

Indian Institute of Management, Ahmedabad

Neuroscience and Consumer Behavior
PGP2 Elective 2015-16

Instructors:

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Recent advances in the fields of neuroscience and neuroeconomics are re-defining and enhancing our understanding of how human beings make decisions in general and how consumers make decisions from a marketing perspective. The fall of the “rational economic man” – thirty years in the making – finally being buried in the aftermath of the global financial crisis is now leading to new insights on consumer behavior that have a direct impact on how marketers should be developing their marketing plans and implementing them. This course – amongst the first of its kind – seeks to build on the emerging knowledge in this field with its applications in the area of consumer behavior.

Course Objectives

The course is designed

1. To develop the participant’s basic knowledge of the human brain and how it takes decisions based around the themes of “thinking and feeling,” greed, prediction, confidence, risk, fear, surprise, regret and happiness; how the brain receives stimuli, processes them and the responses that it generates.
2. To develop and enhance participant’s analytical skills, conceptual abilities and substantive knowledge in the field of consumer behaviour based on inputs from neuroscience and behavioral decision theories.
3. To develop a roadmap for applying the knowledge of neuroscience and consumer behavior in different marketing and business contexts.

Upon successful completion of this course, you should be able to:

1. Distinctly enhance your knowledge of consumer behaviour beyond what you learnt in the first year core marketing courses. This includes the ability to explain and apply the (key) terms, definitions, and concepts used in the study of neuroscience and consumer behaviour.
2. Demonstrate how as a marketer you can use your enhanced knowledge of consumer behaviour concepts and related methodology, and greater sensitivity to consumer psychology to develop better marketing programs and strategies – especially in the last mile in the marketplace where consumers make decisions.

Linkage with Other Courses

The course takes off from the first year marketing courses MM1 and MM2 in particular. The course will also assume relevant basic knowledge of micro-economics (price elasticity, demand and supply)

and psychology (attribution, perception). The course has little or no overlap with other existing elective courses in the marketing, strategy, economics and organizational behavior areas.

Relevance of the Course

Neuroscience and neuro-economics are increasingly fundamental to our understanding of business and consumer decisions. Research in neuroscience over the past 10 years has added new dimensions to our understanding of consumer behavior – and a deep understanding of consumer behavior is the underpinning of advantage in the marketplace for a firm. We see this course as an essential part of the tool kit for a successful marketer and for a successful manager because a good understanding of neuro principles enables a more proficient application of behavior change initiatives of different kinds including marketing actions.

Required Materials

1. Course Pack of Readings and Cases

Pedagogy

- **Case and Class Discussions**

For all classes and case discussions, it will be assumed that each participant has read and is fully prepared to discuss the material and / or the case in class. The objective is to understand and use the data and information available in the reading materials and case from a decision making standpoint and to do the relevant analyses and make recommendations. Students should have read the material which in many instances are research papers and be prepared to discuss the readings in class.

- **Lecture/Discussions**

These sessions will allow us to examine principles, models, theories, in consumer behavior – their underlying neuro-scientific bases and their application to marketing actions.

- **Participant Limit.** Participation will be limited to a total of 50 students (40 PGP, 5PGPX and 5 exchange).

Evaluation

Class Participation	20%
Group Case write-ups (X1)	10%
Synopsis of articles for the day (X5)	15%
Group Term Paper	5% + 15% + 5%
Final Exam	30%

- **Class Participation:** Effective class participation requires good preparation and sharing your thoughts in class with others in a manner that enhances the overall learning experience. *You will be evaluated on the quality of your contribution. Participation that builds on the discussion in the class tends to be the most effective.* Please be prepared to be cold called in the class. If you do not want to be cold called in the class, you need to let me know in advance so alternative arrangements can be made. If you come to the class without preparation, you will

not get credit for attendance. **A minimum attendance of 80% of the sessions is required** – otherwise you will get an F on the course. Class participation which displays a lack of preparation or is completely tangential to the discussion in class will get negative marks. **You are required to have a name tag in front of you every single class day – this is mandatory. The instructors reserve the right to change the weightage given to a particular session for CP as required.**

