

CHAPTER SEVEN:

AN EVALUATION AND DISCUSSION OF SWM PRACTICES ACROSS ALL CASES STUDIED

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7.1 Introduction

This chapter aims to present an evaluation and discussion of SWM practices across all cases studied. It first re-explores and evaluates SWM practices in non-GDES small hotels 18 months after the initial interviews with them and after they had the recycling service from the public sector, which formerly constituted the most significant barrier to their recycling behaviour. In essence, hoteliers were negative towards recycling even after the service was provided to them. Unfortunately, they believed that landfill was the easiest, the cheapest and the most appropriate option to their SWM operation ignoring its harmful impacts on the environment. This supported the introduction of a powerful pressure to drive small hotel operators to manage their solid waste effectively. A cross-case analysis was then developed to evaluate and discuss the findings from non-GDES small hotels, GDES small hotels, along with the public and private waste sectors. The analysis process was approached and designed with the aim of developing a best practice model for the public sector to encourage better SWM practices in small hotels (see Figure 7.4). The chapter further evaluates the findings in respect of TPB and ends up with conclusion.

7.2 An evaluation of SWM practices in non-GDES small hotels 18 months after the initial interviews with them

Four follow-up interviews were conducted with the hoteliers of non-GDES small hotels (SH1, SH2, SH7 and SH8) to evaluate their SWM practices 18 months after the former interviews with them. During that time, it is important to note that small hotels had no real excuse to landfill of the hotel waste after

the local authority had provided a recycling system for commercial businesses. However, surprisingly, the results showed no real change happening to SWM practices in non-GDES small hotels. The majority of the hoteliers interviewed were still disposing of their hotel waste into landfill despite the favourable attitudes and concerns towards recycling which they had exhibited in the initial interviews with them (see section 4.2.4.1). As one hotelier commented:

Like, I told you last time. It is exactly the same. We put the waste in black bags and it goes in the big wheelie bin outside and they just take it over to landfill.

(SH 1, 23 Rooms)

In addition, one of the hoteliers (SH2) was just continued with her illegal action in recycling via using the domestic waste recycling system. Although the public sector provided a legal route for commercial recycling which previously represented the most significant barrier for not recycling she did not want to pay for the waste recycling collection service and intended to covertly use the domestic system which was free of charge. Tzschentke *et al.* (2008) found that there is always a gap between the individual's environmental concern and behaviour. It does not necessarily mean that showing a high degree of environmental consciousness would always translated into pro-environmental action. Unfortunately, hoteliers still strongly believed that they were only producing a small amount of waste in comparison to larger hotels, which might not have any impact on the environment. But, in fact, it does have a significant impact collectively (Kirk, 1995).

- **Waste prevention**

The findings highlighted that no change occurred to hoteliers' attitudes towards preventing the waste at source through undertaking green purchasing practices. Most hoteliers did not think seriously about this option to reduce the amount of waste produced and even felt negatively about it. The cost of the product remained the most important consideration driving their purchasing decision but the environmental considerations lowed down in their list of priorities. As one hotelier said: *"no, I have not thought to do it"* (SH7). Hoteliers were still ignorant of the principles of green purchasing and also believed that the price of 'green' products was more expensive than 'non-green' items, which negatively influenced their intentions to prevent the waste at source. On the other hand, only one respondent still believed in prevention of the waste and interested in buying products with less packaging, longer lifespan or buying on need to reduce their waste and costs. She said: *"I am not buying something that has a short date on it because if it does not get used you will throw it away, so you throw your money in the bin"* (SH 2).

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- **Waste minimisation**

Hoteliers' attitudes and reactions towards waste minimisation which typified with positive or negative feelings had not been changed since the former interviews with them. Two hoteliers remained feeling positively about minimisation of hotel waste undertaking varied practices to reduce hotel waste (see section 4.2.2). They tried to deal with the waste in a sustainable

way after production, e.g. by recycling or composting. However, SH1 and SH7 still held unfavourable attitudes towards minimisation believing that it was an unattainable SWM option. This was due to the fact that they were ignorant of the varied techniques used for reducing hotel waste throughout all the life cycle of the product (input/output and processing stages). Both hoteliers denied the viability of the waste minimisation alternative reasoning that most of the hotel waste came out from customers, which they did not have any control over it. They also believed that small hotels could make a slight change to sustainability issues in contrast to bigger hotels. As one hotelier said:

It is difficult; I do not see how we can! If somebody left you rashers of bacon what do I do with it, shove it down the toilet, how do I reduce that! I do not know if you take the right example talking to me, you should be talking to a big company, e.g. Holiday Inn or the Marriott where they can make a difference; we can make a slight minuscule difference.

(SH 1, 23 Rooms)

- **Reuse**

Similarly, most small hotel owners/managers (3 out of 4) had not tried to reuse waste materials believing that 'reuse' was against hygiene regulations and would affect customer satisfaction. As one hotelier commented: "*no, we cannot reuse anything here, you are serving a customer*" (SH8). Even durable items (e.g. furniture), hoteliers considered disposing of them into landfill as one of the hoteliers argued that most charity organisations were over-saturated with these items and did not accept them anymore. It appeared that small hotel operators ignored reusing a wide range of potentially reusable items (i.e. plastic bags, refillable soap, paper, plastic

bottles, durables etc.) and still prioritised landfill as a primary SWM option. However, only one respondent (SH2) out of the four hoteliers interviewed had paid more attention to 'reuse' alternative and asserted that it saved cost.

- **Recycling**

In terms of recycling, it was found that most small hotel owners/managers (3 out of 4) (SH1, SH7 and SH8) did not put any effort and/or time to recycle the hotel waste even after the public sector had provided a recycling system for commercial businesses. Interestingly, the interviews discovered that these hoteliers had truly unfavourable attitudes towards recycling despite their positive attitudes which they had expressed in the earlier interviews with them (see section 4.2.4.1). In the former interviews, those hoteliers were classified among the group who were 'positive but not taking action' because they were positive towards recycling but their action was constrained as a result of the unavailability of the recycling service from the public sector. Now the recycling service was available to them from the public sector but they were unwilling to make recycling. As one hotelier said:

To be honest there is not much to recycle, we are a small hotel; all of it is bits of food waste, newspaper, bottles and any waste from the rooms. It is not a big deal here; it is not going to change the world.

(SH 1, 23 Rooms)

The public sector had sent letters to all commercial businesses in the locality to inform them about their commercial recycling system and offer them the service. However, most small hotel owners/managers were unenthusiastic and were waiting for the council's officers to knock their doors and ask them

to recycle which was unreasonable. Again, hoteliers pointed out some deplorable obstacles facing them in recycling, among these: lack of tools, lack of space, lack of time and cost issues. In addition, two hoteliers interviewed described recycling as an unsightly action which they did not want their customers to look at, for example setting waste storage bins in the car park. As one hotelier said: *“no, we have not got time, space and cost. It is just looks untidy”* (SH1). Clearly, these hoteliers were not interested in recycling.

Only one respondent (SH2) was still carrying on recycling part of the hotel waste streams although it was illegal through the domestic waste recycling system. This reflected that the public sector was still unable to control small businesses which used the household waste recycling system illegally. This hotel had no intention of following up the council’s legal route for commercial recycling believing that the charge of the waste collection was involved in the council tax, whereas in fact a commercial business had to pay for the service separately. In essence, small hotel owners/managers classified their operations as small family-run businesses producing domestic waste quantities. As such, they wanted to be treated the same as households and to get the service free of charge. One hotelier said:

All recyclables go in the green bag altogether and taken away by the council ... I do not know how much it costs me because it is all included in the council tax each year.

(SH 2, 15 Rooms)

Moreover, hoteliers remained unwilling to encourage staff participation in recycling with a slight incentive believing that this would contradict their

objectives in reducing operating costs and making money. One of the hoteliers mentioned that in order to recycle they would have to pay staff to segregate out the waste and this was considered to be an additional burden over the business. Similarly, most hoteliers declined customer participation in the hotel's waste recycling programme. Only one hotelier (SH8) indicated that most customers would recycle if they were asked although this hotelier had no intention to recycle even after the public sector offered the service as they wished.

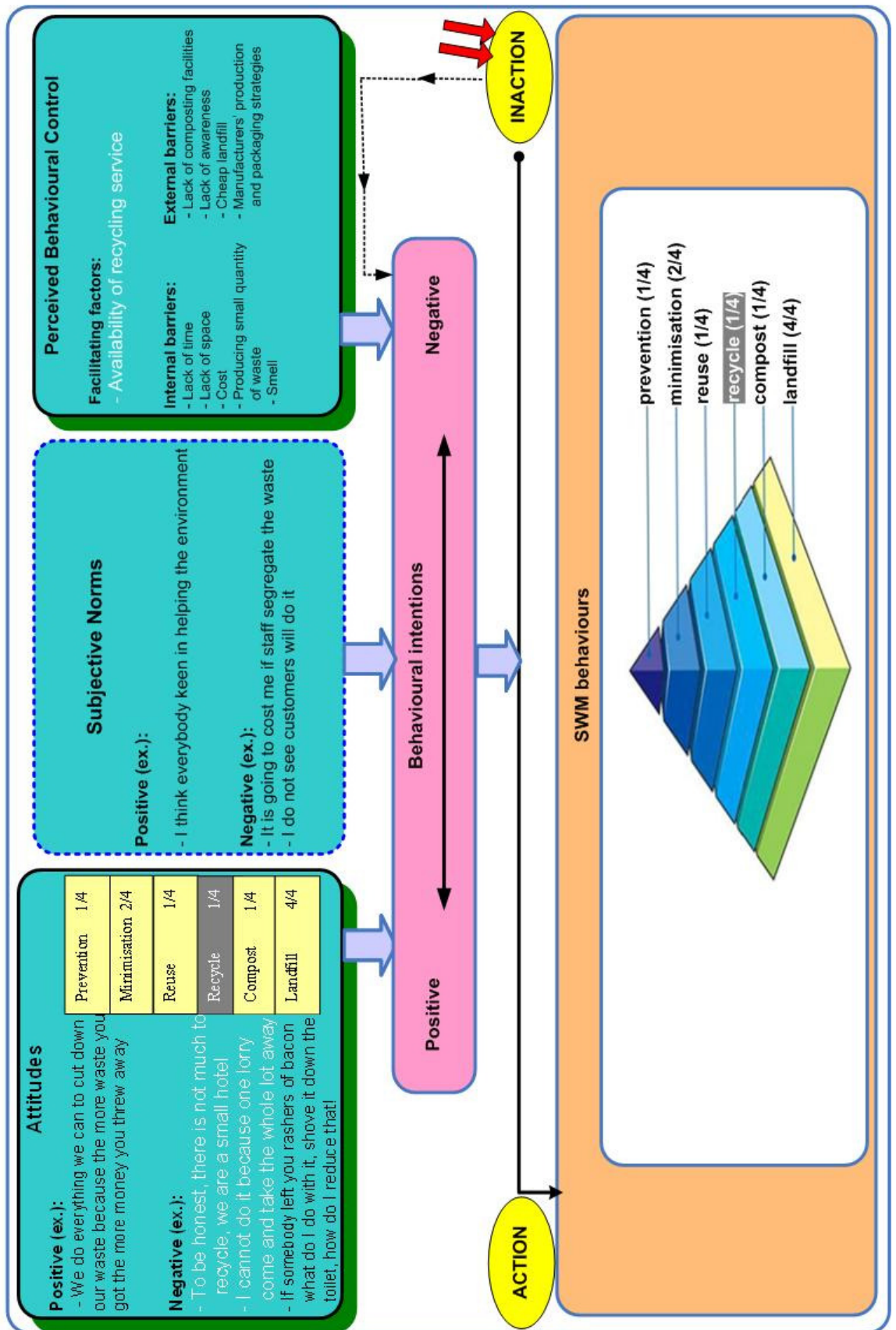
- **Composting**

Although composting represents the most favourable SWM option for disposing of organic waste. Most hoteliers (3 out of 4) got rid of food waste by just putting it into black bags and having it taken away to landfill. They were still unwilling to do in-house composting believing that it would create a rat problem and give off bad smells. As one hotelier said: *"I would never do it. I would not want people parking outside and smell all this gone-off food"* (SH1). Conversely, only one hotelier interviewed (SH8) was still carrying on making in-house composting and felt positively about it (see section 4.2.5).

