


Title	A Marketing Approach Towards Meeting Millennium Development Sanitation Goals
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Short CV for Introduction Purposes (100 words max)	Richard Holden is the manager for Science & Technology for Social Impact with the Department of Science and Technology, South Africa. His entire career has been spent on the design and operation of municipal services with particular emphasis on low income and dispersed rural settlements. In such settlements, as in much of the developing world, sustainability is only achieved when the technology can be built, operated and maintained by the households. Much of his recent work has been around the development of appropriate technology, in all spheres of human settlement, and is promotion so that it is adopted, by households in a sustainable manner.
Photograph attached (jpg)	

INTRODUCTION

In South Africa, the sanitation specialist works within the context of an aspirational but unachievable demand for water-borne sewage; Promises by some politicians of immediate and free delivery of toilets, which are unrealistic given the size of the backlog and the amount of money currently devoted to sanitation; and little consideration given by policy makers and designers of sanitation systems to issues of sustainability;

The author will argue that where households are unable to afford to pay the full cost associated with the operation and maintenance of a sanitation system, and the municipality is unable to subsidise this cost, then a dehydrating urine diversion toilet with on site composting and greywater recycling is the most sustainable solution. Once the toilet is built it is a permanent structure, can be managed by the household and no further subsidies, from the municipality, are required for running the system (waterborne sewage) or replacing/emptying full Ventilated Improved Pit toilets. Municipalities are then only giving a once off subsidy for capital costs, which means they will reach the Millennium Development Sanitation Goals.

This solution, however, is often perceived as inferior, particularly in respect to waterborne sewage and the sanitation specialist has to market or 'sell' the concept to households so that they take ownership and maintain the system thus ensuring sustainability (Holden R, 2001).

From the author's experience gained within the South African National Sanitation Programme, voluntary work with small builders and in communities, which have become victims of failed government programmes, the author would argue that a far more market orientated approach is required to sell the concept and thus meet the South African and Millennium Development Targets for sanitation.

WHY A DEHYDRATING URINE DIVERSION TOILET?

The Household Centred Approach (Kalbermatten et al, 1999) envisages the household at the centre of a series of concentric circles, the boundary of each circle representing a boundary, which if anything crosses it, will incur a transaction cost. Thus where the contents of the toilet and greywater are disposed of down a municipal sewer considerable costs are incurred by the municipality to provide a service which must be available 24 hours per day and be able to treat the large volumes of liquids, of various constituents, which are thrown into it. This cost must be paid by the household or subsidised by the municipality. Households can be encouraged to reduce their sewerage bill by linking it to water consumption but this link falls away if the households are indigent and unable to pay, then another type of service must be chosen by the household. Also with municipal waterborne sewage it is very difficult for the household to become involved in the operation and maintenance, thus reducing costs.

With regard a Ventilated Improved Pit Toilet/septic tank the choice is when the pit/tank is full to construct a new one; which can be done by the household or it can be mechanically emptied. Pits/tanks can last a very long time, cases of over 40 years have been recorded, but this requires considerable care on the part of the household. Eventually when it is emptied a considerable once off fee is incurred (between R800 – R1500), which is often unaffordable to the poor. Experience from Ethekwini and Northern Cape Municipalities (Fouche N, 2005) has shown that as soon as a subsidised service is provided inorganic materials and greywater are thrown in the pits considerably shortening their life. Again households cannot be involved in the emptying of the pits/septic tanks as it requires specialised equipment.

A dehydrating urine diversion toilet with on site composting does not incur any transaction costs as treatment of the excreta is on site and can be managed entirely by the household as the most complicated piece of equipment is a spade. With a minimum garden area of 150m² greywater can be disposed on site as well completely eliminating any transaction costs with an external party making it the most sustainable system in the absence of an ability by the municipality or the household to pay for the service.

However, since many people are adverse to handling excreta imposing this system needs to be sold rather than imposed on them so that it is sustainable (Holden R et al, 2003).

UNDERSTANDING MARKETING

Marketing is defined as the effective management by an organisation of its exchange relations with its markets.

Two broad and distinctive market segments have been identified, namely the pre-contemplative market segment, and the contemplative market segment. It is important for the sanitation specialist, right at the outset, to identify into which of the two groups a market segment falls.

