



SUBJECTIVE DECISION UTILITY AS A PREDICTOR OF HUMAN RISK BEHAVIOUR

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ABSTRACT

The present article is an attempt for a content-based ordering and interpretation of the available theoretical and research works on the subjective utility of decisions as a predictor for human risk behaviour. A number of authors have discussed decision utility as determining the choice of a behaviour variant, depending on the expected level of pleasure or displeasure at a future point. The hypothesis that people are prone to learn from their hedonistic experience and attempt to reproduce it is confirmed. The subjective perceptions of the people on the expected features and behavioural contexts in risk situations are revealed in the envisaged decision utility, as well as the individual preferences related to these contexts. This is an important starting point in predicting the utility of socially-significant social-economic decisions, especially when they involve risk. Predicting the future utility of such socially-significant decisions could be assisted by a preliminary study of: social preferences, liability towards risk, the people's conviction regarding the effects of various social benefits on their wellbeing, and their readiness to make expenses or endure adversity in order to acquire certain benefits.

Key words: decision making, subjective utility, risk behaviour

INTRODUCTION

Within the broader frame of the subjective concept of risk, the problem of subjective utility of risk behaviour can be designated as a psychological issue of its subjective significance.

In its practically infinite variety, human behaviour is always driven by some sort of subjective utility. This subjective utility could have or not have a material expression. It is a nearly impossible task to find real life situations, in which people engage in freely chosen behaviour without expecting any kind of subjective utility from it. The adequate recognition of subjective utility in every individual behaviour is problematic for both theoretical and practical researchers. In terms of content, the subjective utilities of each behaviour for a specific actor could range from the most universal to the most unusual, individually specific or hard to recognise, even by their closest circle, including significant others. The content specifics of subjective utility create an impressive individual variety of human risk behaviour. This creates, on one hand, research problems in its theoretical description and explanation, and on the other – practical difficulties in its assessment and management.

The goal of the present study is to systematise and interpret in terms of content the available theoretical and research works on the subjective utility of decisions, as a determinant of human risk behaviour.

DECISION UTILITY AND EXPERIENCED UTILITY

Studies on decision utility are presented primarily within the frame of economic behaviour concepts. Within the context of the Perspective theory by D.Kahneman and D.Tversky, utility is related to the significance of future results in the making of a decision. Thus, utility is derived from the available choices, but also explains the choices themselves [1]. Decision utility originates from desires and subjective preferences, whereas experienced utility comes from past experience in various life circumstances.

These different concepts of utility are the base for the different interpretation of its maximisation.

Clark a. Georgellis [2] perceive the distinction that Kahneman makes between the types of utility: experienced utility, related to the level of pleasure or displeasure towards a past event, and decision utility, which determines the

choice of action depending on the expected level of pleasure or displeasure at a future point. He puts doubt on the economic studies following the rule that the two types of utility lead to the same behavioural predictions: people would choose the option with the highest experienced utility, i.e. they maximise their experience. Clark a. Georgellis [2] supported the notion that individuals not always choose to totally maximise pleasure or totally minimise disappointment (as in the colonoscopy experiments). In the experiments conducted by Kahneman, with patients from medical practice, the utility of a taken decision is evaluated by the desire and intent of the studied persons to reproduce past experiences. The criterion highlighted by Kahneman for the utility of a decision that had already been taken was the actor's wish to repeat a certain event. The desire to reproduce a past experience cannot be used as a criterion for the evaluation of decision utility at the moment of making the decision when the current situations are more or less dissimilar with the situations of the past experience, due to which the predicted results would be uncertain. This is why this criterion is applicable in research, but not in the actors' daily activities.

The decision utility for an activity under the conditions of uncertainty at the time of its formulation exists as a foreseen (predicted) future utility of the results from the decision that was made. According to Chernoff [3], the concept of "predictive utility" introduced by Kahneman should be understood as a subjective assessment by the actors for future affective attempts, i.e. future satisfaction. These assessments allow people to predict their emotional reactions to future events. The predictive utility is based upon subjective assessments and predictions of an emotional experience [4].

