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Securing Executive Buy-in for Preventative Risk Management – Lessons from Water Safety Plans

C. Summerill*, S.J.T. Pollard**, J.A. Smith*, B. Breach***, T. Williams****.

*Cranfield University, Cranfield, Bedfordshire, MK43 OAL UK.
** Director, Collaborative Centre of Excellence in Understanding and Managing Natural and Environmental Risks, Cranfield University, Cranfield, Bedfordshire, MK43 OAL UK.
*** Water Quality and Environmental Consultancy, 6 Treeford Close, Solihull, B91 3PW, UK
****IWA, Koningin Julianaplein 2 (7th floor), 2595 AA The Hague, The Netherlands.

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ABSTRACT

1. INTRODUCTION

Water safety plans (WSPs), first described in the WHO Drinking Water Quality guidelines (WHO, 2004) and supported by the Bonn Charter (IWA, 2004) represent an opportunity to promote preventative risk management within water suppliers. Most guidance acknowledges that managerial buy-in is critical to ensure success, yet the detail on how to generate it is limited and often focuses simply on endorsing a policy, or financial efficiency arguments. Furthermore, sustaining managerial commitment – specifically to ensure that adequate resources are made available - over a period of time is of critical importance to the ongoing effectiveness of a WSP. A research interest in risk management tools and frameworks within the water sector has been developed (Pollard et al., 2008; MacGillivray and Pollard, 2008), but confirm that organisational infrastructure is insufficient in isolation and organisational commitment cannot be taken for granted. Successful WSP implementation will require a preventative risk management culture to pervade the organisation. Effective leadership is instrumental in effecting culture change and thus people in influential positions must be advocates of the method in order to bring about change (Schein, 2004). An embedded risk management culture will ensure the success of WSPs and prevent 'tokenism' (Summerill et al., 2010).

Since 2004, support for WSPs has been growing at a significant rate. Several years of implementation means there is now a wealth of data available in order to determine some more of the 'abstract' reasons of what makes for successful WSP implementation. Whilst there is an abundance of guidance, some utilities excel and others struggle in implementing WSPs and a question arises as to whether there is more to this than the widely espoused lack of finances, resource or time. Organisational culture acts as a filter to the uptake of new practices (Johnson, 1992), and organisational culture is influenced by leaders (Schein, 2004), this should be given consideration by those wishing to implement WSPs or those agencies that advocate their use. In this paper, we seek to explore organisational culture and examine the process of managerial commitment from real examples of WSP implementation to provide guidance to those seeking to generate buy-in for preventative risk management. This research will contribute to tools that will form part of the IWA's 'Bonn Toolbox' intended to assist water suppliers successfully implement WSPs.

2. METHODOLOGY

In order to gain empirical data, a case study approach was used, performed at four utilities, at various stages of WSP development and of contrasting size and structure (table 1). Multiple methods of observation, conversation, interviews and document analysis were performed at each utility, as described in the case study approach of (Yin, 2009). Narrative data was obtained through semi-structured interviews with open ended questions around key themes, enabling comparisons to be drawn between utilities, whilst remaining flexible enough to investigate key strands of the discussion. Questions focused on organisational culture and WSP implementation, (e.g. *What do you think are the main missions of the organization in which you work? What does 'commitment' mean to you?).* Interviews were selected to represent a cross section of employees across the organisations. Relevant documentation was obtained, including 'grey' literature such as internal reports, policies, procedures, risk assessments, as well as published reports and papers. Supplementary data was acquired through observation, conversation and the collection of field notes. Supplier D exhibited a group structure – a private holding company with subsidiary water utilities, two of these companies were visited during the case study.