- **Case Write-ups and Article Synopsis:** A three-page write-up of your analysis of a particular aspect of assigned cases (or the articles assigned to you) discussed in the course is required. You will be assigned to groups at the beginning of the course and each group will have a total of six assignments across cases and articles. *These write-ups are due at the beginning of the sessions.* **Each case or article write-up should be NO MORE than 3 type written pages (excluding exhibits). The assignment of the cases / articles will be done before the first class day once the student list is available to the instructors.**
- **Term Paper:** Each group will choose a topic in the area of consumer behavior (preferably around one of the sessions in the course) and provide (a) a review of recent findings in the area and (b) an evaluation of how 3 chosen applications of the concepts by marketers – one in the Indian context and one in the US/UK context confirm or disconfirm the findings of the research literature. You will submit your topic along with a brief note on the topic by the 5th class day.
- **All submissions will be accompanied by a TurnItIn Report. Any report with an overlap of higher than 15% will be categorized as plagiarism and be considered an instance of academic dishonesty.**
- **Academic Dishonesty:** Any instance of academic dishonesty will lead to an automatic F on the course and a recommendation to the PGP EC and the Institute for expulsion from the institute.

Note: This is a research oriented course and there will be a premium on reading and understanding. It is not for those who are looking for a light course. For those who are looking for the latest insights into consumer behavior and are willing to read, however, this is a highly recommended course.

1	Course Introduction	In this session we will introduce the topic of neuroscience and neuro-economics as well as discuss a model of consumer decision making based on the research of Ramachandran and the book by Zweig that will provide an overarching skein of ideas and a background for the course. In this session, we will describe the basic brain structure and functions and the role of conscious and unconscious in human and consumer behavior. We will also discuss the course as a whole and expectations for the term.	<ul style="list-style-type: none"> ➤ Chapter 1 and 2 Zweig ➤ Chapter 7 and 8 Ramachandran
2	Decision Making and Neural Correlates	Consumer Decision Making models have existed for more than 40 years beginning from the Howard Sheth model to Petty and Caccioppo and others. Recently, researchers have begun investigating what happens in the brain as it is making decisions. This session explores how the brain assigns “value” to a choice and to the interplay of emotion and cognition in the decision making process and the role of neurotransmitters like dopamine and endorphins in arriving at and implementing choice.	Required <ul style="list-style-type: none"> ➤ Grabenhorst, F. and Rolls, E. T. (2011), “Value, Pleasure and Choice in the Ventral PreFrontal Cortex,” <i>Trends in Cognitive Sciences</i>, 15(2), 56-67. ➤ Dolcos, F., Jordan, A.D., and Dolcos, S., (2011), “Neural correlates of emotion, cognition interactions: A review of evidence from brain imaging investigations,” <i>Journal of Cognitive Psychology</i>, 23(6), 669-694 ➤ Knutson, B., Rick, S., Wimmer, G. E., Prelec, D., and Loewenstein, G., (2007), “Neural Predictors of Purchases,” <i>Neuron</i>, 53, 147-156.
3	Affect and Cognition in Decision Making	We will explore further the interplay of cognition and affect in decision making and structure the decision making model we will use for the rest of the course by exploring the case, Ikea Invades America. We shall discuss the use of knowledge about consumer behavior for marketing purposes	<ul style="list-style-type: none"> ➤ Prepare Case: “Ikea Invades America” ➤ Recommended Chapters 5 and 6 Zweig
4	Decision Making Models and The Role of Confidence and Risk	In this session we will consider how marketers may facilitate a shopping experience by understanding customer needs. We will relate the ideas of decision making to brain processes from the perspective of confidence and risk and the fact that in decision making risk is not evaluated cognitively only– that there is a strong affective component to the risk – indeed that affect influences all decisions and that there is no such thing as the “rational economic man” much as the neo-classical economists would have us believe.	Required <ul style="list-style-type: none"> ➤ Einhorn and Hogarth (1978), “Confidence in Judgment,” <i>Psychological Review</i>, 85, 395-416. ➤ Loewenstein, Weber & Welch, (2001). Risk as feelings. <i>Psychological Bulletin</i>, 127, 267–286 Recommended <ul style="list-style-type: none"> ➤ Tanaka, S. C., Balleine, B. W., & O’Doherty, J. P. (2008). Calculating consequences: Brain systems that encode the causal effects of actions. <i>The Journal of Neuroscience</i>, 28(26), 6750-6755.
5	Attention, Perception and the Role of Language	In this session we’ll discuss the topics of perception and attention. We’ll consider both how consumers perceive objects both consciously and subliminally – including the idea of selective attention. We’ll also consider factors that influence attention	Required <ul style="list-style-type: none"> ➤ “Brain Rules: Rule X ➤ “The Brand-Ness of Strangers” in <i>The New York Times</i>, 11/14/2008, by Rob Walker ➤ Chapter 6 Ramachandran

