Time preference and savoring – how to exploit the Loewenstein contradiction

Mann, Konstantin A.

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Konstantin Mann, Linsebühlstraße 77, 9000 St. Gallen,
Mobile: +41 78 732 79 96, konstantinmann@gmx.de

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Abstract

The goal of this paper is to demonstrate and analyze the contradiction between the model of *time preference* and the concept of *savoring* and thereupon outline product categories that particularly apply to each one of the preceding models. Both concepts are discussed and exemplified in order to depict the contradiction. Subsequently, the terms *utilitarian* and *hedonic* goods are introduced in order to outline useful patterns for the correct assignment of goods to each model. The definition of *utilitarian* goods is applied to Maslow's hierarchy of needs to show that they do particularly react to the model of *time preference*. Afterwards, existing knowledge about the concept of *savoring* is used in order to show the correlation between *hedonic* goods and the concept of *savoring.* Finally, the paper shows that companies can benefit from this categorization by either reacting to given distribution structures in terms of marketing or by identifying to which extent a certain product is perceived as *utilitarian* or *hedonic good* and correspondingly postpone or speed-up delivery.

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1 Introduction

The *time preference* model has been dominant and compelling for the past decades of economic debate (Van Der Pol & Cairns, 2000, p. 171). It describes the "rate at which the utility of a good dissipates solely from delaying consumption, or impatience" (Atmadja, Sills, Pattanayak, Yang, & Patil, 2017, p. 231).

George Loewenstein (1987), however, was one of the first to point out exceptions from this theory in his article "Anticipation and the Valuation of Delayed Consumption" and even defended the concept of *negative time preference* or *savoring* by naming an intuitive example:

> This pattern is often observed among children at Hallowe'en when some trick-or-treaters collect then hoard their candy rather than consuming it. Apparently the pleasure derived from savouring future consumption of the candy in some cases outweighs what can be obtained from immediate consumption. (p. 678)

Unlike the model of *time preference*, the concept of savoring displays the *increased* customer benefit through anticipation of an imminent good (Bryant, 1989, p. 175). In other words, it describes the positive effect customers can already derive from looking forward to something. Consequently, the two concepts confront each other as they link active waiting to contradicting emotions of the consumer.

By means of a meta-analysis, this paper aims to outline explanatory patterns to face the contradiction that emerges from Loewenstein's insight. To achieve this, in the first two chapters the models of each *time preference* and *savoring* will be looked at closely to show what exactly the contradictory issues are. Thereupon, the focus will be on product categories that react to each one of the preceding models in particular. In order to outline them, the terms "hedonic" and "utilitarian" goods (Dhar & Wertenbroch, 2000) will be introduced, exemplified and serve as criteria for the assignment of products into the categories.

Eventually, the paper will discuss the relevance of those product categories for business and analyze to which extent the specific findings from single product categories display patterns that can be generalized.

2 The concept of time preference

Individuals constantly make decisions about their consumption behavior. Those decisions "involve whether they take gains (…) now or at some later time(s)." (Doyle, 2012, p. 116). The basic concept of *time preference* implies that individuals prefer the consumption of goods *now* over future consumption. In the strict sense, it can be described as the "exchange ratio between future and current welfare." (Hermann & Musshoff, 2016, p. 16)

In Fishburn and Rubinstein's (1982) basic presentation of the concept, the simple question is asked whether the reader would prefer $1000 today, or $2000 in one year (p. 677). What seems rather trivial at first sight is actually of more importance than one might suggest. For some, the answer to the question would obviously be "in one year". In this case, the additional amount of $1000 would seem to supersede the burden of waiting for one year. However, one could go on and ask if the answer would still be the same if, instead of $2000, only $1500 will be paid off in one year. Perhaps, at this point there might already be a considerable share of individuals that would prefer the smaller amount *now* instead of receiving $500 more in one year. Those individuals have, according to the model, a higher time preference in comparison to those who would still wait one year to receive the full amount of $1500. As a matter of fact, the amount of money that is, in this example, needed to compensate for the one year delay is very individual. The amount will, however, most probably not fall below $0, or in other words: Most people will not prefer less money in one year than more money now. This is why some sources use the extended term *positive time preference.*

This concept emerged at the beginning of the 20th century and was, for a certain period of time, still a rather general and vague idea that included a variety of possible motives (Frederick, Loewenstein, & O'Donoghue, 2002, p. 355). Nonetheless, the concept quickly developed into a dominant and widely used model in the research field of intertemporal choice. Especially in "theories of savings and investment, economic growth, interest rate determination and asset pricing" (Becker & Mulligan, 1997, p. 729) *time preference* is of substantial importance.