Table 1: Case study supplier information

	Supplier A	**Supplier B**	**Supplier C**	**Supplier D**
Region	Northern America	South East Asia	Northern America	Southern Europe
Ownership	Public (previously private)	Private (previously public) owned by a parent company	Public (Corporatised)	Private holding with public shareholders
WSP	Explicit project, abandoned/on hold.	Explicit WSP pilot project, not yet complete.	Not explicitly undertaking WSPs	Explicit project, implemented in some subsidiaries for many years
WSP Driver	Top management (believed to be the 'right thing to do' to 'give peace of mind').	Parent company (commercial driver).	Feeling that they already achieve the aims through other means	For continual improvement and to increase trust in the water supply.
No. Employees	15	1,700		
No. consumers	15,000	3.1 million		
No. WTPS	1	28	2	1 / 2
No. interviews	18	21	19	39 total (2 inc. holding company)

There are many frameworks for the analysis of organizational culture, including Johnson's 'cultural web' (Johnson, 1992), Hofstede's organizational factor approach (Hofstede et al., 1990), and Schein's levels of culture (Schein, 2004). The principles are similar: there are several layers of culture within an organization; 'artefacts' constitute the visible structures and processes of the organizations, and 'espoused beliefs' represent a deeper expression of organizational culture (Schein, 2004). Our framework for analysis adopted Schein's three layers – artefacts, espoused beliefs, and underlying basic assumptions, whilst using Johnson's cultural web and Hofstede's organizational factors as guides in analyzing these. Analysis of the

interview data was performed systematically through coding, annotation and memoing using Atlas.ti^{TM} software (Figure 1). Through each cycle of coding, themes, concepts, questions and theories are developed (Neuman, 2003). Analysis drew mainly on explanation building and cross case analysis. The anonymity of interviewees and the organization was secured. Triangulation was performed using the multi-method case study approach, by interviewing a range of employees, cross checking different accounts, cross checking interviewee accounts with documented sources and providing interviewees with an opportunity to comment on drafts of the outputs.

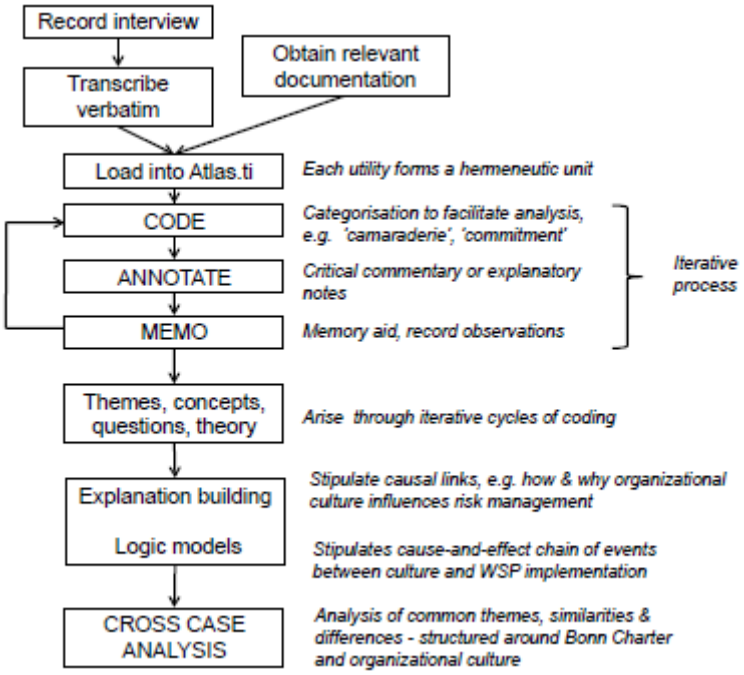

Figure 1: Methodology

3. RESULTS

3.1 WSP blockers and enablers

There were no specific drivers within Supplier C, as the company was not specifically implementing WSPs, but there was the capability, managers were enthusiastic about new initiatives that would ensure continual improvement. The main blocking feature here was a lack of awareness of the WSP approach; this could also be due to the fact that there was a lack of WSP implementation in the region. Despite representing a variety of supplier types, there were a number of blockers and enablers that were common to all cases. Enablers included:

Enthusiastic, committed management: Needed to support the process, and provide necessary resource. Demonstration of commitment to water safety by those in positions of authority. Managers within A,B and D initiated the project and provided necessary resources in terms of staff or consultants.

Incidents: Past quality related incidents contributed to the drive for WSP development, hoping it would prevent these effects being felt again.

Accountability: Accountability to the consumer was used as justification of the WSP. To act in a transparent, accountable and professional manner. The 'desire to do the right thing' as a manager in Supplier A put it. As a private company, Supplier B felt

particular accountability due to its paying customers and felt that nobody should get sick because of the water; WSPs could help prevent this.

