SAQI
The South African Quality Institute

e - Quality Edge

bringing quality information to South Africans since 1996

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CONTENTS

No 211 • July 2017

Welcome to the July Newsletter

Our lead article this month is focused on developing a Quality Management System. Three years ago SAQI embarked on a career path development program and the article is based on a deliverable by the initial pilot group of delegates who are now completing the full program. This is followed by the second in a series of articles from our IT Special Interest group (SIG). We will also talk about the dangers of cyber-attacks and what can we do to avoid them.

We continue focusing on the human aspect of improving quality and motivation and share an article on organisational culture and employee engagement.

Richard Hayward then tackles the problem of confidence in our learners who often say "I will never be able to pass"

Our National Quality Week will soon be upon us in November. We have thrown out the challenge by labelling our SAQI theme as "Quality is...." We are expecting our members to fill in the blank space if they think it necessary so we are looking forward to feedback from our members and readers.

New articles are always welcome and we encourage our readers to showcase their achievements or express their opinions on quality and related matters.

Paul Harding
SAQI MD

Quality:
helping South Africans live, learn and work better

PROUDLY SOUTH AFRICAN

Developing a Quality Management System

By Paul Harding SAQI MD

Background

In 2014 SAQI embarked on its career path development training program for aspiring Quality Professionals. We realised then that by just knowing the basic clauses of the ISO 9001:2015 Quality managements systems Requirements standard would not necessarily lead to the implementation of an effective QMS, or indeed make a good Quality Manager.

Quality Control

Our introduction program commenced with an introduction to Quality Control. So whether the delegates were in the manufacturing sector, banking or insurance or they were working on a construction site we could discuss the basic essentials of doing the right things right first time. Many organisations that offer training in Quality Management Systems leave out this vital first phase of development. We also threw in additional modules that covered statistical techniques, problem solving and basics of statistical process control. All these modules with relevant practical examples and exercises were used as building blocks before moving to the next level of understanding. We needed to get the message across as to what is quality, why an organisation needs quality and how quality products and services can be achieved?

Quality Assurance

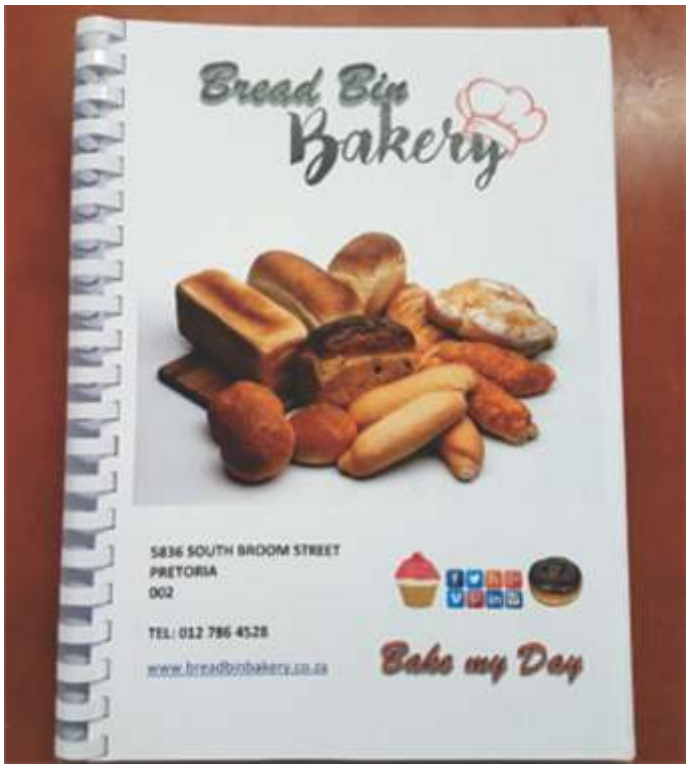
Once the basics were in place we could then move to the more advanced level of Quality Assurance and understanding what the requirements of the ISO 9001:2015 standard actually were. We could also see how the requirements impacted on the various organisations and wide range of sectors applying them. Now the delegates were far more ready to understand that ISO 9001 is not just a paperwork exercise but a structured approach to improve the performance of the organisation by using the PDCA cycle and the process approach. Once this understanding was in place it was much easier to explain the various clauses and their impact on the organisation.

