

PILOTING ALTERNATIVES TO SINGLE-USE PLASTICS AT TWO RESTAURANTS IN CAPE TOWN, SOUTH AFRICA

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Disclaimer

The project team takes full responsibility for the report's contents and conclusions produced in the report.

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Contents

List of abbreviations and acronyms	i
List of figures	i
Background.....	1
Research design, objectives and methodology	2
Research objectives	2
Research questions.....	2
Research methodology.....	2
Summary of main findings.....	4
Gaining commitment from restaurants.....	4
Implementation of the pilot study	5
Results of the customer survey.....	6
Straws.....	6
Chocolate wrappers	6
Takeaway ice-cream spoons.....	7
Takeaway coffee cup lids.....	8
Conclusions	10
Recommendations for further restaurant pilot studies.....	10
What areas require more attention, awareness, clarity and education?	10
References	11

List of abbreviations and acronyms

WWF World Wide Fund for Nature

List of figures

Figure 1: Sample of 156 surveys completed by customers at vida e and Foragers	4
Figure 2: Respondents' willingness to pay extra for an ice-cream spoon.....	7
Figure 3: Respondents' willingness to pay extra for a coffee cup lid.....	9
Figure 4: Respondents' willingness to purchase a reusable takeaway coffee cup	9

Background

There has been a 650% increase in plastic production over the past 40 years, with 270 million tons produced globally in 2010 (Jambeck et al. 2015). There are many positive aspects to plastic, which explain its popularity. It is cheap, versatile, light-weight and long lasting. Each of these aspects, however, has a corresponding negative. Plastic is often single-use, it contains toxins, disperses extensively into the environment and does not biodegrade.

An estimated 8 million tons of plastic enters the world's oceans each year and South Africa is the world's 11th worst marine polluter (Jambeck et al. 2015). A 2015 survey of beach litter around South Africa's coastline indicated that 94% of beach litter is plastic and 77% of that is packaging (Ryan & Moloney 2016). If not disposed of properly, this plastic ends up in the ocean where it contributes to the plastic ingested by 90% of seabirds.

Cape Town, with its diverse floral kingdom, distinct coastal features and variable climate, is a biodiversity and tourism hotspot. More than 10 million tourists visited the city in 2016, with 1 million visitors in January alone (Brophy 2016; 2017). Tourists come to experience the beautiful beaches, mountains, wine and, of course, the fine cuisine served at a wide range of restaurants. Many Cape Town restaurants are in prime locations along the picturesque coastline, and thus should be held responsible and accountable for ensuring that the way in which they function does not impact negatively on the ocean, either directly or indirectly. As a significant consumer of plastics for packaging purposes, restaurants could play a critical role in reducing the amount of single-use plastics entering the oceans. Furthermore, they have the potential to play a leading role in raising awareness and changing consumer behaviour around the use of single-use plastics. As consumers, we have the capacity and the responsibility to make choices that support the transition to the use of alternative products with lower environmental impacts.

Changing our behaviour requires what Jambeck calls, a "shift in thinking from 'waste' management to 'materials' management" with a focus on "creating livelihoods based on 'waste' management, in which waste is viewed as an exploitable resource" (Jambeck 2017). Furthermore, it is critical that all players in the value chain are engaged to educate, raise awareness and build capacity to curb our plastic addiction before it suffocates us. As key players in this value chain, we, the consumers (those who can afford to eat at restaurants), have the power and the luxury (of both choice and availability of alternatives) to drive change – by refusing plastic products and thus reducing the demand we can effectively "turn off the tap" (Jambeck 2017).

Most single-use plastic items distributed by restaurants (e.g. plastic straws, coffee cup lids and sweet wrappers) are not recycled (and many are not recyclable). They are among the most common items found on beaches (Ryan & Moloney 2016). Globally an estimated 500 billion takeaway coffee cups are sent to landfill every year (Potter 2017).