Insufficient regulations: Many employees felt that the regulations were not enough to ensure the safety of consumers and they therefore need to go an extra step (WSPs) to achieve this.

Image/competition: All suppliers to some degree were concerned with image and competition, with the desire to be considered 'world class'. Be it real competition in the case of private suppliers such as Suppler B, perceived completion with peers in Supplier A or competition between the group in Supplier D. The image of the company was also important, for example in Supplier D, where tourism was high.

Learning culture: Effective WSP implementation requires a culture that wants to learn from mistakes, past events, outside influences, from training and education, research etc. with openness to new ideas.

Stakeholder relationships (internal and external) Effective WSPs needs effective stakeholder engagement, including consumers and internal stakeholders.

Continual improvement culture: To prevent complacency and therefore 'stagnation' of the WSP. An organisation that is not content with things as they are and strives to improve. Going 'above and beyond' what is required by law.

Empowerment: Involvement and recognition of staff to successfully implement WSP. Recognition for work, ownership and involvement equals higher levels of commitment.

Proactive and preventative: Linked to continual improvement culture, this is the aim of the WSP, to prevent problems occurring in the first place and having a long term vision.

Quality certifications: Already being certified, for example to ISO quality standards was felt to help WSP buy-in and implementation because of already documented procedures.

In contrast, blockers included:

Lack of awareness/uncertainty: Uncertainty over how to implement the WSP and ineffective guidance was an issue for the suppliers as well as not being fully aware of the approach.

Lack of recognition: Within supplier B, there was a certain degree of lack of support from within the organisation with many staff reluctant to become involved because they felt it was not their responsibility or that they would not receive formal recognition for doing so.

Complacency: All suppliers considered that water quality was already good and thus WSPs not considered urgent.

Poor internal relationships: Barriers between staff could hinder co-operation and thus WSP implementation.

Competing priorities: Private companies such as B and D had competing commercial priorities such as an increased interest in new business opportunities that may take the focus away from the core business and younger companies within Supplier D had more improvements to make and therefore higher priorities to spend money. Supplier A identified that increased growth was higher priority.

Resources and skills: There was a perceived lack of time, resources and skills in all suppliers, Supplier D found it difficult to attract staff to more remote areas; supplier A felt the need to employ consultants and a lack of time was the reason the WSP was on hold.

Communication: In some cases it was felt that communication, both within the organisation and also with stakeholders could be improved, as one respondent noted.

Complacency/Lack of urgency the main issue in Supplier A was that although supported, the project was not perceived as urgent by top management and hence it was difficult to gain momentum.
Different internal cultures: Instilling a risk culture was also found challenging, to get people to think about hazard and risk and that different departments had different cultures which could affect WSP development.
Lack of near miss reporting: Reporting on and learning from 'near misses' is a way of developing mindfulness, exhibited in high reliability organizations (Pollard et al., 2008); yet if this occurred at all within the suppliers it was ad hoc.

3.2 Benefits of the WSP

It is important to consider what benefits the WSP brings to the suppliers in question when analysing the success of implementation. Supplier C was not explicitly implementing WSPs and as such could not espouse the benefits of the approach. Suppliers A and B were in the early stages of WSP implementation and most benefits discussed were perceived rather than actual at that stage. The main benefits that Supplier A considered the WSP to bring was a more systematic approach to risk management, and peace of mind, to 'guard against the things that make you wake up at night'; *"the way it goes through your whole system and looking for the failure points in a kind of a workshop environment and then identifying those points and trying to do something about it makes a lot of sense and although we've sort of done that intuitively we've never done it rigorously*" (A:16).