With the increasing use of the generic concept, many terms came into existence that were used as synonyms such as *time discounting*, *temporal discounting* or even *delay discounting*, while the term *time preference* itself remains widely used in economics (Doyle, 2012, p. 116). Sometimes, even the term *impatience* is used due to its apparent simplicity, although it does not encompass exactly the same, as shown later in this paper.

In 1937, Paul Samuelson introduced the *discounted utility* (DU) model that is based on the assumptions of *time preference* and assumes that all motives that may affect intertemporal choice can be "condensed into a single parameter – the discount rate" (Frederick et al., 2002, p. 351). In fact, along with the model of *positive time preference,* the validity of the DU model is a key assumption in standard economic analysis (Loewenstein & Prelec, 1991, p. 347). Therefore, when talking about *time preference* it has become typical also to talk about the *discount rate* (Warner & Pleeter, 2001).

3 The concept of savoring and Loewenstein's kiss

> "*If for example you come at four o'clock in the afternoon, I shall start feeling happy at three o'clock. As the time passes, I shall feel happier and happier.*"
> —Antoine de Saint-Exupéry, *The Little Prince*

The above passage from *The Little Prince* nicely illustrates the core principle of *savoring*. *Savoring* can be defined as the benefit individuals can derive from the anticipation of future gains (Loewenstein, 1987, p. 667; Dixon, Victorino, Kwortnik, & Verma, 2017, p. 948).

Jeremy Bentham (1789) was one of the first to point out the importance of anticipation (Baucells & Bellezza, 2016, p. 729). He recognized that, besides the actual consumption of goods, anticipation could be a significant source of pleasure. Interestingly, even though the concept was first mentioned this early, there has been limited research in this field (Chun, 2009, p. 2).

There are many situations in everyday life in which one can potentially savor future events. The most frequent example in the research field of intertemporal choice, however, is the anticipation of holidays. A study on happiness on vacation revealed that, in fact, vacationers were happier before their holidays than afterwards (Nawijn, 2011, p. 559). Consequently, the pleasure that individuals derive from the anticipation of their imminent vacation must somewhat supersede the benefit the vacation generates once it is over.

One of the most systematic approaches towards *savoring* comes from Loewenstein (1987). He presents a study in which 30 undergraduates were asked how much they were willing to pay in

order to obtain different hypothetical amenities at different times. They could choose between obtaining the amenity; (1) immediately; (2) in twenty-four hours; (3) in three days; (4) in one year; (5) in ten years.

One of the presented scenarios to be considered was to receive a kiss from the undergraduates' favorite movie star. Although the study does not deliver absolute numbers, one can see remarkable tendencies. Compared to the undergraduates' immediate willingness to pay, they were willing to pay approximately 55% more to receive the kiss in twenty-four hours. In order to receive the kiss in three days, the undergraduates stated that they were willing to pay about 75% more.

Interestingly, when the time of anticipation exceeded a certain point, the students' willingness to pay started to decrease again. In order to receive the kiss in one year, the students were only willing to pay about 25% more. The relative value placed on receiving the kiss in ten years was almost minus 50%. Nevertheless, the survey impressively displays the economic capacity of the concept of *savoring.*

4 Contradictory Issues

As shown previously, the concept of *time preference* implies that consumers' perceived utility *u* of consumption *C* at the time *t* must be bigger than the perceived utility of consumption at a later date *t+1*. The mathematical relation between utility and time can be depicted in form of the following assumption:

$$A_{\text{time preference}}: \quad u_C(t) > u_C(t+1)$$

In Chapter 3 the concept of *savoring* was defined as the perceived benefit or utility that consumers can derive from future consumption. Therefore, the utility of consumption at the time *t* must be smaller than the utility of consumption at a later date *t+1*, where additional utility can be added through the process of *savoring*. However, as also stated in Chapter 3 there is a point in time *T* at which there is no more additional utility through further postponement of the time of consumption. It follows:

$$A_{savoring}: u_C(t) < u_C(t+1) \quad \textit{for all} \quad t < (T-1)$$

The postponement of consumption, if $A_{time\ preference}$ holds true, would necessarily lead to a decrease in perceived utility. Yet if $A_{savoring}$ holds true – until $t < (T-1)$ – the postponement of consumption would lead to an *increase* in perceived utility. As one can easily conclude, the two assumptions contradict each other in many cases, even though the concepts of *time preference* and *savoring* have been widely used in economics, psychology, marketing and decision analysis (Chun, 2009, p. 2). Loewenstein (1987) was among the first to point out this contradiction.