While a paper cup may take six weeks to break down in the ocean, the plastic lid (and the cup's plastic lining) may take up to 450 years to break down, and then only into tiny pieces that collect in the ocean as microplastics (NOAA 2011). The ubiquitous plastic straw may seem insignificant in size, but its abundance, availability and short consumer lifespan make it extremely harmful (McGeever 2017).

Straws are ranked as the seventh most picked-up item on beaches. Beach clean-ups in East Beach, East London, for example, find on average 44 straws per meter of beach, despite daily cleaning (Ryan & Moloney 2016).

South Africa has an opportunity and a responsibility to lead the way in exploring solutions to the problem of marine litter.

Research design, objectives and methodology

The aim of this study was to work with local restaurants located close to False Bay in Cape Town to test the potential for reduction, and ultimately elimination, of single-use plastic items. The three focal items of this study are:

- Plastic straws.
- Individually wrapped sweets.
- Plastic takeaway coffee cup lids.

Other items, however, such as plastic takeaway ice-cream spoons, were included if one or more of the above were not offered at a restaurant.

Research objectives

The objectives of this study were to:

- Illuminate the challenges of and opportunities for eliminating the use of and finding alternatives for single-use plastic items.
- Explore the roles that both restaurants and their customers play in making the transition to eliminate the use of single-use plastics.

Research questions

The research was designed to understand the following specific questions:

- What challenges do restaurants face that restrict them from committing to reducing and eliminating single-use plastic items, or even testing out the transition and alternatives?
- How satisfied are customers with currently available single-use plastic alternatives?
- Are customers willing to pay for alternatives to single-use plastic packaging? If so, how much are they willing to pay?
- Are restaurants and their customers willing to avoid single-use items by using reusable options and what are the incentives needed to enable behavioural change regarding the use of single-use plastics?

Research methodology

The survey designed for this study was based on some of the key findings and recommendations reported by Omardien and Knipsheer (2017). In their consumer survey, 86% of respondents felt that restaurants could make a difference in reducing the levels of ocean pollution. Furthermore, respondents felt a level of responsibility for influencing the product choices that restaurants make, and thus would be willing to support restaurants that make environmentally friendly decisions, even at their own cost.

There was, however, no clear consensus on what they would be willing to pay and whether this information should be shown explicitly when making purchases. Recommendations included campaigns that engage consumers to emphasise refusal of single-use plastics to reduce environmental impact and offering discounts to consumers who bring their own containers (Ouardien & Knipsheer 2017).

Muizenberg beachfront, with its many businesses centred on food, surfing and tourism, is a prime example of a location where restaurants are important players in driving change and mitigating marine plastic pollution. This study focused on the source of single-use plastics that end up as beach litter, by working with and educating restaurants and consumers on plastic alternatives, gaining an understanding of what is required for a transition and of the challenges to changing consumer behaviour.

The pilot study research was carried out at two restaurants within a four-week period on 7–8 July and 28 July–4 August 2017 respectively. Ceinwen Smith and Aaniyah Ouardien conducted staff training at the pilot sites to:

- Provide them with background for the project.
- Briefly explain the impacts of single-use plastic items.
- Provide suggestions on engaging with customers on the topic.
- Support them in encouraging customers to provide feedback by completing the survey.

Two restaurants were selected to implement the pilot study based on their willingness to participate, familiarity with the issue and passion for environmental issues, as well as the owner or manager's dedication to making a difference.

The first pilot site *vida e caffè* (*vida e*) in Muizenberg is part of a chain of trendy coffee shops, with 42 stores in Cape Town and more than 70 across South Africa. The Muizenberg *vida e* is in the Roxy Surf Emporium shop on the beachfront, caters to surfers and other beachgoers and, thus, sees most of its customers over weekends. *vida e* is known for its friendly and energetic staff and the stores are designed for “comfort, convenience, and consistency”.