Supplier B perceived that the WSP would benefit both the company and the consumer and would prevent complacency around public health: *"Public health is something that, if things haven't happened, haven't gone wrong for quite some time then people get complacent, so that, when WSPs come into the picture, it is being reviewed annually and it should be the right tool to make sure people are aware"* (B:4). There was also considered to be a benefit to the regulator by making it easier to audit the company: *"I think we are moving to a direction where you want to ensure safe drinking water, if we plan, look at the risk, and have the documentation required it is easier for the authority to audit a WTP"* (B:20). It was also hoped that the WSP would help with stakeholder engagement: *"I don't know how to approach them. But at least with the WSP, they can contribute*" (B:21). During a group meeting, employees were asked what benefits the WSP would bring, answers included: Less monitoring by people; reduced violations; consumer benefits; risk based maintenance schedules; cost savings; better control; more proactive; reputation benefits (first company in area to implement WSPs) and an increase in customer satisfaction.

Supplier D had been implementing WSPs for the longest amount of time and as a result, benefits could be evaluated, rather than just perceived. These included improved, formalised and documented procedures with better control, and an improved understanding of the system. This also meant that staff were more mindful of quality and safety of the water and were more critical and conscious of the risk: "*this way of doing things they help structure the departments for having quality in their minds"* (D:12). Other members of staff felt that the WSP would help improve stakeholder relationships, both internally, through improved communication and externally: "*The benefits for the future, for myself, in my opinion it will advise us to speak with stakeholders... which I think is quite important"* (D:3).

Financially, the WSP helped with prioritisation of investment, and also savings and optimisation of cost *"Another benefit was the financial benefit, after a period where investment was large, we are now gaining the products of that benefit... after one year of the WSP, we can see a reduction in cost, about 10-15% down"* (D:29), such benefits can be valuable when trying to gain the support of top management. Completing the WSP also allowed 'automatic' compliance with other standards "*one of the benefits of the WSP is that some of the procedures makes us automatically comply with the requirements of other standards and that is a huge benefit"* (D:26). In conjunction with certifications, such as the ISO 22000 food certification, WSPs enabled one company to focus on the critical aspects, enabling a reduction in costs of those aspects that are not critical, "*When we really started to work with the WSP and the ISO 22000 we really focused on what is critical and that is really important"* (D:30). Implementation of the WSP provided justification to make changes possible, *"at that time we were limited because we were not the best and we knew there was a lot of things we could do to improve, and we made possible these changes"*(D:14). From a consumer point of view, one member of staff highlighted that the *"main beneficiary of the WSP was the consumer"* (D:18), this was because of the increased confidence in the water supplied and the assurance of safe water. Such improvements have been realised because the WSP has allowed a faster response to early warning systems: *"we have reduced the level of unpredictability; we have a lot of things characterised so our response will be faster and more precise"* (D:25). Figure 2 summarises the benefits, both real and perceived of WSP implementation from all suppliers.

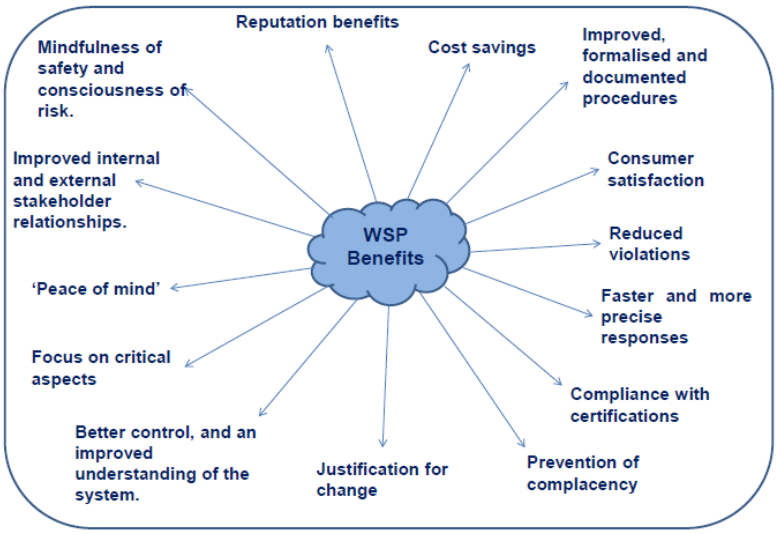

Figure 2. WSP Benefits, real and perceived

3.3 Managerial commitment

Managers in Supplier A felt that being a small organisation made risk management easier, because if things did go wrong, being so visible in the community meant they had to be proactive in preventing issues occurring. They also felt accountability to do the 'right thing' for the community: *"I'd say by the desire to do the right thing and I think that in a smaller community it works better than in a larger one, because really if there's only me, and two others making the decisions then you know who's going to take the flack for it if it doesn't work… if you let something go downhill then you are going to suffer for it whereas in a bigger place, there are probably lots of people, if*

