression of “keep it simple?”

The message is still the same; don’t complicate the issues at hand. The role or function of a safety professional has not changed; they must still work to reduce loss to the business. In essence the challenges are broader and more complex as business develops but still we must understand just what it is that the business wants from us.

The nature of the loss has changed in respect of the move from injury-oriented to accident-oriented prevention strategy and, in order to still be effective in the organisation, the safety professional must change and adapt. Many safety professional are primarily driven by the need to reduce the losses to the “human” element of the business, to prevent the loss caused by accidents, the injuries. There are of course other losses, which are equally demanding of attention, but regrettably we, as professionals, spend little or no time or even have the enthusiasm to address. Perhaps thought provoking is the concept of the understanding of our profession by business leaders and the other stakeholder groups that we serve.

But perhaps this is the subject of a separate paper?

I believe however that an eye for the future of our profession is essential; in other words, be it a loss to people, property or process or, as is often stated in the current maxims, of people, profit and plant, it is our function to work with our employers to reduce the risk.

Many health and safety practitioners do have the skills and the will to take on environment tasks and responsibilities but some, understandably, view it as a ‘bolt-on’ to their traditional job specification, and an extra burden in what is already a very busy role. But in the same way that good health and safety management is good business, so too can good environmental practice benefit the bottom line’ (James Draper – Dual Purpose SHP September 2009). (8)

Here is a context for Sustainability: Agenda 21, established at the 1992 United Nations Conference on Environment and Development, or "Earth Summit", in Rio de Janeiro, Brazil, is the blueprint for sustainability in the 21st century. Agenda 21 is a commitment to sustainable development, which was agreed to by many of the world's governments. Nations that have pledged to take part in Agenda 21 are monitored by the International Commission on Sustainable Development, and are encouraged to promote Agenda 21 at the local and regional levels within their own countries. Agenda 21 addresses the development of societies and economies by focusing on the conservation and preservation of our environments and natural resources

Here we should perhaps consider the challenge for the safety professional. It has nearly always been the case that safety is considered an element of the way in which we do business.

Operational functions of the organisation have been the strongest supporter of the safety function, perhaps even with a great deal of support from the property team. It must be argued that this function, while being the prime customers of the “safety function output,” are not the correct departments to achieve the greatest influence in the business environment. Consider who has the greatest influence within our business: is it the financial department or the sales organisation? It can be argued that ‘safety’ is the first part of a comprehensive risk management program (the prevention) in prevent, mitigate, and transfer. Therefore, it be a correct organisational alignment. The department which in effect drives the corporate strategy and the corporate objectives is the sales department. Get these teams ‘on board,’ make them your best friends, and the influence that you will achieve will be enhanced. How do you do that? Easy, provide them with what they need, such as documentation for bids and tenders and easy-to-understand graphs and charts to explain safety performance. They will need it as part of the tendering process to have it to hand, pre-prepared. It is the nature of the sales beast that they need everything yesterday so be ready, and thus be seen as valuable.

The British Standards Institution (BSI), published a non-certifiable standard (BS 8900), Sustainable Development, (2006), (9) which outlines best practices in respect of the elements of a management system to optimise the effects and reduce the costs of business sustainability. The elements or functionalities include but are not limited to: Quality Assurance, Environment, Safety, Business Continuity, Energy Management and Corporate Social Responsibility. These elements are grouped in three distinct pillars of cost areas:

Profit	People	Plant
Quality Assurance ISO 9001	Social Accountability SA 8000	Environmental Management ISO 14001
Contact Centre Standards	Social Responsibility ISO 26000	Energy Management BS 16001
Customer Satisfaction ISO 10002	Health and Safety Management	Carbon Management ISO14064 (Carbon Footprint)
Information Security ISO 27001	BRC Global Standard for Consumer Products	Forestry management (FSC)
IT Service Management ISO 20000		Marine management
Business Continuity BS 25999		Direct Marketing PAS 2020
Risk Management BS 31100		

Table 1. People Profit and Plant

While I do accept that this is very UK-centric, in so far as the numbering of the Standards, I would ask you to consider that there are equivalent standards across the world. The wording and principles are likely to be very similar. As is usually the case, once one country in the International standards organisation adopts a particular standard, it takes some time for “international” approval to happen. This is not a criticism, just a fact of life in respect of committee structures.