The second site ‘Foragers’ at The Hub is a local restaurant, deli and coffee bar located in the small coastal village of Scarborough, near Cape Point. While strongly supported by the local community, it also sees most of its customers over weekends, particularly during the morning, as it is a favourite destination for passing cyclists. Foragers has created a warm, family-friendly space to enjoy everything from a quick coffee on the run or a lengthy Sunday brunch.

Due to the distinct differences in these two establishments, the methodology for each had to be adapted to suit the location, type of service offered and clientele.

The sample included 156 customer surveys covering three single-use plastic items.

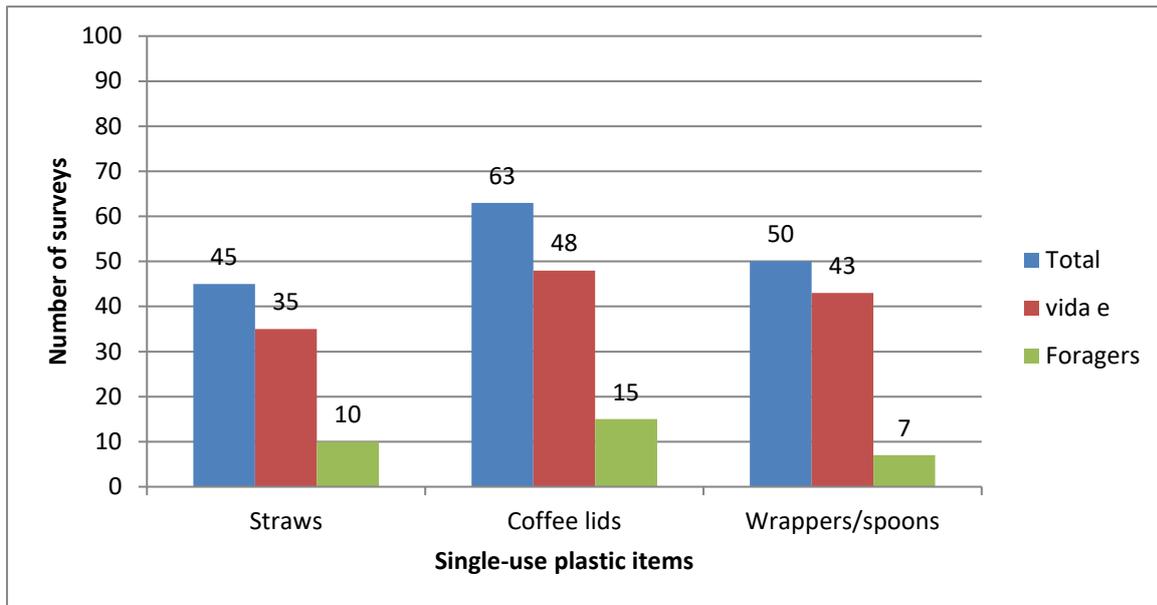


Figure 1: Sample of 156 surveys completed by customers at vida e and Foragers

Note: Foragers did not serve individually wrapped sweets so this survey was replaced by a survey designed for takeaway ice-cream spoons.

Summary of main findings

Gaining commitment from restaurants

Contact was made with three potential pilot restaurants – vida e (Muizenberg), Tigers Milk (Muizenberg) and Bootleggers (Sea Point) – on 12 June 2017. Preliminary meetings were held with the managers of vida e and Tigers Milk on 27 June to discuss the rollout of the pilot study. Vida e gained approval from its head office and committed to running the pilot from 7–8 July 2017. While Tigers Milk management was keen on the project, it proved challenging for them to gain approval from the Harbour House Group for several reasons:

- Management at the restaurant was in transition with uncertainty as to who would be running the restaurant from July.
- The Harbour House Group is a large entity and any decision that could affect the brand and public image of the Group needs approval at various levels of management and by multiple departments. It proved difficult to secure meetings with the relevant people in the brand management and procurement departments and there seemed to be general lack of enthusiasm about engaging in the pilot study. In addition, the time constraints of the study did not allow for the extra administrative processes that the Group follows, such as loading new suppliers (for single-use plastic alternative products) onto the procurement system.