7.3 Revised model for SWM in non-GDES small hotels after 18 months

As it can be seen in Figure 7.1, no change had happened to SWM practices in non-GDES small hotels after 18 months. Unexpectedly, landfill was still the dominant SWM option even after the local authority had provided a recycling system for commercial businesses.

Figure 7.1: Revised model for SWM in non-GDES small hotels after 18 months



Attitudes:

The attitude was the key factor which influenced hoteliers' SWM behavioural intentions. The initial interviews with the hoteliers revealed a group of hoteliers (3 out of 9) who were positive towards recycling but not taking action because of the absence of the recycling service. They reported that if they had the service they would recycle but, unfortunately, after they had the service from the public sector they were still landfilling of the hotel waste. Actually, these hoteliers held negative attitudes towards recycling as well as most of the other sustainable SWM options. This was illuminated in some of their attitudinal beliefs: *'to be honest, there is not much to recycle, we are a small hotel'* (SH1); *'I cannot do it because one lorry come and take the whole lot away'* (SH7); *'if somebody left you rashers of bacon what do I do with it? shove it down the toilet!! How do I reduce that?'* (SH1).

Subjective Norms:

As described in the initial model (see section 4.7) the Subjective Norm component had the least effect on hoteliers' SWM intentions. Most hoteliers did not perceive any social influence to recycle and even felt negatively about encouraging staff and customer participation in the hotel's SWM programme. This was reflected in some of their normative beliefs: *'it is going to cost me if staff segregate the waste'* (SH7); *'I do not see customers will do it'* (SH2). However, only one hotelier indicated that customers would create a social motivation upon hoteliers to recycle. She commented *"I think everybody keen in helping the environment"* (SH8).

Perceived Behavioural Control (PBC):

Indeed, the PBC had a great effect on hoteliers' behavioural intentions in terms that they could not recycle or compost without having the facility but it was proved that helping hoteliers to have the ability to perform the behaviour was not enough to influence their intentions and lead them to do the behaviour. To demonstrate, hoteliers had the control and the ability to perform the recycling behaviour since the local authority provided a recycling system for commercial businesses, which previously was considered the most significant factor inhibiting their recycling behaviour. However, most hoteliers still landfill of the hotel waste because of their negative attitudes towards recycling. They restated some unacceptable obstacles for not making recycling, e.g. lack of time, lack of space and cost issues. Moreover, there was still a range of external obstacles which acted as barriers for implementing sustainable SWM options, e.g. lack of composting facilities, lack of awareness, cheap landfill and manufacturers' production strategies.

Behavioural intentions and SWM behaviour

It was clear that providing an appropriate support to help hoteliers take control or have the ability to perform the behaviour was not sufficient to influence and/or motivate hoteliers' behavioural intentions to perform the behaviour. For instance, the recycling service had been made available to them from the public sector but most hoteliers still prioritised landfill as a disposal route. Instead, hoteliers' behavioural intentions had largely influenced by their attitudes towards the behaviour which were negatively

characterised. This reflected that besides providing facilitating factors to the barriers identified through the PBC component (e.g. recycling and composting facilities), there should be some sort of powerful motivations (e.g. legislation and incentives) to drive those hoteliers who were just not concerned and influence their attitudes to implement the behaviours (discussed in detail in section 7.6).

7.4 Cross-case analysis and discussion

This part combines, analyses and discusses SWM issues obtained from the two case studies undertaken in this research involving non-GDES small hotels in a Welsh local authority and small hotels committed to GDES in Wales. It also links with the results obtained from interviewing the key executives of the public and private waste sector in the Welsh local authority. This has led to the development of a best practice model for the public sector to encourage better SWM practices in small hotels (see section 7.5). This study has revealed significant variations between GDES and non-GDES small hotels in respect of SWM practices (as explained in detail in the following sections).

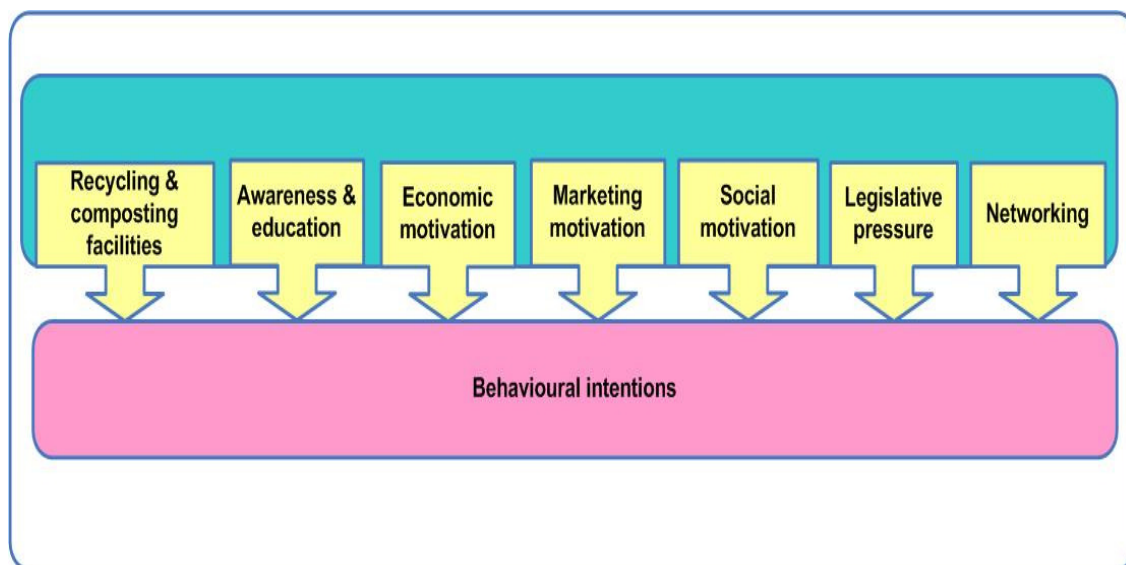
7.4.1 Motivations for small hotels to consider SWM

Most SMEs lack the internal motivation to engage in environmental practices and thus they are more reactive than proactive. Commercial pressures can be used to create a win – win scenario (Clark, 2000). Friedman and Miles (2001:200) referred to some of the commercial motivations associated with

effective waste and resource management include: *“cost savings; protection against future cost increases; market opportunities for environmental goods and services; enhanced image; improved employee morale; the ability to meet insurer demands or contract specifications”*. In addition to these commercial pressures, Ruiz (2001) mentioned that the corporate ethical responsibilities along with legislation are significant pressures to hearten businesses to implement sustainable SWM practices.

The findings obtained supported previous research (Clark, 2000; Friedman and Miles, 2001; Ruiz, 2001) and identified seven groups of motivations which could be used to influence/change the behaviour of small hotel operators and drive them to tackle their environmental responsibility with regards to SWM. These groups include: providing recycling and composting facilities; providing awareness and education; enhancing the economic motivation; encouraging the social motivation; boosting the marketing motivation; enacting legislative pressure; building networks between small hotels (see Figure 7.2). Analysis using TPB indicates that some of these groups are essential to help small hotel operators to have control and ability to perform the behaviour (i.e. providing recycling and composting facilities, providing awareness and education) while the other groups are important to incentivize and/or pressurize the behaviour.

Figure 7.2: Motivations for small hotels to consider SWM



1. Providing recycling and composting facilities

Dewhurst and Thomas (2003) mentioned that most small tourism firms struggle to manage their solid waste sustainably as the facilities and/or the services required to support them are fragmented or unavailable. In this respect, a great consensus had been registered between the participants of GDES and non-GDES small hotels arguing that they did not have the facility to recycle or compost their hotel waste. Indeed, lack of the facilities was considered a significant obstacle which influenced many hoteliers' behavioural intentions and inhibited them to perform the recycling and composting behaviours. As one hotelier said: *"we do not have the facility here to do it"* (SH7). It was apparent that most local authorities in Wales, along with the majority of private sector's waste carriers, particularly small waste haulers, were still unable to provide the recycling and composting services and also the tools necessary to assist commercial businesses

recycling and composting their waste. Indeed, the waste carrier, either the public or the private sector, should have the capability to work with businesses regarding all the waste alternatives of the waste management hierarchy.

2. Providing awareness and education

Both the respondents of GDES and non-GDES small hotels supported the findings of previous studies (Hooper *et al.*, 2000; Simpson *et al.*, 2004) that providing environmental awareness was essential to support small hotel operators managing their solid waste in a sustainable way. Small businesses often need assistance and guidance to get started and adopt environmentally-friendly practices and if this is lacking it can obstruct their eco-behaviour. Rutherford *et al.* (2000) indicated that the government should encourage businesses go down this road by providing awareness. Revell and Rutherford (2003) argued that there are still very few governmental environmental programmes in the UK which target small businesses and provide information and advice to this sector.

It was apparent that most hoteliers, particularly those of non-GDES small hotels lacked the awareness to consider sustainable SWM alternatives (e.g. prevention, minimisation and reuse). Also, despite being aware to a large extent and implemented most of the options listed in the waste management hierarchy, many GDES hoteliers were looking forward to receiving more support and awareness to enhance their SWM behaviours. This implies that

providing awareness and education is fundamental for better SWM practices in small hotels. Two hoteliers stated:

Yeah, getting the message across, that will be very important ... offer training to teach people how to do it, what is the best way to do it and where they can do it. I do not think there is enough education to make people aware of waste management.

(SH 7, 18 Rooms)

Absolutely, I think the way to make people do things for long-term is to encourage them by informing them; by educating them.