I have mentioned previously the rise of BS OHSAS 18001. I can see and do believe that a systematic approach to safety management has been the focus and has achieved

benefits over the past decade. Perhaps one just needs to consider that this standard is a way of achieving that. It certainly is in the ascendancy as for procurement teams since it makes life simple.

As the 21st century develops, a systems approach to safety will be consolidated and become increasing more dominant for benchmarking to be achieved and comparisons made. This will be a positive force for good with respect to a prime aim of reducing the past in human terms of a “lack of safety.” Will BS OHSAS 18001 become the norm? That will depend on education.

The aim must be to have a safety management system that is pragmatic and brings benefits to the organization. A benefit of BS OHSAS 18001 is that it can be applied across all industries and internationally. It enables measurement. It is a great boost to procurement departments that do not understand a permit to work from a hole in the ground. It allows them to be able to express the sentiment that. “We engaged a contractor that has a certified safety management system.” We did our due diligence.

My final secret is one I believe that is more practical in its application and was expressed by Saunders and Wheeler (10) they defined a process a system, an approach that they termed as *the safety mix*:

Environment – Enforcement – Education – Engineering.

In other words, the corporate culture must be right with the optimum amount of discipline and adequate training with the correct tools to do the job.

It has to be stated that if we are looking for a true “secret,” then the safety professional has to adapt the concept that “they do not do safety;” their role or function is that of being a coordinator of the safety mix. This means ensuring that every function within the corporate entity is contributing the correct elements in the correct amount.

In the professional attempts to “do safety,” there is certainly a risk that safety starts when they are present on site and stops when they leave.

In Conclusion

For over one hundred years, safety professionals have been working hard to ensure safety and a healthy environment for employees of their employment organisations. If the problem was easy or a tame problem, we would have a no injury or loss workplace. However by its very nature, we have a wicked problem, where the answer is not simple or achievable as the causation is varied.

There are many tools within the kit that a newly qualified safety professional can utilize; which tool to use and to what degree will depend on the requirements of the employing organisation and the culture that exists. Caution should be used with respect that there is no magic bullet, no one solution to this wicked problem. Many of the skill sets that have been developed by the profession are now an integral part of management systems that we have not adopted or have lost control over. In order to ensure that our mission is achieved and the profession itself is sustainable, we should embrace sustainable development the protection and enhancement of systems to protect people, profit and plant. Our challenge is

one of self-awareness, of being brave to embrace the new requirements, and to market our desire for a safer workplace within the context of what drives business.

Bibliography

Rittel, H. and Webber, M. (1973). "Dilemmas in a General Theory of Planning". *Policy Sciences*, Vol. 4, pp 155-169.

Conklin, J. (2001). "Wicked Problems and Social Complexity." CogNexus Institute. [Online]. Available from the World Wide Web: <http://cognexus.org/wpf/wickedproblems.pdf>

IOSH Food and Drink Specialist Group – IOSH Web site: www.iosh.co.uk/

European Aviation Safety Agency – EASA Web site: <http://easa.europa.eu/>

Bird, Frank and George Germain. *Practical Loss Control Leadership*. Institute Publishing 1985

Greeno, Hedstrom & DiBerto (1988). *The Environmental Health and Safety Auditor's Handbook*. Arthur D Little Inc.

Merrill C.M. Pollard – *The Journal of the American Society of Safety Engineers*, November 1959, reprinted in *Safety Professional*, November 2011.

James Draper – “Dual Purpose SHP,” *IOSH Magazine*, September 2009.

BS EN ISO 9001:2008, Quality Assurance, BSI group.

Saunders and Wheeler, *Safety Management Handbook*. Pitman, 1991

An Approach for Successful Construction: HSE Planning and Implementation in Africa

**Gbolahan K. Abiodun, MSc., GradIOSH
DeltaAfrik Engineering Ltd
(WorleyParsons Group)
Victoria Island, Lagos**

Introduction

The need for successful Implementation of Health Safety and Environmental (HSE) management system has experienced tremendous attention around the globe. Most private and government establishments have realized that incident free operations are good for business and the ethical approach of completing projects in the 21st century. This phenomenon has resulted in the global decline of accidents rate during project execution.¹⁷ Nevertheless, workforces were observed to still experience unhealthy and unsafe working conditions resulting in work related ill-health and accidents.