A successful preliminary meeting was held with management at Bootleggers on 10 July. The restaurant had already taken several steps to implement the transition to elimination of single-use plastics. It does not offer straws, has sourced alternative products, introduced a branded reusable mug and started testing glass straws (at the Sea Point branch). Bootleggers was not, however, able to undertake the pilot during the study period, but has committed to implementing a month-long trial period when their systems (such as a mobile app for customer surveys) and staff training programme are completed. They are keen to engage with the study in the future.

The contractual agreement with WWF was to test the ability of two pilot restaurants to reduce or eliminate single-use plastic items. Due to Tigers Milk and Bootleggers not being able to participate, the team sourced an alternative restaurant – Foragers in Scarborough – that agreed on short notice to run a one-week pilot study from 29 July to 4 August 2017.

Key learnings from this phase of the project are that successful implementation of pilot studies of this nature must consider administration and logistical issues, particularly for large chain restaurants or groups that function with high degrees of hierarchy and multiple departments and levels of management.

Implementation of the pilot study

Foragers and vida e have different operating styles tailored to their customer bases. It was easier to get customer feedback at vida e (81% of survey respondents) than at Foragers that caters mostly to sit-down traffic with low levels of takeaway sales. Additional challenges at Foragers included the following:

- The waiters were not enthusiastic about engaging with customers regarding the pilot and so did not actively drive the survey process, perhaps for fear of affecting their tips. There is a need for adequate staff training on the rationale for the transition and the steps involved. Staff are often busy with other responsibilities and/or feel apprehensive about engaging with customers on a topic they do not feel confident about.
- Management requested the researchers' active engagement with customers, which was not possible for the entire duration of the pilot. While willing to drive the survey process themselves, management also had other responsibilities that took precedence to the pilot.

The above findings suggest that both the content of the survey and the process through which it is administered need to be carefully tailored, with sufficient time given, to suit the specific layout and characteristics of the establishment and its patrons. Other issues/concerns raised during the pilot study were:

- Branding concerns. vida e, for example, is known for providing a free chocolate with hot beverages and eliminating this value-add to reduce packaging could have negative implications for the brand.
- Cost of alternative materials, which are significantly more expensive, especially if they are locally produced. Imported products, though, while cheaper, present other disadvantages such as a higher carbon footprint.
- Breakage factor of glass straws, for example.
- Theft of items such as glass straws and reusable vida e cups (the restaurant tends to offer takeaway cups unless requested otherwise).
- Hygiene; the cleaning of glass straws, for example.
- A lack of confidence in the biodegradability/lower environmental impact of alternatives. A more detailed information pack must be provided to restaurants embarking on this transition.

Results of the customer survey

Despite the above-mentioned challenges, 156 customer surveys were administered at the two pilot restaurants: 45 related to straws, 63 to takeaway coffee cup lids, 43 to chocolate wrappers and 7 to takeaway ice-cream spoons. The survey results are expanded on below.

Straws

- Requesting a straw

The 45 respondents (35 at vida e, 10 at Foragers) were asked if they requested straws. Most (38 respondents/84%) did not, but the balance (7 respondents/16%) insisted on straws even after staff explained that the restaurant was reducing its use of single-use plastics and, therefore, its impact on the environment. Most of the respondents at Foragers (90%) stated that they “did not want/need” a straw. One respondent indicated that they requested a straw to rate it against the alternative, but did not need one unless “travelling with a smoothie”. Another noted that “my children request a straw but I would prefer they were not offered.”

- Customer satisfaction with the alternative straw

Regarding the 29 responses to satisfaction with the alternative straw on offer (a biodegradable plastic straw at vida e and a paper straw at Foragers), 95% of vida e customers found it easy to use and 87% found it functional. Of the 17% that had requested a straw at vida e, all were satisfied with the alternative provided.

