CONSUMER BEHAVIOUR AT THE IMPULSE PRODUCT WITH PRODUCT DEFECT

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Summary: The aim of the research was to understand and describe the praline consumption behaviour and effect of the product defect, blooming on the behaviour by using Theory of Planned Behaviour model in Hungary.

The extended TPB model was used in the experiment. The whole experiment on extended Theory of Planned Behaviour model was also used in Belgium led by University of Ghent. The TPB model was extended with a new contrast as desire and the impact of negative experience on consumer behaviour was also examined via tasting session (N: 120). Totally 400 consumers were involved in the survey.

The instruction from Ajzen was followed in the evaluation. As a part of it the regression analysis was used to define the main factors having impact on the behaviour of the consumers. Based on the results we could conclude that the factor desire was influencing the behaviour together with behaviour intention. A positive desire to eat pralines pushed the consumer to actually eat pralines. The explanation of the variances increased when introducing the desire factor.

Results also showed that however, the attitude effected greatly the Hungarian consumers, especially after a negative experience (e.g. eating pralines with product defect), the influence of the perceived behaviour control was stronger than the attitude or subjective norm and the effect of desire decreased.

Key words: consumer behaviour, desire, impulse products

1. Introduction

Chocolate is the most craved food in the world and has long been thought of as a pleasurable, hedonistic comfort food (Hill, et al.1991; Rodin et al. 1991; Rozin, Levin, & Stoess, 1991).

Generally chocolate and filled chocolate are known for the arousal of sensory pleasure due to the specific melting behaviour, aroma and taste (Januszewska-Viaene, 2002; Mela, 2000; Parker et al., 2006; Pelsmaeker et al., 2014). Several authors indicate that the popularity of chocolate is closely related to the emotions it evokes with the consumer (Macht-Dettmer, 2006; Parker et al., 2006). Researchers have tried to define the negative emotion related to chocolate and the factor was named guilty (Fletcher et al. 2007; Frijters, 1993). Gaining weight and absence of self-control, negative effect on skin were proven to be beliefs triggering the guilty feeling (Dean et al., 2008; Lawless-Claassen, 1993).

However, the result is that the craving will eventually overwhelm the craver until the person experiences a breakdown of their efforts to diet in order to manage or lose weight (Cartwright et al., 2007). Such breakdowns have been shown to lead to an eating binge in which the person has eaten much more chocolate than desired (Gendall et al., 1997).

The aspects which have an influence on the consumers' behaviour is recently aimed to be investigated (Ajzen, 1991).

In one approach, the consumer behaviour refers to the selection, purchase and consumption of food for the satisfaction of their wants. Rossi et al., 2005 stated that initially the consumers try to find and select only those products which promise greater utility. After selection, the consumers estimate the available amount of money which they can spend. Lastly, the consumer analyses the prevailing prices of the products and taking the decision. Another point of view, not only the utility and the price of the product influence the consumers, but social, personal and cultural aspects as well.

The TPB (Ajzen, 1991) is applied to investigate the cognitive influences by which the rational behaviour of consumers is for prediction. Januszewska-Viaene (2001) and Osman-Sobal (2006) studied the consumers' behaviours towards chocolate eating with Polish and Belgian consumers and Spanish and American ones. The chocolate craving was significantly different between Spanish and American consumers. Based on this studies we can conclude that different population have different behaviours towards eating chocolate as impulse product. The evaluation of the product defects is a very complex problem, because the presence of the product defects in terms of quantity and qualitative aspects is well defined in the various legal requirements, but the consumers' opinions; understandings and behaviours on product with defects are slightly investigated in the different researches.

The fat bloom and cracking are common problems in pralines leading to significant reduction of shelf-life and rejection of the products by consumers. It is a physical defect that is characterized as a whitish layer on the outer surface (Tisoncik, 2013). It is estimated that 143 000 ton chocolate is affected by quality problems like fat bloom and cracks, which costs the European chocolate industry up to EUR 1.2 million a year (ProPraline, 2011).