SATISFACTION AND HAPPYNESS AS CRITERIA FOR THE DECISION UTILITY

In the greater part of their studies, Kahneman a. Tversky perceived satisfaction as a research criterion for subjective utility. As a result of a series of studies, however, Kahneman came up with the hypothesis that deriving criteria for tangible happiness would describe subjective utility more adequately. He believed that happiness was more strongly correlated to emotions than satisfaction. Even though individuals have weak control over their affective dispositions, they would try to control the variables, which could make them happy [per 3]. Kahneman a. all [4] have stated that people often do not wish to learn from their

mistakes, but are prone to learn from their hedonistic experience, as they try to reproduce it. A surprising conclusion reached by Kahneman while studying the momentary utility of objective happiness among two groups of respondents – citizens of California living on the west coast – was that life circumstances contributed little towards the overall assessments of the emotional feel of life [1]. The expectations of both groups were that Californians were happier and more satisfied because their lives were richer in pleasures and less conflict-ridden due to the soft climate, thus in a better mood on average than most other people. Kahneman's conclusion was that Californians were probably more objectively happy than other people, but not subjectively. The explanation was the effect of a life conditions adaptation phenomenon, which affects the perceptions and subjective assessments of hedonistic significance, as well as the extent of satisfaction from life circumstances. The same phenomenon could explain the Japanese's opinion about the same levels of happiness in 1987 and 1958, despite the major change in their standard of living [1].

Extreme emotional experiences during the more important changes in life circumstances are prone to fade away quickly. Frederick a. Loewenstein [5], for example have found out that after a period of adaptation, lottery winners aren't much happier than the control group (people who have never won in lotteries). Kahneman [1] designated this phenomenon "the monotony effect."

It should be exploit that the effect of satisfaction monotony is related to the levels of aspirations, understood as the value on the scale of achievement located between realistic expectations and the founded hope, and is strongly dependent on past achievements. The expectation is that people would experience satisfaction when they achieve the level of their aspirations [per 1]. The level of aspirations would change as well. The level of aspiration rises as a result of rising satisfaction, orienting itself towards the highest level of satisfaction. The theoretical hypothesis of Kahneman was that, as a result of this, the indicated level of satisfaction was returned to its initial values. At each level of objective happiness, the people with higher aspiration levels would consider themselves less happy and less satisfied than others, whose aspiration levels are lower. For example, after winning BGN 20000, a prize of BGN 500 would be less satisfying and would thus be evaluated as having a lower utility level [1]. The author

presents the notion that the effect of monotony on satisfaction is spread upon emotional experiences of varying intensity. This thesis is based upon an additional assumption: people perceive a higher level of happiness and satisfaction with life when there is a positive balance between positive and negative experiences. Therefore, the Californians, who would could objectively feel happier, would adapt to the higher extent of happiness, raise their criteria, and as a result of this will not perceive a higher positive balance and higher level of subjective happiness. The effects of hedonistic monotony and satisfaction monotony could act in unison, with their interpretation and relative participation in subjective evaluations yet to be clarified [1].

If we accept the notion of Kahneman [1] that in the predicted utility of a certain action (pertaining to decision utility) a more reliable source is experienced utility registered in the moment the event actually took place (through the momentary approach), not the delayed remembered utility, the following conclusion should be made: in a situation of risk and uncertainty, the economic actors would make more efficient decisions, if they can remember with sufficient certainty the intensity and potency of their experiences at every stage of the past event and average them out, but not when they build up summarised evaluations of the entire past episode. Kahneman a. Tversky have also noted that the doubts about the actual feasibility of the momentary approach by the acting economic subjects questions the practical applicability of the above conclusions, even if they have considerable predictive value [4].

The evaluation of perceived utility can also be viewed as an indication for the coherence of preferences – as much as the choice aims to reproduce previous or new, different experience. The coherence of preferences also depends on the contexts assumed by the actors that the results and foreseen emotional experiences are compared to. The subjective ideas of people regarding the expected features of these contexts and the personal preferences related to them are revealed in predicted utility [1]. The different actors have different potential for realising the uncertainty to the possible outcome and do not always recognise it as an element of the decision-making process [1,6,7]. The results from the empirical studies indicate that individuals often do not possess a good ability to predict their own future experiences and assessments, and often exhibit inconsistency in their judgments after some time has passed [3]. This poses a very

important problem: to what extent is people's informed consent valid when they make important (e.g. economic or medical) decisions [3].