The unhealthy and unsafe working conditions are more prominent in Africa relative to other continents. The identified phenomenon occurs in Africa where larger percentage of the businesses within the economy is the informal enterprises. Most of these enterprises operate with temporary workforces and majority of who are involved in the high-risk industry sectors. The labour forces continue to expose themselves to hazards associated with these industries because they are saddled with the fear of losing their jobs in the face of very high unemployment rate in Africa.¹⁷ This occurrence definitely undermines the successful implementation HSE management system in this part of the world.²

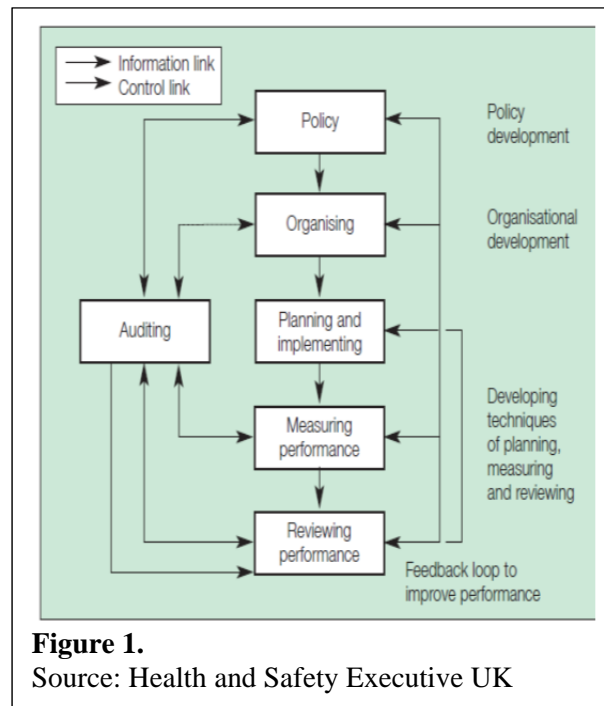
Various sectors have different public and private percentage of semi-skilled workforce in sub-Sahara Africa. A study noted that self-employment represent 70%, 62% and 33% of informal employment in sub-Sahara Africa, North Africa, and non-agriculture sector worldwide respectively.¹⁷ Hence, it can be inferred that majority of these workforces are semi-skilled providing services for infrastructural or construction industry of the economy with no formal understanding and training of health and safety requirements applicable to the area of competency. The construction industry was identified to pose highest risk of exposure and considered as the most hazardous industries with enormous financial implications, costing billions of pounds annually in the UK economy.⁶

The recent globalization and investments of top performing multinational organizations in Africa have promoted the enactment of laws, policies and improvement on basic working conditions, occupational health and safety standards and procedures. Generally in Africa, there are gaps between the provision and the implementation of these laws and policies. Thus, the monitoring of the identified laws and policies are not effective.¹⁸ Because of this gap, motivating small businesses and service providers to embrace HSE management system in their operations is

always a difficult task. The implementation of HSE policy is a challenge for organizations that intend to harmonize HSE management processes across its various locations worldwide.

Therefore, multinational organization planning and implementing Health, Safety and Environmental Management Systems in Africa should promote policies taking cognizant of the prevailing characteristics including sociocultural concerns, location-specific features, localized management commitment and most importantly workforce operations.

Considering all the identified factors would provide a clear direction in ensuring successful HSE planning and implementation. Thus, Organization leadership needs to drive and direct health and safety culture as one of the key operation processes towards maintaining an injury free workplace.⁵ (Figure 1)



Framework for managing Health and Safety: Planning

The UK Health and Safety Executive HSG65 framework identifies planning as a key requirement in successful implementation of health and safety policies and objectives.³ Planning is the control of risk and reaction to changing demands, long term health impact i.e. location or country, sociocultural workforce or contractors, regulations, contract terms and conditions etc. that could impact the organization operations for success or failure. Prichard R. noted that all risk elements must be addressed during planning of organizational project or contract in order to assign required control to responsible member in the project team.¹⁹ My practical experience also shows that contracting strategy decision in construction HSE management is important during planning stage yielding a successful HSE performance on the project.

