Charting staff attitude along the journey towards getting ISO certification

Dr. L. C. Koo (Vice Chairman, Hong Kong Quality Management Association)
Dr. Fredrick K. C. Tao (Professor, Asia International Open University (Macau))
Hannah Koo (Doctoral Candidate, International Management Centres)

Despite the importance of staff commitment in any quality endeavor, very few people care to measure and manage staff attitude during the process of introducing a quality program, including that of an ISO certification. Too often both the management and the consultants hurry to get the job done and may have neglected the staff feeling and attitude. The acquisition of ISO certification is often a year-long (or longer) process. The feeling and commitment of staff would wax and wane in the course of ISO certification process which for the purpose of this study is operationally defined to start from the time when the organization decides to use ISO and end after the acquisition of the certificate.

The authors were involved throughout the ISO certification process of a listed public property investment and development company (referred to as KDC). The management of KDC realized the importance of quality management to their future success. They decided to adopt ISO as the quality system for the company. In addition to the ISO certification, the consultants were asked to deliver a series of management seminars to their managers (on top of the usual ISO training) and to help facilitate a process re-engineering project. The Management Training Program covered the following modules: Leadership; Team Building; Goal Setting; Decision Making; Problem Identification and Solving; Managing Changes; Communication Skills; Managing Conflicts and Performance Monitoring.

With all these changes taking place, the management was convinced of the need to gauge the staff attitude by means of a self-completed anonymous questionnaire on a longitudinal basis. Despite its usefulness both from the practical perspective and from the academic point of view, longitudinal survey is rare. Three rounds of survey questionnaires were administered. The first round was conducted in June 1996, the beginning of its ISO journey. The second one was done in November 1996, i.e. in the midst of the ISO journey and the last one was shortly after the company had acquired the ISO9001 certificate (i.e. in July 1997).

The survey questionnaire uses a 5-point Likert scale and covers the following constructs (see specimen of the questionnaire at the Appendix 1):

(AQP) Awareness of Quality Programmes in KDC (items 1 & 2)
(BENEFIT) Perceived benefits of the Quality Programme (items 3a to 3f)
(QSD) Quality Success Drivers (items 4, 6 to 9)
(TN) Training Needs (items 10a to 10h)
(PSF) Perceived Success Factors (items 11a to 11m)
(PS) Perceived Strengths of KDC (items 12a to 12m)
(GAP) Perceived Performance Gap of KDC (PSF - PS)
(OC) Organizational Commitment level (item 13 to 21)

In the last round of survey, the questionnaire included specific questions on staff's view on whether it was good for the company to adopt ISO 9001 (item A); whether they would try their best to maintain the ISO standard (item B); whether they agreed ISO standard had enhanced the management standard of the company (item C); and whether the ISO standard had enhanced the image & goodwill of the company (item D). The questionnaire also contained personal data such as: length of service; job grade; department; gender; age; educational level and marital status. These would help discern the staff attitude pattern among various different demographic groups within the company.

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Benefits of ISO Certification

It is useful to review why organizations apply for ISO certification and understand the driving forces. The objectives of acquiring ISO 9000 are (Mallak et al., 1997):

1. To achieve and sustain the quality of the product or service,
2. To give management confidence that quality is being met, and
3. To give the customer confidence that consistency is being delivered in the product or service.

Benefits of ISO certification include (Quazi & Padibjo, 1997): increased customer preference, improved company quality image & competitiveness in the market, compliance to customer requirements, streamlined procedures and documentation, increased awareness of preventive and corrective actions, and provision of foundation for TQM. Ho (1994) cited the claimed benefits by British Standard Institution: marketing tool; buyer acceptance as proof of quality & technical expertise; customers less likely to arrange special assessment; quality performance/ morale improvement; reduction of cost of quality; improved customer satisfaction/ sales/ competitiveness and profitability; confidence; name appearing in reference books for buyers; and help in export markets. Yung (1997) reported the benefits of ISO to include: marketing advantages; better documentation system; quality awareness among staff; and efficiency improvements / costs reductions. McLachlan (1996) revealed 35 benefits of ISO and he related the relevant paragraph of ISO to each of these benefits. Adanur and Allen (1995) reported the following benefits of ISO: more motivated employees; better product quality; lower quality costs; and more efficient operations. Dale (1994) outlined the following Benefits of ISO 9000: Error reduction; Reduction of audit time taken by customers; Improvement in control, discipline, procedure, documentation, communication, customer satisfaction, problem handling and quality awareness; Identification of ineffective and surplus procedures; and Better working environment.