THE PRE-CONTEMPLATIVE MARKET

The pre-contemplative market segment refers to that group that does not see the need to even consider improved sanitation or new sanitation solutions. Amongst this group there is no demand or even a negative demand (some resistance) to the sustainable solutions on offer, despite the existence of a problem. The reasons for this, in the South African context, are three fold. First, some politicians have made promises around the provision of services, which are believed by the consumer. This creates unwillingness on the part of the consumer to invest their own money. In reality, the promises may be unsustainable, inequitable and are usually unreachable in any short term time frame. This is a major reason for a community to remain in the pre-contemplative stage and is a significant stumbling block in meeting delivery targets. Secondly, traditional sanitation solutions and entrenched culture stand in the way of change and improvements and thirdly is lack of knowledge and information.

If a community, or individual household, is in the pre-contemplative stage, construction of infrastructure cannot commence with any idea that the product will be sustainable. They must be first moved to the contemplative stage.

In marketing this is often done through celebrity endorsement, targeting of community role models, free samples etc. coupled with an information blitz so that people understand why this is a life changing product. Toyota in South Africa is currently doing this with their Prius hybrid car. Many Hollywood stars are driving it but the adverts are explaining what is so different about the car.

Once a market has matured, and customers are in the contemplative stage than marketing is around image and brand, rather than the necessity of the product. This is clearly evident in South Africa in such sectors as cellphones and cars.

CONTEMPLATIVE MARKET

The contemplative market is receptive to accepting improved or even unfamiliar sanitation solutions. To be in the contemplative stage, two requirements must be met namely 'importance' and 'confidence'. Individuals must be convinced of the importance/ necessity to change sanitation facilities and/or practices. Organisations designing and selling products, therefore, market to what their customers think important not to a marketing plan drawn up in

isolation from their customers. Also, individuals must have confidence in the product in order for them to buy it. I.e. it actually works. The Apple iPod MP3 music player with iTunes downloadable music service is classic example of producing a product that performed what the market wanted (the working of the product is immaterial) whereas Betamax video and many other proprietary offerings from Sony are examples that failed even though the technology worked, since the market wanted open standards.

It is to the contemplative market segment, being willing to go ahead with improved sanitation, that the sanitation specialist is able to 'sell' or market affordable and sustainable solutions.

EXCHANGE RELATIONSHIPS

Implicit in the concept of developing a market is the idea of a two way flow of information between the producer/service provider and the customer. The hallmark of successful organisation is that it encourages feedback from its customers so as to improve its products and services. Often advertisements explicitly support this notion, such as the advertisement by line "The listening bank", which encourages the customer to believe that feedback is welcomed so that it can improve its service. Organisations that genuinely respond to customer feedback remain market leaders, whilst those that do not find their products rejected. Also, within most organisations the employees are actually using the products, which they are selling.

Within South Africa, on most dry sanitation projects this relationship does not exist and the decision makers and implementers do not use the product themselves and thus have little understanding of the problems encountered by the customers. Also the consumer does not buy the toilet but is simply given a system into which they have no input. Implementers and decision makers are able, in the short term, to ignore customer feedback as their job is not dependant on customers buying the product. However, in the long term the failure to establish this relationship does matter, as customers start to refuse to allow the technology to be imposed on them.

Due to this lack of an exchange relationship initial mistakes have multiplied to such an extent that millions of Rand are now required to fix these mistakes, thus slowing down the rate of delivery even further. Examples of this are VIPs where the pit has been sealed turning them into conservancy tanks, which smell as bad as a bucket toilet (thus attracting flies) and fill very rapidly. With urine diversion toilets the most common problem is the rear lid which is so heavy that the householder cannot lift it (thus precluding household operation and maintenance); water entering the chamber (turning the faeces into a sludge, which is difficult to handle and smells) and unnecessary use of ventpipes (Many households have complained bitterly of the cold wind in winter, which blows through the toilet and up the ventpipe (Fouche N, 2005). It has been demonstrated that with a dehydrating toilet it is not necessary but this is still imposed on households). With Enviroloops, which evaporate the urine into the atmosphere, when a temperature inversion occurs, it results in an all pervading stink over the community.

In all the above cases none of the implementers would accept these conditions being imposed on their own families yet they impose them on others.