they don't do their job, it's not them that's going to have to fix it" (A:16). Training was seen as a top priority by management to ensure a competent workforce, as was transparency and a continuous improvement culture. Resources such as external expertise and equipment were forthcoming: *"Equipment wise we are pretty much set. We get what we need without a doubt and even more so. There are things we don't need that they give us anyway!"* (A:2). It was considered important to involve all staff in the risk management approach, as well as engaging stakeholders. However, when contemplating lessons learned, management acknowledged that more could have been done in effectively communicating this exercise to employees. In management's quest for external expertise, staff felt undervalued in their opinions; again, an issue of communication. There was also a concern that top management were becoming detached from day to day activities: *"The guys in city hall, besides the emails they receive, they'll get it and read it but they don't really respond, I think they are a bit detached from what goes on here"* (A:4). With competing drivers of service provision and completion of other projects, WSPs were not seen as a priority. This may reflect a risk of complacency over water quality, as the supplier did not foresee any major problems with water quality, and that they were the best in the region: *"we have all these programmes that we are actually doing ourselves, whereas other municipalities don't do anything, they simply run around putting out fires"* (A:14). This complacency could be overcome with renewed interest and advocacy by leaders.

Management from the parent company of Supplier B supported the WSP project. Managers actively tried to create a culture in which customer service and continuous improvement were paramount; and accountability, transparency and a well trained workforce made priority which are important aspects of the Bonn Charter and WSPs*: "During changeover it was a bit of a culture shock... there were lots of activities to help people adopt the company mindset and this helped reduce the culture shock, or made it a 'manageable' shock"* (B:6). Management tried to instill a drive in the organisation to be world class and where pride is taken in successful projects. Despite being a developing nation resource limitations were not seen as a blocker to WSP development, it was 'leaders' that were needed, not necessarily money: *"I don't thing resources should be an issue for anyone, but you have to have a driver [a PERSON] and I believe I am a strong driver in these kind of things, I think my actions influence others, so these people who complain about resources, in actual fact they don't have a driver within the group"* (B:20). However, again, WSPs were not viewed as a priority. With recognition being important, few staff were given WSP duties in their targets and others were therefore hesitant about becoming involved. The importance of quality and public health was perceived to be the responsibility of the water quality department alone and therefore there was a risk of complacency. There was limited communication of the vision or purpose of WSPs, with few understanding their relevance other than because the parent company had requested their implementation *"It just introduced what is the WSP, the 10 items of the WSP and I don't remember! I just know that the WSP exists that's all"* (B:16). However, this was acknowledged and efforts being made to make all staff aware.

Management in Supplier C were not explicitly committed to WSPs, feeling that they were already achieving the goals and that WSPs could not bring any additional benefits. It was however, acknowledged that this may be due to a lack of understanding: "*I don't fully understand the WSP approach but generally I think we are doing the same kind of thing with the multi barrier approach, so what is the real*

benefit of us doing it?" (C:17). Management were however strongly committed to continual improvement and supportive of innovation. Employees felt that management did what they said they would do: "*I believe that all levels of management don't just want to talk that they want to walk that too"* (C:4). Resources were readily available if justified. The GM and other managers specifically tried to remain approachable, interact on first name terms with staff and celebrate success*: "Well I think, one by making themselves available to staff... Two I think it has to do with, well it goes both ways, someone has to feel comfortable enough to ask a question or to approach people on that. But certainly I don't think any of the managers put themselves on a pedestal or that kind of thing"* (C:7). Management also tried to remain actively involved in day to day activities, and pay attention to the things that were important to the organisation, as the GM stated: *"I ride shotgun on the action column, to make sure that things get moved along and I think that's a key thing to champion and be active in, making sure people get done what they say they are going to get done"* (C:3), although it was acknowledged that this was becoming harder as the organisation grew