Without an effective health and safety planning, poor implementation results leading to loss of control which will consequently result into incident/accident, injuries, ill health and

fatality. Any of these occurrences sends negative signal to organization stakeholders which eventually affect reputation, customers and ultimately drive organization out of business.³ It is worthy to point out that location specific health and safety plan must be documented, communicated and accessible to all cadres of staff within an organization.

In Africa, there are challenges with effective HSE planning and HSE professionals delivering policies and procedures with their respective management. For example, the relative difference of management and professionals to HSE policies and implementation taking account of the location specific challenges within its location operations. Pomeroy and Boyle state: “what work in one location can fail in another”.⁷ In addition to the above-referenced factors, this paper further addresses peculiar issues affecting successful implementation of HSE plan in Africa.

HSE Laws and Enforcement

Many African countries had made tremendous progress on occupational Health, Safety and Environmental laws development and improvement in recent time. Some good examples are the Nigeria Occupational Health and Safety bill passed in 2012, similar bill was passed in Cameroun in 2010 and also in Zambia, Egypt, Benin, Mali, Tanzania and South Africa in 1993 to mention a few. All these bills were passed without adequate provision and modality for enforcement.¹⁷

The lack of adequate monitoring modality definitely impacts on successful HSE management in African nations, living small and medium scale organizations with no justifiable reasons by their management not to allocate resources to drive health and safety within their business operation.¹⁷ Although, all organization are legally and morally responsible to protect and promote the implementation of health and safety policy for all its workers despite the prevailing ineffective enforcement obtained in each African country.⁴ On the contrary, a study on some multinational, national and local construction contractors operating in Nigeria did not support the identified assertion. Godwin I., noted that organization management effort in Nigeria towards health and safety management regulations’ compliance is low leading to increase rates of accident and injury.¹ Lack of enforcement of these laws has great impact on the working conditions that an organization provides for its workforce to operate.¹⁷

In the UK, health and safety legislation is drawn up and enforced by a designated body referred to as Health and Safety Executive and Local councils²² and same applies in the US with Occupational Health and Safety Act being enforced by US Occupational Health and Safety Administration under the Department of Labor.²⁰ The fact that a designated body is saddled with responsibility of enforcing and monitoring health and safety makes planning by an organization compulsory and effective. Every organization in the UK and USA are aware that any attempt to default may result into a huge fine or cost, (cost of an incident to organization can be overwhelming) and may possibly drives an organization out of business.⁴ In Nigeria and other African states, no clear designated bodies or inspectorate is saddled with the responsibilities of enforcement of Health and safety implementation.¹⁷ Hence the relative ineffectiveness for the enforcement of Health and safety implementation compared with industrialized nations.³

Nevertheless, the management of some multinational organizations still promotes and adheres to industry best practices as well as health and safety guidelines wherever they operate regardless of enforcement capability in that country. For the actual best practices and HSE policy implementation, such establishment must to have a better understanding of country’s sociocultural needs in order to achieve the identified corporate objectives.²

Promoting Health and Safety Culture

Corporate specific culture has been identified as an important consideration in overall management success in an organization. Organizational culture is defined as “the way we do things around here or a pattern of shared basic assumption that the group learned as it solved its problems of external adaptation and internal integration which has worked well enough to be considered valid and therefore to be taught to new members as the correct way to perceive, think and feel in relation to the problems”⁸ or risk inherent in the company operations. Therefore organizational health and safety culture is identified to be a subset of other operational processes and organizational systems.¹⁵

The absence of continued organizational practices of health and safety culture in an operational process or system impacts negatively on planning and its implementation.² The level of health and safety awareness in all sectors of Nigeria economy is relatively low, and is approximately 20% of the nation population in the oil and gas sector workforce. Probably, a similar level of awareness is applicable in other African countries with Oil and gas resources. Based on this observations, changing the culture across industry sectors in Nigeria or Africa is a challenging task considering the fact that majority of African workforce operate under informal enterprise with no formal knowledge of health and safety associated with their trade. Turnbeaugh, noted that changing organizational culture is a far difficult task than trying to understand its organizational culture.⁸ Typically, an organization health and safety culture evolves over time based on training, management commitment, leadership drive and continual re-enforcement. Furthermore, the workforce health and safety culture will be sustained by effective engagement, involvement and communication across all levels of organization workforces.²