As most of the ISO benefits are diverse and yet similar, it is interesting to see how they can be classified. Buttle (1997) identified 23 benefits and the top ten benefits of ISO 9000 certification are: Improving efficiency; Improving awareness of procedural problems; Better management control; Using standard as a promotional tool; Increasing customer satisfaction; Improving customer service; Facilitating elimination of procedural problems; Improving staff motivation; Keeping Existing customers; and Gaining new customers. The 23 benefits were more parsimoniously factored into four factors: i.e. Profitability; Process Improvement; Marketing Benefits; and Sundries Benefits.

Mo and Chan (1997) classified the ISO benefits into Quantitative benefits (expand market share; reduce scrap and rework; increase productivity; and reduce product defect) and Non-quantitative benefits (increase employee morale; minimize role ambiguity; better control of suppliers; improve existing system; and improve customer satisfaction). Ho (1994) quoted Bulled's (1987) categorization of ISO benefits into: (1) advantages of having the system; (2) additional advantages accruing from the result of having an independently assessed quality system.

Without being explicit, these were also the reasons why KDC committed to apply for the ISO certificate.

Possible drawback of ISO certification

Despite the growth and popularity of ISO certification, the scheme is not without flaw. There are actual and perceived disadvantages in launching ISO certification. One has to be aware of the possible drawbacks and take measures to avoid or minimize their adverse impact. It has been reported that ISO being costly and time-consuming typically pays for it self within 15 months (Mallak et al. 1997). It is the first barrier to overcome in order to convince the top management to introduce ISO into the organization. Seddon (1997) raised ten arguments against ISO 9000. He pointed out that in addition to cost, ISO made customers unhappy, demoralized staff, took away opportunities to improve performance. With ISO, people had to do "two jobs" – do it and then "write" about it. In a study of quality practice in Asia, Syrett and Pike (1995) remarked that it was possible for a company to be certified to ISO 9000 without having initiated any quality programme. Many companies sought ISO 9000 because of pressure from customers.

Other criticisms about ISO include (McLachlan, 1996): being too expensive; not addressing the needs of small businesses; being biased towards manufacturing; being irrelevant; and rubbish still being made & sold.

The common barriers in introducing ISO 9000

The reasons for many companies failing to recognize and realize the advantages of having ISO should be reviewed. These barriers have to be identified and properly handled so that the quality system can be successfully introduced and sustained.

One barrier, as cited by Mallak et al. (1997) was the lack of an appropriate organizational quality culture to induce necessary changes in attitude and behaviour to reinforce the desired change process. A study by Quasi et al. (1997) on seven companies identified the following barriers: lack of top commitment; lack of financial & human resources; limited time for implementation; perceived employee resistance; no perceived advantages in certification; and poor training. Mo et al. (1997) suggested that cost of certification, customers' double standard attitude (on certification and price) and the increased ISO maintenance overheads were factor inhibiting ISO certification. They pointed out that small firms experienced technical obstacles like high implementation costs, inadequate resources, and insufficient external assistance.

Success drivers for ISO 9000 /TQM implementation

Hvam et al. (1997) suggest that a prerequisite for getting ISO certification appropriately is to perform re-engineering in advance, so that the expected benefits can be achieved. They made the distinction between Hammer and Champy's (1993) Business Process Re-engineering (i.e. fundamental alteration approach) and Harrington's Process Re-engineering (i.e. operationally oriented approach).

Yung (1997) proposed the following factors for successful implementation of TQM:

- Commitment and involvement by top management
- Teamwork approach to solving problems
- Thorough training to promote quality awareness
- Improvement of quality control techniques and methods
- Continuous improvement programme
- Participation of staff at all levels

Grint (1997) said that one of the critical touchstones of TQM was the involvement and commitment of the workforce at all levels. From a study of the Quality Circle practice in Hong Kong, Koo (1995) reported that top and mid management support and commitment are the key drivers to good quality management practice.

Key findings:

Demographics of the respondents

The response rates for the three rounds of questionnaire ranged from 61% to 77%. There were more respondents omitting to supply their personal data in the first round. Confidentiality was further re-emphasized for the latter two rounds and situation improved. The respective demographic data were compared across three rounds and they did show a consistent pattern and generally agree with the personnel profile of the staff population. Therefore the data were likely to represent the whole population. There were 42% male and 58% female; 7% below 20 years old, 44% between 20 and 30, 28% between 30 and 40, 15% between 40-50 and 6% over 50; 2% with primary education, 53% secondary, 23% post-secondary and 22% university standard; 45% single, 53% married and 2% other marital status; 37% had less than 30 months of service with KDC and 63% worked over 30 months with the company; 34% clerical, 43% supervisory and 23% managerial grade.

