

Taking care: Creating a non-alcoholic cocktail for Generation X

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This paper reports on a Hospitality Research Project, a third-year project at Stenden Hotel Management School, dedicated to the design, creation and testing of three different non-alcoholic cocktail recipes for restaurant De Pleats in Burgum, the Netherlands. On the basis of existing literature several recipes were designed. A first selection was made according to the criteria of the restaurant owner (easy to create, no complicated ingredients, elegant and fresh, with fairtrade and/or organic products). This resulted in three non-alcoholic cocktail recipes, which were tested in the last stage of the research during a taste testing at Stenden University in Leeuwarden with fourteen participants. Results suggest that the vast majority of these participants of Generation X prefer a non-alcoholic cocktail with a flavour style which can be described as fresh, sour and contracting, as per the basic characteristics of the flavour styles of Klosse. It is recommended that De Pleats puts this non-alcoholic cocktail on their menu. For future research it would be recommended to duplicate this same experiment with the cocktails in a different order, and with another target group like Generation Y.

Keywords: sustainability, taste testing, flavour styles, taste preferences

Introduction

In the Netherlands both young and older people are increasingly attracted to alcohol. It has been reckoned that in the period 2003–2014 people with alcohol problems increased by 61% in the Netherlands (Alcoholinfo, 2014). The generation born between 1960 and 1980, the so-called Generation X, is particularly at risk. When they go out, moreover, they find a very limited offering of non-alcoholic drinks.

Against this backdrop, restaurant De Pleats in Burgum desires to develop alcohol-free cocktails to serve to their guests. A non-alcoholic cocktail is a mixed drink containing no alcohol. The owner of De Pleats thinks that, if well designed, these cocktails may have the potential to become as popular as beer, wine or alcoholic cocktails among guests. The owner approached Stenden Hotel Management School with the request to design, create and test three non-alcoholic cocktails for the restaurant. She posed three requirements for the design of the cocktails: they should be quick to prepare, without complicated ingredients, elegant and fresh, and using fairtrade and/or organic products. More specifically, a quickly prepared cocktail requires a preparation time of five minutes at most. Without complicated ingredients means that the cocktail's ingredients can be used for more purposes than just the cocktail, like orange in desserts. Moreover, no new supplier should be needed for only one ingredient. The word "elegant" refers to the presentation of the cocktail, as defined in the choice of glass, the colours of the liquid and visual ingredients, such as a slice of lemon or a mint leaf. The new cocktail should be fresh, to address a frequent complaint of guests that non-alcoholic cocktails are too sweet. Finally, the request to use fairtrade and/or organic ingredients is connected with the corporate social responsibility policy

of the restaurant – De Pleats was the first restaurant in the north of the Netherlands to be awarded the Green Key Gold certificate (De Pleats, 2014).

From the above, the following problem statement was formulated: "Design, create and test on guests of Generation X in Friesland three quickly prepared and elegant non-alcoholic, fresh tasting cocktail recipes made with organic and/or fairtrade products".

The paper reports on the research conducted to answer this problem statement. It is organised as follows. The literature review briefly touches on the main themes used to design the cocktail: sustainability, fairtrade, taste. The research method section highlights how the taste testing was undertaken. Then results are discussed and a conclusion ties the whole together by offering some recommendations for De Pleats, and other restaurants that wish to offer non-alcoholic cocktails.

Literature review

The literature review highlights the main theories used for the research. It starts by briefly defining sustainability and corporate social responsibility (CSR), and then it offers an overview of fairtrade and organic products that could be used in a cocktail. It then touches on literature on flavour and taste, and closes with insights on how to bring non-alcoholic beverages to the market.