This question was modified in the second pilot study survey at Foragers to include a range for ease of use and functionality (1 = easy/functional to 6 = difficult/not functional). Only 1 respondent requested a straw (because they “wanted to rate the alternative”) and gave a rating of 1 for both ease of use and functionality of the alternative (paper) straw. However, 3 additional respondents (who did not request a straw) rated their satisfaction. Out of these 3 respondents, 2 gave a rating of 1 for both ease of use and functionality and one respondent gave a rating of 3 for both.

- The number of straws used per week

This question was added to the second pilot survey at Foragers. Of the 10 respondents, 50% indicated that they use on average 1–5 straws per week and 50% claimed to use none.

Chocolate wrappers

Foragers does not provide wrapped sweets to its customers. These survey results were drawn from 43 respondents at vida e, which offered a biscuit alternative to their customary wrapped mini chocolate.

- Customer satisfaction with the chocolate alternative

Eighteen respondents (42%) indicated the importance of the chocolate that vida e offer: “I love it”, “It’s really important. I use it instead of sugar” and “It is a nice treat, drew us to vida e in the beginning”.

When staff explained why the chocolates were not being served, most (78%) of those who responded (40 respondents) were satisfied. But when asked which they preferred, 52% respondents preferred the chocolate to the biscuit. Of the remaining 3 respondents, 2 commented “Didn’t bother me” and “Have not encountered this thus far”; 1 did not respond.

- Chocolate: Part of the vida e experience or an unnecessary source of plastic?

Just more than half of respondents (51%) felt that the offering of a mini chocolate was part of the vida e experience. Others felt that “anything free is good”, “the staff made vida e not the chocolate” and that “they would rather save the planet than have chocolate”. Two respondents noted that they would be happy to enjoy unwrapped chocolates with their coffee.

Takeaway ice-cream spoons

These survey results were drawn from 7 respondents at Foragers who received a sustainably sourced wooden ice-cream spoon, which costs around R0.70.

- Willingness to pay for a takeaway spoon with less environmental impact

Most respondents (71%/5 respondents) were happy to pay extra for a sustainably sourced wooden takeaway ice-cream spoon.

- Amount customers are willing to pay for a takeaway ice-cream spoon

Of the 5 respondents who were willing to pay extra, 43% (3 respondents) were willing to pay R0.70–R1, while 1 respondent would pay R1.51–R2, and 1 would pay more than R2. The cost of a plastic takeaway ice-cream spoon is around R0.30.

