

## The Impact of Emotions on Decision Making Processes in the Field of Neuroeconomics

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**Abstract:** According to the economic models of decision making decision makers choose between alternative courses of action by assessing the desirability and likelihood of their consequences, and integrating this information through some type of expectation-based calculus. The role of the mutually shared positive or negative *emotional background knowledge* of the speaking partners comes to the forefront and plays a vital role in the act of decision making. Any influence of incidental emotions would suggest that decisions are influenced by factors unrelated to the utility of their results. Yet, far too much of what happens in the process of communications occurs on the emotional level. According to A. Hochschild, there exist certain professions, economics included, in which the main actors at hand have to manage their emotions to sound proficient and skilled (Hochschild, 1983). Hence, within the scopes of the present paper the essence, application and utility of five emotion expression management techniques will be thoroughly discussed, i.e., *simulation, inhibition, masking, intensification, and de-intensification* (Andersen & Guerrero, 1998). Viewing this issue from a multilingual and multicultural perspective, we can state that in different languages there exist certain linguistic function words, called *emotive boosters* or *intensifiers*, with the usage of which the speaker can have an emotive impact on the listeners and subtly suggest them what emotions they should feel; thus, by means of cognitively structuring their speech acquiring a better chance of reaching their desired influence on the audience (Rostomyan, 2011, 2012, 2013). Nowadays, business representatives and economists have equally come to acknowledge that Neuroeconomics and Neuromarketing can greatly assist in building their commerce. *Emotional Intelligence* (also known as EQ) as opposed to rational Intelligence Quotient (better known as IQ) is the level of our ability to understand other people, their special needs and feelings, beliefs and desires, what motivates them and how to work cooperatively with them. Very often it is even more important for career and success than IQ (Goleman, 1995). As a matter of fact, by means of appropriately managing the verbal and non-verbal displays of emotions, the speaking partners stand a better chance of obtaining their desired objective.

**Key words:** neuroeconomics; decision making process; emotions versus rationality; emotion management techniques

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## 1. Introduction

According to the renowned connoisseur of interpersonal relations, Dale Carnegie, people are more inclined to be directed and ruled by their emotions rather than by their rationality. Citing his words: “*When dealing with people, remember, you are not dealing with creatures of logic but creatures of emotion*” (Carnegie, 1981).

Any influence of incidental emotions would suggest that decisions are influenced by factors unrelated to the utility of their consequences. Yet, far too much of what happens in the process of communications occurs on the emotional level. According to A. Hochschild there exist certain professions, economics included, in which the main actors at hand have to manage their emotions to sound proficient (Hochschild, 1983).

As far as the relation of *logic* and *emotion* is concerned, Cicero tended to place a greater emphasis upon the emotive language rather than the logical. He points out to the fact that very often the decisions of those who decide greatly depend on the level of emotionality of the speaker. He does not claim that it is a disadvantage and should thus be avoided. Just on the contrary, he even advises that:

“Men take a decision oftener through feeling than through fact or law. They are moved by evidences of character in the speaker and in his client. The only way to rebut feeling is by feeling.” (Cicero, 1895, p. 178)

Thus, the communication of information may be the most frequently viewed as thought-of use of language, where emotions play a vital and sometimes even a dominant role and place of which should not be underestimated. Though undeniably the basic means of conveying information is through statements or propositions, namely the building blocks of arguments, some of the “information” here might not be true because not all arguments and felicity conditions are always valid; however, for the purposes of studying logic, information being conveyed in a statement may be either false or true depending on the extra linguistic features, and, thus, the decoding process of emotional information can be really very challenging. Yet, in case *credibility*, *trust*, unique *style* and *individual identity* are intermingled, each and every communicative act, be it realized via verbal or non-verbal markers, is sure to flourish.

## 2. Literature Review

### 2.1 Emotions in Decision Making Processes

Everyday communication actually comprises a number of expressive means and stylistic devices by means of which rational or emotional meaning is encoded. We know the meaning of each and every syntagm automatically irrespective of the length or confusion of the context. Yet, the co-text and context greatly influence the decoding process of the interactants accordingly. As a matter of fact, by means of appropriately managing the verbal and non-verbal displays of positive or negative emotions the speaking partners stand a better chance of having an emotive influence on the audience and hence obtaining their target. All this comes to prove that emotions do play a very vital role in decision making processes.

We have analyzed a number of cases and revealed that very often financial means do not necessarily bring happiness with them nor do they contribute to the development of individual spiritual calmness and mindfulness.