(SH2/GDES, 8 Rooms)

One of the hoteliers interestingly asserted that people's behaviour should be managed from childhood by introducing SWM as a part of curriculum for children to learn in elementary and secondary schools and providing bins where children could segregate and recycle their waste. The findings supported also Trung and Kumar (2005) stressing the role of the local authority in providing free environmental training courses and regular meetings with hotel owners/managers to raise their awareness and knowledge regarding cost-effective ways of enhancing environmental performance such as SWM and the importance of doing it. In essence, contracted waste carriers, either the local authority or the private waste sector, can play a significant role in regards to the awareness and education of small hotel operators by providing a site visit to audit customer's waste streams and identify the best options for managing hotel waste.

3. Economic motivation

Besides facilitating the external barriers facing hoteliers to manage their solid waste appropriately (e.g. lack of the facilities and lack of awareness) which were demonstrated through the PBC variable in TPB, it is necessary to instigate hoteliers' SWM behaviours. Both GDES and non-GDES participants agreed that the local government should provide an effective recycling system offering the service much cheaper than landfill to encourage hoteliers to reduce and recycle their waste. This result supported previous research (Stabler and Goodall, 1997; Dewhurst and Thomas, 2003) which indicated that the drive for waste management in small businesses is more related to achieving cost savings. They will largely do the action if it is of economic benefits to them. The House of Lords (2008) stressed on the need both to incentivise and educate businesses to change their SWM behaviours and encourage the implementation of more sustainable practices. As one hotelier commented: *"they have to keep the cost down. I think this an effective incentive to do the work"* (SH1).

At the time of conducting this research, the pricing structures of SWM offered by public and private waste carriers had provided very little economic advantage to commercial businesses. For example, small hotel owners/managers would not make recycling to save just 13p per bag. In addition the landfill tax in the UK was still much cheaper in comparison to other European counterparts. This was an issue that had actually hampered the implementation of sustainable SWM in commercial businesses. However,

Simpson *et al.* (2004) asserted that the UK government was looking at increasing the landfill tax by 4% yearly and this should be a real pressure to make small businesses proactive and improve their SWM practices. From another perspective, although reducing and/or controlling hotel waste should act as an incentive for hoteliers to reduce waste disposal costs the existing methods used by public and private sector's waste carriers for charging businesses on waste collection were not supportive to reach this aim. They offered a fixed charge either by the bin or by the bag and remained unable to charge businesses by weight which would be an authentic incentive for most hoteliers to cut down the amount of waste produced to save costs.

4. Marketing motivation

The marketing forces play an increasingly significant role in influencing business's decision to undertake environmental practices (Chen, 2005). Affirmatively, the majority of small hotels committed to GDES had originally achieved GDES to market their operations and to attract those customers who were interested in staying in a green hotel. This finding supported Dewhurst and Thomas (2003) and Simpson *et al.* (2004) arguing that most small businesses perceived that adopting environmental management practices could create a competitive advantage and potential new market opportunities. However, fewer hoteliers have actually gained a competitive advantage because of the environmental issues. The environmental attribute was not a consideration for most customer but hoteliers anticipated that in

the next few years this situation would change and customers would prioritise eco-hotels. One hotelier said:

Absolutely, the eco-tourism is a niche market at the moment but it is becoming more popular. If we looked at the amount of press that we got last year because we were the first accredited eco-hotels in Wales then you would realise that it was a force coming. I think within six to ten years eco-tourism is going to be a lot of competition.

(SH1/GDES, 12 Rooms)

Practically, many small hotels committed to GDES had found a difficulty in promoting their hotels as a part of GDES because the majority of the public were still unaware of the standard. Therefore, Arena Network intended to help GDES small hotels to get benefit from the standard on the marketing basis and use it as a marketing tool. They planned to promote GDES more widely to the general public and also make it as an option within online booking systems. Interestingly, one of the non-GDES hoteliers suggested that the local authority should help small hotels which managed their solid waste effectively (e.g. recycling) to get a competitive advantage over competitors by raising their environmental profile. For example, organizing and promoting an environmental award to compensate the best eco-friendly hotels in the locality. Bates and Phillips (1998) reported that public awareness of environmental issues was going to increase and customers would choose companies with good environmental profiles.

5. Social motivation

Kirk (1996) identified social responsibility as one of the main driving forces which encourages organisations to change their behaviours and adopt

sustainable practices. The findings of this study supported Kirk (1996) since the social effect was mentioned by many small hotel owners/managers, particularly GDES hoteliers, as a significant factor to influence them to undertake sustainable SWM practices. Indeed, most GDES hoteliers were environmentally-conscious and keen about the environment. They achieved GDES to meet their social responsibility and protect the environment from their negative impacts which associated with their hotel activities (e.g. waste disposal). Likewise, one of the main reasons which encouraged some of non-GDES hoteliers to recycle and/or compost their hotel waste was their conscience of what needed to be done to protect the environment and to fulfil their social responsibility. One hotelier stated:

Absolutely, recycling is not about what the individual will get out of it. It is actually about society. If people realize that we cause acid rain that burns trees down, the toxic oxygen has made that change to the weather system and causes droughts in Africa and people die, perhaps they may take it a bit more seriously but the message is not getting across. Again it is more education needed. I mean I know what is going on. I know how importance to do it but there is a large number of people don't.

(SH 2, 15 Rooms)

However, Tilley (2000) highlighted a low level of environmental ethics among SMEs owners/managers who tended to sustain economic interests over environmental or social considerations. This was actually the case with the majority of non-GDES participants who were still highly prioritizing the economic benefits over their ethical responsibility. In this respect, more awareness was needed and the key role should be played by the public sector to make small hotel operators aware of their social responsibility with regards to SWM and the importance of managing their solid waste

effectively. One of the local authority's waste management officers indicated that small hotel operators should value the environmental resource and endeavour to protect it from the harmful effects resulted from their hotel operations as the environment represented the most significant part of the tourism industry.

6. Legislative pressure

This study supported Rutherford and Spence (1998) and Rutherford *et al.* (2000) arguing that legislation may be the most effective tool to reach small businesses and force better environmental practices. The UK's reliance on the voluntary approach will not be successful to achieve significant environmental improvement in this sector. The findings reported a general concurrence between the respondents of GDES and non-GDES small hotels regarding legislative pressure. Hoteliers agreed that legislation would be an effective way to drive small hotels to implement sustainable SWM practices. However, the government should not consider legislation until they make recycling a viable opportunity and provide an appropriate support to encourage businesses to come along. This is best explained in the following statement:

Our hope that there should not be legislation unless at least giving us the option or guidance and tell us what we could do. They have to assist by giving us a good quality recycling collection system but just putting legislation and say you have to reduce your waste by 20% it is not workable. A lot of businesses would not just last the pace.

(SH 3, 28 Rooms)

Evidently, the findings obtained from re-interviewing some non-GDES hoteliers 18 months after the initial interviews with them and after they had the recycling service from the public sector strongly supported the presence of a legislative pressure. This could be explained by the fact that the recycling service was made available to hoteliers, which previously represented the most significant barrier to their behaviour, but they continued in disposing of their waste into landfill and had no intentions to recycle. Therefore, legislation would be a successful tool particularly for those hoteliers who were just not concerned and wanted to dispose of their waste into landfill. If there was legislation in place small hotel operators would have to respond otherwise they would be penalised. Also, most local authority's waste management officers perceived legislation as an effective instrument to force small hotels to recycle.

7. Networking small hotels

Networks proved to be one of the most successful ways to engage small businesses in undertaking environmentally-friendly practices. The findings revealed that the majority of GDES hoteliers (7 out of 9) and many non-GDES hoteliers (4 out of 9) felt positively about networking small hotels to exchange ideas and information on SWM issues and learn from successful models. Hoteliers of GDES asserted that it was important particularly for geographically-closer small hotels to work together as a team. This result agreed with previous research (Biondi *et al.*, 1998; Fanshawe, 2000; Friedman and Miles, 2001; Pedersen, 2000; Kernel, 2005) which showed that

collaboration and networks between small businesses or with other stakeholders, such as local authorities and support agencies, is beneficial to engaging small businesses in environmental activities and sharing experiences and knowledge on sustainability actions. This is best explained in the following excerpt:

Absolutely, there is a competitive thing and it is a bit old but people think oh another business is a threat to them and their businesses but you have to look and think outside that box. You have to think I am actually going to learn. I will benefit from talking to other businesses and see what they have achieved. Sometimes when you work in a small business you do not see the wood for the trees and it is nice to get out of that scenario to meet with other people and discuss things and suddenly realise the obvious is there in front of you but you have never seen it and I think networking is very interesting.

(SH2/GDES, 8 Rooms)

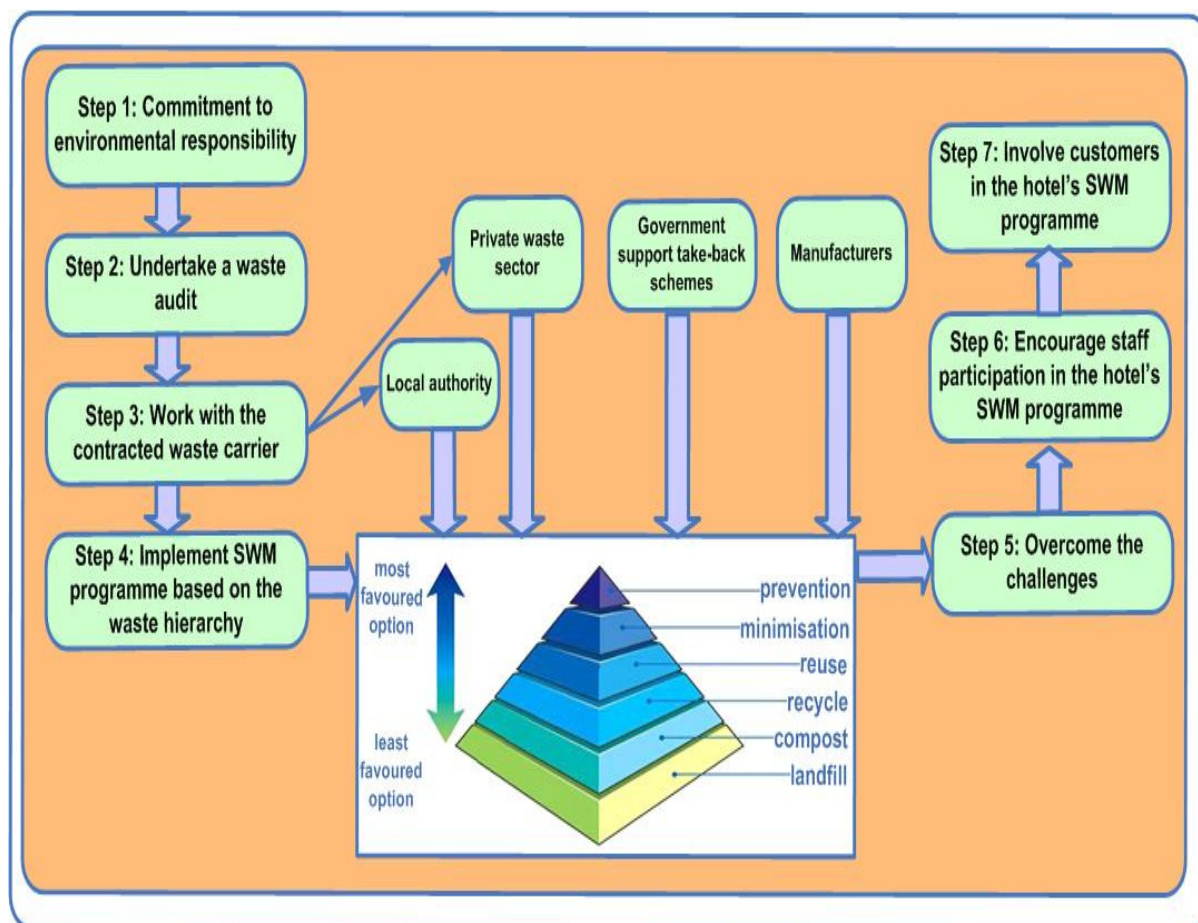
The local authority's waste management officers had welcomed the initiative of networking small hotels to localize waste separation across streets and enhance more communications between small hotels. Officers confirmed that they would enthusiastically look at this idea when developing their future strategies. In essence, hoteliers have to stop thinking about the competition factor and value such networks to interact with other business operators through a regular meeting. They have to believe that they are going to benefit from other's experiences and also get an external recognition.