However, one cannot derive direct insights concerning the validity of each model. There are three possibilities:

(1) none of the models is correct;
(2) only one model is correct;
(3) both models are correct under specific circumstances.

Even though (1) and (2) would be the most simple and convenient interpretations, they cannot be correct as there are examples of *both* models in everyday life (see example Chapter 2 and the "kiss study" in Chapter 4). It follows that (3) is correct but that both models must be limited to some extent. But what is this limitation and when should which model be applied?

Firstly, it could be argued that the correct application of each model is completely individual. One individual, for example, might be very impatient leading to a higher personal *time preference*. Or one individual might be especially capable of deriving pleasure from future gains leading to a higher personal rate of *savoring*. This interpretation might seem very convincing, and it even might be adequate. Yet it is of little use for businesses, as they cannot evaluate each customer's impatience or capability of *savoring.*

Another reasonable interpretation would be that each product and each service reacts especially to one of the two models. For instance, it could be reasoned that the consumption of a liter milk applies to the assumption of *time preference* much more than to the assumption of *savoring*. It seems somewhat logical that milk has low anticipatory potential. On the other hand, going to the cinema might be something that can be anticipated and that can possibly trigger the process

of *savoring*. Although this approach might seem compelling, it is again of limited use for businesses, as it does not define which products generally react to which assumption.

5 Utilitarian and hedonic goods

As shown in Chapter 4, there are different intuitive approaches towards the application of both *time preference* and *savoring*. However, they fail to provide any patterns that can help to define the range and applicability of each model. Therefore, this chapter will analyze to which extent the categorization into "utilitarian" and "hedonic" goods can help to better understand certain regularities.

When individuals make decisions about their consumption behavior, they include – consciously or not – tradeoffs between *utilitarian* and *hedonic* goods (Dhar & Wertenbroch, 2000, p. 60). As the field of intertemporal choice is particularly analyzing consumption behavior, it might be beneficial to analyze what these tradeoffs imply.

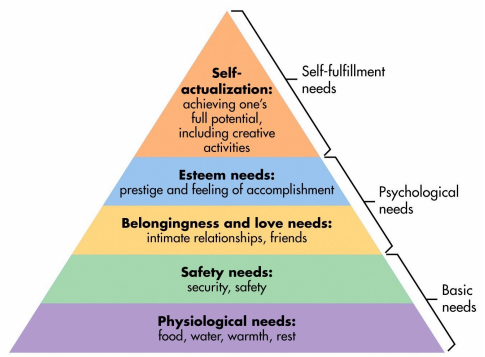
Broadly, *utilitarian* goods encompass all entities of consumption that are "primarily instrumental and functional" (Dhar & Wertenbroch, 2000, p. 60) meaning that the consumption of these goods satisfies a certain *need* of the consumer. Common examples are staple foods like rice or milk, microwaves and medicine.

On the other hand, *hedonic* goods can be described as goods whose consumption leads to experiential gratification (Okada, 2005). Consumption is typically guided by "emotional wants rather than functional needs" (Khan, Dhar, & Wertenbroch, 2005, p. 1). In other words, hedonic goods are entities of consumption that are pleasurable and emotive (Batra & Ahtola, 1991, p. 161).

Sometimes, however, the transition from *utilitarian* to *hedonic* is fluent and can even strongly depend on each individual (Khan et at., 2005, p. 4). What is a necessity for one individual might be pure pleasure for the other. The differentiation becomes even more difficult when goods contain both *utilitarian* as *hedonic* features. A car, to name a common example, can be both a *utilitarian* good as it allows one to go from A to B, as it can also be a *hedonic* good if its design is especially pleasing.