In the book of Tony Hsieh “*Delivering Happiness*”, the author speaks about the main important factors which altogether shape a successful business within economic relations. He vividly draws his assertions to the fact that in case your economic steps do not contain *passion*, *energy* and *emotion*, your business will most probably not prosper nor will you be satisfied with the results.

The author speaks also about his commercial ups and downs and point to the fact that spiritual calmness can be achieved by balancing our emotions and developing a kind of culture inside of the financial and economical interrelations between the partners and colleagues. He very minutely describes the development of his business projects and economic decisions, revealing that there should be a kind of emotional co-relation inside the company to help blossom the overall project and satisfy everybody's individual needs, by this means also contributing to the establishment of happiness in the mental world of the interactants which surely does cause better labour output.

According to him one of his business project which was a web platform, called LinkExchange, which was designed to help students share knowledge collapsed in due course of time as they were hiring a number of employees without paying much attention to their individual preferences and without building a kind of friendly working atmosphere between them:

“At that time, I didn't think it was necessarily a bad thing. If anything, not recognizing people due to our hyper growth made things even more interesting and fueled the 24/7 adrenaline high that we were all feeling. But looking back, it should have been a huge warning sign for what was to come. The short story is that we simply didn't know we should have paid more attention to our company culture. During the first year, we'd hired our friends and people who wanted to be part of building something fun and exciting. Without realizing it, we had together created a company culture that we all enjoyed being part of.” (Hsieh, 2010, p. 47)

As we see, the author puts emphasis on *feelings* and *emotions* as human resources are not working machines devoid of their own inner world which may involve a very many various positive and/or negative emotions which do have a high influence on the working skills of both the employees and the employers.

Thereafter, describing all the minute details of his personal career, he depicts the picture of himself when being at top of his built empire he realized that we was not happy with his economic decisions connected with selling LinkExchange, which was truly his own *child* in a way, to Microsoft and gaining a huge fortune as a cause, he decides to build another empire so that not to lose that sparkle within himself and be the beginning of something new even by means loosing the 40 percent of his wealth. As he himself states he was not fully aware of the essence of his acts at that time:

“I didn't realize it at the time, but it was a turning point for me in my life. I had decided to stop chasing the money, and start chasing the passion.” (Hsieh, 2010, p. 54)

As we see, emotions do play a major role in decision making processes, thus gaining an immense role in our lives. This fact comes to prove that they should be paid special and appropriate attention to in diverse spheres.

## **2.2 The Emotional versus Rational Dichotomy Dilemma**

According to D. Goleman if the emotional mind follows the logic and its rules, with one element standing for another and cooperating with one another, things need not necessarily be defined by their objective identity; what matters is how they are perceived; things are as they seems. What something reminds us of can be far more important than what it “is” (Goleman, 1995, p. 338). Hence the balanced collaboration of the aforementioned two “*human minds*”, i.e., emotional and rational, is very essential in interpersonal communication.

In many or most cases these minds are exquisitely coordinated; feelings are essential to thought, thought to feeling. Nevertheless, strikingly when passions surge the balance tilts: it is then the emotional mind that captures the upper hand, swapping the rational mind. It is noteworthy that the sixteenth-century humanist Erasmus of Rotterdam wrote in a satirical vein of this perennial tension between *reason* and *emotion*:

“Jupiter has bestowed far more passion than reason—you could calculate the ration as 24 to one. He set up two raging tyrants in opposition to Reason’s solitary power: anger and lust. How far Reason can prevail against the combined forces of these two common life of man makes quite clear. Reason does the only thing she can and shouts herself hoarse, repeating formulas of virtue, while the other two bid her go hang herself, and are increasingly noisy and offensive, until at last their Ruler is exhausted, gives up, and surrenders.” (Goleman, 1995, p. 9)

Nowadays very often scientists speak about Emotional Intelligence (EQ) as compared with purely Rational Intelligence (IQ), and which is more striking, preference is given to the former one as this mainly contributes to the creation of peaceful relations.

D. Goleman identified the five “*domains*” of EQ as:

- (1) **Knowing** your emotions.
- (2) **Managing** your own emotions.
- (3) **Motivating** yourself.
- (4) **Recognizing** and understanding other people’s emotions.
- (5) **Managing** relationships, i.e., managing the emotions of others (Goleman, 1995).