SOUTH AFRICAN MARKETING EXPERIENCE

Significant experience has now been gained in South Africa on the marketing of urine diversion toilets. Urine diversion was first introduced at scale into the Northern Cape Sanitation Programme where the presence of hard rock on the surface precluded the construction of VIPs. Introduction was extremely difficult as the market was in the pre-contemplative stage, the implementing agency had not used the toilet themselves and were,

therefore, unaware the details involved in the day to day operation of the toilets. This made selling of the toilet difficult.

The first inside toilet was installed to an individual who had moved to the contemplative stage, who due to a failed government housing programme had no toilet, and was willing to experiment. She did not do it in complete isolation and her inspiration was a picture of Cesar Anvore's bathroom in Mexico. This led to large numbers of internal urine diversion toilets in Namaqualand and this became the selling point of the toilet.

Your Choice Sanitaryware

No water in the house?

You can still have an inside toilet!



Comfort
Privacy
Security
No Smell

The urine diversion toilet was still thought to be inferior and this led to the authors' family replacing their en suite bathroom's flush toilet with a urine diversion toilet to dispel this illusion, thus providing a role model. It also gave valuable feedback on issues of emptying, comfort and smell prevention as these problems were experienced first hand. These concerns were not dismissed out of hand, as they have been on so many other VIP and urine diversion programmes, as the author had to replace the toilet if it did not meet the requirements of his family. The maxim adopted by the author has been "If the family wouldn't use and maintain the toilet themselves, why should we expect another family to do it."

The toilet, situated in a middle income home in the centre of Johannesburg was not only a test centre, but a "celebrity" show house (over 1500 people having visited it) and but provided a source of material for "infomercial" workshops. An example

of this was in December 2003 when the authors' wife and son were asked to visit communities in the Kgalagadi District Municipality, Northern Cape where urine diversion toilets had been built without moving the community from the pre-contemplative to the contemplative stage and only 23% of them were in use.

The visit of a "celebrity", in this case a middle class housewife who used the same toilet and who could share her actual experiences with them took usage to 80% within 3 months of the visit. Although only a single village was visited, this is the increase over the whole area as the message was spread by word of mouth. In advertising this is considered the most effective method of promoting a product as it is done on personal recommendation.

In the Eastern Cape a similar approach was taken in the villages of Percy and Upper Tsojano in the Chris Hani District Municipality, with widely varying results. In both villages hard rock was being experienced close to or on the surface, precluding the construction of VIPs. The authors' family was asked to visit the villages and give the same "Infomercial" workshop. In Percy the conclusion of the workshop was that it was the individual household choice (where there was hard rock it is a bit of a Hobson's' choice) but resulted in the construction of 14 urine diversion toilets, some of them where VIPs could have been constructed. In Upper Tsojano there was complete rejection of the concept and a demand that heavy equipment be brought in to dig the pits, even though this would have resulted in a conservancy tank.

On analysis it is thought that Percy was in the contemplative stage since it had constructed and run its water project and had previously had to make difficult decisions. The implementing agency simply had to sell the product to an already receptive audience. In Upper Tsojano the water project had been run by outsiders and no decision making had

been required. They also did not value toilets, statements being made that they preferred to squat in the toilet and nothing was seen to be wrong with the raised conservancy tank at the workshop, which stank. No suggestions were made, which would result in sustainable sanitation and as a result people still do not have toilets and they remain in the pre-contemplative stage.

In Buffalo City Municipality problems arose in the Newlands informal settlement, where VIP toilets constructed in the last 5 years were filling up and need to be emptied. Attempts to mechanically empty the toilet proved extremely difficult due to the plastic bags and the consistency of the sludge. Buffalo City Municipality could not afford the cost of emptying the pits whilst at the same time providing toilets to those who had nothing; they therefore, were looking to a permanent, sustainable solution. The municipality was already in the contemplative stage looking at urine diversion toilets, the question was how to sell the concept to the residents.

The residents were already in the contemplative stage as they were looking for alternatives to the badly constructed VIPs, which were full, smelt badly and had lots of flies around them. The urine diversion toilets were sold on the basis that they would reduce or eliminate the fly and the smell problem. A single conversion was done and the household closely mentored to ensure that they operated the toilet correctly so that it fulfilled the promises. The household is now satisfied that the product fulfils their requirements and over 110 of her neighbours want a similar conversion.