Sustainability and CSR

The classic definition of sustainability maintains that the present generation should not develop in a way that makes it impossible for future generations to live and thrive (WCED, 1987). Sustainable development can be achieved if value is created on an economic, social and environmental dimension,

not only at the level of society but also at the level of organisations (Cavagnaro & Curiel, 2012). The organisational level of sustainability is often referred to as CSR. A CSR organisation creates value on the triple bottom line of people, planet and profit. Care and concern for the health of employees and guests is one of the components of the people dimension and characterise a CSR organisation in general, and in the labour intensive hospitality industry in particular (Ganguly, 2012). Considering the increased consumption of alcohol and the damage it causes (Alcoholinfo, 2014), one of the possibilities open to restaurants to show their concern for guests' health is to offer a wide and attractive choice of non-alcoholic beverages. Another option, also openly supported by CSR certification organisations such as Green Key, is to use organic and fair-trade ingredients. This topic will be discussed next.

Fairtrade and organic products

Organic products are grown with no use of chemical fertilisers or pesticides (Cierka, 2015), while a fairtrade label testifies that traders have paid a (premium) price to producers that covers their costs of living and the further development of their farms, and have moreover signed contracts that allow for long-term planning and sustainable production practices (Berlamino, 2015). Fairtrade products are becoming more and more popular: Fairtrade International (2014) reports that in 2012 the total spending by Dutch consumers on fairtrade products was €186,100,623, an increase in retail sales of 26% compared to 2011. Fairtrade International also states that "nearly 6 in 10 consumers have seen the Fairtrade mark. Of those, 9 in 10 trust it." (2014, p. 18).

There are several organic and fairtrade products that can be used for cocktails. For example, fresh fruits, vegetables, juices and sugar. Nowadays these products are easily obtainable, also via mainstream suppliers. For example, the website of one of main Dutch suppliers, Sligro, reports that there are over three thousand products available in the "Eerlijk en Heerlijk" (literally "honest and delicious") line. This line features organic, fairtrade, sustainable and local products.

Flavour and taste

Flavour is defined as a characteristic of products, while tasting involves people. According to Klosse (2011), people taste with their eyes, nose, and yes, ears, and not only with their mouth and tongue. Flavours are added to food and drinks to enhance their taste and aroma. To support the development of dishes and drinks that are perceived as tasty, Klosse (2014) developed the so-called flavour style cube by combining four basic flavour dimensions: flavour richness, balance, coating and contracting (see Figure 1). The flavour dimension contracting gives the impression of refreshment or cleaning the mouth. For example, green apple, fresh lettuce, citrus fruits and chives are products which give the mouth a feeling of refreshment. Coating, on the contrary, leaves a thin layer in the mouth and is perceived as less fresh. For example, honey, oil and syrup give a feeling of coating in the mouth. The third dimension, flavour richness, is scaled from neutral to high. Examples of neutral mouth-feel are water, plain bread or rice. A high level of flavour richness is mostly found in bitter substances that reduce the coating capacity

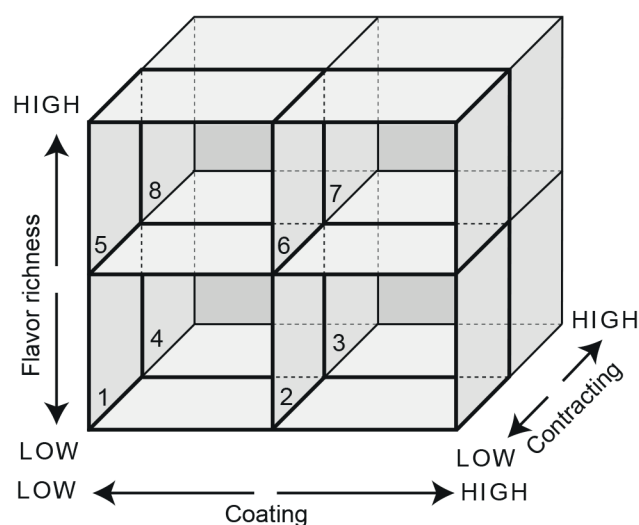


Figure 1: The flavour styles cube by Klosse (2014)

of saliva. A good example is the tannin of a young red wine. The last dimension is finding balance, which means correctly mixing the other primary flavour dimensions. For example, in ice cream the basis is extremely sweet, which means that it is coating. When the mixture is frozen and becomes ice cream, the mouth-feel changes because the cold makes it contracting. This example signals that the preparation (such as cooling, steaming, etc.) should also be taken into account when designing a new dish or beverage, because basic features of a product are changed by the preparation style.