Yet, it is also noteworthy that under certain circumstances the balance between cognitive and emotive minds gets lost: emotions come to prevail and, as a result, one loses the ability to properly estimate the situation at hand. Truly, in the heat of emotional obsession the ability to regulate his/her thoughts, behaviour and speech can be extremely diminished and in these situations one should take pains not to let emotions govern the cognitive part of the brain: once we lose the balance, we are sure to make wrong decisions and wrongly evaluate diverse situations. Consequently, we may even misinterpret different messages from the external world and respond to them inappropriately. This is the reason why when we are emotionally upset or anxious about something, we often state that we *just can’t think straight*. The fact of being emotionally distressed can even hinder one’s ability to learn and work properly and effectively. Sometimes, the influence of the emotions (positive or negative) is so enormous that the emotional mind becomes prevailing and one does not manage to control it. This fact actually finds its verbal and/or non-verbal manifestation — we say things for which we may later regret. Consequently, it is advisable that the balance should be kept in order not to be exposed to bewildering and misleading situations and subsequent misinterpretations. A good and sensible piece of advice which, unfortunately, is often so difficult for many of us to follow! (Rostomyan, 2012, 2013).

Thus, together with a couple of his friends, Tony decided to create an online shoe shopping platform called *Zappos* (the word was derived from the Spanish word for shoes “zapatos” and they added another “p” to ensure the right pronunciation). Later on, when hiring people and deciding with whom to co-operate, the author again put much emphasis on whom to hire: a very significant point for him was to see vital strong emotions, motivation and passion in their eyes which will surely bring much motion to their company:

“...I like the guys there. They’re passionate and determined, and they don’t seem like they’re doing this just to get rich quick. They’re actually interested in trying to build something for the long run.” (Hsieh, 2010, p. 73)

In this context, the author points out another important factor, that is *connectedness*. This truly reminds us of Henry Ford, one of the greatest managers that human history has known, who always tried to be in close contact with his employees remembering their family issues even if it’s only a very small beginning along the way of reaching a healthy and productive working atmosphere. We do believe that acting in this way in regard to your employees can also be considered to be one of the pledges of one’s flourishing business.

When speaking about the connectedness of the employees involved in a certain project and denoting the reason for this or that decision making reasons, the author uses a very unique abbreviation of his own, namely “*PLUR*”, which stand for “*Peace, Love, Unity, Respect*”. All the aforementioned qualities are highly connected with higher cognitive processes as well as emotional responses of the body to external stimuli (Murray, 1964; Goleman, 1995).

“The idea of PLUR and the rave culture rubbed off on me beyond the rave scene. To me, it was really more a philosophy about always being open to meeting people no matter how they looked or what their backgrounds were. Every interaction with anyone anywhere was an opportunity to gain additional perspective. We are all human at the core, and it can be easy to lose sight of that in a world ruled by business, politics, and social status. The rave culture was a reminder that it was possible for the world to be a better place, for people to simply be appreciative of the humanity in one another.” (Hsieh, 2010, p. 81)

According to the economic models of decision making decision makers choose between alternative courses of action by assessing the desirability and likelihood of their consequences, and integrating this information through some type of expectation-based calculus (Rick & Loewenstein, 2008). The role of the *mutually shared positive or negative emotional background knowledge* and *emotional memory* of the speaking partners here comes to the forefront and plays a very vital part in each and every act of decision making. Moreover, when making decisions the economists rely on their former emotional experiences and even while debating or expressing their viewpoint they take actions in order to modify the *verbal or non-verbal expressions of their emotions* to have a better *emotional impact* on their interlocutors to reach their desired goal (Rostomyan, 2012).

### 3. Case Study

#### 3.1 Emotions in the Banking System

Our personal studies have come to suggest that Emotional Marketing has started to be greatly applicable in Armenia as well by some of the leading corporations, such as *America Bank* and *ArmEconom Bank*, for instance. Both banks use the colour “*blue*”, the shade of ocean and cloudless sky, to denote tranquility and peace of mind, and the colour “*green*”, the symbol of grass, to ensure prosperity, the colour “*white*” supposedly suggests purity and transparency.



Besides, in another announcement placed at “JobFinder.am” the designers of America Bank have included a number of images of people to show that they care for human resources. It is also noteworthy that the initial letter “A” of America Bank involves two sticks clinging to one another standing for teamwork and collaboration. All these on the subconscious level subtly suggest to the audience what emotions they should feel and how emotionally disposed they should be.