During this period three councillors and one official were flown to Johannesburg to see the show house as officials after seeing the Kimberley project had expressed extreme reservations over the viability of the concept. After seeing the Johannesburg house they were sold on the concept, agreed to convert their own homes to become “celebrity” role models in Buffalo City and the municipality accepted funding from the Department of Science & Technology to implement a 300 house pilot project.

PRODUCT

It does not matter in the slightest if in theory the concept works and is accepted by the consumer but the product or service then fails to deliver the promised results. Consumers will in fact accept that mistakes happen and so long as that mistake is fixed will continue to have faith in the product. Where complaints are ignored i.e. there is no exchange relationship, customers will turn to another service, brand or abandon the product.

The current poor after sales service of Land Rover South Africa is causing problems for the company as it does not matter what the image of the brand is if the vehicle will not move due to lack of spare parts, and what ultimately drivers want is a vehicle which takes them from A to B without breaking down and can be serviced with no hassles.

Within South Africa the record of dry sanitation products is not good and there are too many schemes where incorrect designs have led to the failure of the product. Feedback from the consumer is ignored as the product has been paid for by the municipality not the household. Ultimately consumers want a toilet which does not smell, has no flies, is comfortable, is easy to maintain and is preferably inside the house.

Some of the problems caused by the incorrect design of dry sanitation are as follows:

- 1) VIP toilets falling down pits due to lack of pit collars and lining (in Mogeelo, North West Province over 25% of the toilets fell down the pits;
- 2) Too small or no ventpipes on VIPs leading to inadequate ventilation;
- 3) Sealing of VIP toilet pits leading to it acting as a giant bucket toilet, which rapidly fills and smells;

- 4) Design of pedestals , which are extremely difficult to keep clean;
- 5) Evaporation of urine, which when there is a temperature inversion over the settlement leads to the entire settlement smelling of urine;
- 6) Installation of ventpipes on urine diversion toilets, when unnecessary. Householders in Namaqualand complained early on in the sanitation programme that it was unpleasant to sit on the toilet on a cold winter's night due to the cold draught blowing over their bare backside and genitals. Although it had been demonstrated that if the faeces was kept dry the ventpipe was not necessary there are still being installed and in Sutherland (down to -17°C) the product is rejected.
- 7) Allowing water to get into urine diversion toilets so that mechanical emptying of the sludge is required;
- 8) Designing rear lids on urine diversion toilets so that a householder cannot move them on their own thus making maintenance difficult;
- 9) Making pits on urine diversion toilets so deep that they cannot be emptied without physically getting into them.

EQUITY

Marketing is all about Product, Place, Price and Promotion. However with municipal services there is one more component which affects acceptance of the product and that is equitable allocation of resources. The inequitable allocation of municipal resources (capital and operating subsidies) amongst its consumers will also lead to rejection of the product, not because they reject the product but because they feel that they are being unfairly treated.

This has manifested itself in South Africa through the provision of free basic water, sanitation and electricity services, which due to the way they are implemented benefit the rich more than the poor. Also the lack of effective credit control in many municipalities does not lead consumers to control consumption they know no measures are taken against those who consume and do not pay.

For example in the Cape Town Municipal Housing programme residents receive a capital subsidy in excess of R20,000 for the toilet, reticulation and bulk services and if their water consumption is below 6 m³ per month they do not pay anything for water and sewerage and are not are they involved in the maintenance of the sewerage system. In contrast if the household accepts a urine diversion toilet and composts on site the capital subsidy is only R3,000 and there is no recurrent cost to the municipality and they are involved in the maintenance of the system. To many this is inequitable and they therefore demand waterborne sewage. Since Cape Town has a backlog of 265,000 units (everyone living in informal settlements, backyard shacks and multiple families per dwelling unit) this would involve a capital expenditure of R5.3 billion and a monthly recurrent cost of R8 million.

CONCLUSION

With any sanitation technology consumers must be in the contemplative stage of marketing for them to accept it. When they are in the contemplative stage the product can be sold to them. This implies choice on behalf of the consumer and means that sanitation technologies cannot be imposed (commonly called the Demand Responsive Approach). The implementing organisation has to ensure that the correct knowledge is transmitted to the consumer , that it is something they aspire to as it satisfies a need and subsidies do not distort the market (promotion) and that the technology works in the manner intended.

In South Africa when this has been done correctly urine diversion has been easily accepted, where not rejection has occurred.

References

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