The focused HSE professional could really facilitate and make the required HSE cultural changes through a systematic behavioral safety approach despite all the constraints identified towards the improvement of health and safety culture. The objective is to ensure semi-skilled workers own the delivered HSE culture and to gain workers attention towards their behaviour and action in avoiding associated occurrence.¹⁵ Therefore, HSE professional need to develop competency with required skill sets to confidently promote and implement HSE best practices. The assorted skill sets include:

- Leadership commitment,
- Objectives/ targets and policies
- Drive safe behaviour considering sociocultural diversity (Africa),
- Communication
- Relationship and
- Motivation

Above all, Roddis noted in his publication that to engage a workforce and build relationships on health and safety related issues, the HSE professionals championing this course must be passionate, enthusiastic and maintain a sense of purpose in entrenching a safety culture that lead to the achievement of the desired result.¹² On the whole, the relatively low safety awareness observation and the gaps noted in the African environments would be mitigated with the findings of Roddis and other investigators.

Influencing for Effective Implementation

Planning and communication in the delivery of corporate HSE policy is one of the important mandates of HSE professional. Thus, HSE professional seeks to complete corporate knowledge-based assessment and understand the workforce to be able to adequately package and deliver HSE training.

Once the overall corporate assessment is completed, the HSE professional is confident and has acquired

- Understanding of an organization at all level,
- Knowing how best to communicate and influence the workforce or decision makers
- Implementing HSE vital tools for a result oriented plan.

Based on the mentioned acquisition of competencies and delivery of HSE policy, the responsible HSE managers confidently engage and communicate with staff at all levels of the organization during planning. Thus, HSE Professional has imbibed the findings of Pomeroy et al. by encouraging involvement, improving self-awareness and achieving commitment.⁷ Pomeroy J. and Boyle T., also indicated that a managers or professionals need to be proficient with the skill of influencing organization management or workforce when seeking support for a change or strategic plan implementation with the view to increasing the likelihood of acceptance and effective implementation across the organization.⁷ Therefore, it becomes very important to understand people and their socio-cultural diversities that drives their emotion in decision making towards desired commitment.¹² Furthermore, Cialdini R., reiterated that an appreciable approach to influence and communicate is to demonstrate authority through organizational knowledge and professionalism on how the plan cannot only protect the health and well-being of people but also contribute to the long term strategies of the organization.¹¹

Further, the findings of Riddis if adopted by African establishments would go a long way to correct and sustain the relatively low safety awareness observation and the gaps noted. According to Riddis, safety professionals need to understand how his roles fit to the organization business, aligning the Health and safety objectives with an attention of his engagement and communication approach in ensuring that HSE fits in the business strategic plans.¹² Furthermore, we need to work closely with other employee towards the delivery of the planned strategies through a location specific motivation program that creates an environment for health and safety to be an important part of their daily tasks.

Planning and Implementation: A Practical Approach on Bay Atlantic Project

Based on the literature review and my field experience, planning and implementation of organizational health and safety has led to successful delivery of various construction projects in different sectors. Over the years, successful project executions have been achieved and maintained by best practices. HSE policy and procedures as well as organizational culture implemented in each of the projects ensured that the zero harm incidences were maintained.

Planning is the key in ensuring that an organization health and safety efforts really works.¹³ The effective health and safety management involves setting objectives, identifying hazards, assessing risks, implementing standards of performance and developing a positive culture through

engagement and effective communication. The resulting efforts promote HSE's relevance and importance in the establishment. However, a safety professional must believe, identify and deliver corporate specific HSE policy objectives with enthusiasm and effectiveness to make a difference.¹⁰ Therefore, **Griffith & Howarth** noted that effective health and safety management demand a clear understanding, a systematic approach and a sustainable commitment to improvement.⁶ A systematic approach and sustainable commitment to improvement of policy objectives was demonstrated in the execution of the Bay Atlantic Building project in Nigeria-Africa.

The following section provides a review for the systematic approach adopted on the Bay Atlantic Building project taken into consideration all challenges associated with HSE management in Africa and the outcome so far. The implementation of Griffith and Howarth systematic approach basically demonstrated that challenges impeding on HSE management in Africa operation can be overcome (Figure 2).⁶

Case Study: Bay Atlantic (BA) Project

BA project is an office complex is made up of 10 Storey comprising ground-floor, Mezzanine and 9 Upper -floors with a gross floor area of approximately 11,000 Sq.m.