Employees from Supplier D generally felt that senior management were fully supportive of WSP development: *"They gave their full support to the project, we had members from all the departments in the team and we would work directly with the board of directors"* (D:3). The initial drive to develop WSPs came from top management: *"The key person was the big boss and we put all the directors around the table maybe three times, and we discussed who does what... and I'm sure this is one of the key factors to have success in implementing WSPs"* (D:12). Senior management were also credited with providing the necessary resources and environment for staff to be able to implement WSPs effectively. As well as providing resources, it was acknowledged that senior managers were responsible for developing the organisational culture that most staff found supportive and good to work in: *"I should say that the CEO at the time, at the beginning. I have much respect for him, he was very important to the creation of the culture here of wearing the T shirt"* (D:15). Another important aspect of managerial commitment, is that managers are actively involved in day to day operations, seemed to be prevalent in Supplier D, for example, the CEO would attend audits and visit employees on a regular basis: *"We are able to have this system working very well because we have our CEO, who is unusually involved, even the auditors every year say that. He supports most of the big decisions, he supports us and every improvement we want to make... he goes to the lab every year and talks to people, it's very different to what I hear in other companies"* (D:22).

Leaders do not have to be senior managers, they can exist at any level of the organisation, but will drive WSP development. In most cases leaders were managerial staff, and their charismatic nature espoused by other members of staff such as the city engineer in Supplier A who was credited with instigating change and making great improvements*: "Because the quality wasn't that good at times, that time I think the big push was that [the city engineer] came to work for the city at that time and he was right into the water quality stuff and he pushes quite a bit for all these new ideas"* (A:1); the GM in supplier C: *"the GM supports what we do, he creates an environment where people who want to lead or do innovative things, they thrive and the support is critical and it's there"* (C:9): and the CEO in supplier D: *"I would like to mention that the success of the WSP project was down to the CEO he was part of the WSP team"* (D:5). Individual leaders were less talked about in Supplier B,

perhaps because of its larger size and more dispersed structure. Strong leadership with respect to WSPs was exhibited by employees in Suppliers B and D who were not members of senior management were given ownership of WSP projects, becoming advocates of the approach and enlisting others.

4. DISCUSSION

We have highlighted some enabling cultural features such as enthusiastic, committed management; incidents; accountability; insufficient regulations; image/competition; learning culture; stakeholder relationships; continual improvement culture; empowerment; proactive and preventative; quality certifications. Blocking features include lack of awareness; uncertainty; lack of recognition; complacency; poor internal relationships and communication; competing priorities; lack of resources and skills; complacency; and contrasting internal cultures. In Suppliers A and C, blockers outweighed drivers. In B and D, drivers outweighed blockers but there were still some blocking features that needed to be overcome.

Kouzes and Pousner, (2002) identified five 'practices' of exemplary leadership. Applying these, we can establish leadership influences on success or failure of WSP projects. 'Challenging the process', searching for new opportunities was probably the strongest area in all cases, along with 'encouraging the heart' – all suppliers liked to celebrate success to a certain degree. 'Enabling others to act' and 'modelling the way' could benefit from more development, to make sure all employees are aware of the project, the reasons for doing it and given sufficient resources to do so. Despite great efforts to create a supporting culture, we can align issues that are blocking success with some of Kotter's (1995)leadership errors of transformation, particularly: (i) not establishing a great enough sense of urgency; (ii) not creating a powerful enough guiding coalition; (iii) lacking a vision or under communicating the vision; (iv) not removing obstacles; (v) not systematically planning for and creating short term wins and (vi) not anchoring changes in corporate culture and in Supplier D, a lack od understanding in top management, also acknowledged as a limiting factor in TQM commitment by Soltani et al., (2005).

Godfrey and Howard, (2004) describe a decision tree for generating managerial buy-in for WSPs in developing countries. This inspired development of a more generic process for gaining managerial commitment in all types of suppliers, based on the data discussed in this paper. Gaining managerial commitment may come from staff within an organisation, regulators or outside promoters of the approach and is an important starting point. If managers are committed, they will have a vital role in ensuring the whole organisation is committed; the literature in safety culture and high reliability organisations supports this – that the commitment and actions of leaders will have a direct impact on the commitment of others (Clarke and Ward, 2006; Flin, 2003; Ruchlin et al., 2004), indeed, the company with most success at WSPs, Supplier D, managers were actively involved in the WSP. Looking at safety culture, Flin (2003) suggests that managers regularly check that their commitment is being communicated to employees. A first step in generating managerial commitment would be to understand any reasons for hesitance, for example, in Supplier A, a perceived lack of time and resources and in Supplier C, a lack of understanding and awareness. A second step therefore would be to make sure that managers are fully aware of the approach, and all kinds of benefits such as those highlighted in this paper, not just public health benefits, although this is important to emphasise.