Reliability coefficients of the various constructs

Cronbach alphas were computed for the following constructs:

(AQP) Awareness of Quality Programmes in KDC (items 1 & 2) = 0.7340
(BENEFIT) Perceived benefits of the Quality Programme (items 3a to 3f) = 0.8395
(QSD) Quality Success Drivers (items 4, 6 to 9) = 0.7603
(TN) Training Needs (items 10a to 10h) = 0.9039
(PSF) Perceived Success Factors (items 11a to 11m) = 0.9415
(PS) Perceived Strengths of KDC (items 12a to 12m) = 0.9221
(GAP) Perceived Performance Gap of KDC (PSF – PS) = 0.9343
(OC) Organizational Commitment level (item 13 to 21) = 0.9279

The reliability of most of the conceptual constructs was acceptable.

Staff attitudes at different stages of ISO certification process

The following table summarizes the staff attitude patterns at the start, midst and end of the ISO acquisition journey. As mentioned earlier, the different respondent groups at the different stages are representative of the entire population, the comparison on a longitudinal basis depicts how employee attitude varies at different times.

Description of attitudinal constructs	**Overall Rating on a 5-point scale**	**Start of ISO acquisition process (round 1)**	**Midst of ISO acquisition process (round 2)**	**End of ISO acquisition process (round 3)**
AQP - Awareness of Quality Program	4.03	4.13	3.90	4.06
BENEFIT - Perceived benefit of Quality Program	3.82	3.89	3.80	3.76
QSD - Quality Success Drivers	3.82	3.93*	3.68*	3.83
TN - Training Needs	4.12	4.17	4.08	4.09
PSF - Perceived Success Factors	4.26	4.34	4.24	4.18
PS - Perceived Strengths of the company	3.53	3.50	3.46	3.65
GAP - Perceived Performance Gap of KDC	0.79	0.93*	0.84	0.58*
OC - Organizational Commitment	3.78	3.74	3.76	3.86

To test whether the attitudinal scores are different, One-Way Analysis of Variance (ANOVA) test was applied with Least Significant Difference (LSD) post hoc multiple comparison. Only the following two pairs (marked with an asterisk) are different at 0.05 significance level:

QSD: round 1's 3.93 is higher than round 2's 3.68
GAP: round 3's 0.58 is lower than round 1's 0.93

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From this longitudinal study, the employees felt the decline of quality success drivers in the midst of ISO journey as compared to the start. However once the company has successfully acquired the ISO certificate, the employee felt the performance gap of the company drop significantly as compared to the start. In other words the respondents were convinced that the ISO certification had improved the performance of the company.

In order to identify which specific composite item(s) of the perceived quality success drivers changed during the ISO acquisition process, One-Way ANOVA was conducted and the results are summarized in the following table:

Description of attitudinal composite item	**Start of ISO acquisition process (round 1)**	**Midst of ISO acquisition process (round 2)**	**End of ISO acquisition process (round 3)**
Item 4: My company provides training on quality	4.11	3.94	4.09
Item 6: The top management shows strong support and commitment in quality programmes	4.36*	3.99*	4.15
Item 7: The middle management has good commitment in the quality programmes	4.09	3.86	3.93
Item 8: Ordinary staff members in the company like to participate in the quality programmes	3.42	3.34	3.47
Item 9: Proper recognition and reward are given to those who have good achievement in quality programmes	3.74*	3.37*	3.58

In the midst of ISO acquisition, the employees perceived that top management support and commitment had declined and recognition for having good achievement in quality had not been properly recognized.

Similarly further detailed analyses were conducted with the various performance gaps of the company. This is summarized as follows:

Description of attitudinal composite item	**Start of ISO acquisition process (round 1)**	**Midst of ISO acquisition process (round 2)**	**End of ISO acquisition process (round 3)**
GAP1 Management Ability	1.00*	0.97#	0.58*#
GAP2 Quality System	0.95*	0.90	0.54*
GAP3 Quality Control	0.88	0.97	0.67
GAP4 Purchasing	0.73	0.86	0.52
GAP5 Product Design	0.61	0.51	0.65
GAP6 Technology	0.75	0.92	0.75
GAP7 Sales & Marketing	0.85	0.86	0.74
GAP8 Servicing	1.00*	0.90	0.63*
GAP9 Cost Control	0.96	0.78	0.66
GAP10 Training of Employees	1.12*	0.87#	0.48*#
GAP11 Business Reputation	0.85*	0.71#	0.28*#
GAP12 Personnel Management	0.93#	1.03*	0.55*#
GAP13 Machine/Equipment Investment	0.89	0.67	0.60