One of the more enjoyable experiences for the delegates was our second module in the QA series where we focused on knowledge management and documented information. This was interesting because the delegates came from different sectors and their tacit knowledge about processes and systems varied considerably. We then set the delegates a challenge to assemble a very basic puzzle to deliver a particular outcome. At this stage there was no documented information in the form of explicit knowledge as to how the process should be carried out. Of course eventually everyone could complete the puzzle but the range of times to completion to the set specification varied by as much as 500% from delegate to delegate. Now the previous ISO 9001:2008 standard emphasised the need for documented procedures and work instructions but how should the delegates now interpret the new clauses that refer to documented information and knowledge management. After a few unsuccessful attempts at producing a work instruction that actually could be used as a training document to solve the puzzle, someone produced a video recording on a smart phone of how to optimise the process. Are we finally moving into the 21st Century?

Further modules were given relating to auditing systems for improved results as well as more advanced statistical techniques and Advanced Product (Service) Quality Planning.

Quality Management

This now brings us to the climax of our career path development program where the delegates that have passed through the previous levels now need to develop an effective Quality Management System for a start-up business.



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We chose a topic for a business that we thought all our delegates would be familiar with and gave them a challenge of setting up a QMS for a fictitious company that we called Bread Bin Bakery. The results were quite outstanding. There was no "cut and pasting" from the ISO 9001 standard. First a CEO was elected from the group and the CEO chose the team that established the context of the organisation. They would then address the risks and would develop and implement the various processes that would be found in a bakery. These core and support processes were initially put into a flowchart format and then the responsibilities, authorities and accountabilities were allocated to the team. We even arranged a visit to a nearby bakery so the delegates could have a "hands on" view of what was entailed in running such a business and were their perceived processes correct in real life. Not only were the requirements of ISO 9001:2015 taken into consideration but also ISO 14001 environmental, 18001 health and safety issues as well as specific statutory and regulatory requirements were also taken into account. What also came across to the delegates is that although financial budgeting and cash flow monitoring is not a specific requirement of ISO 9001:2015 it is difficult to ignore these factors when establishing sufficient resources to enable an effective Quality Management System.

Focusing on the customer

The fun part of the five day course was that each day a different variety of bread and cake (home cooked off the premises) was presented to the delegates so that they could assess the level of customer satisfaction that they should be aiming for and also be able to monitor levels of improvement as the week progressed. After all isn't this the overall objective of introducing a QMS? This exercise brought home the reality that quality means different things to different people.

Conclusion

The finished product that SAQI requested from the delegates as a group assignment was probably what the previous ISO 9001:2008 standard had in mind when they required a "Quality Manual". Of course with that specific requirement not being part of the ISO 9001:2015 version we can use different terminology such as a Business Plan, a Prospectus or an Operations Manual. The team then had ten days to review all the inputs that were discussed and documented in class and work together via the internet and email to deliver the final report. It was good to see that the report had covered all the elements that the delegates were taught in the previous Quality Control and Quality Assurance modules. In real life we would need more than fifteen days to prepare such a document from scratch particularly in a business in which you had no previous experience. However, this exercise proved that if you understand the basics of Quality and are prepared to work together in a team then introducing an effective Quality Management System need not be "rocket science" or an exercise in bureaucracy.

Below the team of successful delegates that completed the course.

back to contents page

Standardisation in Information Security

By Dr Alastair Walker and Thea Wentzel

On 12th May 2017 the world saw what was probably the biggest ever Cyber Crime attack in Internet history when the ransomware, aptly named 'Wannacry' (or 'Wannacrypt'), stormed through the web and held 200k machines ransom in just a few hours, bringing entire organisations in various countries to a virtual standstill.

This Cyber Crime event, coupled with the recent adoption of the Protection of Personal Information (POPI) Act, has forced the topic of information security squarely into public orbit, a wake-up call that Privacy and Cyber resilience violations may cost organisations dearly in fines, financial losses and market credibility.

The 'Wannacry' incident has taught us, yet again, that the application of technology alone is not enough to mitigate security threats and vulnerabilities and that effective management practices are vital to foster a culture of awareness and sensitivity to protect personal, company and customer information.