Based on the literature review including the different cognitive models the models of Ajzen and Fishbein (1980) was used to investigate the consumers' behaviour aspects in our survey.

The primary objective of this research is to investigate consumer behaviour towards filled chocolate consumption in Belgium and Hungary using the extended theory of planned behaviour (TPB) as a conceptual framework, including the emotional factor, desire.

The second objective of our trial in Hungary was to examine the negative experience on the behavioural intention and behaviour of chocolate consumers.

This article mainly focused on the Hungarian data.

2. Method

An on-line survey was conducted in Hungary which structure was based on literature review, results of focus group studies and elicity studies.

The three parts of the on-line survey included questions to comprehend personal characteristics, intrinsic product characteristics and consumer behaviour. 400 consumer participated in the study. They were divided into 3 groups. Group A included 120 consumers who tasted the praline samples and filled the on-line survey as well. Consumers in Group B did not participate in the tasting session, but on their second test occasion they also filled the questionnaire again. Group C, similar to Group B did not taste the model pralines, and they only answered questions related to the intrinsic product characteristics (Table 1).

Table 1. The construction of the research

On-line survey	Taste sensitivity of the target group	Tasting session	Tasting session	Tasting session	Repeated on-line survey
1. occasion					2. occasion
N:400 (HU)	120/400	120 / 400	120 /400	120 /400	360/400

Source: own work

The traditional TPB was built to understand the behaviour intention (BI) of a consumer to purchase a product. Three constructs are important to explain BI: attitude towards product (ATT), subjective norm (SN), perceived behaviour control (PBC). The model was analysed through several interrelated components. Behaviour (B) was predicted by intention to perform this behaviour. Subsequently, behavioural intention (BI) was predicted from three components as follows. First, there was an attitude (ATT), explained as evaluation whether the individual sees the behaviour as bad or good, unpleasant or pleasant, harmful or beneficial (Shepherd, 1990). Attitudes were calculated from 'behavioural beliefs' that performing a certain behaviour leaded to a particular outcome and the 'outcome evaluation' of behaviour, i.e., the evaluation of desirability of that outcome. The second component stood for subjective norm (SN). This was the perception by an individual of social pressure from important other people to perform a particular behaviour. The subjective norms were computed from 'normative beliefs' concerning the influence of a referent (e.g. family or friends), and 'motivation to comply' with this referent.

The third construct was called perceived behavioural control (PBC). The PBC component could also be explained as the degree to which a person felt that she/he was in control of her/his own behaviour. Regression analysis was done to determine how much the behaviour intention of a consumer was related to ATT, SN and PBC. Additionally, the correlation coefficients between the three constructs and behaviour intention were calculated. A second regression analysis determined how behaviour intention is explaining the actual behaviour of a consumer. A third regression was done to reveal how the behaviour intention and the perceived behaviour control together explain the behaviour. The calculation was done with perceived behaviour control and with attitude and subjective norm. This method could indicate what constructs influence not only behaviour intention but together with behaviour intention, the actual behaviour of the consumer. Desire as a new construct was added to the model. The influence of desire was calculated with regression analysis. Desire was then put as an extra construct when defining behaviour intention. It also was used to explain actual behaviour together with behaviour intention.

The impact of the negative experience with blooming praline was also investigated.

3. Results

3.1. Consumer behaviour towards filled chocolate consumption in Hungary using the extended theory of planned behaviour (TPB)

Firstly reliability with Cronbach's alpha was checked on the main elements (ATT, SN, PBC, BI, B) of the TPB model. The reliability for attitude and perceived behavioural control were rather low but sufficient. After the reliability check, the values for the different constructs were calculated. These new variables were defined as direct_att, direct_sn and direct_pbc. The correlations between the construct and the questions were calculated. All the correlation coefficients were significant which indicated that none of the questions should be left out of the calculation. Regression analysis was done for the Hungarian consumers to explain the behavioural intention and the behaviour of the consumers (Table 2). The beta coefficients were the regression coefficients of the independent variables. For behavioural intention, attitude and perceived behavioural control were significant with p<0.001. Subjective norm was also significant but with p<0.01. This indicated that the Hungarian consumer was influenced by the three constructs attitude, subjective norm and perceived behaviour control. The regression coefficient of attitude was the highest coefficient and positive (β=0,406). This meant the behaviour of the Hungarian consumer was highly depended on the attitude of the consumer towards the product. It can be stated that a positive attitude was positively