** and # denote difference of the respective pair of rounds at 0.05 significance level*

The gap is operationally defined as the difference between the perceived importance (i.e. PSF) and the perceived strengths (i.e. PS). If the perceived importance is high and the perceived strengths is also high (i.e. no or little gap), then it is all right. Alternatively if the specific item is perceived to be of little importance anf the company is not doing too well in that area, it is still all right. Problem should exist if the perceived importance is high and yet the company is perceived to be weak in that area. Thus the larger

the “gap” the bigger is the need for improvement. Reduction in performance gap is therefore perceived to be improvement made by the company.

Upon acquisition of ISO certificate, the company was perceived by the respondents to have made significant improvement in the following areas:

Management ability
Quality system
Servicing
Training of employees
Business reputation
Personnel management

These findings are echoed by the scores (5-point scale, 1=Disagree,¡K, 5= Agree) of the four additional questionnaire items in the last round:

A) It was good for my company to adopt ISO 9000 standard (4.13)
B) I will try my best to assist my company to maintain the ISO standard (4.21)
C) ISO 9000 standard has enhanced the management standard of my company (4.13)
D) ISO 9000 standard has enhanced the image and goodwill of my company (4.33)

Conclusion and recommendation for future researches

The questionnaire was set out to measure eight different attitudinal constructs, viz: AQP, BENEFIT, QSD, TN, PSF, PS, GAP and OC. This longitudinal analysis suggests that the staff attitudes change significantly only in QSD and GAP. The findings have practical implication to help facilitate acquisition of ISO certification. The company should make better achievement in its quality programme if the quality success drivers are reinforced. In the case of KDC, the support and commitment from the top management should be enhanced in the midst of the quality journey. Also there should be more and better recognition and reward for a job well done. This would help strengthen the drivers of quality success.

The other interesting and useful finding from this study is the identification of ISO benefits as measured by the reduction in gap (or improvement of corporate performance in the respective key areas). The use of questionnaire surveys to chart the employee attitudes on a longitudinal basis can reveal the dynamic nature of people’s feeling over time during a major corporate change programme. The questionnaire can be modified and adapted to measure staff attitudes during any other major corporate events (e.g. Business Process Re-engineering, Organizational Revamp; Corporate Crisis Management). The importance of understanding how employees feel is important so that appropriate action can be promptly taken to enhance the chance of success.

Future researches may be designed to establish the causal relationships of the various key attributes. For example, would the so-called quality success drivers really result in better quality performance by the company. Future researches should balance the subjective, soft and attitudinal data with more objective, hard and factual data. With the advent of more powerful computing programmes such as LISREL (Linear Structural Relation), AMOS (Analysis of Moment Structures), more rigorous evidence of casual relationship is not too difficult.

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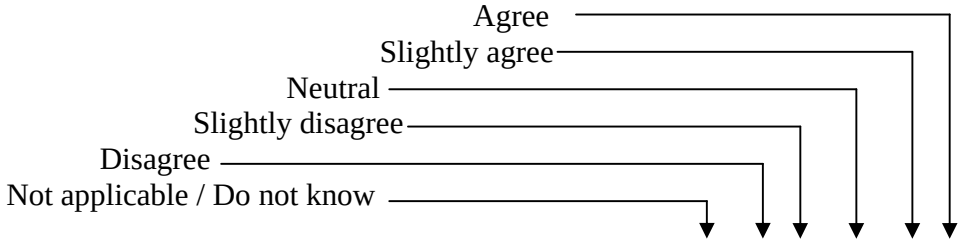
Appendix 1

This questionnaire is conducted by an independent professional research firm in order to find out your attitudes and perception towards the quality programmes in the company. All your responses will be handled by the research firm who will ensure that no individual data will be released. Only aggregated results will be reported.

To help make the quality programmes a success which in turn will improve the quality of your work life, please co-operate and be frank with your responses to the questionnaire.

Please complete and return the questionnaire by _____ .