The Contractors are required to complete the execution of works as follow:

- Piling phase
- Main Office building - Ground floor, Mezzanine level, 9 - Upper floors and other associated utility structures,
- Mechanical, Electrical and Plumbing Installations (MEP)

All works was planned to be completed in 27months in compliance with required or applicable safe work methods and BA specific HSE management requirements should be met at all phases of the project.

Figure 2

The Bay Atlantic Project HSE delivery was driven by the sponsor/ owner's HSE management processes which kick-started with:

- An initial project risk review workshop to assess overall risks impacting on the planned project execution
- Agreement to the project HSE objectives/targets with project management
- A review of health and safety laws / Regulation both local (even if it is not enforced) and international that apply to the planned project and compliance
- Developed Procedures to address serious and imminent danger identified at the risk workshop;
- Agreement with management (sponsor) and project team on the Contractor pre- qualification and pre- tender HSE plan requirement.
- Development Construction HSE Management Plan
- Initiation of Community relations and engagement was initiated with residence
- Agreement on Project HSE Communication flow with the team.

It is worthy to note that top management (Project Sponsor) was visible all through the planning process.

Implementation-

At this stage a principal contractor, consultants and subcontractors had been selected and a Pre-mobilization readiness checklist was initiated prior to contract award and kick off meeting. This was followed with:

- Letter of intent and invitation to construction HSE management workshop. The session was lead by the top management (Project Sponsor) who communicated the following information:
 - Policies, Organization HSE goal, target and expectations
 - Project Administration.
- Project HSE Plan and Contract HSE requirements were reviewed with the contractors. A key clause in the contract states that

“ Should CONTRACTOR fail to observe the requirements of this Article 13, or fail to abate a hazardous condition within a reasonable time after being so instructed by BA, BA shall have the right to stop WORK being performed by CONTRACTOR at WORK SITE and to take any other affirmative action necessary to correct the condition on behalf of and to the extent the hazardous condition was caused by CONTRACTOR or failure by CONTRACTOR to observe the requirements of this Article 13 all costs of such action will be from CONTRACTOR's account. BA shall promptly authorize CONTRACTOR to resume the WORK upon correction or abatement of the hazardous condition”

- Kick off meeting was held and HSE was 1st on the agenda to reinforce the HSE requirement prior to mobilization to site.
- Contractor HSE Plan was reviewed and signed off
- Equipment pre-mobilization and Contractor personnel competence review
- Inductions
- Site establishment
- Training, daily and weekly toolbox talk
- Incentive program Hazard observation reporting

Figure 2

Figures 3a and 3b below present the findings of the HSE systematic approach implementation on Bay Atlantic Building Project.

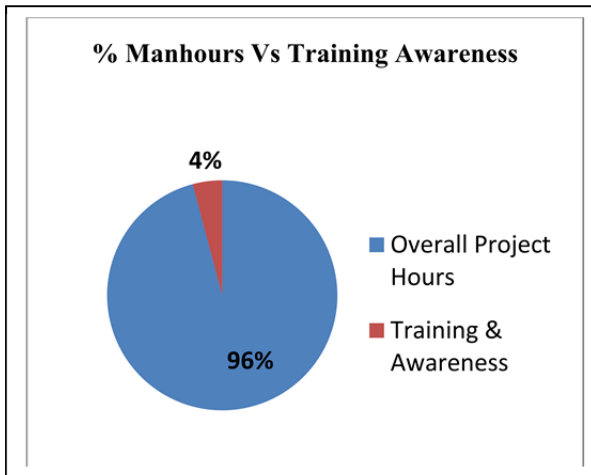


Figure 3a

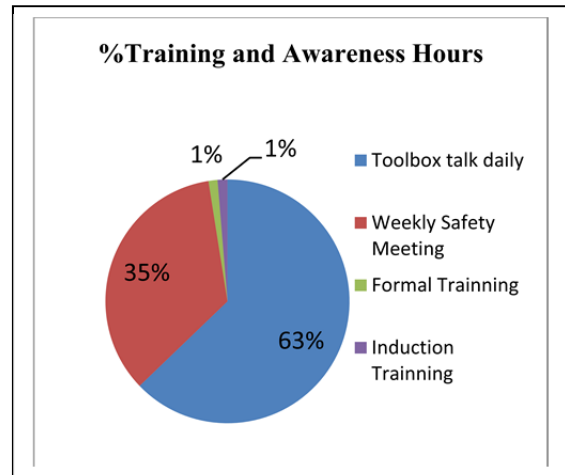


Figure 3b

Figure 4 presents the resulting performance outcome on completion of the building project. The highlight is promotion of the organizational HSE culture resulting in the zero harm incidences.