		with specific attention to the role of language. GUEST SPEAKER: PROF. NARAYANAN; HEAD CENTER FOR BRAIN AND COGNITIVE SCIENCES	➤
6	Motivation, Opportunity, and Ability: The Role of Greed and Fear	Why do some decisions get a lot of attention and effort and others happen almost automatically, seemingly without any thought at all? In this session we will discuss three key elements that influence consumer's effort in decision making at every stage in the process; motivation, opportunity, and ability and how these are influenced by the primal instincts of greed and fear. We will use a case example to drive the discussion – Domex and the Wadala experiment.	Required <ul style="list-style-type: none"> ➤ Chapters 3 and 7 Zweig ➤ "Enhancing and Measuring Consumers' Motivation, Opportunity, and Ability to Process Brand Information from Ads" by Debbie MacInnis, Deborah J., Moorman, Christine Moorman, and Bernard J. Jaworski in <i>Journal of Marketing</i> ➤ Schulz, W. (2006), "Behavioral Theories and the Neurophysiology of Reward," <i>Annual Review of Psychology</i>, 57, 87-115.
7	The Role of Others	When we make decisions as consumer, we tend to ask others, however, independent we think we may be. Everyone seems to know that one "go to" person for information about what to buy. It turns out these "go to" people may be very important in the spread of information and product adoption. In this session we will discuss theories of how information about products are spread from one individual to the next and how people choose who to rely on to provide them with information and relate these theories to the mirror neuron system in the brain.	Required <ul style="list-style-type: none"> ➤ "The Law of the Few, Connectors, Mavens, and Salesmen," in <i>The Tipping Point</i> by Malcolm Gladwell ➤ Mangleburg, Doney and Bristol (2004), Shopping with Friends and Teens' Susceptibility to Peer influences, <i>Journal of Retailing</i>, 80 (2) ➤ Lindstrom, M. "Buyology" Chapter 3, I will have what she is having: Mirror Neurons at Work. P. 53-68.
8	High Effort Decision Making: Impact on Nature of Consumer Engagement Process	<i>What will it take for you to own and take delivery of this car today?</i> For some, buying a luxury car has been a decision years in the making; endless consumer magazines, showroom visits, discussions with friends and neighbors, until finally, a purchase is made. These high effort decisions involve a great deal of deliberation and may test the limits of our cognitive abilities. However, the way consumers evaluate options can be quite different. In this session we'll discuss some of the common decision 'heuristics' or 'rules of thumb' that consumers use. We will relate it to the neural correlates in the decision making process.	Required <ul style="list-style-type: none"> ➤ Zaichowsky (1985), "Measuring the Involvement Construct," <i>Journal of Consumer Research</i> ➤ How Concepts Affect Consumption," in <i>Harvard Business Review</i>, June 2009, by Dan Ariely and Michael I. Norton ➤ Knutson, B. et. al. (2007), "Neural Predictors of Purchases," <i>Neuron</i>, 53, 147-156.
9	Low Effort Decision Making: Impact on Nature of Consumer Engagement Process	Many decisions are made without much conscious thought. In fact consumers make lots of choices that they are not even aware of making. In this session we will discuss low involvement/ low effort decisions including those governed by habits and emotions that lead to simplifying heuristics	Required <ul style="list-style-type: none"> ➤ "Kenna's Dilemma: The Right - and Wrong - Way to Ask People What they Want," in <i>Blink</i> by Malcolm Gladwell ➤ "Why Did I Choose You?" in <i>Buyology</i> by Martin Lindstrom ➤ Hoyer and Brown (1990), "Brand Awareness