1	My company has programmes to develop "quality awareness" among staff members	0	1	2	3	4	5
2	I like the "quality programmes" in the company	0	1	2	3	4	5
3	**The quality programmes in my company are effective in :**						
a)	improving productivity	0	1	2	3	4	5
b)	improving customer service	0	1	2	3	4	5
c)	reducing cost	0	1	2	3	4	5
d)	developing staff potential	0	1	2	3	4	5
e)	developing "quality culture"	0	1	2	3	4	5
f)	building up better teamwork	0	1	2	3	4	5
4	My company provides training on "quality"	0	1	2	3	4	5
5	Training can help make the quality programmes successful	0	1	2	3	4	5
6	The top management shows strong support and commitment in quality programmes	0	1	2	3	4	5
7	The middle management has good commitment in the quality programmes	0	1	2	3	4	5
8	Ordinary staff members in the company like to participate in the quality programmes	0	1	2	3	4	5
9	Proper recognition and rewards are given to those who have good achievement in quality programmes	0	1	2	3	4	5
10	**In my opinion, training on the following topics is important to the success of the company**						
a)	ISO 9000 awareness	0	1	2	3	4	5
b)	ISO 9000 documentation / implementation	0	1	2	3	4	5
c)	management / supervisory skills	0	1	2	3	4	5
d)	total quality management	0	1	2	3	4	5
e)	problem identification / solving	0	1	2	3	4	5

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f)	leadership skills	0	1	2	3	4	5
g)	team building	0	1	2	3	4	5
h)	language	0	1	2	3	4	5
i)	others, please specify : _____	0	1	2	3	4	5
11	**A successful company in our industry should be good at :**						
a)	management ability	0	1	2	3	4	5
b)	quality system	0	1	2	3	4	5
c)	quality control	0	1	2	3	4	5
d)	purchasing	0	1	2	3	4	5
e)	product design	0	1	2	3	4	5
f)	technology	0	1	2	3	4	5
g)	sales and marketing	0	1	2	3	4	5
h)	servicing	0	1	2	3	4	5
i)	cost control	0	1	2	3	4	5
j)	training of employees	0	1	2	3	4	5
k)	business reputation	0	1	2	3	4	5
l)	personnel management	0	1	2	3	4	5
m)	machine / equipment investment	0	1	2	3	4	5
12	**Our company is good / strong at :**						
a)	management ability	0	1	2	3	4	5
b)	quality system	0	1	2	3	4	5
c)	quality control	0	1	2	3	4	5
d)	purchasing	0	1	2	3	4	5
e)	product design	0	1	2	3	4	5
f)	technology	0	1	2	3	4	5
g)	sales and marketing	0	1	2	3	4	5
h)	servicing	0	1	2	3	4	5
i)	cost control	0	1	2	3	4	5
j)	training of employees	0	1	2	3	4	5
k)	business reputation	0	1	2	3	4	5
l)	personnel management	0	1	2	3	4	5
m)	machine / equipment investment	0	1	2	3	4	5
13	I am willing to put in extra effort to help my company be successful	0	1	2	3	4	5
14	I praise my company to my friends as a great organisation to work for	0	1	2	3	4	5
15	I would accept almost any reasonable type of job assignment in order to keep working for my company	0	1	2	3	4	5
16	My values are very similar to my company's values	0	1	2	3	4	5
17	I am proud to tell others that I work for my company	0	1	2	3	4	5
18	My company inspires me to perform to the best of my ability	0	1	2	3	4	5
19	I am extremely glad I chose my company to work for	0	1	2	3	4	5
20	I really care about the fate of my company	0	1	2	3	4	5
21	For me, my company is the best organisation to work for	0	1	2	3	4	5

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A *	It is good for my company to adopt the ISO 9000 standard	0	1	2	3	4	5
B *	I will try my best to assist my company to maintain the ISO 9000 standard	0	1	2	3	4	5
C *	ISO 9000 standard has enhanced the management standard of my company	0	1	2	3	4	5
D *	ISO 9000 standard has enhanced the image and goodwill of my company	0	1	2	3	4	5

22. My length of service with the company :
below 6 months [ ]; 6-12 months [ ]; 12-18 months [ ];
18-24 months [ ]; 24-30 months [ ]; over 30 months [ ]

23. My job grade :
Clerical [ ]; Supervisory [ ]; Managerial [ ]

24. My department :
Investment [ ]; Admin & HR [ ]; Real Estate [ ];
Project Management [ ]; MIS [ ]; Finanace [ ];
Theatre Mgt & F D [ ]; Company Secretarial [ ]; Others [ ]

25. Gender : Male [ ]; Female [ ]

26. Age : below 20 [ ]; 20-30 [ ]; 30-40 [ ];
40-50 [ ]; over 50 [ ]

27. My highest education attained :
primary [ ]; Secondary [ ]; Post-secondary [ ]; Univ [ ]

28. Marital status : Single [ ]; Married [ ]; Others [ ]

Thank you for your cooperation !

* used only in the last round of survey

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