An example confirming the notion of inconsistency in judgements can be found in the contradicting moods of people towards the restrictive financial policy in Bulgaria at the beginning of the transition towards a market economy after 1990. At the start of the economic reforms, the majority of the people exhibited understanding and expressed a readiness to limit their consumption due to strongly reduced income because they recognise it as an inevitability of the transition. At the same time, throughout the entire period they demonstrated (various degrees of) discontent and resistance against the introduction of every restricting measure. On the other hand, the factual increase in income (through numerous consequential but small steps) does not lead to the expected increase in satisfaction by their raise (e.g. the raising of salaries and pensions by 5-15% per year is subjectively evaluated as insufficient and even "ludicrous", even though it actually leads to an increase in welfare).

According to [1], the extent of predicted utility of socially significant social-economic decisions could be foreseen through studying social preferences, the people's convictions regarding the effects of various social benefits on their wellbeing, their readiness to make expenses or endure adversity, in order to acquire certain benefits. According to economic analyses, the only criterion for the value of social goods is "society's collective readiness to pay for them" [1]. The authors have expressed doubt about the applicability of this concept as the sole measure for the goods' value. Kahneman a. Tversky have found that a sufficiently founded response to the question of to what extent predicted utility would be determined by experienced utility [1].

Kahneman found out that people are often prone to belittle a decision's utility to the outcomes that occur later in time (e.g. receiving a larger insurance premium, but after a longer period), as well as to ascribe greater significance to the later parts of the sequence than to the earlier ones (e.g. by the principle of "all is well when it ends well"). The normative nature of weight schemes (peak and end) is conditional and depends on the sequence of acquiring the benefits and making the expenses [1]. If the benefits precede the expenses, in many cases the decisions with delayed outcomes are underestimated (e.g. taking a

loan under uncertain capability to service it could be due to the fact that the expenses occur after the benefits are received). This temporal asymmetric determination favours short-sighted preferences when making choices, which eventually could not increase the actor's total utility [4].

If satisfaction is accepted as a criterion for subjective utility, a new interpretation of data from a study on economic risk among Bulgarian entrepreneurs can be offered [8]. In this study, experienced utility was determined by examining satisfaction from the specific economic results, as well as from the overall activity in the currently conducted economic practice.

The results presented in **Figure 1** indicate interesting conclusions regarding the check of the applicability of the profit maximisation principle as a base criterion for the activity's

subjective utility. Accepting satisfaction as a measure of subjective utility (as in the studies by Kahneman and Fredrickson) allowed the drawing of the following empirical fact: 21% of entrepreneurs were completely satisfied by the overall activity (as a criterion for total utility), but only about 5% of the entrepreneurs were completely satisfied with the profit (as a criterion for economic utility). As could be expected, the ones that indicated dissatisfaction from the activity and the profit exhibited reversed ratios. The respondents dissatisfied with the profit were significantly more than the ones dissatisfied with the activity as a whole. The performed correlation per Pearson registered a very weak dependence ($R=0.214$; $p<0.01$) between satisfaction from profit (economic utility) and the summarised evaluation for satisfaction from the overall activity (total utility).

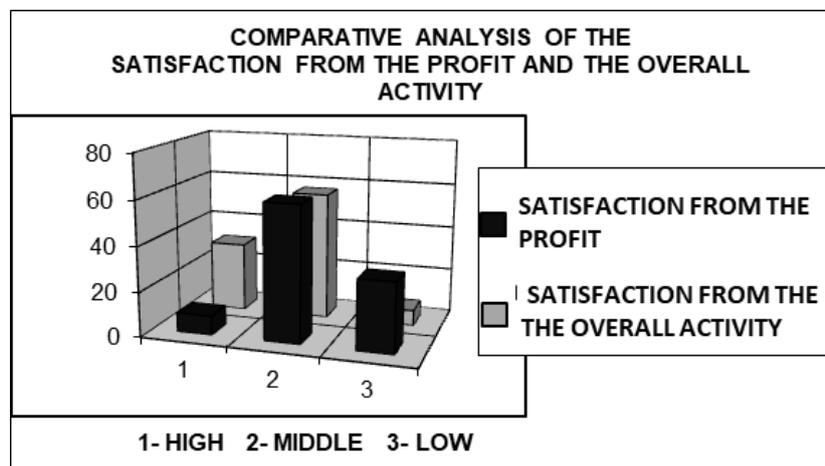


Figure 1.