7.4.2 Best practice for SWM in small hotels

The findings revealed seven main steps of best practice for SWM in small hotels, including: commitment to environmental responsibility; undertake a

waste audit; work with the contracted waste carrier; implement SWM programme considering the waste hierarchy; overcome the challenges; encourage staff participation in the hotel's SWM programme; involve customers in the hotel's SWM programme (see Figure 7.3). Each of these steps will be discussed in details in the following sub-sections, linking with the attitudes and views of GDES and non-GDES hoteliers, together with the local authority and private sector's participants.

Figure 7.3: Best practice for SWM in small hotels



7.4.2.1 Commitment to the environmental responsibility

A higher level of management commitment is essential for developing an effective SWM programme (IHEI, 1993; Cummings, 1997). A clear distinction had been made between GDES and non-GDES small hotels regarding hoteliers' commitment to the environmental responsibility. On the side of non-GDES small hotels, most hoteliers interviewed did not pay any attention to their environmental responsibility. They did not see the need to formulate an environmental policy. They were too busy with other business's objectives such as increasing profitability rather than carrying out their environmental duties and implementing practices aimed to protect the environment. Tzschentke et al. (2008) stressed on the importance of making small hospitality firm operators aware that going green does not require a large investment or a major changes in their operational approaches but it can develop in accordance with business's objectives and priorities.

On the other side, the majority of small hotels committed to GDES had demonstrated a strong commitment to their environmental responsibility which was articulated in three different actions, including: developing an environmental policy, undertaking an environmental audit and setting an improvement plan. Kirk (1996) similarly indicated that developing an environmental policy was the first step for any organisation which wants to introduce actions to protect the environment and at the same time the policy was an indication of the firm's commitment to environmental issues. The environmental responsibility of GDES hoteliers was executed as a significant

part of the owner/manager duties to ensure that all staff, whatever department they were, undertook eco-friendly practices in the daily operations.

7.4.2.2 Undertake a waste audit

The findings revealed that undertaking a waste audit was not a common action in non-GDES small hotels in comparison to small hotels committed to GDES. As one non-GDES hotelier said: *“as long as the waste goes; as long as it is not in the hotel. I do not think about it”* (SH5). However, almost all GDES small hotels conducted a comprehensive environmental audit with the support of Arena Network when they first accredited with GDES. This result agreed with Biondi *et al.* (2000) who declared that most SMEs accredited with a green standard regularly conduct a full environmental audit to assess the effectiveness of their EMS and identify environmental improvement opportunities. SWM was then a significant component of the auditing process undertaken by GDES small hotels to identify sources and quantities of solid waste streams produced. The outcome of the auditing process was registered and updated regularly to involve any changes happened to the operation. This result supported Kirk (1996) and Tang (2004) who indicated that the auditing process is an essential step to move towards better SWM practices.

In essence, hoteliers of GDES small hotels recognised the importance of the auditing process and conceded that their hotel operations had an impact on

the environment, particularly landfilling of waste. This recognition was actually very important step which led many GDES hoteliers to implement certain eco-practices and continuously work towards reducing their environmental impact. As part of their commitment to GDES, hoteliers maintain a file for all environmental records (i.e. waste disposal charts, WTN, environmental policy etc). This represented the key which had enabled them to continuously monitor their hotel's environmental performance. However, this was not the case with hoteliers of non-GDES small hotels who did not maintain any records for waste generation and disposal routes arguing that it was not necessary for a small hotel business to consider this issue. While, in fact, it was very important to help small hotel operators tracking solid waste generation and working towards the improvement.

Practically, a number of GDES small hotels had actually measured the effectiveness of managing their hotel waste through the development of SWM charts showing types and quantities of waste streams produced, along with disposal routes. One of the hoteliers was looking at developing an input/output process analysis to manage hotel waste streams effectively, e.g. food waste. Formerly, Dahab and Keefer (1992) developed an input/output system analysis which could be used to help small hotels to trace raw materials throughout the various stages of processing and identify sources of waste.

7.4.2.3 Work with the contracted waste carrier

It is crucial for small hotel operators to work with the contracted waste carrier towards the implementation of all the sustainable options of the waste management hierarchy. However, for GDES and non-GDES hoteliers, this type of collaboration was confined to recycling and landfilling of hotel waste. Hoteliers had never asked the waste carrier to assist them regarding waste prevention and minimisation alternatives. From another perspective, it was apparent that the public sector as well as the majority of private sector's waste carriers did not have the capability and/or the resources to work with small hotels regarding waste prevention/minimisation and composting alternatives (see section 7.4.2.4). Formerly, BRASS (2003) reported that the existing infrastructure of SWM in the UK is not sufficient to support businesses in implementing higher options of the waste hierarchy.

The study had identified a general congruence between GDES and non-GDES small hotels using local authority's waste carrier for disposing hotel waste. Cost and convenience were the most significant criteria used by hoteliers for selecting a waste carrier. As one hotelier commented: *"the best price wins really"* (SH8/GDES). For many hoteliers, the waste service provided by the local authority was the cheapest option as they covertly used the domestic waste recycling system illegally which was free of charge. On the other hand, a few GDES hoteliers had contracted with private sector's waste carriers and argued that the private sector provided more comprehensive service than the public sector.

The findings revealed four main tools to drive public and private waste sectors to work more closely with commercial businesses such as small hotels towards the implementation of sustainable SWM options, including: increasing the landfill tax, enacting legislation for recycling, imposing recycling/composting targets and customer demanding of the service. In fact, if these tools were incorporated properly within the UK and Welsh waste strategy, public and private sector's waste carriers would be obliged to offer the service (e.g. recycling and composting) in order to stay in the market and avoid being penalised. However, the government should not consider such drivers unless they provide an appropriate support and infrastructure to make all the options of the waste management hierarchy as viable opportunity as possible to public and private sector alike (see Figure 6.7). Morris *et al.* (2000) similarly indicated that the government's dependency on landfill tax alone would not lead businesses or waste carriers to implement sustainable alternatives (e.g. recycling). It was essential to make these options as cost effective and accessible as landfill.

7.4.2.4 Implement SWM programme considering the waste hierarchy

7.4.2.4.1 Prevention

The UK government has recognised now the necessity of driving the prevention of the waste and has placed the key roles onto the public and private sectors alike to reach this desired goal (The House of Lords, 2008). In comparison to other developed countries, Chen (2005:930) indicated that *"Taiwan government is increasingly using green purchasing as an effective instrument to control solid waste and to mitigate the environmental impacts of*

consumption ... Most developed countries such as Sweden, Japan, Germany and the Netherlands have positively considered green purchasing as a legal regulation". In Japan, the government had initially developed a minimum environmental standard for a wide range of products and then made it compulsory by imposing fines for those manufacturers who did not comply (The House of Lords, 2008).

The study had identified a disparity between GDES and non-GDES small hotels in regards to hoteliers' attitudes towards preventing hotel waste. From the standpoint of non-GDES small hotels, most hoteliers interviewed felt that prevention was not an accessible and/or viable option to implement. In fact, they were ignorant of green purchasing policies. Hoteliers argued that they had no control over manufacturers' use of packaging. One of the hoteliers also highlighted two critical issues associated with buying recycled products, including: higher prices and low quality. Indeed, all these aspects had contributed to the formation of the negative attitudes by most non-GDES hoteliers towards prevention and made them perceiving a difficulty to perform the behaviour. In practice, only two hoteliers had actually considered the environmental attributes in their purchasing decisions, e.g. buying in bulk or buying items loose. One hotelier commented:

Of course, we are a small business. We will go for the best quality at the lowest price. So, I do not think too much is taken into account whether it is environmentally-friendly or not.

(SH 7, 18 Rooms)

However, most GDES hoteliers reacted positively towards preventing hotel waste at source. This was because of their beliefs that prevention would help their operations in both the economic and environmental senses. They developed a green purchasing policy sustaining buying from local sources and on demand. They adopted a variety of measures to control and reduce packaging waste at source. Moreover, they took into account buying environmentally-friendly products. This finding agreed with previous research (Friedman and Miles, 2001; Dewhurst and Thomas, 2003) which similarly found successful cases of small businesses were very keen to adopt purchasing practices consistent with the principles of sustainability. One hotelier said:

We are trying to use as many local suppliers as we can. I cannot think of any one that comes to us from very far.
(SH7/GDES, 19 Rooms)

The findings implied that the UK government should control and regulate manufacturer's usage of wrapping materials in order to make prevention a viable opportunity for buyers. The government should also encourage producers to consider recycled raw materials for manufacturing their products and offer them at a normal price rate. The Waste and Resources Action Programme (WRAP) supported the introduction of a variable Value Added Tax (VAT), with a lower VAT for products that were more eco-friendly (The House of Lords, 2008). This is actually a good strategy to influence manufacturers to produce sustainable products as it will be more cost-effective to them.

7.4.2.4.2 Minimisation

Similarly, the findings had showed incongruity between hoteliers' attitudes of GDES and non-GDES small hotels towards minimisation of hotel waste. From the perspective of non-GDES small hotels, despite some hoteliers valued minimisation as a significant SWM option for managing hotel waste, the majority felt that there was no way to control or minimise hotel waste. They believed that it was very difficult to control, for instance food and packaging waste streams. Hoteliers were unaware of the varied techniques which could be used for reducing hotel waste throughout the life cycle of the product. Without a doubt, lack of awareness was an issue which had significantly influenced their attitudes and behavioural intentions and turned them into negative. One hotelier commented:

How can we possibly reduce the waste? By not buying so much! We do not normally look for waste at all but if you buy anything new these days it is always packed in about three different containers ... it is not possible to reduce food waste. If they do not eat it what do we do with it. We do not know how much they are going to eat anyway. I mean sometimes we throw sausages away which have nothing wrong with them. When we put it on a plate for the chaps there was too much for them and they could not eat it.

