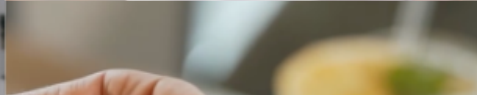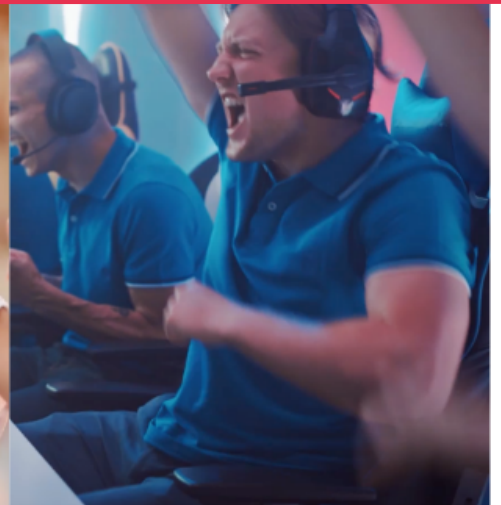# symanto
psychology ai

OUR
PSYCHOGRAPHICS

Why personality matters?

People prefer to interact with people who have similar personality styles.[1]

People also prefer to engage with written materials that better resonate with their personality. It has been shown that personality-tailored advertising messages increase the click and conversion rates[2] and lead to better consumer satisfaction.[3]

Virtual agents (dialog systems, chat bots, etc.) which can adapt to user's personality are perceived as more empathetic and thus preferred by users.[4]

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           People prefer to engage with people,
        written materials, and virtual agents that
            better resonate with their personality.
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[1]Wu, Y., Stillwell, D., Schwartz, H. A. and Kosinski, M. 2017. Birds of a feather do flock together: behavior-based personality-assessment method reveals personality similarity among couples and friends. Psychological Science, 28: 276-284.

[2]Matz, S. C., Kosinski, M., Nave, G. and Stillwell, D. J. 2017. Psychological targeting as an effective approach to digital mass persuasion. PNAS, 114: 12714-12719

[3]Matz, S. C. and Netzer, O.2017. Using big data as a window into consumers' psychology. Current opinion in behavioral sciences, 18: 7-12.

[4]Ma, X., Yang, E. P. and Fung, P. 2019. Exploring perceived emotional intelligence of personality-driven virtual agents in handling user challenges. In the Proceedings of the World Wide Web Conference (WWW), San Francisco, CA, USA, pp. 1222-1233.

Widely known personality models

Two most widely known personality models are the Big 5 (also known as the OCEAN model) and the MBTI model.[5] Both models capture behavioural characteristics that are relatively stable through the lifespan and do not change depending on the context.

The Big 5 (OCEAN)

The Big 5 model is a data-driven personality model that was defined by studying and factor-analyzing hundreds of measures of personality traits to find the underlying factors of personality. It identifies and measures (on a 100-point scale) five broad personality dimensions: **o**penness, **c**onscientiousness, **e**xtraversion, **a**greeableness, and **n**euroticism (emotional stability).

The MBTI

The MBTI model originates from theoretical work of Carl Jung in 1921 and was later adapted by Myers and Briggs by adding the fourth layer. It is one of the most widely used non-clinical psychometric assessments due to several decades of extensive practical use within the industrial and educational settings. The MBTI model assigns one of the 16 personality types based on binary classification along four dimensions: **e**xtravert/**i**ntrovert, **s**ensing/**i**ntuitive, **t**hinking/**f**eeling, and **j**udging/**p**erceiving.

> Big 5 and MBTI personality models capture
> behavioral characteristics that are stable through
> the lifespan and context.

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[5]For more details about MBTI and Big 5 models see: Štajner, S. and Yenikent, S. 2020. A survey of automatic personality detection from texts. In Proceedings of the 28th International Conference on Computational Linguistics (COLING), pp. 6284-6295.

Our psychographics

Our psychographics originate from known psycholinguistic theories. They capture psychological states [emotionality], communication styles [self revealing, fact-oriented], and communication needs [information-seeking, action-seeking] from short posts and interactive communication means.

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Our psychographics can be extracted from short
    posts and are well-suited for various
       interactive communication means.
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Emotionality

Emotionality influences personal interests and attentiveness. People tend to use the same levels of emotionality throughout conversation, engaging themselves in a so-called conversational dance.[6] Emotionality (expressing oneself rationally or emotionally) can change instantly depending on the personal condition and triggers. To be perceived as more empathetic and to engage better with the user, it is important to adjust to the user's emotionality instantly throughout the conversational dance.

emotional	*Best unboxing ever! Congrats.*
	This semis are so entertaining. Also, it's quite nice not to see a complete stomp by nV. Just a win is cool
rational	*MoboPlayer allows you to control L/R channels , but it's limited to on/off .*
	Uber seals multibillion-dollar investment from Softbank

Emotionality should not be confused with the thinker/feeler dimension of the MBTI personality framework which refers to rational/emotional decision-making and is a relatively stable personality trait. While feelers (people who make decisions based on their emotions) often express themselves emotionally, they do not necessarily do that all the time.