This newsflash, brought to you by our ImproveIT SIG, provides an overview of the work done by the 'ISO/IEC information security techniques SC 27' workgroups to further develop ISO standards and best practice promoting information security management in small, medium and large enterprises alike.

The ImproveIT SiG can be contacted via our dedicated e-mail address, improveit@saqi.co.za. Please do not hesitate to contact us to find out more about this new Special Interest Group of SAQI, or to become involved in one or more of the SC27 workgroups.

Focus areas of standardisation

The focus of the 'SO/IEC JTC 1/**SC 27** IT security techniques' workgroups is the development of standards for the protection of information. This includes governance, methodologies, best practice and techniques to address both security and privacy aspects in terms of:

- The capturing of security requirements
- Management of information security in terms of information security management systems as well as security processes, controls and services
- Cryptographic and other enabling mechanisms that can be deployed to protect the accountability, availability, integrity and confidentiality of information
- Security management support documentation including terminology, guidelines as well as procedures for the registration of security components
- Security aspects of identity management, biometrics and privacy
- Conformance assessment, accreditation and auditing management system requirements
- Security evaluation criteria and health assessments

There seems to be a perception that the focus of SC27 is restricted to the field of ICT, this is simply not so. Indeed, there are aspects of the workgroup that are quite technical, but the broad thrust is a focus in the security of information in organisational entities.

WG 1 Information security management systems

The scope of this SC27 workgroup covers all aspects of standardisation related to information security management systems (ISMS), including:

- Management system requirements for the protection of information
- ISMS methods and processes and implementation guidance
- Codes of practice for information security controls
- Sector and application specific use of an ISMS
- Accreditation, certification, auditing of an ISMS
- Competence requirements for information security management system professionals
- Governance, cyber resilience, insurance, risk and information security economics

The most prominent member of this family of standards is ISO/IEC 27001. This standard specifies the requirements for establishing, implementing, operating, monitoring, reviewing, maintaining and improving a documented information security management system within the context of an organisation's business activities and the risks it faces.

WG 2 Cryptography and security mechanisms

The scope of this SC27 workgroup covers both cryptographic and non-cryptographic techniques and mechanisms, including confidentiality, entity authentication, non-repudiation and key management as well as data integrity techniques such as message authentication and digital signatures.

This workgroup is known particularly for two standards:

- ISO/IEC 18033 that specifies asymmetric and symmetric ciphers
- ISO/IEC 29192 that specifies symmetric ciphers using

...continue on page 5

asymmetric technique such as authentication, key exchange and identity-based signature, hash functions and message authentication codes (MACs) which are suitable for lightweight cryptographic applications

WG 3 Security evaluation, testing and specification

The scope of this SC27 workgroup covers aspects related to systems engineering/development, focusing on standards for IT security specification, evaluation and testing as well as the certification of IT systems, components and products.

The topics covered include:

- security evaluation criteria and methodology
- security functional and assurance specification of IT systems, components and products
- testing method for the determination of functional and assurance security conformance
- administrative procedures for testing, evaluation, certification and accreditation schemes

ISO/IEC 15408-1 is a representative example of the considerable number of standards produced by this workgroup. It establishes the general concepts and principles of IT security evaluation and specifies the model of evaluation given by the other parts of ISO/IEC 15408.

WG 4 Security controls and services

This SC27 workgroup covers aspects related to security controls and services, emphasising standards for IT security and its application to the security of products and systems in information systems as well as the security in the lifecycle of such products and systems.

The topics covered include:

- ICT security operations (such as incident response, continuity and event management)
- Information lifecycle (creation, processing, storage, transmission and disposal thereof)
- Organisational processes (for example design, acquisition, development and supply)
- Security aspects of Trusted services (such as service provision and management)
- Cloud, internet and cyber resilience related technologies, architectures and computing for digital environments

Amongst the standards produced by this workgroup, the following items are of interest:

- ISO/IEC 27034 (Application security) provides guidance assisting organisations in integrating security into the processes used for managing their applications. It presents an overview of application security and introduces definitions, concepts, principles and processes.
- ISO/IEC 27036 (Information security for supplier relationships) provides an overview of the guidance intended to assist organisations in securing their information and information systems within the context of supplier (and acquirer) relationships.