Increasingly, WSP guidance is beginning to acknowledge such 'added value' of WSPs (Bartram et al., 2009). If complacency is an issue regarding water quality, it is important to remind managers of what could go wrong in terms of public health and reputation impact, as we have seen the issue of image is important to suppliers. Such lessons may be learned from internal past events, or externally from other suppliers such as those outlined by Hrudey and Hrudey, (2004) and relate these to how the WSP can guard against such events. This is supported by the work of Hrudey et al. (2006), being continually aware of what could go wrong and therefore guarding against such events. WSP completion may seem like a daunting task, so in gaining managerial commitment it is important to make them aware of any WSP 'building blocks' that are already in place, such as ISO quality certifications; for many suppliers, the basics of a WSP are already performed, although maybe not formally or explicitly. Once managers buy-in to the approach, they must then understand the influence of organisational culture on the effectiveness of WSP implementation (Summerill et al., 2010) and empowering and involving staff in the process. Such steps for gaining commitment are summarised in figure 3.

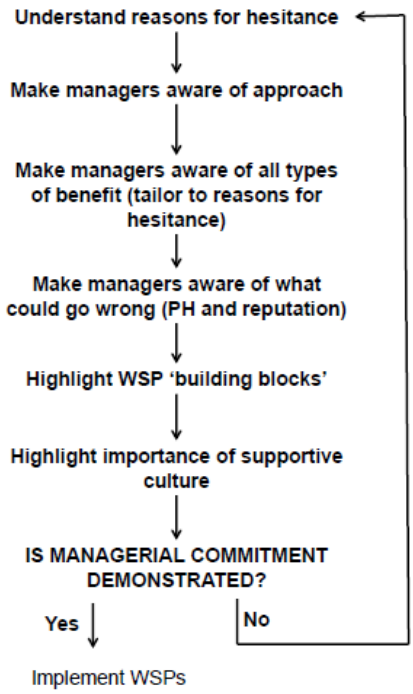

Figure 3. Generating managerial commitment

Managerial commitment is vitally important to the success of initiative such as WSPs but it should be noted, as Soltani et al. (2005) identified that the effect of managerial commitment does not exist in isolation, and that the success of a project will be dependent on many elements 'blended and balanced with the existing organisational context', including organisational commitment where empowerment and recognition are proportional to the important job employees do in ensuring public health protection (Hrudey et al., 2006).

5. CONCLUSIONS

For organisations wishing to generate executive buy-in, employees may wish to consider the following in an awareness programme:

- Understand reasons for managerial hesitance.
- Take into account range of drivers and ensure managers are made fully aware of the approach.
- Demonstrate benefits from case studies and/or pilot WSP projects.
- Ensure managers are aware of what could go wrong to avoid complacency and establish a sense of urgency over WSP implementation.
- Understand that improved risk management is likely to lead to reduced violations.
- Highlight WSP 'building blocks', such as quality certifications that are already in place.
- Do not neglect long term safety improvements over short term financial gains.
- Value sound risk governance as a strategic business asset in its own right.
- Improved stakeholder confidence flows from good risk management.
- Challenging the beliefs and attitudes of staff will support internalisation as well as implementation.
- Recognise the value of using the WSP approach to inform sound investment planning.

Once 'bought in' to the approach they need to ensure that staff are given appropriate recognition and ownership of the project; address institutional arrangements that may hamper development; ensure staff have the correct skills; establish effective communication lines and be aware of internal cultures; establish effective stakeholder relationships and a continual improvement culture

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Summerill, Corinna; Pollard, Simon J. T.; Smith, Jennifer A.; Breach, B.; Williams, T.

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