Using the cube, flavour styles can be assessed. Figure 1 shows the three-dimensional model of the flavour style cube with eight different subcategories or flavour styles. Every style has specific characteristics that can be used to classify flavours and design new dishes or drinks (Klosse, 2014). Table 1 shows the basic characteristics and gives a description of the eight flavour styles.

Marketing non-alcoholic beverages to Generation X

As Lamb (2011) states, Generation X, that is, people born between 1960 and 1980, are in the high-earning period in their life. They are characterised by high brand loyalty, the desire to play safe and take care not only of themselves, but also of their families (Lesonsky, 2014). The last two points may be used in marketing non-alcoholic cocktails, because they are

Table 1: The basic characteristics of the flavour styles (Klosse, 2014)

Flavour style	Primary flavour factors		
	Contracting mouthfeel	Coating mouthfeel	Flavour richness
1. Neutral	Low	Low	Low
2. Round	Low	High	Low
3. Balance fresh	High	High	Low
4. Fresh	High	Low	Low
5. Powerful/Dry	Low	Low	High
6. Rich	Low	High	High
7. Balance ripe	High	High	High
8. Pungent	High	Low	High

healthier for the drinker and may help him or her set a good example for the children. Authors also recommend marketing new products for this generation using the Internet, search engines and social media (Williams n.d.).

Interestingly, the profile of Generation X partly overlaps the profile of fairtrade consumers, at least, according to research from Belgium, fairtrade consumers are between the ages of 31 and 44, highly educated and with a relatively high income (De Pelsmacker et al., as cited in Zaccai, 2007).

The marketing of non-alcoholic cocktails should also take into consideration that, contrary to the trend in other regions, the demand for non-alcoholic beverages in Europe is forecast to decrease in the period from 2014 to 2020 (Report Linker, 2015). On the other hand, customers are more inclined to spend a little extra for hand-crafted drinks that consist of fresh ingredients, than to order a commercially prepared beverage (Leung, 2011). This last point opens up the possibility of reaching Dutch customers with a freshly made and attractive non-alcoholic drink.

Research method

The aim of this study was to design, create and test three easy to prepare non-alcoholic cocktails. The research was therefore divided into three different stages: firstly the design, secondly the creation and finally the testing of the three non-alcoholic cocktails. For the first stage, desk research (a qualitative exploratory research type) was used to develop four different recipes. Afterwards, these four non-alcoholic cocktails were created and evaluated by the researchers themselves and the restaurant’s employees on the basis of the criteria set by the restaurant owner (prepared in less than five minutes, with simple organic and/or fairtrade ingredients, fresh tasting, appealing). After this evaluation, three cocktails were selected for the next phase. The first cocktail was a mix of tropical fruit juice, orange juice, grape juice, tonic, bitter lemon and amaretto syrup. The second cocktail consisted of tonic, apple juice, Irish cream syrup and cucumber. The third cocktail was made up of ginger ale, sparkling water, fresh lime, fresh mint and cane sugar.

Finally, the taste testing was held with representatives from Generation X (born between 1960 and 1980), following a quantitative descriptive research design and using a survey to measure the opinions and views of the testing panel (Verhoeven, 2007). The final test was held at Stenden, in an environment as clean as possible from cues that could distract the participants. During the testing and survey, every respondent had their own individual desk with the three non-alcoholic cocktails and the printed survey questionnaire, to minimise the influence of other respondents. The survey contained questions on the appearance of the cocktail, smell and taste, and asked the respondents to rate the cocktail based on these attributes on a scale from 1 to 10. To find the cocktail that was considered the best by the panel, mean, mode, median and standard deviation were calculated.

The testing panel was chosen from representatives of Generation X (external validity). The sample size was set at between 12 and 15, as is usual with taste testing panels and considering the explorative character of this research. During the two taste testing experiments the views of 14 respondents were surveyed. To strengthen the research conclusion, the test should be repeated with more respondents, offering the cocktails in a different order.

Results and discussion

This section reports on and discusses the findings from the taste-testing.