influencing the behaviour intention of the Hungarian consumers. The beta value for subjective norm was low but positive (β=0.123). A Hungarian consumer was influenced by his/her partner, family and friends to eat or reject pralines. Again a positive influence from these people increased the behaviour intention of the consumer. Perceived behavioural control had a negative beta value (β=-0.185). The explained variance, R^2, was low which indicated that these were only a few factors that explained the intention to buy a product (R^2=0.223).

Table 2: Regression analysis of theory of planned behaviour for the Hungarian consumers on 1st and 2nd occasions

Dependent variable	Independent variable	Beta	Beta_2	Sign.	Sign._2	Correla-tion	Correla-tion _2	Sign.	Sign._2
Direct_bi	Direct_att	0,406	0,236	0,000	0,002	0,407	0,198	0,000	0,01
R^2_1=0.223	Direct_sn	0,123	0,112	0,008	0,099	0,238	0,127	0,000	0,027
R^2_2=0,1	Direct_pbc	-0,185	-0,071	0,000	0,364	-0,157	0,015	0,001	0,409
Direct_b	Direct_bi	0,792	0,659	0,000	0,000	0,792	0,659	0,000	0,000
R^2_1=0.627 R^2_2=0,435									
Direct_b	Direct_bi	0,781	0,658	0,000	0,000	0,792	0,659	0,000	0,000
R^2_1=0.633 R^2_2=0,442	Direct_pbc	-0,074	0,083	0,017	0,095	-0,196	0,093	0,000	0,080
Direct_b	Direct_bi	0,795	0,67	0,000	0,000	0,792	0,659	0,000	0,000
R^2_1=0.628 R^2_2=0,438	Direct_att	-0,008	-0,055	0,807	0,276	0,316	0,077	0,000	0,120
Direct_b	Direct_bi	0,786	0,685	0,000	0,000	0,792	0,659	0,000	0,000
R^2_1=0.627 R^2_2=0,476	Direct_sn	0,024	-0,205	0,447	0,000	0,211	-0,118	0,000	0,037

Notes: the bottom index ($_2$) means the second occasion.
The regression analysis to define the behaviour of the consumer indicated that the factor desire was influencing the behaviour together with behaviour intention. A positive desire to eat pralines pushed the consumer to actually eat pralines. The explanation of the variances increased when introducing the desire factor.

The correlation coefficients represented the same trends. However, these coefficients were all significant, which meant that there was a correlation between all constructs and behavioural intention. Behaviour could be constructed in different ways. When the regression analysis was done with only behaviour intention, the explained variance was almost 63%. When including perceived behaviour control, the results indicated that the regression coefficient was significant with $p<0.05$ but the increase of the explained variance was low. Identical to the explanation of the behaviour intention, the perceived behaviour control had a negative regression coefficient. When explaining behaviour with behaviour intention and attitude, the results indicated that attitude was not significantly relevant in explaining this construct. The same result was found when including subjective norm in the regression analysis. The conclusion here was that Hungarian consumers were only influenced by their perceived behavioural control in actual behaviour of eating pralines and not by attitude or subjective norm. In the Extended Theory of Planned Behaviour, the extra construct desire (direct_d) was included. Before calculating the value for this construct, the internal validity was checked. These Chronbach's alpha was high, so no problems occurred in calculating the value for desire. Again the correlation coefficients were calculated to indicate if the questions were correlating to the construct. These results indicated that the coefficients were significant. The correlation with the construct score was high. The regression analysis was then executed to indicate how big the influence of this construct was on behavioural intention and behaviour (Table 3). The regression analysis to explain behavioural intention gave other results than in

the traditional TPB. The construct desire resulted in a higher explained variance namely from an R² of 0.223 to 0.444. Further, only the regression coefficients of attitude and desire were significant. Subjective norm stayed non-significant but perceived behavioural control was now also non-significant. The coefficient for attitude was a little lower than before. The regression coefficient of desire was high and almost equal to the beta value for attitude. The correlation coefficients were all significant, which indicated that they were all correlated to the behaviour intention