WG 5 Identity management and privacy technologies

This workgroup focuses on the development and maintenance of standards and guidelines addressing security aspects of Identity Management, Biometrics, and Privacy.

Prominent standards in this context include:

- ISO/IEC 24761, which specifies the structure and the data elements of an Authentication Context for Biometrics (ACBio), which is used for checking the validity of the result of a biometric verification process executed at a remote site
- ISO/IEC 24745, which provides guidance for the protection of biometric information under various requirements to ensure the confidentiality, integrity and renewability (or revocability) of information during storage and transfer

Summing up

There seems to be a tendency in organisations to try and address complex challenges by focussing exclusively on the application of advanced technology solutions. Alas, this approach has not been effective in the past, and will not work in the future. Information security has two sides to the 'coin', one side does indeed require effective deployment of effective tools, though the other side of the coin requires the sustained application of good management practices. We hence need to continue doing the 'right things', right.

So – back to the 'WannaCry' ransomware attack and the POPI Act. Regrettably, addressing the concerns of Cyber Resilience and the POPI Act has no simple technical solution and requires an engagement by management and those in operational and support entities to re-orientate the organisational 'DNA' to be information security aware. The weakest link (whether it is a system, process, person or team) may pose a risk to an entire organisation, it's customers and suppliers. Hence, each and everyone need to appreciate what the legitimate use of information is and what type of misuse could result in organisational and legal censure.

The work done by the SC27 workgroups, that you may become involved in if you wish, plays an important local and international role when it comes to the development of Information Security standards, best practice, techniques and enabling mechanisms, as well as the integration of security aspects into existing systems development methodologies.

Further references

- The DIN 'ISO/IEC JTC 1/SC 27 IT Security Techniques' website supports a collection of freely available documents about the work of SC27 (http://www.din.de/en/meta/jtc1sc27)
- Thea's 'BResilient Blog' provides further information on 'Wannacry' ransomware (http://bresilient.co.za/blog/?p=4)

back to contents page

Another Cyber Attack

By Terry Deacon SAQI member

Petya, a new cyber virus spread from Ukraine to wreak havoc around the globe in June, crippling thousands of computers, disrupting ports from Mumbai to Los Angeles and halting production at a chocolate factory in Australia.

More than a day after it first struck, companies around the world were still wrestling with the fallout while cyber security experts scrambled to find a way to stem the spread. The malicious code locked machines and demanded victims post a ransom worth $300 in bitcoins or lose their data entirely, similar to the extortion tactic used in the global WannaCry ransomware attack in May.

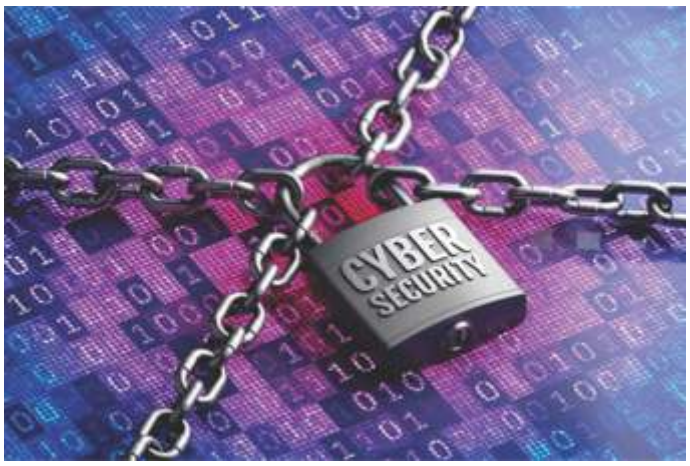
More than 30 victims paid up but security experts are questioning whether extortion was the goal, given the relatively small sum demanded, or whether the hackers were driven by destructive motives rather than financial gain.

Ukraine, the epicenter of the cyber strike, has repeatedly accused Russia of orchestrating attacks on its computer systems and critical power infrastructure since its powerful neighbour annexed the Black Sea peninsula of Crimea in 2014. The Kremlin, which has consistently rejected the accusations, said it had no information about the origin of the global cyber attack, which also struck Russian companies such as oil giant Rosneft and a steelmaker.