5.1 Connecting the models

Fig. 1: Maslow's hierarchy of needs; *source: https://www.simplypsychology.org/maslow.html*



As stated above, the consumption of utilitarian goods mainly satisfies consumers' needs. In order to gain an overview of the different kinds of needs, it could be useful to have a closer look at Maslow's hierarchy of needs (Fig. 1). Maslow distinguishes between basic needs, containing both physiological and safety needs, psychological needs and self-fulfillment needs leaving aside all types of consumption that satisfy *wants* rather than needs.

There is no doubt that basic needs do not have a high anticipatory potential. On the contrary: It seems reasonable to cover the needs for water supply or medication as soon as possible. The same pattern applies to psychological needs. It could be argued that needs like love or belongingness entail a higher utility through fulfillment than from anticipation. Lastly, even the need for self-actualization is unlikely to generate utility through postponement and therefore entails a high rate of *time preference*.

One can observe that all types of Maslow's needs entail a high, or at least positive *time preference*. Supposed Maslow's hierarchy of needs covers all types of needs, it can be concluded that the model of *time preference* applies to any kind of consumption satisfying needs and consequently to *utilitarian* goods. Interestingly, as shown in Chapter 2, money entails a positive rate of *time preference.* Following the conclusion above, money must be perceived as a mainly utilitarian item.

On the other hand, Jevons (1905) recognized that anticipal pleasure, and therefore the rate of *savoring*, depends on the extent to which consumers expect to derive pleasure from future consumption of a certain good (p. 64). As *hedonic* goods were described as pleasurable and emotive (Batra & Ahtola, 1991, p. 161) they are in most cases able to build this expectation. Consequently, the consumption of *hedonic* goods must react to the assumption of anticipal pleasure or *savoring* and therefore entail a negative *time preference.*

5.2 Business strategies

There are several insights following these conclusions that can be useful for business. First of all, goods produced only after being ordered, like tailored suits or books on demand, require several stopovers or preparations in order to reach the customer. If the management recognizes this early, they can design their marketing tools in a way that makes the products perceivable as *hedonic* goods so that customers can better *savor* consumption.

Furthermore, businesses must identify to which extent their products are perceived as *hedonic* or *utilitarian* goods. By doing that, they can estimate whether it might be beneficial to postpone or speed-up delivery of certain products in order to create customer benefit by either meeting customers' positive or negative *time preference*. As shown in Chapter 3, this can have impacts on the perceived utility of the customer without necessarily increasing any costs for companies.

As shown above, however, the differentiation between *utilitarian* to *hedonic* goods is not always evident as the transition can be fluent. In these cases, a distinct, objective assignment is not possible. Consequently, it can be difficult for companies to evaluate consumer perception of their products and thus their *time preference*.

6 Conclusion

The concepts of *time preference* and *savoring* seemingly contradict each other, as they link the postponement of consumption to opposing emotions of the consumer. Even though both concepts entail considerable economic potential, there has been little research in order to explain and, more importantly, internalize this contradiction.

A rather intuitive explanation to face the contradiction is that the correct assignment of each model is completely individual. This approach, however, is of limited use as it does not provide patterns that help management to evaluate the rate of *time preference* for specific products. In this respect, the categorization into *utilitarian* and *hedonic* goods provides a highly useful pattern as these categories react to each one of the models. *Utilitarian* goods entail a high *time preference* whereas, on the other hand, *hedonic* goods react to the concept of *savoring*.

There are two basic strategies for management that follow this categorization. Firstly, the company can identify to which extent a particular product is perceived as *hedonic* or as *utilitarian* good and thereupon postpone or speed-up delivery. This process can lead to considerable increases in customer benefit. Secondly, marketing can react to prerequisites in the company's distribution structure. If a certain product requires time in order to be delivered, marketing tools can be shaped in a way that makes the product perceivable as a *hedonic* good.

The transition between *utilitarian* and *hedonic* goods is gradual and therefore, in some cases, the differentiation is not evident. Additionally, individual preferences and characteristics can lead to deviating perceptions of the same good. In this respect, the preceding strategies must rather be interpreted as general guidelines for management than as definite rules. As there has been little research on the practical coherency of the preceding models, it would be important for businesses to overcome these empirical limitations. Furthermore, research must analyze how marketing tools must be shaped in order to make products consistently perceivable as either *hedonic* or *utilitarian* goods.

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