The *emotional judgment* generally refers to the *complex background understandings* of our well-being and comfort. The emotional subjects constantly interact with their *complex environment*, having to be faced with diverse situations and various people having different cultural, national, educational, and even emotional backgrounds. Such complexities and the above-mentioned affects as epiphenomena, identify the reason why emotions should by no means be regarded as separate phenomena from cognitive processes. Moreover, we are highly inclined to think that viewing the problem from this angle and taking into account the essence of the cognitive processes, will ensure revealing the nature of emotions much better. All this suggests that emotions are not devoid of any cognitive elements. Instead, these two phenomena are tightly interconnected.

As we know, our feelings are being generated, “*digested*” and comprehended in our brain. Consequently, we may obtain certain ideas and concepts about some experience feelings and emotions the perception of which can be detected in our rational mind. We may make some assumptions on certain emotions, even being unaware of it. Later on, those very assumptions and background knowledge on the experienced emotions may give ground for further emotions and feelings connected with the former experienced emotion or feeling. Actually, in the process of decoding the speaker meaning we very often rely on our background emotions of that very person and sometimes our judgments depend on our mental world, in other words our complex emotional background knowledge (Grice, 1975; Murray, 1964; Rostomyan, 2012).

Interpersonal communication is not only based on conveying, receiving, and processing information, but also expressing our internal feelings and emotions. Actually, emotions can be communicated through verbal and non-verbal means of communication, i.e., facial expressions, gross bodily movements, gestures, etc. As for the verbalization of emotions in the process of communication, there exist certain function words called intensifiers which are used to modify or intensify the whole sentence or only part of it and, particularly, the emotional content (Rostomyan, 2013).

It is generally believed that emotion plays the role we expect, i.e., to communicate information about our internal states, feelings, beliefs, desires. However, in some circumstances, emotions are not demonstrated explicitly in speech. Nonetheless, when undergoing very strong emotions, the speakers are not able to control the felt emotion or to try to minimize the degree of it, and consequently, the experienced emotions are manifested in speech with the help of verbal and non-verbal signs. Moreover, sometimes people tend to display this or that emotion in a more exaggerated manner to have their desired impact on the interlocutors. Besides, there are some cases when they try to hide or reduce the degree of intensity of the experienced emotion to give an impression that the emotion is felt less strongly than it is in reality, or just by making their speech less firm, leave some space for further speculations. In fact, it is notable that in everyday life individuals sometimes do intensify or suppress the expression of emotions for certain self-presentational goals.

To reveal whether economists are aware of the interrelation of emotion and cognition a survey has been carried out by us in Armenia. Just from the outset, they were amazed at this assertion, and got interested in the term “Neuroeconomics” but then they were explained by us that Neuroeconomics is an interdisciplinary field that

seeks to explain human decision making, the ability to process multiple alternatives and to choose an optimal course of action. It studies how economic behavior can shape our understanding of the brain, and how neuro-scientific discoveries can constrain and guide models of economics, as well as, they were asked of bringing examples. The revealed results of the survey are depicted in the following Figure 1:

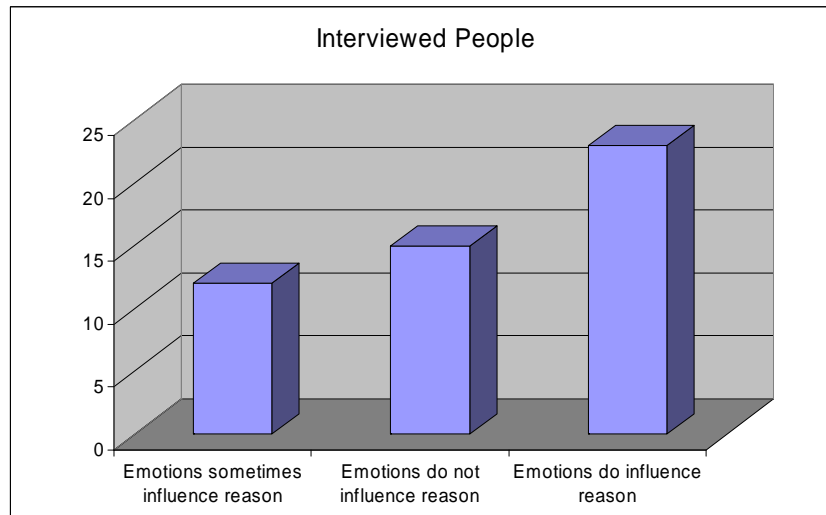


Figure 1 The Influence of Emotions on Decision Making Processes

### 3.2 Emotion Regulation Techniques

When discussing the complexity of human emotions in their book “Principles of Communication and Emotion in Social Interaction” P. A. Andersen and L. K. Guerrero (1998) speak about five expression management techniques of emotions: simulation, inhibition, masking, intensification, and de-intensification, with the help of which people try to handle their emotions in some situations to avoid conflicts and build happier, peaceful and more successful societies. The nature of those expression management techniques of emotions are briefly discussed below:

**(1) Simulation** — *Simulation* refers to displaying an emotion that is not genuinely felt. Such efforts seem to be, and can be deceptive, here deception is embodied in knowingly transmitting a message by a sender to foster a false belief or conclusion by the receiver (Buller & Burgoon, 1998).