The first set of questions on the survey related to the appearance, the smell, the taste and the suitability of the glass in which the cocktail was served. Figure 2 reports on the answers to these four questions in the mentioned order.

The graph shows that cocktail three scored higher than the other two cocktails on visual look, smell, taste and glass choice. The second best cocktail was cocktail one, which scored better on questions one, two and three in comparison with cocktail two.

Respondents were then asked to rank the three cocktails on a scale of 1 to 10, where 1 represents the worst cocktail and 10 the best. Figure 3 shows the results.

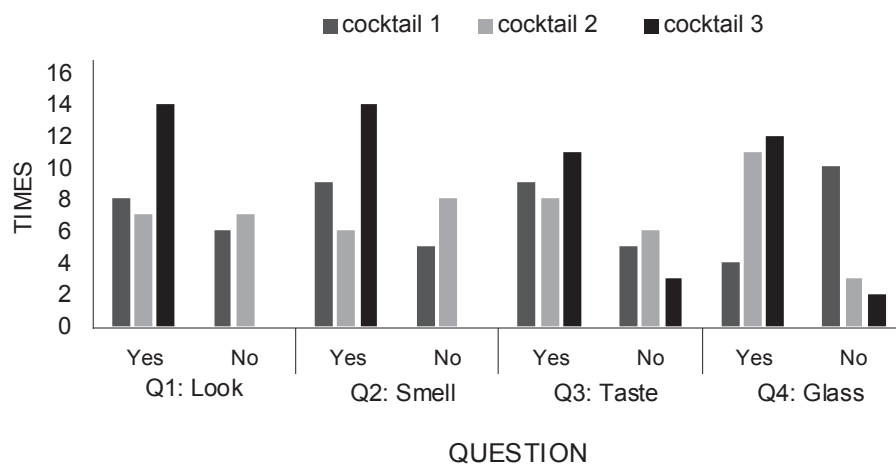


Figure 2: Scores of the look, smell, taste and glass of the three non-alcoholic cocktails

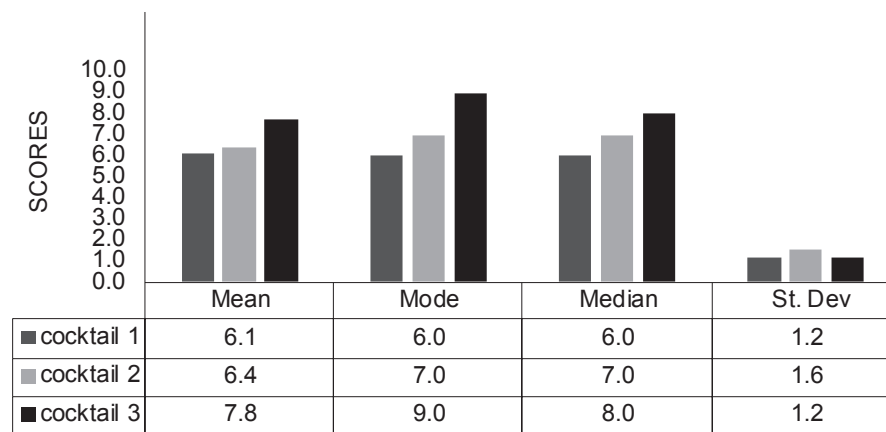


Figure 3: Mean, mode, median and standard deviation of the three non-alcoholic cocktails

The graph shows that cocktail three was considered the best in this case also. A low standard deviation signals that panel members gave similar, high scores to this cocktail. The second best non-alcoholic cocktail was cocktail two. However, its standard deviation is the highest of all three non-alcoholic cocktails, pointing to a less homogenous consensus among the panel.

Besides closed questions, the survey contained open-ended questions as well. The first of these asked the respondents to elaborate on their ranking in the previous question. The results are shown per cocktail and consist of explanations, suggestions and quotes of the answers given by the test panel.