			<p>and Choice of a Repeat Purchase Product,” <i>Journal of Consumer Research</i></p> <p>➤</p>
10	Information Search and Prediction	To achieve their goals and to evaluate alternatives consumers search for information both internally by relying on their memory, and externally, by seeking out sources of information. We’ll discuss these processes in session 8 and consider how information search leads to predictions and how these influence the choices consumers make.	<p>Required</p> <p>➤ Kahneman and Tversky (1973), “ on the Psychology of Prediction,” <i>Psychological Review</i>, 80, 237-251.</p> <p>➤ Chapter 4 Zweig</p>
11	Learning and Hypothesis Testing	Part of evaluation involves forming inferences and relying on stored knowledge. But just how do consumers learn? How do they form inferences about the relationships between brands and quality, for example? How do they test hypotheses to build their knowledge? In session 9 we will discuss some important elements of how consumers learn that can influence how they ultimately make choices – including the influence of dopamine levels in the brain on the learning and reward process.	<p>Required</p> <p>➤ Van Osselaer, Stijn M. and Chris Janiszewski (2001), “Two Ways of Learning Brand Associations,” <i>Journal of Consumer Research</i>, Vol. 28 (2), 202-223</p> <p>➤ Fischhoff and Beyth-Marom (1983), “Bayesian Hypothesis Evaluation,” <i>Psychological Review</i>, 90, 239-260</p> <p>➤ Schulz, W. (2002), “Getting formal with dopamine and reward,” <i>Neuron</i>, 36, 241-263.</p>
12	Memory and Knowledge	How consumers store information in memory, and how they retrieve it, can influence the decisions they make. Unfortunately, not everything we experience is stored in memory, and a substantial part of a retrieved memory is actually reconstructed with influence of the present context and situation. So understanding the basics of memory is important for understanding consumer behavior. We will look at some of the underlying neurological bases of memory and knowledge and the marketing implications, thereof.	<p>Required</p> <p>➤ "Can a Dead Brand Live Again?" in <i>New York Times</i> May 18, 2008, By Rob Walker</p> <p>➤ Chapter 3 Zurawicki</p> <p>➤ Rottenstreich, Y., Sood, S., Brenner, L. (2007), “Feeling and Thinking in memory based vs. stimulus based choices,” <i>Journal of Consumer Research</i>, 33(4), 567-578.</p> <p>➤ Euston, D. R., Gruber, A.J., McNaughton, B.L., (2012), “The Role of Medial Prefrontal Cortex in Memory and Decision Making,” <i>Neuron</i>, 76(6), 1057-70</p> <p>Recommended</p> <p>➤ Chapter 8 Zaltman</p>
13	Attitudes and Switching Behavior	Attitudes are the evaluations that express liking, or disliking, of objects. Attitudes can influence how consumers think, how they feel, and what they do. In this session we’ll discuss attitudes and how they are formed, and changed. We will use a case to illustrate the idea that because conditioned brand attitudes do not change easily, one tactic that can be employed by a firm is to minimize the change in a rebranding effort.	<p>Required</p> <p>➤ Sweldens, Steven, Stijn J. van Osselaer and Chris Janiszewski (2010), “Evaluative Conditioning Procedures and the Resilience of Conditioned Brand Attitudes,” <i>Journal of Consumer Research</i>, 37(3), 473-489.</p> <p>➤ Case: Rebranding Star News to ABP News: Managing Customer and Partner Perceptions and Attitudes</p>

14	Mental Accounts, Sunk Costs, Endowment Effects and Neural Substrates	Consumers make decisions which are not “rational” – they use decision rules that appear to indicate that money is not fungible, they appear to be influenced by what they already possess and the amount of resources already invested in a decision. This session explores these influences on the consumer decision making process and their neural substrates.	Required <ul style="list-style-type: none"> ➤ Thaler, R. (1999). Mental accounting matters. <i>Journal of Behavioral Decision Making</i>, 12, 183-206. ➤ Arkes, H. R., & Blumer, C. (1985). The psychology of sunk cost. <i>Organizational behavior and Human Decision Processes</i>, 35, 124-140 ➤ Knutson, B., Wimmer, G.E., Rick, S., Hollon, N.G., Prelec, D. and Loewenstein, G. (2008), “Neural Antecedents of Endowment Effects,” <i>Neuron</i>, 58, 814-822.