(SH 6, 10 Rooms)

However, waste minimisation was an option which was prioritised by all small hotels committed to GDES believing that it was an effective way to reduce waste disposal costs. Hoteliers were actively working towards minimising hotel waste (e.g. food, cardboard and paper). They adopted numerous practices to cut down the waste before it was actually generated, e.g. changing food production techniques and encouraging the use of electronic

mail in hotel's communications. This finding accorded with the evidence provided by Dewhurst and Thomas (2003) indicated that many small tourism firms in the UK had tried hardly to reduce their waste. As one hotelier mentioned:

We always think to reduce the quantities of solid waste generated in the kitchen and everything else. Obviously, it goes to benefit our economic side because the less your waste the less money you will pay.

(SH8/GDES, 21 Rooms)

It was noted that hoteliers did not receive any support from the contracted waste carrier (public and private waste sector) regarding waste prevention/minimisation. Surprisingly, no action was taken by the public sector to help businesses to prevent and/or reduce their waste. Their role is only to inform businesses, if asked, to contact other specific organisations to help them with these targets. The council considered their waste prevention/minimisation targets set by WAG as secondary objectives while their major concerns stopped at recycling commercial waste. One of the officers said:

We direct businesses to other partner organisations like Arena Network to support them in environmental management. There is no much as a local authority that we can do because we do not have the resources.

(Officer 2)

Similarly, the majority of private waste companies did not have the resources and/or the competencies to deal with businesses in regards to waste prevention/minimisation objectives. Even they believed that helping customers to reduce their waste opposed with their objectives in increasing profitability. In essence, there were some larger waste companies who

interestingly cooperated with their customers and helped them in respect of waste minimisation but they confined their services to larger waste producers (industrial sector) which did not include small hotels.

7.4.2.4.3 Reuse

A great dissonance had been registered also between hoteliers' attitudes of GDES and non-GDES small hotels regarding reusing hotel waste. From the angle of non-GDES small hotels, although some hoteliers felt positively about reuse arguing that it could be used effectively for disposing of durable waste, the majority denied the effectiveness of 'reuse' as a significant SWM option for handling waste materials. They did not actually explore the different avenues which could be used for reusing hotel waste in order to prevent a wide range of materials from entering the waste stream. As one hotelier commented:

It is quite difficult to reuse anything and to what extent you want to reuse it. I would say no, you could not reuse anything. For example, we have two or three milk jugs everyday, of course you can use one may be to water the plants or something, that's all but we cannot use them everyday

(SH 7, 18 Rooms)

Conversely, on the side of GDES small hotels, all hoteliers interviewed responded positively towards reusing hotel waste. They considered reusing a wide range of waste materials in-house or giving them to staff as a sort of encouragement, e.g. partially-used soap, shampoo and other bedroom toiletries. They also reused durable waste (e.g. furniture) which was produced on a longer-term basis by donating it to charities or selling. As

some hoteliers hold an annual car boot sale within their hotel grounds which gave them a great opportunity to sell their old furniture. This result supported the empirical evidence by Horobin and Long (1996) and Trung and Kumar (2005) which showed that many hotels now perceive 'reuse' as an important SWM option and tend to implement various practices to reuse hotel waste.

One hotelier explained:

We do what we possibly can. When photocopying we use both sides of the actual paper ... We do not throw food away, it is recycled in some way. We do send plastic bags down to stores. There may be partly used soap, shampoo etc. we do not throw them away we actually hold on them and make use of them again.

(SH3/GDES, 23 Rooms)

7.4.2.4.4 Recycling

The analysis had noted a great disparity between hoteliers' attitudes of GDES and non-GDES small hotels towards recycling. On one hand, most non-GDES hoteliers held negative attitudes towards recycling placing the onus entirely over the local authority to segregate and recycle the waste. Although the public sector had provided the recycling service to all commercial businesses, hoteliers continued to prioritise landfilling despite their attitudes which they exhibited initially. Indeed, most hoteliers had no intentions to proceed further and overcome the personal and internal constraints of recycling (e.g. time, space etc.). Virtually, only three hoteliers considered recycling some of their hotel waste streams, with two of them recycled illegally through using the domestic recycling system.

In comparison, most GDES hoteliers were very passionate about recycling to reduce landfill waste and also to reduce associated costs. The majority of hoteliers had actually recycled but illegally through using household waste recycling system, the same as some hoteliers of non-GDES small hotels. Despite being aware of their illegal action, hoteliers maintained their recycling behaviour ignoring their legal obligations and destroying the quality of GDES believing that recycling was more sustainable to the environment than landfilling. However, a number of hoteliers had explored legal routes to recycle some of their hotel waste streams using private contractors. They wished to recycle everything but they still could not find a waste carrier to help them with recycling. Although hoteliers were facing a number of objective constraints to recycle, they persevered unlike the respondents of non-GDES small hotels.

On the side of the public and private sector's waste carriers, the findings revealed that the public and many private sector waste carriers in the Welsh local authority (being the main focus of this study) could assist small hotels in respect of recycling. Firstly, the local authority had provided a mixed recycling bag scheme for commercial businesses, which was fantastically appropriate for small hotels to recycle their waste. However, small hotels were still sustaining a landfilling behaviour. Despite facing obstacles regarding the provision of commercial business waste recycling scheme, the council intended to offer the service to all businesses. Secondly, many private sector waste carriers were keen to work with their customers on the

recycling issue as it would be more profitable to their businesses than landfilling with the rising of the landfill tax. However, the private sector continued to face difficulties to provide a comprehensive recycling service and overall small haulers were still landfilling.

7.4.2.4.5 Composting

The study had identified a consensus between the attitudes of GDES and non-GDES hoteliers towards in-house composting. A few hoteliers of both GDES and non-GDES small hotels considered in-house composting and felt positively about it. This finding supported Schaub and Leonard (1996) who indicated that composting was not largely used as a SWM option in the food service industry for disposing of organic waste. In fact, these hoteliers invested in composting without a real support from the local authority or even private sector's waste carriers and described it as an effortless and odourless process taking very little time. They considered using the output as a fertilizer to their garden.

On the other hand, the majority of GDES and non-GDES small hotel operators had not explored in-house composting and felt negatively about it. They believed that doing in-house composting would influence customer comfort and enjoyment in their hotels due to odour and vermin. Likewise, some hoteliers would not be able to make use of the output soil as they did not have gardens in their hotels. However, some GDES hoteliers were very willing to compost through a commercial composting service but they

perceived a difficulty as the public and private sectors alike were still unable to provide appropriate support for composting.

On the basis of public and private waste sectors, a clear concurrence had been reported between both sectors in regards to their inability to work with small hotels regarding composting. The council did not have a facility to compost food waste. Yet, they provided a very modest service to enhance their in-house composting programme and thus they were in a real problem to reach their composting targets set by WAG. Similarly, all private sector waste carriers did not have facilities to compost and even had no intentions to invest in building up such facilities. They argued that composting was not a profitable business plus it required a technical and specialized expertise.

7.4.2.4.6 Landfill

A clear distinction had been revealed between GDES and non-GDES small hotels in terms of relying on landfill. Many hoteliers of non-GDES small hotels were largely depending on landfill as a primary SWM option for disposing of hotel waste. They simply sealed the waste into black bags and then had them collected by a waste contractor to landfill. As one hotelier mentioned: *“all rubbish is put into black bags. We do not recycle or anything at the moment”* (SH5). Conversely, most GDES hoteliers had made effective use of the other sustainable SWM alternatives (e.g. prevention, minimisation, reuse and recycling) before considering landfill. In essence, landfill was undertaken by many GDES hoteliers as the main waste disposal option but

only for the food waste stream. This could be explained by the fact that hoteliers did not have the opportunity to compost or even feed food waste to animals because it was banned by legislation.

From the standpoint of the public and private sector's waste carriers, the public sector had more commitment to divert the waste away from landfill to reach their recycling and composting targets. They developed a recycling system for commercial businesses and planned to provide the service to any business that wanted to recycle. They currently had a problem with their landfill site which had almost reached its full capacity and they had no replacement. Similarly, many private sector's waste carriers discouraged landfill and sustained recycling. It was noted that some larger waste companies had provided total SWM solutions to handle commercial waste. They approached the waste management hierarchy in its strongest sense. However, smaller waste carriers were still landfilling.

7.4.2.5 Government support take-back schemes

The study had reported a clear disparity between the attitudes of GDES and non-GDES hoteliers towards the participation in the current and potential PTB systems in the UK. From the stance of non-GDES small hotels, most hoteliers interviewed were not willing to participate in any PTB system and felt negatively about the idea. They believed that following this route would be associated with wastage of non-renewable resources, (e.g. petrol) plus the time and cost issues incurred. In addition, hoteliers asserted that they had no space to store packaging. As one hotelier said:

I think you would find most of the people throw it in the lane; people would not like to take a step back. We are not going to double the price of the orange juice. There is a cost involved because you are going to pay for the car park and you have got to drive twice and the petrol. So, all we are going to save in the cardboard will increase the fuel consumption.

(SH 8, 6 Rooms)

On the other side, most GDES small hotels felt positively about PTB system and argued that it was an effective route to reduce waste generation and thus reducing disposal costs. They were enthusiastically eager to participate in any potential national PTB system as the current system is still limited and even excludes businesses end users from participating, e.g. Packaging Regulations 1997 (Ferne and Hart, 2001). Interestingly, four hoteliers out of the nine had set up their own PTB system and agreed with their suppliers to take-back packaging, e.g. cardboard and plastic crates. The principle of take-back is a conditional factor for these hoteliers when contracting a supplier. As one hotelier mentioned: *“most of our cardboard I send back to our suppliers so they can reuse it again”* (SH2/GDES).

7.4.2.6 Comply with the legislative requirements

A major concurrence had been identified between GDES and non-GDES small hotels in terms of disposing their waste illegally and breaking the legislation. On one hand, the majority of non-GDES hoteliers were not aware of their legal obligations in respect of disposing their hotel waste. As a result, some hoteliers disposed of their recyclable or landfill waste illegally through covertly using the domestic waste system in either the weekly collection or using HWRC and recycling banks. Many hoteliers still had a

misunderstanding about the waste disposal charge believing that it was part of the rate which small hotels were paying to the council yearly. On the other hand, despite knowing their legal obligations and totally confident that they were breaking the law, most hoteliers of GDES small hotels similarly disposed of their waste illegally through the domestic recycling system. It seemed that most local authorities in Wales were unable to control illegal dumping, particularly by small businesses.

This result supported previous research (Hillary, 1995; Gerstenfeld and Roberts, 2000) which attributed the low levels of compliance to environmental regulations amongst small businesses to either lack of awareness with the legislation or inability of small businesses to recognize how far the regulations might affect them. Moreover, Petts *et al.* (1999) reported that most SMEs perceive that complying with legislation is costly and will affect business's profitability.

7.4.2.7 Overcome the challenges

A range of common behavioural barriers had been mentioned by hoteliers of GDES and non-GDES small hotels facing them in recycling, including: unavailability of the recycling service, lack of awareness, staff lethargy, separation of the waste, lack of space, time and cost issues. This result accorded with previous research (Maclaren and Yu, 1997; Fanshawe, 2000, Dewhurst and Thomas 2003; Revell and Rutherford, 2003) which indicated

that small businesses always face a lot of intrinsic obstacles hindering them to engage in more proactive environmental behaviour.