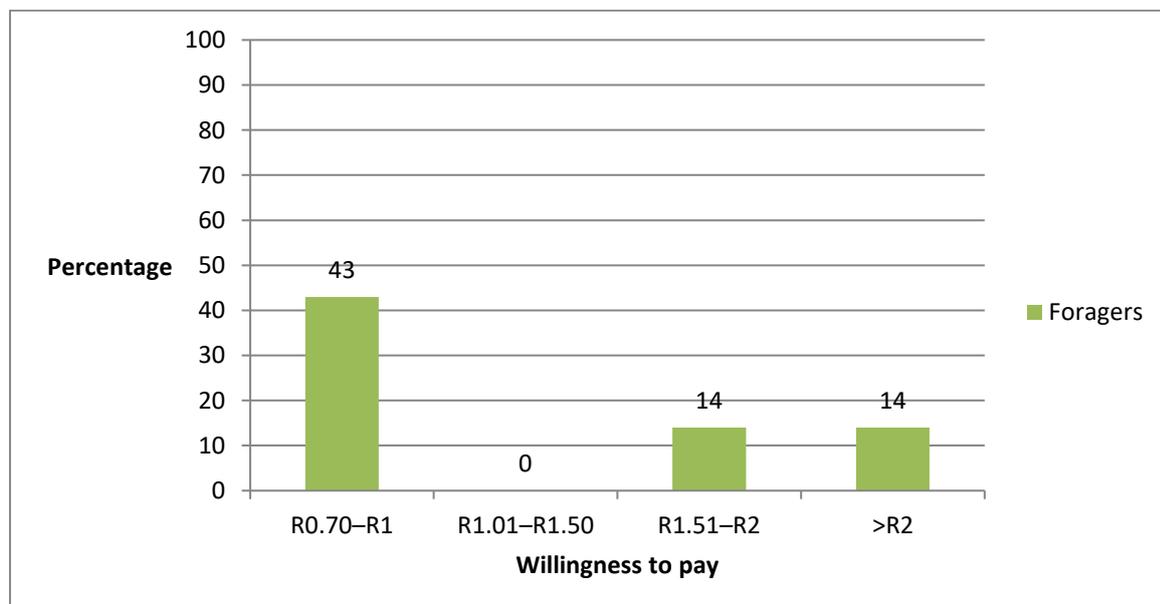


Figure 2: Respondents' willingness to pay extra for an ice-cream spoon

- Reason for not being willing to pay for a takeaway ice-cream spoon

Only 2 respondents (29%) were not willing to pay extra for an ice-cream spoon with less environmental impact because they believed it should be free. Of these, 1 respondent commented: “As a business it is your responsibility” and another, who was happy to pay for it asked, “What does a plastic spoon cost?”

- Reason for willingness to pay for a takeaway ice-cream spoon

When asked what motivated their willingness to pay extra, 5 respondents (71%) answered the question (4 respondents that had indicated they were happy to pay, and 1 that was not). Three options were given and respondents were encouraged to indicate one or more. Thus, a total of 8 responses were received from 5 respondents. Of these, 43% (3 respondents) preferred to use products with less environmental impact, 29% (2 respondents) preferred using natural products and 43% were happy to support the transition to plastic-free alternatives. Only 2 respondents indicated all three options.

Takeaway coffee cup lids

A total of 63 responses were captured regarding this aspect: 48 from vida e and 15 from Foragers.

- Willingness to pay for a takeaway coffee cup lid

More than 60% of respondents at vida e (30 respondents/63%) would be happy to pay for a compostable coffee cup lid. Foragers did not offer its customers a lid or asked them to pay R1 more for a plastic lid. Of the 15 respondents, 60% (9 respondents) asked for a lid and, of those, 73% (6 respondents) were happy to pay extra for it.

- Reason for requesting a lid

This question was added to the second pilot survey at Foragers. Of the nine respondents that requested a lid, all claimed it was to prevent spillage while driving. One commented that it was a “safety issue, kids in the vehicle”.

- Amount customers are willing to pay for a lid

Most respondents (23 at vida e, 9 at Foragers, 73% in total) were willing to pay up to R1 for a lid. Only 3 respondents at vida e were willing to pay more than R1.50. The cost for a biodegradable coffee cup lid ranges between R0.53 (250ml), R0.61 (350ml), R0.80 (250ml) and R0.85 (350ml).