The participants thought differently about cocktail one. Four of the participants thought that cocktail one was too sweet. However, four persons also thought the cocktail had a good taste. One of the respondents wrote *"wrong impression of taste"*, thus giving a negative assessment of the drink. Five participants thought that the glass was wrong and preferred another kind of glass. One said, *"I think the glass is too slim"*, and other said, *"serving in a coupe or champagne glass would make it more presentable"*. Four of the participants considered the amount of ice appropriate, yet another wrote, *"wondering about the amount of ice"* and *"the smell and taste were overpowered by too much ice in a small glass"*. To improve cocktail one, respondents suggested that the cocktail should be less sweet and that more fresh ingredients should be added. Using another glass and using less ice were two of the most common suggestions to make the cocktail more attractive. At least, adding more colour and a piece of fruit on top would make the cocktail suitable to serve.

Cocktail two was graded better than cocktail one. Five participants liked the taste and three liked the smell. Quotes illustrating these points are: *"smell and taste as well as glass OK"* and *"taste and look complement each other"*. Six of the participants thought that the cocktail was visually attractive, against three who thought that the cocktail was not visually attractive. Quotes such as *"looks good"*, *"good appearance, tasteful and intriguing"* and *"the cocktail looks very appealing"* are opposed, though, by statements such as *"not so attractive looking, smell ok, not great"*, *"not a nice presentation"* and *"visually a bit brown, not very attractive"*. Two participants thought that the cocktail had the wrong taste and three others

stated that the cocktail was too sweet: *"In the mouth it's fresh, aftertaste is very sweet"* and *"very bad taste and smell"*.

Suggestions include that the cocktail should be a bit less sweet to make it more attractive. By using another kind of apple juice, the colour could differ and be more attractive.

The cocktail presented last, cocktail three, scored well on taste, smell and visual look. Some quotes illustrate the general feeling: *"smell and taste match"*, *"the glass suits the green colours"* and *"visually good; super fresh taste and smell. This cocktail would be great on a hot day"*. Three participants liked the total of taste, smell and visual attractiveness: *"looks +, glass + and smell +"*, *"very nice smell and taste"*. Two participants liked the taste and look: *"it tastes pure and not with additives/chemicals/sweet"*, *"fits the look as well"* and *"out of the three cocktails, I like this one the best. I would always like to see some colouring"*. One participant liked only the smell: *"it is refreshing and smells nice but the taste is a bit to sour and the mint overpowers the lemon"*. This cocktail scored really well but also received some suggestions. According to the participants, the amount of mint could be less, so that it is more balanced with the fizz and lemon: *"mint-fizz combination is not well balanced"* and *"the mint overpowers the lemon"*.

Unsurprisingly, when confronted with the last question, which cocktail they would choose, the vast majority (10 out of 14) opted for cocktail three.

During the development of the non-alcoholic cocktails, the researchers had to take preparation time into consideration. Therefore the researchers used few and more common ingredients, so as to make it easier for bartenders to prepare the non-alcoholic cocktail as fast as possible. Furthermore, while developing the non-alcoholic cocktail recipes, each cocktail was developed according to a different flavour style of Klosse (2014, see Table 1). Linking the outcomes of the above described survey to the flavour profiles, it can be stated that the sample of Generation X preferred flavour style dimension number three, described as fresh, sour and contracting.

Conclusions and recommendations

Based on the above, it can be concluded that cocktail three was most attractive with regard to the visual look, the smell,

the taste and the glass choice. It also scored the highest with 7.8 out of 10, and the lowest standard deviation, and finally the vast majority of the sample group would prefer to order this cocktail out of the three options. It turns out that Generation X prefers flavour style dimension number three, described as fresh, sour and contracting, of the basic characteristics of the flavour styles of Klosse (2014).

This is in line with the request of the client to use fresh, organic and/or fairtrade ingredients, so as to create an attractive looking non-alcoholic cocktail which was easy to prepare.

Recommendations for De Pleats, and for the industry, are to create non-alcoholic cocktails which have a flavour profile consisting of sour and contracting tastes, using fresh and visually attractive ingredients. Furthermore, for future research, it is recommended to replicate this research amongst the same population, and present the cocktails in a different order and to use a different target group, like Generation Y, for example. Also, future research may try to use ready-made ingredients like non-alcoholic gin and whiskey.

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