However, the findings revealed that most hoteliers of GDES small hotels overcame many of the aforementioned challenges and performed the recycling behaviour unlike the respondents of non-GDES small hotels who were just not interested in recycling, despite the availability of the service. Indeed, unavailability of the recycling and composting services together with the lack of awareness had constituted the most significant barriers facing small hotel operators not only to recycle/compost but also to target all the options of the waste management hierarchy. This is best explained in the following statement:

Very little support at the local government level. As I said I am not sure where to get the information in order to recycle and what to do with the waste because it has to be collected, of course that is the difficulty of recycling.

(SH 7, 18 Rooms)

7.4.2.8 Encourage staff participation in the hotel's SWM programme

An obvious divergence had occurred between the attitudes of GDES and non-GDES small hotel operators towards encouraging staff participation in the hotel's SWM programme. On the first hand, most non-GDES hoteliers did not perceive any social influence from staff to manage their hotel waste effectively (TPB) arguing that it was a business decision more than staff attitude. They held negative attitudes towards encouraging staff participation in the hotel's SWM programme believing that staff must obey their bosses.

From this point of view, if the manager asked staff to recycle then they would have to do it otherwise they would be disciplined. However, Friedman and Miles (2001) reported that businesses should adopt a policy of attraction rather than enforcement to encourage staff participation in the hotel's SWM programme.

On the other side, most GDES hoteliers experienced a social influence by staff but to a lesser degree as they agreed with non-GDES hoteliers that SWM was primarily a decision made by business owner/manager. In practice, hoteliers argued that staff held favourable attitudes towards SWM practices undertaken in their operations. They had considered different means to motivate staff to carry out their duties properly in the hotel's SWM programme. They made staff aware of the hotel's environmental policy and discussed with them the environmental targets (e.g. SWM) which the hotel sought to achieve. They integrated SWM as a part of the induction training programme given to any new staff to educate and train them on how to handle hotel waste sustainably. Moreover, some hoteliers considered motivating staff by giving them old durable items when renovating their hotels or by giving them partially-used guest room toiletries. One hotelier said:

We do staff awareness. They have induction training when they start and it depends on the department that they are going to work in. They are given training on how to do their job and be implication of that job has regards to recycling or waste; they will be informed of what to do.

(SH4/GDES, 29 Rooms)

Neither GDES nor non-GDES hoteliers look at incentivizing staff financially to enhance their participation. Instead, they argued that it was far better to provide them with the tools required to separate the waste and make them aware of how to reduce and recycle hotel waste. Friedman and Miles (2001) similarly indicated that it is important to encourage staff to get involved through allocating work hours for staff meetings to discuss environmental issues within the operation and raise the environmental awareness among staff. Only one GDES hotelier had set financial inducement to encourage staff to come up with effective ways to cut down hotel waste. One hotelier commented:

As a small family business I do not think we will be looking to give any monetary incentives ... They need guidance not incentives to be able to reduce the waste.

(SH 3, 28 Rooms)

7.4.2.9 Involve customers in the hotel's SWM programme

A major distinction arose between the attitudes of GDES and non-GDES participants in respect of involving customers in the hotel's SWM programme. From the perspective of non-GDES small hotels, the majority of hoteliers refused the idea of involving customers in the hotel's SWM programme to reduce landfill waste. They considered that asking customers to segregate and reduce their waste was a disrespectful question which was unexpected from a small hotel operator. As one hotelier said: " *how can I ask customer who come here and stay for a night or a week and pay his bill to segregate waste! It will be impertinent*" (SH6). Accordingly, most non-GDES hoteliers did not recognize any social motivation from customers to manage their solid

waste effectively, commenting that customers were not coming to a hotel to sort out rubbish. Only two hoteliers held positive attitudes toward the initiative and were willing to cooperate by putting signs and clearly-labelled bins to encourage customers to segregate their waste.

However, most small hotels committed to GDES regarded customers as one of the key players in their hotels' SWM programme. This result accorded with previous studies (Hayward, 1994; Cummings, 1997; Trung and Kumar, 2005) which reported that guest involvement was very important to increase the efficiency of the hotel's SWM programme. Hoteliers had actually made customers aware of their hotel's environmental policy, where SWM was one of its targets, by putting it in a prominent position in hotel's reception area or within the welcome folder or by advertising it on the hotel's website. Moreover, they put eco-tips in guestrooms encouraging customers to behave in an environmentally-responsible manner during their stay in the hotel and asking them to reduce and/or not contaminate the waste whenever possible. In this respect, they put two different bins in rooms – one for food waste and the other for general waste which would be separated afterwards by staff for recycling. As one hotelier commented:

We put our environmental policy to customers in a prominent position within the hotel. Our guests are informed of our environmental practices and their possible input into the scheme. For example, they are told to place plastic and newspaper to one side so that the policy of recycling is continued.

(SH2/GDES, 8 Rooms)

Interestingly, hoteliers reported a positive contribution by many customers to their hotel's SWM programme. As one hotelier said: "*the majority of our guests are quite sensible to the environment. They are very happy with that*" (SH2/GDES). Nevertheless, currently, the social influence driven by customers was still very small to influence hoteliers' behavioural intentions regarding SWM. Most hoteliers believed that the environmental aspect was not a priority for most customers at the moment when selecting a hotel but it was going to increase in the future.

7.5 Best practice model for the public sector to encourage better SWM practices in small hotels

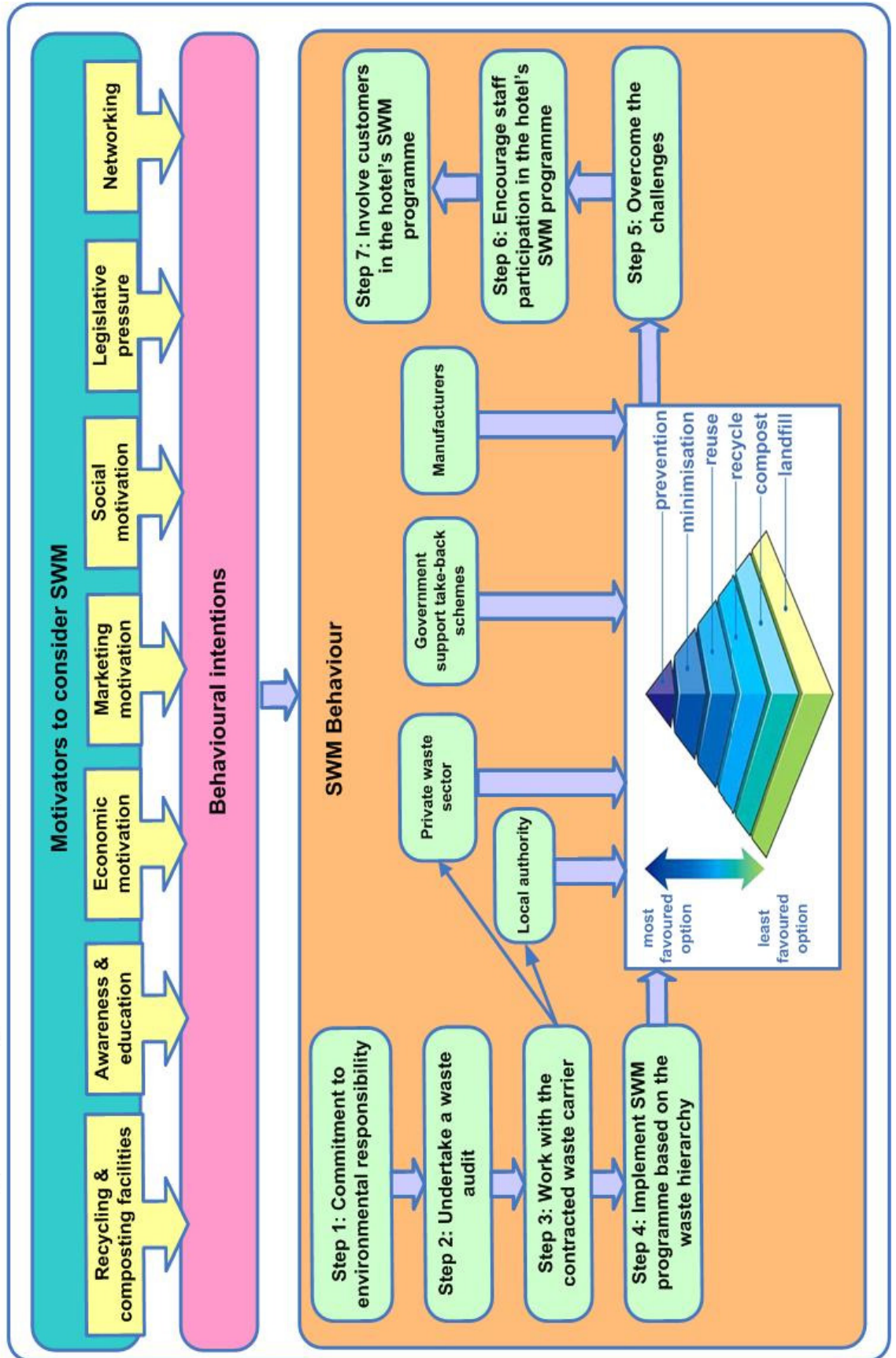
The cross-case analysis has actually facilitated the process of developing a best practice model for SWM in small hotels. It evaluates and discusses all the steps of the model from the perspectives of the different associated stakeholders, including: non-GDES small hotels; GDES small hotels; public and private sector's waste carriers. The developed model builds up basically on the findings obtained throughout the fieldwork, the theoretical model for SWM in small hotels (see Figure 2.12) and the key SWM issues identified in the literature. During the fieldwork, the theoretical model had been explored and modified according to the results to develop a best practice model for SWM in small hotels.

The model starts with identifying seven means of motivations that are crucially to encouraging small hotel operators to commit to their environmental responsibility and to manage their solid waste appropriately,

including: providing the tools and facilities, providing awareness and education, enhancing the economic motivation, encouraging the social motivation, boosting the marketing motivation, enacting legislative pressure and building networks between small hotels (discussed in section 7.4.1). It appears that the government plays the key role for developing most of these instruments to influence small hotels' SWM practices. The model then considers seven main steps for implementing better SWM practices in small hotels (see Figure 7.4), as follows:

Step 1 Hotel commitment to environmental responsibility. It provides the base for developing a successful SWM programme. Small hotel operators have to consider their environmental responsibility and formulate an environmental policy aimed to save the environment from the negative impacts associated with their hotel operations, e.g. waste disposal. It is important to note that the seven means of motivations which has been set initially will be successful in driving small hotel owners/managers to commit to their environmental responsibility and manage their solid waste effectively. It will encourage hoteliers to devote resources, time and manpower to tackle SWM issues. The commitment represented the foundation level in Cummings' SWM hierarchy model (1997) (see Figure 2.9), it was emphasised also in the environmental management guidelines published by the IHEI (IHEI, 1993). It is the most critical factor for an effective long-term SWM programme (Bigger, 1991; IHEI, 1993).