How to defend yourself against ransomware:

- The vulnerability does not exist within Windows 10, the latest version of the software, but is present in all versions of Windows prior to that, dating back to Windows XP.
- As a result of Microsoft's first patch, users of Windows Vista, Windows 7, and Windows 8.1 can easily protect themselves against the main route of infection by running Windows Update on their systems.
- Users of Windows XP, Windows Server 2003 and Windows 8 can defend against the ransomware by downloading the new patch from Windows.
- All users can further protect themselves by being wary of malicious email attachments, another major way through which the ransomware was spread.
- And of course, making regular backups.

Contact details Terry Deacon terry@projectpro.co.za



back to contents page

A Thriving Organisational Culture Drives Employee Engagement

By Dr Dicky Els and Jenè Palmer

Culture shapes the wellness of individuals, businesses, communities and nations. Although it is not static and can change, it generally manifests itself in the behaviour of a group of people at any given point in time. Culture is a collective identity that is based on a set of unspoken rules that underpin personal values and interpersonal relationships. It distinguishes the members of one group from those of another, and typically informs society's behaviour. Culture is best described as a set of values, beliefs, attitudes and behaviours that are shared by individuals and sub-groups. It is a strong hidden force that positively or negatively affects individuals, businesses, communities and, indeed, South Africa as a nation. Just as a person who is healthy may not necessarily be flourishing as an individual, similarly an organisation (or a nation) could be functioning adequately, but not necessarily thriving as a business.

With heightened racial tension still very prevalent in South Africa, South Africans are realising that the virtuous intent, moral goodness, social betterment and ethical leadership that was envisioned for the "New South Africa", appears beyond our current grasp. Since 1994 the "Rainbow Nation" has been tested by various socio-political and relentless economic challenges, and the recent Bell Pottinger scandal has only made these matters much worse. To this end, social issues such as inequality, infighting, bribery, corruption, cruelty, crime and poverty often come to mind for most individuals when asked to describe the existing national culture. Sadly, negative and often traumatic experiences are slowly eroding our hope, optimism, resilience, pride and patriotism. More than ever, individuals need to bounce back from adversities while at the same time rethink their expenditures, emotional responses, interpersonal relationships and lifestyle choices. Once again, as individuals and as a nation, we are being forced to learn, adapt, endure and change.

> "Ubuntu speaks particularly about the fact
> that you can't exist as a human being in isolation.
> It speaks about our interconnectedness.
> You can't be human all by yourself, and when you have this
> quality – Ubuntu – you are known for your generosity."
>
> ***Source: Archbishop Desmond Tutu (2008)***

Moreover, the degree to which the current socio-political and economic climate fosters the needs, desires, values and conduct of an autonomous group of individuals over those of the nation; is also affecting South African businesses. Organisations are expected to implement 'radical economic transformation' strategies while at the same time managing social, environmental, legal and even political risks. The by-gone era when organisations would only focus on maximising profit, at the expense of ignoring the needs of its people and the environment, are long forgotten. Fortunately, business philosophies are changing and organisations are increasingly adopting a more sustainable stakeholder-inclusive approach to creating value. This approach is supported by international governance best practice guidelines such as those contained in the King IV™ Report* and those issued by the International Integrated Reporting Council (IIRC). These guidelines advocate a holistic and integrated approach to business and recognise the connectivity and interdependencies between the economy, society and the environment. In line with this ethos, organisations are expected to balance "the legitimate and reasonable needs, interests and expectations" of all material stakeholders in the best interests of the organisation over the long term.

Organisational culture change

If organisations want to transform their business operations to be in line with the above-mentioned business ethos, they need to start by changing their leadership and organisational culture. According to a recent Harvard Business Review, the failure rate for mergers and acquisitions ('M&A') is between 70% and 90%. One of the most common reasons for these failures is the inability to transform and merge organisational cultures. M&A's frequently result in high levels of uncertainty and stress amongst employees which in turn germinate a resistance to change and a decrease in productivity. This negative behaviour is unintentionally reinforced by leaders wanting to 'take charge' and control and manage the organisational culture. Whilst the introduction of rules, policies, and processes may be effective in communicating boundaries and providing guidelines on acceptable behaviour, they often inadvertently restrict employee engagement. Such a rules-based approach to organisational culture assumes that successful change management can only be achieved by anticipating and resolving problems and criticisms. There is often little to no involvement of the employees in establishing the desired organisational culture and instead, a strong emphasis is placed on analysing, designing and controlling employee behaviour with varying degrees of success. In these circumstances, it makes more sense for leaders to let go of the illusion of control, and rather focus on the positive aspects of organisational change which promote enhancement and growth by developing a shared set of beliefs, values, norms and strengths.