Therefore, total satisfaction only partially contains the satisfaction originating from profit as a result of the activity. Other factors participate as well in the total subjective evaluation of satisfaction, outside of expected profit from produce. An effect on the evaluation of total satisfaction is also exerted by other types of subjective utilities, significant to the economic actors (pleasure from conducting the activity, interest towards it, etc.). The results confirmed the aforementioned thesis that the total subjective utility of the activity is not a function only of its economic utility. In this sense, the maximisation of economic utility does not fully explain entrepreneur behaviour.

Furthermore, part of the results give a reason for the conclusion that in the subjective utility of the experience from the activity are contained other (apart from the already mentioned ones) types of utility, which are

related to the satisfaction from the possibilities that entrepreneurship offers to the subjects to fulfil their specific personal trends towards rationality and total activity, studied via the Test for examination of the rationality of behaviour by N. F. Naumova [8] and the subscale of "Total activity" in the psychodiagnostic test (PDT) of V. Melnikov and L. Yampolskiy (1985). The results of the dispersion analysis indicate that the rationality of behaviour (exhibited in organisation, purposefulness, consistency and self-control) is a factor determining the level of total satisfaction. A straight correlation is noticed between the two variables. The higher the level of rationality, the greater the extent of total satisfaction from the activity ($F=9.26$; $p<0.001$; **Figure 2**). It is possible that the highly rational economic actors formulate more realistic expectation and thus optimise the subjective decision utility on the grounds of realistically predicted objective utility. The

aforementioned study also established that a higher total activity in entrepreneurs also determines higher satisfaction ($F=3.45$; $p<0.05$; **Figure 2**). **Figure 2** shows that total satisfaction depends on the options that entrepreneurship offers for the realisation of the actors' personal characteristics (which pertain to the need for activity, dynamics and

initiative). Therefore, the total subjective utility of the entrepreneurs' experience with high behavioural rationality and total activity originates not only from economic results, but also from specific utility based on satisfaction from the specific content of the activity, allowing for the display of certain personal qualities.

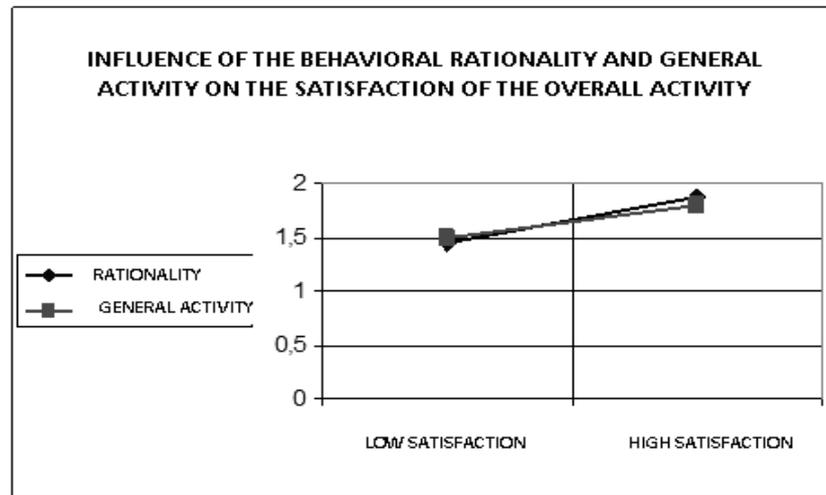


Figure 2.

It is important to also point out the strong positive correlation between total satisfaction and subjective probability for the success of the activity in the future ($R = 0.63$). Subjective economic utility is an element only in total subjective utility. These results indicate that the evaluation of total subjective experienced utility and the subjective probability for success of the activity are mutually dependent. Therefore, utility is a function of the significance of future results in a decision making, that derives from the available choices and from desires and subjective preferences, based on past experience.

The important conclusion is towards the statement: for the respondents encompassed by this study, it was not the satisfaction from the profit, but rather the total satisfaction that determined their intent to reproduce the activity (experience). In other words, it is not only the subjective economic utility, but also the total subjective utility that is crucial when decisions are made for the future.

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