**(2) Inhibition** — *Inhibition* involves exposing the appearance of no emotion when one is actually feeling some sort of emotion at the moment of communication. Sometimes people feel an emotion on the inside, but do not actually express it on the outside. For instance, if a person is angry with someone, he/she may try not to let that person know about it depending on some extralinguistic factors.

**(3) Masking** — *Masking* differs drastically from the other mentioned expression management techniques of emotions in the way that it involves showing a definite emotion when one is feeling a completely different emotion. Sometimes people feel a particular emotion on the inside, but display a completely different one on the outside.

**(4) Intensification** — *Intensification* (or maximization) refers to creating the appearance that emotions are felt more strongly than they are. It is important to note that intensification involves the display of an emotion that is genuinely felt; simply its display is exaggerated. In fact, people sometimes when feeling an emotion do express it more strongly than they actually feel it.

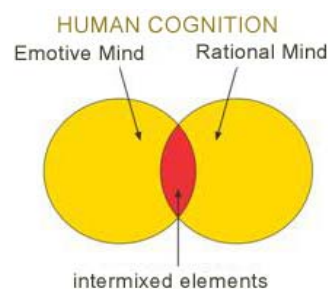
**(5) De-intensification** — *De-intensification* (or minimization) refers to giving the impression that emotions are felt less strongly than they are in reality. However, it should by all means be mentioned that only part of the felt emotion is hidden, while a portion of it is displayed.

As with *intensification*, *de-intensification* involves the display of an emotion that is genuinely felt; its display is simply softened. Actually, sometimes people feel an emotion and display it on the outside, but not as strongly as they feel it.

The regulation of emotions comes to suggest that emotions are not fully devoid of rationality. Moreover, they do comprise cognitive elements. In tune with modern theorists of emotions (cf. Ortony, Clore, Collins, LeDoux, et alia), we regard emotions essentially as subconscious signals and evaluations that inform, modify and receive feedback from higher cognitive processes. In a sense, we have to admit that human beings have two minds which are closely interrelated — *emotional* and *rational*. We should also admit that cognitive intelligence cannot work at its best potential without emotional intelligence.

The fact that every emotion is an experience involving a cognitive element, not merely a state of feeling, can be proved by quoting McTaggart: “*We must hold that the cognition of that to which the emotion is directed, and the emotion towards it, are the same mental state, which has both the quality of being a cogitation of it, and the quality of being an emotion directed toward it*” (McTaggart, 1927, p. 146).

This reasoning enables us to put aside the old opposition between *raison d’être* and *feeling* (i.e., *emotion vs. cognition*) and try to find a sensible balance between the two minds. Admittedly, the paradigm where reason is seen completely unchained from emotions does not hold true, and a new one should be adopted, in which head and heart, feeling and thought, emotion and cognition are in harmony. The interrelation between emotion and cognition can be seen in Figure 2 presented below:



**Figure 2 The Interrelation of Emotional and Rational Minds**

Thus, one of the main claims of the present paper is the admission of the fact that emotions work on the cognitive background in the process of verbal interaction. Actually, they include both perception and appraisal functions and are closely related to higher cognitive judgement processes. We firmly believe that the emotional and rational minds are interdependent since they influence and regulate one another, with emotions stirring up and the rational mind analyzing, refining and sometimes vetoing or endorsing certain emotions.

## 4. Conclusion

In summary, we can state that business environment increasingly grows rapidly developing where human capital becomes the mostly important factor. Hence, hardcore health issues come to the fore and the role of emotions and their corresponding management techniques gain paramount significance. In fact, decision making

processes are greatly affected by the positive and negative emotions of the speaking partners and interactants. Therefore, emotion manifestation regulation techniques should be paid corresponding attention to. Besides, the most vital keywords for cooperation should be Peace, Unity, Trust, Respect, Love and Devotion towards whatever Business you are engaged in which will consequently ensure better results.

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