A values-based approach to organisational change, encourages employees to align their personal values with those of the

...continue on page 8

organisation. Indeed, a values-based approach, addresses and challenges the belief systems within the organisation and at same time recognises that employees need to be equipped with positive coping skills to be able to adapt to changing circumstances. Whilst a unified message sent from the "top" and a transparent project plan gives direction to employees, it is *capacity development* and *change enablement* that must take centre stage during the merger or change process. Positive transformational leaders develop purpose and meaning, translate strategic objectives into daily operations and develop interpersonal relationships that add value to the human and social capital of the organisation. They understand that there is no substitute for high-quality connections. Through supportive collaboration and alliance building, positive leaders work directly with employees to develop new belief systems, behavioural norms and the desired organisational culture. They enable change through conversations, dialogue and coaching interactions that inspire employees. As more employees engage in the process, so the impetus towards positive change becomes stronger.

Thriving organisational culture

High-performing organisations invest considerable resources in fostering their core organisational values, purpose and desired culture. In fact, high-performing organisations consider a thriving organisational culture as a strong competitive advantage. These organisations intentionally develop individual and group strengths through collaboration, collective efforts, effective communication and cohesive interpersonal relationships at multiple levels, and in different contexts.

A thriving organisational culture manifests in the individual expressions, language, teamwork, relationships and positive experiences of employees which in turn translates into improved innovation and productivity. In addition, thriving organisational cultures are characterised by predictable behaviour requirements, the ability to develop and respond to change effectively as well as an environment where employees can meaningfully engage on an individual and a collective level. In these environments, relationships are built on trust and positive feedback is provided in the spirit of personal and professional growth and development. Essentially, employees in these positive circumstances generally tend to value their quality of life, and contribute positively to those around them.

Similarly, high performing organisations with thriving organisational cultures are further distinguished by the existence of truly cohesive executive leadership teams. The vision and mission of the organisation is clearly articulated and the organisational values are translated into practical behavioural norms (personal conduct). High organisational commitment and job satisfaction, low incidence of sickness and employee absenteeism, positive industrial relations and fewer strikes, are the main attributes of thriving organisations. These organisations adopt a strength-based approach, and assign tangible value to high quality relationships and a collective identity that engages employees and develops its human and social capital.

Employees working in a thriving organisational culture are generally less insular, and they are more able to give and receive support from others. These employees tend to work in ways that excite, absorb and engage them. Generally, they tend to be more self-directed and autonomous, while at the same time they also feel more committed to the organisation. These employees spontaneously create social networks and form positive interpersonal relationships that enable the collective organisation to set goals, work with vigour, and solve problems with resilience. Not surprisingly, these interconnected employees enjoy authentic relationships and communicate openly and across multiple reporting structures. On a daily basis, employees experience personal autonomy, self-efficacy, meaningful work, self-actualisation and social acceptance that entices them to contribute with excellence.

Considering the racial strife and political undertones many South Africans are experiencing at this point in time -- particularly in the workplace -- more organisations and their leadership should pay greater attention to nurturing their organisational culture. In doing so, the organisation may become an important catalyst for a far greater change that is not limited to the workplace itself; the positive effects may well also affect the organisation's social responsibility, extended supply chains and South Africa as a whole. This being said, the ripple effect of embracing culture and its diversity requires ethical and authentic leaders to drive this change, and this is possibly one of South Africa's greatest challenges in present times.

* King IV™ Report on Corporate Governance for South Africa 2016 (The Institute of Directors in Southern Africa - http://www.iodsa.co.za/?page=AboutKingIV) ('King IV™').