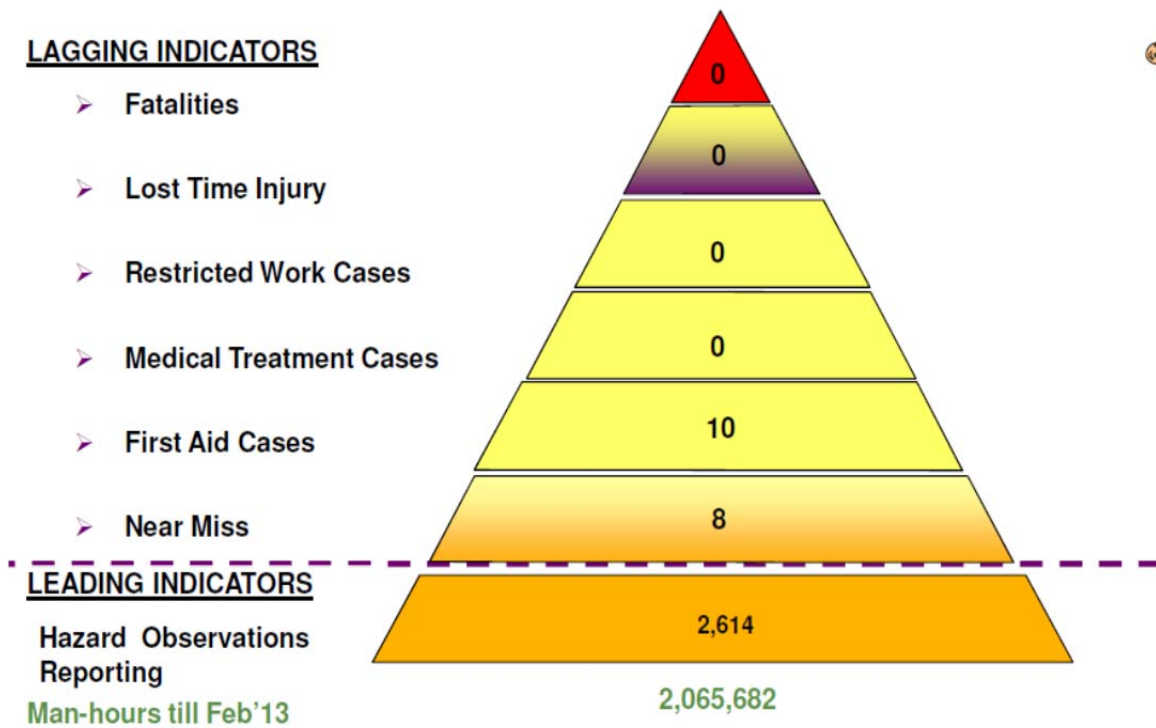


Figure 4 - The BA Project HSE Performance Pyramid

Key Success Factors of HSE Implementation

The key success factors on this project include:

- Leadership commitment
 - The leadership team participations were noticed throughout the project phases where executive management (sponsor) initiated various safe acts. For example: the eye campaign with 1000 units of eye goggles distributed after a toolbox session on eye safety with the workforce based on their observation during a site work through session.
 - The Organization Quarterly Board of Directors meetings. To ensure that the board kept abreast of site activities they relocated venue of their meetings to site meeting room.
 - The leadership team regularly conducted management walkthrough at every meeting on site. These visits reinforce the importance of safety for both the contractors and project team.
- Competent project HSE Professionals
- Communication - Awareness (Training)
- Effective project Contract HSE requirement
- Engagement – Workforce lead Hazard observation reporting on site
- Workforce Motivation – Incentives programs that identify and meet motivational of the workforces and the long drive the desired change culture change.
- HSE management assessment/Audit

Conclusion

The systematic approach completed on the Bay Atlantic Building project has demonstrated that challenges inhibiting successful zero harm incident in HSE management of Africa operations can be mitigated and overcome by imbuing commitment to improvement of HSE policy objectives.