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[6]Pennebaker, J. W. 2011. The secret life of pronouns: What our words say about us. Bloomsbury Press.

The emotionality of their wording can be influenced by external factors, such as context, topic, or closeness of the person they communicate with. Similar holds for thinkers (people who make decisions based on the rational factors). They tend to use less emotional statements on average, but the emotionality of their statements is also influenced by external factors.

Communication Styles

Matching the communication style of the other person generates the feeling of being liked and socially accepted,[7] and increases the chances for influence and persuasion.[8]

Our approach to communication style is based on the Four-sides Communication Model.[9] The model emphasizes the practical aspects of communication and has been used in both one-to-one and mass communication strategies.[10,11]

We refer to the first two communication layers of the model as the communication styles. Statements in which speaker shares personal information or experiences are markers of the self-revealing communication style. Factual and objective statements are markers of the fact-oriented communication style.

self-revealing	*Best unboxing ever! Congrats.*
	Haven't had a single game give me xp today except for the ones I've lost in. Also I'm constantly getting paired with unranked people who are either terrible or actively antagonise me. I've literally gone down from silver 4 to silver 2.
fact-oriented	*So far it is only out for Mac and 32-bit Windows. 64-bit Windows should be out soon.*
	Uber seals multibillion-dollar investment from Softbank

[7]Bell, R. A. and Daly, J. A. 1984. The affinity-seeking function of communication. Communications Monographs, 51(2):91–115.

[8]Winning Arguments: Interaction Dynamics and Persuasion Strategies in Good-faith Online Discussions: https://chenhaot.com/pages/changemyview.html

[9]Schulz von Thun, F. 1981. Miteinander reden: Störungen und Klärungen. Psychologie der zwischenmenschlichen Kommunikation. Rowohlt Taschenbuch.

[10]Bogdan, L. 2013. Cybernetic Approach to Project Management, chapter 02: 00 Communication Management: COM, pp. 337-364. Springer, Heidelberg.

[11]Cherepanova, N., Liliya, T., and Alexandra, E. 2015. Communication technologies in contemporary corporate social responsibility management. Procedia-Social and Behavioral Sciences, 166:583–588.

Communication Needs

Our approach to communication needs is based on the third layer of the Four-sides Communication Model.[12] The model emphasizes the practical aspects of communication and has been used in both one-to-one and mass communication strategies.[13,14]

We discern between information-seeking and action-seeking communication needs to provide more fine-grained classification to allow for better personalized messaging and customer segmentation.

information-seeking	*Price please*
	So what if you run out of charge whilst you're on the train?
action-seeking	*Put down your rose-colored glasses. The guy has a point.*
	Can please get more porcupine tree music on Spotify as well the entire catalogue by blackfield please?

[12]Schulz von Thun, F. 1981. Miteinander reden: Störungen und Klärungen. Psychologie der zwischenmenschlichen Kommunikation. Rowohlt Taschenbuch.

[13]Bogdan, L. 2013. Cybernetic Approach to Project Management, chapter 02: 00 Communication Management: COM, pp. 337–364. Springer, Heidelberg.

[14]Cherepanova, N., Liliya, T., and Alexandra, E. 2015. Communication technologies in contemporary corporate social responsibility management. Procedia-Social and Behavioral Sciences, 166:583–588.

The benefits of using our psychographics

Our psychographics can be used for:
- Better customer segmentation (for better market analysis)
- Personalized marketing (for better customer satisfaction and increased click and conversion rates)
- Personalized messaging (to engage in "conversational dance")
- Detecting promoters and detractors in social media (by using a combination of emotionality and communication styles)
- Focused analysis of user feedback (combinations of emotionality and communication styles used for grouping user feedback according to their usability and importance)
- Improved handling of customer requests and complaints

Text types, domains, and languages

Our psychographics have been trained on large volumes of high-quality manually annotated data from various sources [forums, blogs, surveys, social media…] and in various domains [sports, e-sports, mobility, healthcare, retail, pharma, consumer goods, music, gaming, finance, automotive industry…]. This ensures applicability of our psychographics to various domains and text types with high accuracies.

We currently serve models for 11 languages [English, Spanish, German, French, Italian, Russian, Chinese, Arabic, Portuguese, Dutch, and Turkish]. Thanks to using the latest technological advances, we provide models for other languages upon demand.

Psychographic	Emotionality	Self-revealing	Fact-oriented	Information-seeking	Action-seeking
Avg. accuracy	93.3%	96.8%	96.0%	97.4%	96.0%

Our psychographics vs. Big 5/MBTI

There are several important differences between our psychographics and the traditional personality models.

Our psychographics	Big 5/MBTI
Capture psychological state, communication styles, and communication needs	Capture deeper personality traits reflected in behavioural characteristics
Capture characteristics that can change instantly based on context and personal triggers	Capture enduring personality traits that are relatively stable throughout the lifespan and different contexts
Can be accurately detected from short posts and interactive communication means	Can be successfully detected only on longer posts (essays, weblogs, letters) written on specific topics
Ideal for improving user engagement and satisfaction in interactive communication and social media	Used for career planning, team building, etc.