About the Authors

Dr Dicky Els is a Lead Independent Consultant in CGF. He specialises in Workplace Wellness and focuses predominantly on strategy development, programme design and evaluation of outcome-based health promotion programmes. For more information on our Employee Wellness Programme Evaluation or Wellness and Disease Management Audits, contact Dr Els directly on 082 4967960 or email dicky@bewell.org.za.

Jenè Palmer is the Chief Financial Officer at CGF Research Institute, and a Chartered Accountant (SA) who has garnered a wealth of experience over the last two decades in the corporate environment including leading a JSE-listed ICT company as its CEO and returning the company to profitability. She geared the company for an acquisition in order to achieve the goal of turning it into a Billion Rand organisation. Jenè's passion is rooted in assisting companies to reach their full potential and overcome the challenges posed by an economic downturn, weak strategic direction, operational inefficiencies or financial distress.

back to contents page

Join us for a SAQI Plant tour

SAQI invites its members to attend a SAQI plant tour for 2017. This tour will be held in conjunction with VOITH Turbo.

Date: Wednesday 23 August 2017

Time: 10:00

Venue: Voith Turbo in Boksburg, Gauteng

Join us for a LEAN JOURNEY to excellence with the VOITH Team!

Registration:

- Attendance is free
- Limited number of attendees
- Registration compulsory
- Maximum of 2 delegates per company

Please contact Vanessa du Toit on vanessa@saqi.co.za to book your seat.

Further communication will be sent to registered individuals.

SAQI

VOITH

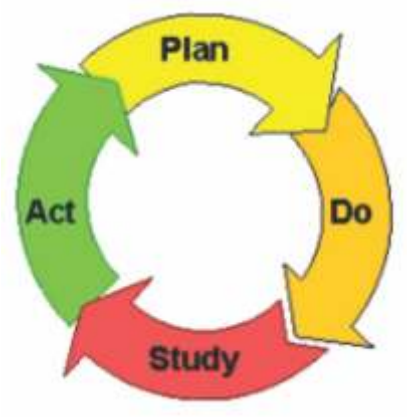
back to contents page

Quality in Schools

Many of our readers are parents themselves or interact often with children. We have asked our education editor, a retired headmaster, to share thoughts on how to get Quality principles and practices instilled in young people.

By Richard Hayward

"I'll never be able to pass this subject!"



The above despairing cry can be heard too often when report cards are opened. A child gets poor results and wails such woeful words. The child tells everyone in the family that it's impossible to pass the subject for any number of reasons.

Such school-related wails of unhappiness aren't only made about what's happening inside the classroom. They can also be said, for example, around the imagined impossibility of getting selected for a sports team or being given a leadership role. Fortunately, there's a winning way to rescue the child from such situations!

Walter Shewhart's original Plan-Do-Study-Act (PDSA) cycle as further developed by W Edwards Deming, can come to the rescue.

The PDSA quality management technique that's used in thousands of businesses and professions. There are schools in North America that formally teach children from Grade One upwards on how to use the PDSA basics. It's easy for any child to understand the four simple steps.

Step One: Plan

In the planning stage, the child and family decide on what needs changing. Two examples could be the failing Maths mark that needs a 10% improvement to get out of the danger zone or a need to perform well enough at netball practices to be selected for the team. A core question that needs answering is: What are we trying to achieve?

Three other questions that need answering are:

- How will we know that there is an improvement, that is, how will we measure our level of success?
- What are the things that we can do to bring about the hoped-for improvements?
- What is our time-frame to achieve our goal (a week, a month, a school term, a year)?

At the planning stage, it's good to brainstorm ideas as well as discuss with those who are able to help in reaching intended goals.

Step Two: Do

Now's the time for action. Carry out the plans. Our struggling Maths student might need extra individualised tuition; the struggling netball player needs to ensure that she never misses a single practice and spends extra time practising her goal-shooting.

This is the time to start observing what's happening. If problems are encountered, ask what can be done to improve matters. For example, the extra Maths lessons done after the end of a long day in the classroom followed by sport activities, can be too exhausting. Tuition lessons might need to be done on those afternoons that are sport-free or over the weekend.

Step Three: Study

In the third step we study the degree of success of our planning and doing. Did the Maths mark improve by the hoped-for 10%? Did the netball player make the school team? It's time to determine the level of progress. What plans for progress made in Step One worked out well? What plans had little or no impact?