The analysis on construction project case study demonstrate the fact that an investment of 4 - 5 percent of the total estimated work hours for training and awareness improves the workforce knowledge on Health and safety driving culture change over the life of the project where the workforces were involve in hazard observation reporting. Hence a clear demonstration that Africa workforce can deliver project with excellent HSE performance despite the challenges noted.

Therefore successful Health and safety implementation is an effect of effective planning with management commitment. However HSE professionals need to acquire requisite proficiency to communicate and influence top management towards the demonstration of their commitment to the organization Health and Safety vision.

It is also clear that top management or sponsors active engagement on construction project drives workforce performance in sociocultural Africa environment where leadership by example is a clear signal of the importance of safety ideals towards the desired performance outcome.

Endnotes

1. Godwin I. I. - Comparing Occupational Health And Safety (OSH) Management Efforts A Of Performance In the Nigerian Construction Industry, Journal of Construction In Developing Countries Vol.16 (2) 151-173, 2011.
2. Abiodun G.K. - HSE POLICY FORMULATION AND IMPLEMENTATION: Role of Managers in Health and Safety Planning and Implementation. Journal of the Nigeria Institute of Safety Professional (NISP), 2012
3. HSG65 Guidance note: Successful Health and Safety Management (Second edition), HSE Publication.
4. HSWA 1974 - Health and Safety At Work Act of 1974 United Kingdom –
5. INDG275 08/08 - Managing Health and Safety: Five Steps to Success Health and Safety Executive Publication UK
6. Griffith, A. and Howarth, T. Construction Health and Safety Management 2001.
7. Pomeroy J. and Boyle T., Mind the Gap. Safety &Health Practitioner SHP Vol. 28 pg. 32-33 (December2010,)
8. Treasa M. Turnbeaugh (March 2010) Improving Business Outcomes: Behavior –based safety techniques can influence organizational performance. Journal of the America Society of Safety Engineers, Professional Safety (Vol27) pg.41-49
9. Geller, S.E. The Courage Factor 2009
10. Drebinger JR., J.W. Mastering Safety Communication: Communication skills For A Safe and Productive Workplace, 1st Edition 2002
11. Cialdini, R.B. Influence: science and Practice 4th Edition 2001
12. Roddis, P. Developing the Professional – Brand of Opportunity: Safety &Health Practitioner SHP July 2012 www.shponline.co.uk
13. Poon1, SK et al. Factors Affecting the Planning and Implementation of Occupational Health & Safety Management System URL 1 - <http://158.132.155.107/oess/papers/safety-management-factors.pdf>. 2001
14. Cooper, MD. The Impact of Management’s Commitment on Employee Behavior: Afield Study ASSE-0307-013, 2006.
15. Cooper, MD. Human Factors In Accidents, Institute of Quarry UK March 2002 www.b-safe.net & www.behavioural-safety.com

16. ILO, Efficient growth, employment and decent work in Africa: Time for a new vision / International Labour Office, Employment Sector.- 1 v. 2011
http://www.ilo.org/global/meetings-and-events/regional-meetings/africa/arm-12/reports/WCMS_164482/lang--en/index.htm.
17. ILO, Introductory Report- Global Trends and Challenges on Occupational Safety and Health: The XIX World Congress on Safety and Health at Work: Istanbul Turkey, 11-15 September 2011. www.ilo.org/publns
18. ILO, Empowering Africa's People with decent work
http://www.ilo.org/wcmsp5/groups/public/---ed_norm/---relconf/documents/meetingdocument/wcms_161396.pdf
19. Prichard R. Owner Safety Leadership, Arcanum Professional Services February, 2004
<http://www.irmi.com/expert/articles/2004/prichard02.aspx>
20. US Occupational Safety Act., <http://www.osha.gov/dep/index.html>
21. ILO, 1992 Safety and health in Construction: An ILO code of practice 1992
22. Occupational safety and health -
http://en.wikipedia.org/wiki/Occupational_safety_and_health#Laws