Table 3: Regression analysis of extended theory of planned behaviour for the Hungarian consumers

Dependent variable	Independent variable	*Beta*	*Beta_2*	*Sign.*	*Sign._2*	*Correla-tion*	*Correla-tion _2*	*Sign.*	*Sign._2*
Direct_bi	Direct_**att**	0,244	0,132	0,000	0,08	0,407	0,198	0,000	0,001
R^2_1=0.444 R^2_2=0,148	Direct_**sn**	0,058	0,03	0,143	0,66	0,238	0,127	0,000	0,017
	Direct_**pbc**	-0,070	0,044	0,081	0,577	-0,157	0,015	0,001	0,409
	Direct_**d**	0,516	0,319	0,000	0,000	0,620	0,336	0,000	0,000
Direct_b	Direct_**bi**	0,681	0,71	0,000	0,000	0,792	0,659	0,000	0,000
R^2_1=0.647 R^2_2=0,455	Direct_**d**	0,180	-0,151	0,001	0,004	0,602	0,087	0,000	0,094

Notes: the bottom index ($_2$) means the second occasion.

3.2. The negative experience on the behaviour of filled chocolate consumers

The impact of negative experience, 2nd occasion can be presented through the results. The people in the 2nd occasion not just were introduced with the pralines, but the pralines with products defects, blooming as well. Firstly, reliability with Cronbach's alpha was checked on the main elements (ATT, SN, PBC) of the TPB model. The reliability for attitude, subjective norm and perceived behavioural control were low but sufficient. After the reliability check, the values for the different constructs were calculated. These new variables were again defined as direct_att, direct_sn and direct_pbc in the same way as it presented in 4.1. A reliability analysis was executed on behaviour and behaviour intention that was sufficient for the further analysis.

Regression analysis was done for the Hungarian consumers to explain the behavioural intention and the behaviour of the consumers (Table 4). For behavioural intention, attitude was significant with p<0,05, but the subjective norm, the perceived behavioural control were not significant. This indicated that the Hungarian consumer was influenced by mainly the construct, attitude and not as much by perceived behaviour control, subjective norm. Based on the results we can conclude that behavioural intention (BI) still influenced the consumer's behaviour mainly.

In the 2nd occasion the extended TPB with the use of the new construct, desire was used. As results of the second occasion, the negative influence the desire and the attitude have significant impacts on behaviour intention. Subjective norm, perceived behavioural control stayed non-significant. The regression analysis to define the behaviour of the consumer indicated that the factor desire was influencing the behaviour together with behaviour intention. However, a positive desire to eat pralines pushed the consumer to actually eat pralines. Desire (D) stayed significant on behaviour, but it seemed that negative experience had a negative effect on the desire.

4. Conclusion

In the literature, the Theory of Planned Behaviour (TPB) has proven to be effective in understanding the consumer behaviour towards food, chocolate and the praline in particular. The TPB was applied to investigate the cognitive influences by which the rational behaviour of consumers may be predicted. The model was analysed through several interrelated components, behaviour (B), attitude (ATT), subjective norm (SN) and perceived behaviour control (PBC). Later, the model was extended with desire as a new construct. The behaviour of Hungarian consumers was influenced by behaviour intention and desire according the extended TPB model.

Behaviour intention was affected by the negative perceived behaviour control, the attitude and the subjective norm in terms of traditional TPB.

Behaviour intention was affected significantly by attitude and desire, non-significantly by subjective norm and negatively perceived behaviour control at the extended TPB.

The behaviour was explained by behaviour intention. The behaviour was explained better with the use of desire, with the extended TPB.

The impact of the knowledge of product defect, blooming, and negative experience had negative effect on desire.

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