Figure 7.4: Best practice model for the public sector to encourage better SWM practices in small hotels



Step 2 Undertake a waste audit. An audit process should be carried out to identify types, quantities and sources of waste streams produced and then decide on the best option for managing each waste stream. Hoteliers can seek advice or help from external consultants (e.g. Arena Network, Envirowise and the waste contractor) to audit the hotel waste streams as they may not have experience to do this action. It is very useful also to make an input/output process analysis to support the implementation of waste minimisation and/or prevention approach. The input/output analysis will enable hoteliers to identify all the materials going into the system and adopt appropriate control measures to reduce the amount of waste produced during all the life cycle of the product. Records of waste generation, disposal routes and the auditing process must be kept and updated continuously to measure the effectiveness of managing hotel solid waste.

Step 3 Work with the contracted waste carrier. Under the EPA 1990 small hotel operators have the choice to either contract with the local authority or a private sector contractor to get rid of hotel waste. The regulations do not require the waste producer to deal with a specific waste carrier but to comply with what is called 'duty of care'. Hoteliers should work with the contracted waste carrier to approach all the options listed in the waste management hierarchy. The findings revealed that the waste carrier could have a significant direct influence on small hotels' implementation of all the options listed in the waste hierarchy. Therefore, local authorities and private sector's waste carriers alike should have the capability to tackle all SWM options and

provide total solutions to customer waste. They should provide waste minimisation, recycling and composting services to support small hotels as well as other commercial and industrial businesses to manage their solid waste in an appropriate way.

Step 4 Implement SWM programme based on the waste hierarchy. This step implies that small hotel operators should put a greater emphasis onto the most favoured options listed in the top of the hierarchy and investigate the different ways to apply them for managing hotel waste, including: prevention, minimisation, reuse, recycling and composting respectively. Disposing of the waste into landfill should be considered at the last resort. Whatever waste alternative used, hoteliers must comply with the Duty of Care EPA 1990 and dispose of their waste in a legally proper manner. Moreover, the findings revealed that the government support take-back schemes along with the manufacturers' production and packaging strategies had a significant influence on SWM in small hotels. Indeed, the UK government should develop an effective national PTB system covering a wide range of waste streams and allowing small business end users, like small hotels, to take-back their products (e.g. packaging). Likewise, the government should adopt a strategy of producing zero-waste and encouraging and/or forcing manufacturers to consider producing clearly-labelled green products so as to enable businesses cut waste at source.

Step 5 Overcome the challenges. The findings identified a range of intrinsic barriers facing small hotel operators in managing their solid waste sustainably, including: lack of space, time, support, awareness and cost issues in addition to hoteliers' attitudes themselves which acted like a constraint with many hoteliers were lethargy and/or unwilling to handle their solid waste streams effectively. Accordingly, small hotel owners/managers have to show more commitment and prevail over such challenges and find some ways to tackle SWM issues in an environmentally and economically viable manner.

Step 6 Encourage staff participation in the hotel's SWM programme. Hoteliers should consider different means to provide an internal environmental awareness to all staff to enhance their participation in the hotel's SWM programme. The findings indicated that the best way was to integrate SWM as a significant part of the hotel's induction training programme which given to any new employee to educate them on why and how to reduce, recycle and compost hotel waste. It is important to motivate staff participation also by giving them some sort of incentives, e.g. partially-used guestrooms toiletries. Cummings (1997) and Friedman and Miles (2001) emphasised the great need to communicate meaningful incentives to maximize staff involvement in the hotel's SWM programme. They also added that employees must be educated on SWM practices required in the daily administration and performance of the roles.

Step 7 Involve customers in the hotel's SWM programme. Customers represent one of the key players the same as staff in the hotel's SWM programme. Small hotel operators should encourage customers to behave in an environmentally-responsible manner and take-part, for example, by putting notes in guestrooms asking customers to consider buying locally green products whenever possible, reduce and not to contaminate their waste. Consequently, hoteliers should place two clearly-labelled bins in guestrooms and also throughout other areas in the hotel (e.g. corridors) to maintain customer waste not stained with food waste and thus making it a viable opportunity for recycling. Previous research (Cummings and Cummings, 1991; Hayward, 1994; Cummings, 1997; Trung and Kumar, 2005) reported that educating customers is a significant aspect of the hotels' SWM programme. Hoteliers should develop tools to make all customers aware of the different activities taken to reduce waste (i.e. recycling) and the importance of their participation in the programme.

7.6 An evaluation of the findings in respect of TPB

In this research, a qualitative approach was used with the theoretical framework of TPB to avoid many of the aforementioned shortcomings associated with using questionnaire surveys in environmental studies (e.g. inconclusive and inaccurate results) (see section 3.2). Previous research (e.g. Smith and Biddle, 1999; Davis and Morgan, 2008) similarly concluded that future research should use TPB with a qualitative perspective because of the difficulties in capturing the real attitudes of respondents towards the

behaviour via using a questionnaire survey. Also, *“TPB requires large data sets to facilitate a detailed analysis, thus the length and complexity of the survey tool is unattractive for many individuals to complete”* (Davis and Morgan, 2008:115).

The TPB is one of the most applied models in environmental studies, particularly for determining and understanding waste minimisation and recycling behaviours (e.g. Davis and Morgan, 2008). The TPB model combined with best practice of SWM behaviours had been used as a theoretical base to guide this research. The components of TPB (Attitude, Subjective Norms and PBC) had been operationalized by asking hoteliers open-ended questions to elicit and understand their attitudinal, normative and control-based beliefs towards the implementation of sustainable SWM behaviours.

The TPB (Ajzen, 1985) had contributed significantly in understanding hoteliers' attitudes and behaviours in relation to SWM. It helped in identifying the most appropriate tools which the public sector could use to influence and/or change SWM behaviours in small hotels (see section 7.4.1). Analysis using TPB revealed that the attitude component had a significant effect on hoteliers' behavioural intentions to perform or not to perform SWM behaviours. However, it was important to reach the real attitudes of hoteliers towards SWM issues as many people tended to show favourable attitudes and give information which was socially accepted while they might not have

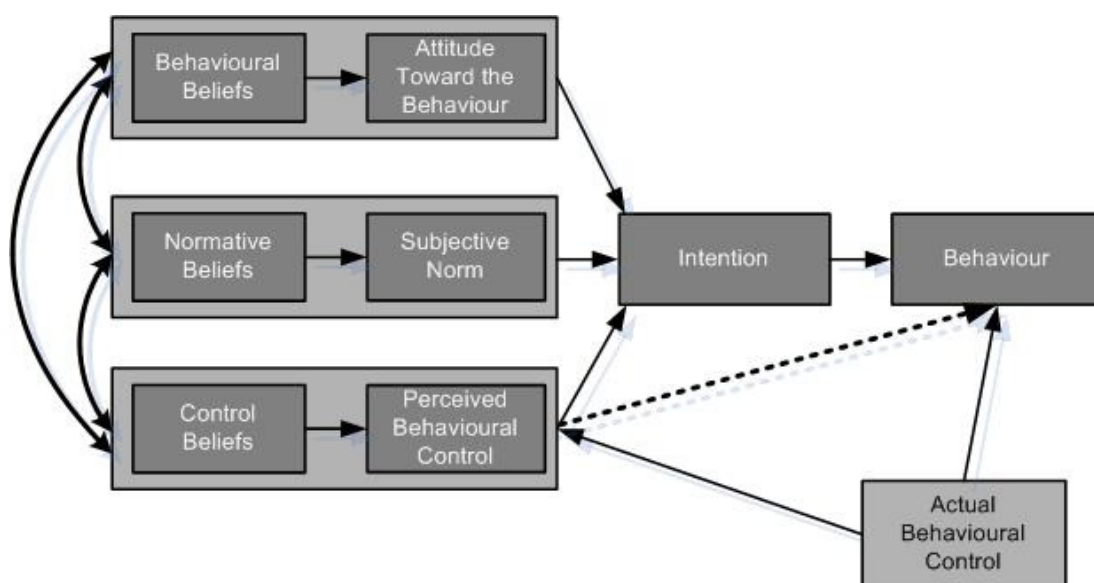
intention to perform the behaviour, particularly in ethical and environmental studies. For this reason, TPB was used with a qualitative research approach. In addition, some hoteliers of non-GDES small hotels were re-interviewed after 18 months to explore if their positive attitudes towards recycling had been translated into action or not, particularly after the public sector provided a recycling system for commercial businesses.

The PBC component proved also to have a significant effect on determining hoteliers' behavioural intentions. Indeed, hoteliers were constrained with the lack of the facilities and limited external support to implement all the options listed in the waste management hierarchy. Moreover, the social factor (Subjective Norm) which could be created by significant others (staff, customers, competitors and local community) showed to have a small effect on hoteliers' behavioural intentions and not as important as the attitudinal or the PBC factors. Previous research similarly (Sheppard *et al.*, 1988; Ajzen, 1991; Godin and Kok 1996; Terry and Hogg, 1996; Terry *et al.*, 1999) provided little support to the role of Subjective Norm as a predictor of intentions to perform the behaviour in TRA and TPB.

However, this research proved that the TPB with its main components (Attitude, Subjective Norm and PBC) was still not adequate to predict and/or explain the behaviour of small hotel operators in relation to SWM and additional factors needed to be incorporated. Despite the considerable support of using TPB, several previous studies (Cheung *et al.*, 1999; Terry *et*

al., 1999; Davies *et al.*, 2002; Davis and Morgan, 2008) used TPB in predicting the recycling behaviour and similarly indicated that TPB was not sufficient in explaining the behaviour and so additional factors should be incorporated. The TPB when originally modelled by Ajzen stipulates that a person's behaviour is formed as a result of his intention to perform or not to perform the behaviour and intention is, in turn, determined by three main factors including: the person's attitude towards the behaviour, Subjective Norm and PBC. The more positive the Attitude and the Subjective Norm and the greater the PBC the more likely the person will perform the behaviour (see Figure 7.5).