15	Classic Heuristics and Biases	Because humans have limited capacity in their information processing abilities, they often use mental short cuts in order to make evaluations and decisions. The study of these shortcuts, referred to as heuristics and biases, has increased in recent years with a growing interest in behavioral economics. In today’s session we’ll discuss a number of classic heuristics and biases and explore how they influence the decisions made by consumers.	Required: <ul style="list-style-type: none"> ➤ “The Truth About Reality” in <i>Predictable Irrationality</i> by Dan Ariely ➤ Kahneman, & Tversky (1974). Judgment under uncertainty: Heuristics and Biases. <i>Science</i>, 185, 1124-1131. [Reproduced in Kahneman, D., Slovic, P. & Tversky, A. (Eds.), (1982). <i>Judgment Under Uncertainty: Heuristics and Biases</i>. Cambridge University Press.] ➤ Fischhoff (1975). Hindsight and foresight: The effect of outcome knowledge on judgment under uncertainty. <i>Journal of Experimental Psychology: Human Perception and Performance</i>, 1, 288-299.
16	Applications of Neuroscience in Behavior Change	This session will review behavior change applications using principles of neuroscience.	<ul style="list-style-type: none"> ➤ Chapter 3 Zurawicki
17	Framing and Choice	Everything is Relative. This goes for decisions too. Many studies have shown the influence of how the choice is described, how other available options, and even how seeming irrelevant information can play an important role in how products are evaluated. In this session we will discuss many of these factors that influence consumer decision making – including the neural basis of framing that ties to the levels of dopamine in the brain.	Required: <ul style="list-style-type: none"> ➤ Kahneman (2012), Thinking Fast, Thinking Slow, Chapter 34 “Frames and Reality.” ➤ Kahnemann and Tversky (1984), “Choices Values and Frames,” <i>American Psychologist</i>. ➤ M. Deppe, W. Schwindt, J. Krämer, H. Kugel, H. Plassmann, P. Kenning, E.B. Ringelstein (2005), “Evidence for a neural correlate of a framing effect: Bias-specific activity in the ventromedial prefrontal cortex during credibility judgments,” <i>Brain Research Bulletin</i>, 67, 413-421 Recommended: <ul style="list-style-type: none"> ➤ Chapter 3 Zurawicki

18	Brands and the Brain: Implications	Brands are evaluated in an affective way by the brain and the process also, simultaneously reduces analytical	Required: <ul style="list-style-type: none"> ➤ “Want to Perfect Your Company’s Service? Use Behavioral Science” in <i>Harvard</i>
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	for Relationship Building with the Brand	processing. We'll also look at factors that influence how we experience brands in real time, and how we adapt to both good and bad experiences.	<p><i>Business Review</i>, June 2001, by Richard B. Chase and Sriram Dasu</p> <ul style="list-style-type: none"> ➤ Managing Your Brand Relationships by Sahay and Sharma 2013 (working paper) ➤ Sahay, Sharma and Mehta (2012), "Gender Influences on Brand Relationships," <i>Journal of Indian Business Research</i>, ➤ Reiman, M., Castano, R., Zaichkowsky, J., and Bechara, A. (2012), "How we Relate to Brands: Psychological and Neuro-physiological Insights Into Consumer Brand Relationships," <i>Journal of Consumer Psychology</i>, 22, 128-142
19	Pricing and Neural Correlates	This sessions reviews some recent research in the area of pricing, consumption and neuroscience.	<p>Required:</p> <ul style="list-style-type: none"> ➤ Karmakar, Uma, Baba Shiv and Brian Knutson (2014), "The Neural and Behavioral Impact of Price Primacy on Decision Making," <i>Journal of Marketing Research</i>, ➤ Lee, Leonard and Claire Tsai (2014), "How Price Promotion Influences Post Purchase Consumption Experience over time," <i>Journal of Consumer Research</i>,
20	Review and Roadmap	In this session, we will review the key concepts and ideas that establish the underlying neural bases of consumer psychology and will summarize the major implications for marketing actions.	