Inside the Minds of the TRENDSETTERS

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Brain scans have revealed which personality types are the most influential in the widespread adoption of new trends and technologies.

How do consumers choose a particular product? Empirical studies have found that personality characteristics influence the amount and type of information that people seek before making purchasing decisions.

Understanding the way we make economic decisions has been a fundamental question for neuroscientists, psychologists and marketing experts for some time. Indeed, the new fields of neuro-marketing and neuropsychoeconomics are bringing these seemingly different disciplines together.

Social psychologists and consumer behaviourists have found that a small group of consumers are more “knowledgeable” than the majority of consumers. Known as “market mavens”, this group comprises 10–15% of the general population.

Mavens are more likely to be highly aware of what is going on in the marketplace concerning the relative quality and price value of many product categories and brands. Mavens have a wider range of generalist knowledge, which includes consumer goods, leisure services and which retailers provide the best value for money about lots of products. Mavens know specifically which products perform best in a product category, and which special deals are available in a specific shopping area.

Mavens provide all this market intelligence information through informal word-of-mouth communication to a large number of social contacts without any cost. They have a wider range of social networks, and feel obliged to share their market knowledge with many people they know, not necessarily only with their friends and family.

Extensive empirical research of market mavens in the USA, Europe and Australia has identified a number of personality and demographic characteristics. Mavens have the ability and motivation to be generally well-informed and knowledgeable consumers. They are likely to be well-educated middle-aged women and men with average incomes.

Previously our research group has found that mavens have a high need for achievement. They like to achieve social recognition and social power, and have high levels of self-belief.

Other researchers have identified a range of key personality characteristics. Mavens are extraverted, unselfish in helping other people to make smart choices without any expectation of compensation, and they are overall very trustworthy.

These knowledgeable consumers like to socialise and communicate with many people. Their natural inclination to share market- and product-related information widely makes them excellent diffusers of market information.
Interpersonal communications such as word-of-mouth between fellow consumers is considered by business people to be the most valuable and effective method of communication. Word-of-mouth is much cheaper and faster than any other form of promotion in mass media. Consumers find word-of-mouth a more reliable and trustworthy source of information to make decisions.

Broad or Specialist Knowledge?
We attempted to see if there were any differences between the mavens and other social diffusers, such as “opinion leaders” and “innovators”. While opinion leaders and innovators are knowledgeable about a small range of products, mavens are thought to be generalists concerned with many product categories, and therefore have a very different focus.

We decided to test the general theory that mavens have broad and generic knowledge by developing three identical surveys about three different industries: restaurants, independent touring holidays and cinemas. Our aim was to find out if the mavens are indeed knowledgeable about many different product categories in a variety of industries, or whether their knowledge is restricted to specific industries.

The surveys found that the mavens are indeed generalists who are capable of influencing other consumers by word-of-mouth. We also discovered that the mavens belong to the “feeling” personality orientation (see box).

No other research has attempted to verify the personality characteristics of the mavens across different product categories, and therefore this is an original and highly useful finding for decision-makers who are interested in identifying the key drivers and shapers of word-of-mouth communications in all kinds of industries.

Personality Orientations
The outcome of this research led to the development of a new instrument. The Gountas Personality Orientations Model is based on Carl Jung’s four personality functions. However, the original Jungian personality functions have been adapted and tested on more than 6000 participants in Australia, the UK, Mexico, Switzerland and Austria.

The four personality orientations - Logical, Imaginative, Feeling and Pragmatic - suggest that people have different ways of perceiving the world (see box). Since decision-making processes are fundamentally different between the four personality orientations, people will have different preferences about products and lifestyle activities.

According to our research, people “think” in different ways, and therefore there are four corresponding and distinct brain-processing systems to facilitate these four thinking styles. The four personality orientations respond differently to verbal, visual, emotional, imaginative stimuli; and differ in their use of linear, abstract, logical and intuitive ways of developing, processing, organising and storing information.

Each of the four personality orientation
tions use distinct brain-processing systems for different types of information. For example, the feeling types rely on the complex interplay of visual stimuli, emotional processing, kinetic and somatic experiences. The logical types rely primarily on meaning embedded in information and the connection of different ideas to make sense of their experiential phenomena.

Each personality orientation creates different kinds of meanings, and therefore they are influenced by different types of stimuli and experiences. Therefore, individuals select different types and amounts of information to inform their decisions, which are uniquely relevant to their lives.

Our hypothesis was that each of the four personality orientations corresponds to four different operating brain sub-systems that are responsible for processing:

- ideas (logical);
- visual information (imaginative);
- emotions (feeling); and
- somatosensory information (pragmatic).

**EEG Tests**

Neuroscientific tests such as electroencephalography (EEG) are capable of identifying whether people process information in the same way. From an epistemological point of view, neuroscientific techniques like EEG provide the most informative and reliable empirical data.

For this study, our previous research on the neurobiology of personality and personality disorders helped to develop reliable visual and verbal stimuli to test the relationships between the four personality orientations and the corresponding brain systems. The verbal stimuli in this study consisted of a personality inventory that asked the participants to score as they were completing it and thinking about their personality. The combination of personality psychometrics with EEG techniques make this study unique and comprehensive.

Forty-three healthy, normal participants were recruited for the testing. The sample consisted of 23 females and 20 males with a mean age of 30.8 ± 11.9 years and educational level of 14.8 ± 1.5 years. All participants were screened and excluded if there was a history of epilepsy, brain injury, loss of consciousness, convulsions, or a history of psychiatric or other neurological conditions.

The Gourtas personality inventory was used to identify the dominant personality type for each participant, with participants asked to answer questions about their personality from a personality orientation survey. Each question was presented on a computer monitor, with the participant answering the questions verbally. The task consisted of 90 questions paced at one question every 5 seconds.

While the participants answered the questions, an EEG was recorded using a 32-channel electrode cap, which the participant wore during testing. The EEG associated with the decision phase of each question was later analysed.

Analysis of the coherence of alpha wave activity (8–12 Hz) revealed the degree of interconnectivity between scalp sites associated with underlying neural processes. This technique has previously been used to investigate attention, working memory and changes in consciousness.

Figure 1 illustrates which regions were interacting during the processing of each of the questions for the four personality orientations. All four maps illustrate similarities in connectivity, especially in left and right frontal, central and temporal sites, which could be associated with
language processes.

However, the maps also illustrate distinctly different patterns of connectivity across brain sites. Any differences between these maps may be associated with the decision-making processes based on the personality types of the participants.

The results from the questionnaires and the EEG tests suggest that there are four distinct personality orientations with their own specific neural network for processing the different types of stimuli. The tests thus confirmed our hunch that some people are high on imagination and visual processing; others are high on feeling and emotional processing; others on ideational and logical cognitive thinking; and others on the factual and somatosensory type of processing system. All four factors were statistically significant.

Each of the four brain-processing systems identified in the EEG corresponded with the four personality orientations revealed by participants during our tests.

Further EEG analysis suggested that there was a significant correlation between the market mavens and the "feeling" personality orientation. This is a significant and original finding that confirms previous empirical tests.

This kind of study, which brings together the neuroscience of decision-making, psychological constructs and marketing theory, is a robust multidisciplinary research approach. What makes our study unique and possibly the first of its kind is the idea that people think and process information in four generic ways.

Our research findings have implications for managers in organisations that need to understand better how consumers make decisions. The idea of using neuroscientific research tools to map personality types may be a better way of investigating decision-making by the market mavens.