Figure 7.5: The Theory of Planned Behaviour



(Source: Ajzen, 1991)

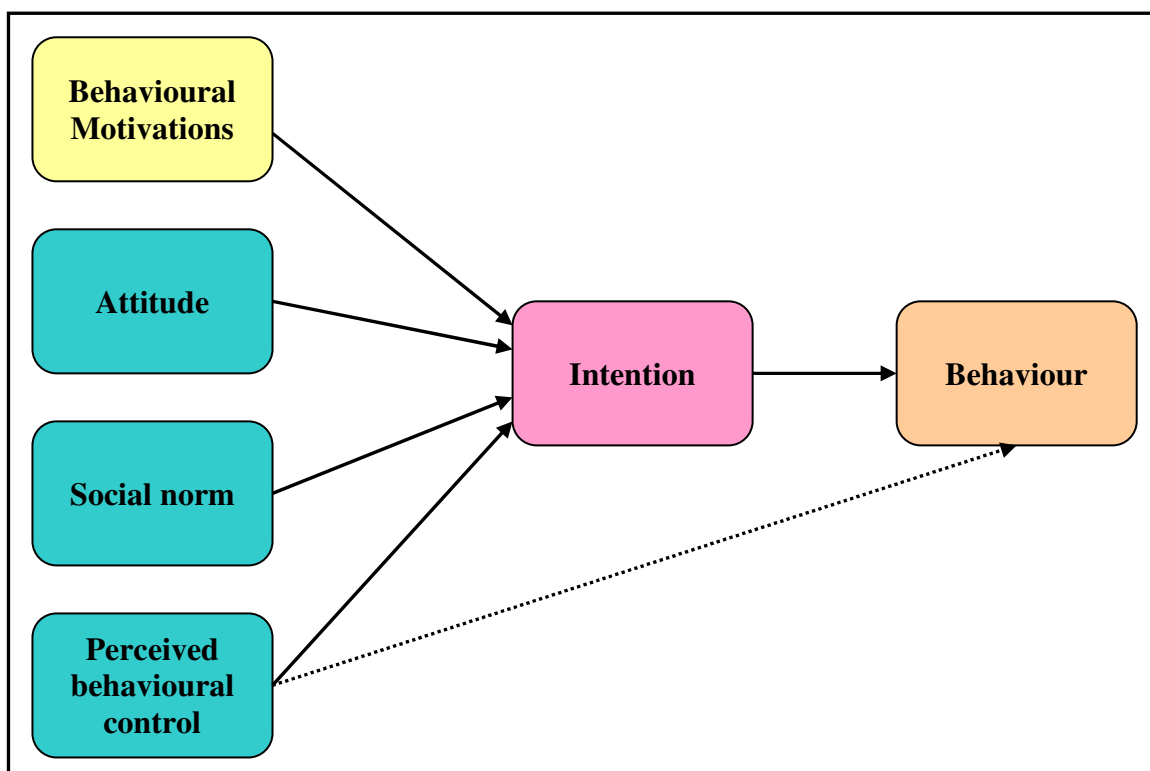
Applied to this research, a group of non-GDES hoteliers (3 out of 9) had initially showed positive attitudes towards recycling and were very willing to recycle but they perceived a difficulty because of the unavailability of the

recycling service from the public sector. However, when these hoteliers re-interviewed 18 months after they had the ability to make recycling as the local authority had provided a recycling system for commercial businesses hoteliers still landfill of the hotel waste. According to TPB, hoteliers had the ability to recycle after the public sector provided the service (PBC), which previously constituted the most significant obstacle facing hoteliers in recycling and they held favourable attitudes towards recycling (Attitude towards the behaviour). This gave a significant indication of hoteliers to perform the recycling behaviour. However, in the follow-up interviews, hoteliers exhibited negative attitudes to recycle and would continue in disposing of their hotel waste into landfill.

Ajzen (1991) the TPB is flexible and open to further incorporation of additional variables if it is seen that they can contribute effectively in explaining the behaviour, particularly after the theory's main variables are considered. This study concluded that a modification should take place to make the TPB more effective in determining and explaining the behaviour of small hotel operators in respect of SWM. In addition to the three main components of TPB (Attitude, Subjective Norm and PBC) which influence the behavioural choices, a motivational variable (e.g. incentives and legislation) needs to be added to help predict and understand why small hotel operators do or do not engage in certain SWM behaviours (see Figure 7.6). The results revealed that if hoteliers perceived economic or legislative motivation to manage their solid waste effectively then they would be more likely to

perform the behaviour. This was confirmed by Davies *et al.* (2002:40) “if there is a local incentive which is salient to a particular individual then it may instigate the behaviour”.

Figure 7.6: The behavioural motivation variable and TPB



7.7 Conclusion

This chapter revealed no change to SWM practices in non-GDES small hotels after the local authority provided a recycling system for commercial businesses. Hoteliers still undertook landfill as a primary SWM option and had no intentions to recycle. This highlighted the great need to a further motivation and/or pressure to influence hoteliers’ behavioural intentions and drive them to manage their solid waste effectively. The chapter explains great

variations between SWM in GDES and non-GDES small hotels through a cross-case analysis (see Table 7.1). The analysis process has led to the development of a best practice model for the public sector to encourage better SWM practices in small hotels (see Figure 7.4).

The model entails seven means of motivations to drive small hotel operators to tackle their environmental responsibility and manage their solid waste effectively. It then identifies seven steps to reach the goal of SWM best practices in small hotels. The model has emphasised the role of the waste carrier (the local authority and private waste sector) together with government support take-back schemes and the role of manufactures in influencing SWM in small hotels. The chapter also concludes that TPB with its main components (Attitude, Subjective Norm and PBC) is not adequate in explaining and/or predicting SWM behaviours in small hotels and recommends that additional motivational variable should be added to the model to make it effective in understanding the behaviour (see Figure 7.6). The next chapter of the thesis gives conclusion and recommendations.

Table 7.1: Summary of the cross-case analysis, involving: non-GDES small hotels, GDES small hotels, public and private sectors' waste carriers

Aspects	Non-GDES small hotels	GDES small hotels	Public sector's waste carrier	Private sector's waste carrier
Potential motivation to consider sustainable SWM practices	A large consensus between GDES and non-GDES small hotels identifying seven means of potential motivation required to influence SWM practices in small hotels, including: providing the tools and facilities, providing awareness and education, enhancing the economic motivation, encouraging the social motivation, boosting the marketing motivation, enacting legislative pressure and networking small hotels		Increasing the landfill tax and making recycling compulsory are the most significant tools to influence SWM practices in small hotels as well as private waste sector.	The government should not consider increasing the landfill tax or force recycling unless they provide the infrastructure required, e.g. MRF and waste transfer stations.
Hotel's commitment to environmental responsibility	Little or no attention has been paid to the hotel's ecological responsibility with the majority of hoteliers believed that a small hotel had little or no impact on the environment.	A strong commitment to the hotel's ecological responsibility is expressed through developing an environmental policy, setting an improvement plan and undertaking an environmental audit	/	
Undertake a waste audit	Never taken an audit	A comprehensive environmental audit, which SWM represents a significant part, undertaken once when certifying with GDES and updated regularly.	The audit process which supplied by the local authority is restricted only on helping customers to recycle.	Larger waste companies provide a site visit to audit larger business waste streams and identify opportunities for tackling all the options of the waste management hierarchy, whereas smaller carriers do not have the capability to do a waste audit on behalf of their customers.

Work with the contracted waste carrier	Mostly use the local authority's waste carrier. Cost and convenience are the most significant factors considered in selecting a waste carrier whereas the environmental measure, for example selecting a carrier who disposes of the waste sustainably, is not a consideration by most hoteliers.	Officers very keen to work with all businesses to recycle but they find it difficult to work with the private waste sector on the base of reducing and recycling commercial waste because they have different targets.	Most waste carriers, except some larger waste companies, believed that working with businesses to reduce their waste contradict their objectives in making money, the same process as working with the local authorities.
Implement SWM programme considering the waste hierarchy:			
Prevention	It is not an accessible SWM option. Most hoteliers are ignorant of how to cut waste at source.	It is an effective SWM option to prevent hotel waste at source. Most hoteliers undertake green purchasing practices. The government should control, encourage and/or force manufacturers to produce green products.	The local authority does not have the resources to work with businesses to prevent and/or reduce their waste. They just signpost businesses to other specific organisation like Arena Network. Currently, they consider their waste minimisation/prevention targets as secondary objectives. Larger waste companies provide an appropriate support in respect of waste prevention/minimisation but they confined such services to larger waste producers. Smaller waste companies do not have the resources and/or the experience to work with businesses regarding these targets.
Minimisation	Hoteliers believed that it was very difficult to minimise hotel waste streams. They were not aware of the varied techniques which could be used for reducing waste throughout the product's life cycle.	Hoteliers valued minimisation as a SWM option. They undertook varied practices to minimise hotel waste either in-house or donation to charities or selling.	
Reuse	Reuse was not a feasible option limited only to plastic bags and fluid soap.	Hoteliers effectively reused a wide range of waste materials and prevented them to go into the waste stream, e.g. guestroom's toiletries.	
Recycling	Most hoteliers were not interested and/or indolent to	Most hoteliers were very keen to recycle to save cost and	The council had recently provided a recycling system Many waste companies had the facility and worked with

	recycle even after the local authority provided a recycling system for commercial businesses.	reduce landfill waste.	for commercial businesses and committed to collect recyclable waste from any business wanted to recycle.	businesses offering them the recycling service. However, smaller waste carriers were still landfilling.
Composting	Composting was not largely explored by hoteliers of GDES and non-GDES small hotels. Although a few hoteliers successfully did in-house composting most hoteliers felt that it would create a lot of problems in their hotels. Many GDES hoteliers were very willing to separate food waste for composting if it was collected commercially.		The public sector still could not work with food waste producers such as small hotels in regards to composting as they still had not got the facility.	The private waste companies did not have a composting facility in Wales and even they were not willing to invest in composting believing that it was not profitable.
Landfill	Landfill had been used as a primary SWM option for getting rid of hotel waste.	Landfill was not largely preferred by most hoteliers but it was used primarily for disposing of food waste as composting still unavailable to hoteliers.	The council had a greater commitment to divert the waste away from landfill and reach their recycling targets.	The majority of small waste companies were still more interested to collect and landfill of waste materials.
Government support take-back schemes	Hoteliers were not willing and felt negatively to take-part in any potential government support take-back scheme.	Hoteliers see PTB scheme as a good way to reduce hotel waste. They were very eager to participate as some hoteliers currently set their own take-back system.		
Comply with the legislative requirements	Many hoteliers were breaking the waste legislation through covertly using the domestic waste recycling system either in the weekly collection or HWRC illegally.		Most local authorities in Wales had failed to control small businesses using the domestic recycling system.	
Overcome the challenges	Hoteliers perceived a range of behavioural barriers that prevent them to manage their solid waste effectively and they were unenthusiastic to overcome: lack of the facilities;	Although hoteliers identified a range of objective obstacles to recycle (e.g., space, time and cost issues) but they prevailed over. In fact, lack of the facilities and awareness were	The public sector showed a number of constraints to recycle commercial waste but they overcame: lack of financial and personnel resources; location of the	The private waste sector had experienced a range of difficulties to recycle, including: lack of resources; lack of recycling and processing facilities; lack of

	lack of awareness; separation of the waste; lack of time, space and cost issues.	the real barriers facing GDES small hotels to manage solid waste effectively.	businesses; frequency of collection; contamination of the waste.	recyclable markets; client lethargy.
Encourage staff participation in the hotel's SWM programme	Hoteliers adopted a strategy of enforcement rather than encouragement believing that staff paid to do whatever the boss required them to do.	Most hoteliers trained and educated staff on SWM issues through an induction training programme. They enhanced staff participation by giving them, for example old durable furniture when refurbishing their hotels.		
Involve customers in the hotel's SWM programme	Most hoteliers believed that it was difficult to involve customers in the hotel's SWM programme as they regarded that as an impolite action.	Customers played a key role in the hotel's SWM programme. Most hoteliers considered different means to motivate customer participation.		