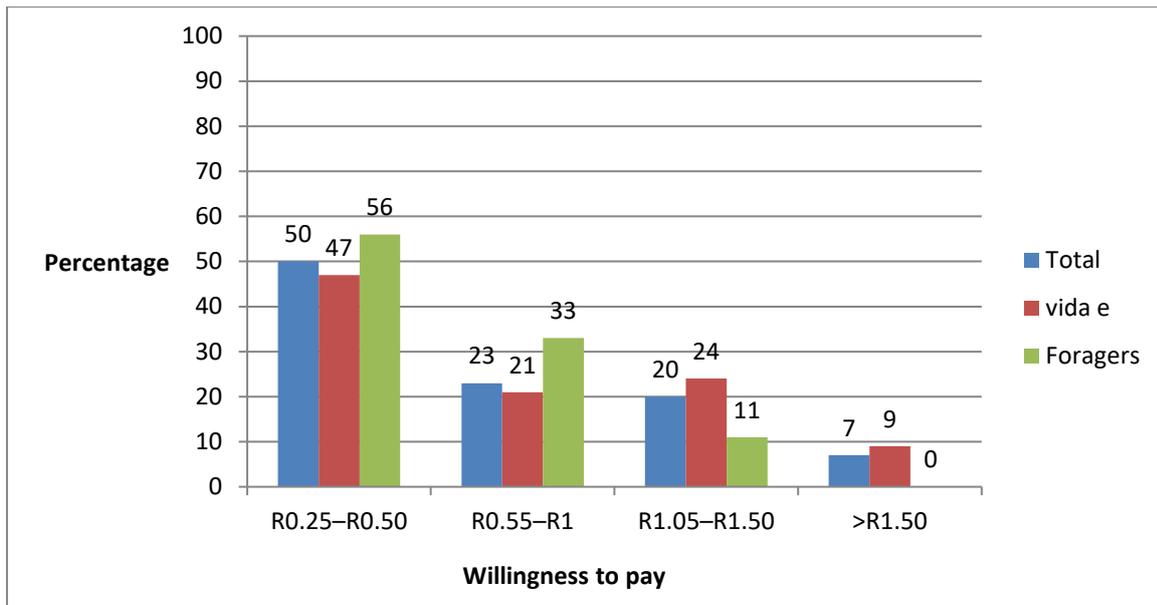


Figure 3: Respondents' willingness to pay extra for a coffee cup lid

- Incentive to bring own reusable coffee cup

Most respondents (48 at vida e, 12 at Foragers, 78% in total) considered a discounted price by R1 or R2 as an incentive to bring their own reusable cups.

- Willingness to purchase a reusable takeaway coffee cup

Out of 63 respondents to the survey about coffee cup lids, 65% (31 respondents at vida e, 10 at Foragers) indicated that they would be willing to purchase a reusable takeaway coffee cup. Of these, 63% (17 respondents at vida e, 8 at Foragers) would be willing to pay up to R100 for the cup, 28% (10 respondents at vida e, 1 at Foragers) would pay up to R150 and only one respondent at vida e would be willing to pay up to R250. The 'Keep Cups' at vida e cost between R269 and R299 each.