Step Four: Act

The time has arrived to act on what we've learnt in the third step. We've a good grasp of what works and what doesn't. There's a carrying-on and sometimes tweaking of the good strategies as well as the throwing out of the poor ones.

As we are aware, a core principle of the Quality philosophy is continuous improvement. Perfection is ever-elusive. Yet the pursuit is never-ending. Therefore, the PDSA cycle should be repeated again and again.

Thomas Edison – the American inventor of the electric light bulb and the telegraph – was criticised for the failures of some of his research projects. His immortal reply was:

I have not failed. I've just found 10,000 ways that won't work.

Our struggling Maths student could one day develop great competence in Maths and even become an accountant or actuary. Our determined netball player might not only make the 1st team for the school but also be chosen for a regional or provincial team.

Using the PDSA cycle helps children overcome the varied challenges that will confront them both at school as well as when they move on to tertiary education. Teach children to use the PDSA cycle. Hopefully, they will then never need to utter such despairing words as, "I'll never be able to pass this subject!"

back to contents page

SAQI Training Programme for 2017

All courses offered by the South African Quality Institute are presented in association with other course providers and are available to all organisations and individuals. SAQI can assist with the training of a company's workforce and all training packages can be run in-house at cheaper rates. A special discount applies to SAQI members. For more information or to register contact Vanessa du Toit at (012) 349 5006 or vanessa@saqi.co.za

1. Each course listed on the training schedule can be completed individually or form part of the overall three levels of certification.
2. SAQI reserves the right to change details of the programme without prior notice. Click on the course code for a synopsis or click here for all course synopsis.
3. The courses listed below form part of a specific Certificate and all modules should be successfully completed to qualify for the Certificate.
4. Delegates are advised to start on Level 2 before moving on to Level 3.
5. All courses completed previously will receive credit when proof of successful completion is received.

Code	Course	Days	Cost	Jul	Aug	Sep	Oct	Nov	Dec
L2	**SAQI Certificate in Quality Control***	10	R 18,874						
B41	Introduction to Quality Control	2	R 4,277	24-25		18-19	16-17		
B90	Introduction to Statistical Techniques	3	R 5,160	26-28		20-22	18-20		
B91	Introduction to Statistical Process Control (SPC)	3	R 5,160		14-16		2-4	13-15	
B79	A3 Problem Solving	2	R 4,277		17-18		5-6	16-17	
L3	**SAQI Certificate in Quality Assurance***	13	R 24,034						
B48	ISO Requirements 9001:2015	3	R 5,160			4-6			
B24	Knowledge Management	2	R 4,277			7-8			
B16	Internal Quality Auditing	3	R 5,160			27-29			
B92	Advanced Quality Techniques	3	R 5,160				30-1		
B77	Advanced Product Quality Planning (APQP)	2	R 4,277					2-3	
L4	**SAQI Certificate in Quality Management***	15	R 31,706						
B38	Development of a QMS	5	R 10,693						
B01	Cost of Quality	2	R 4,277						
B58	New SA Excellence Model	2	R 4,277	13-14					
B74/B76	Lean for Manufacturing/Service Industries	4	R 8,182		1-4				
B93	Policy Deployment (Hoshin Kanri)	2	R 4,277	11-12					
GB	**Six Sigma Green Belt**								
GB1	Sig Sigma Green Belt Week 1 + Week 2	8	R 20,000	3-6	21-24		9-12	20-23	

* Must successfully complete all modules listed to qualify for the certificate.

ALL PRICES EXCLUDE VAT

INHOUSE

Above and beyond the courses listed on the left, we can also provide your company with inhouse training on the following topics.

- Incident and Accident Investigation (B82)
- Introduction to ISO14001:2015
- Introduction to OHSAS 18001
- Inventory and Warehouse Management (B86)
- Lean Six Sigma Yellow Belt (YB)
- Lean Six Sigma Black Belt (BB)
- Production Planning and Scheduling (B85)
- SHEQ Internal Auditing (B49)
- Supply Chain Management (B84)
- IT Process Improvement courses

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back to contents page

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Inhouse courses provided to 10 or more delegates