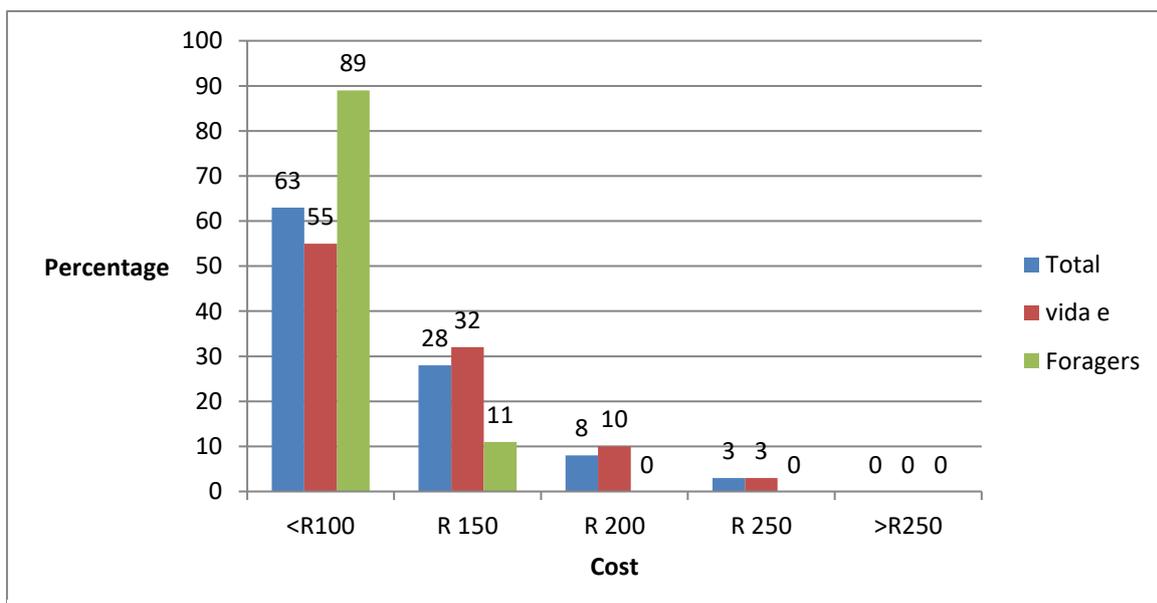


Figure 4: Respondents' willingness to purchase a reusable takeaway coffee cup

Conclusions

The following conclusions are based on the findings from the two pilot study surveys.

- Most respondents do not need, want or use straws when they order a drink and thus restaurants could safely stop serving straws, unless customers insist (e.g. for a takeaway smoothie), in which case the customer should be satisfied with an alternative (paper) straw.
- For 52% of respondents, mini vida e chocolates appear to be an important part of enjoying vida e coffee, however, some respondents were happy for the change that the biscuit provided and others admitted they would be satisfied with unwrapped chocolates. Further surveys at vida e carried out over a longer period could test whether customers are satisfied with receiving unwrapped mini chocolates or vida e's home-baked chocolate buns. Another recommendation would be to explore alternative packing (e.g. wax paper) for the chocolates.
- Regarding takeaway ice-cream spoons, while the number of responses were few (7), most respondents (71%) were happy to pay extra for a sustainably sourced wooden alternative because they preferred using products with less environmental impact and were happy to support the transition towards plastic-free alternatives.
- Takeaway coffee cup lids were generally required by respondents to prevent spillage. While most respondents who requested a lid were happy to pay extra for it, there was no clear agreement on how much, although most concur that the cost should not exceed R1. Most respondents would consider a discount of R1 to R2 an incentive to bring their own reusable coffee cup.
- More than 50% of the respondents would be willing to pay up to R100 for reusable cups, 28% would pay up to R150 and only one respondent at vida e would be willing to pay up to R250.

Recommendations for further restaurant pilot studies

- Initiate contact with pilot restaurant at least one month prior to the intended pilot study date.
- Run pilot studies over at least one week and if possible one month.
- Offer more in-depth staff training and preparation further in advance.
- Provide restaurant management and staff with an information booklet detailing important statistics, tips on engaging with customers, resources for sourcing alternatives and a guide to running their own pilot studies.
- Carry out paperless surveys using a mobile app or in-store digital interface (e.g. a tablet).
- Design the survey questions to include detailed multiple-choice questions, as well as options for individual comments.

What areas require more attention, awareness, clarity and education?

- More attention could be placed on staff and customer engagement over a longer period to encourage staff to drive the process and improve the quality and quantity of feedback from customers.

- Questions could be designed to suit a broad range of restaurants and enable consistency between surveys in pilot studies to improve analysis and allow for direct comparison.
- More detailed information and educational material could be provided to restaurants (i.e. in the information booklet) to improve awareness. This could include useful terms, important statistics and detailed analysis of a range of single-use plastic alternatives, their costs and service providers.
- While the key findings of this survey suggest that restaurants can safely eliminate single-use plastic items such as straws and sweet wrappers more research is recommended to obtain specific feedback for instances where the packaged offering (such as the vida e chocolate) is brand related.

In conclusion, the findings of the survey resonate with those of Omardien and Knipsheer's (2017) consumer report and Engels' (2017) restaurant report. This WWF-Nedbank Green Trust project research has demonstrated the need for an educational campaign targeted at consumers and restaurants, the latter requiring more detailed information with a 'menu' of alternative options to single-use items.

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