Innovation Management

Measuring Innovation Potential: Traits that Predict Unique Thought

CQ Dossier | Evidence-based Innovation Management

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Executive summary

As a manager, it is important to take advantage of your employees' potential for innovative thought. More than just creativity, innovation potential speaks to an individual's capacity to generate novel and useful ideas that can inspire others and produce growth. Assessing individual levels of innovation potential can help you make determinations about whom to hire, whom to promote, how to compose a work team, and even who stands to benefit from innovation-boosting interventions.

Psychology provides evidence-based methods of assessing individual levels of creativity

Psychology has concerned itself with the empirical study of creativity and innovation for as long as it has concerned itself with intelligence and personality. There are numerous available assessments and tasks that can be used estimate a person's creative capacity, as a result. This CQ Dossier will review some of the leading evidence-based methods of assessing individual levels of creativity. These measures can be used to determine the creative potential of prospective hires, or to determine areas of improvement within an existing team. However, the capacity to innovate entails much more than having creative ideas – new ideas must also be useful and paradigm-shifting, if they are to truly make a splash in the professional world. With that in mind, this dossier will also review other key traits to look for, when seeking to identify innovative thinkers – everything from personality and outlook, to factors such as demographics, will be reviewed and considered.

Creative thinking exercises and tests

Creativity is often measured by examining the number of unique responses or solutions a respondent provides to a challenging prompt. These measures of creativity are easy to administer, quick to score and interpret, and can be used to screen employees for placement within an organization. Because these measures require respondents to

practice creative thinking on the fly, they can also be used as an educational exercise, or as part of a creativity-boosting workshop.

Creative generation

Many tests of creativity involve producing novel responses to a prompt in a limited amount of time. Wallace and Korgan's (1965) creativity measure involves giving respondents a series of open-ended prompts, such as "list as many things with wheels as you can think of", and a fixed time limit of two to five minutes per prompt. The number, originality, and diversity of types of responses are all reviewed – an individual who provides a larger number of unusual, varied responses is considered to be creative and potentially innovative.

Perhaps the most famous psychological measure of creativity is Guilford's (1975) "Alternative Uses" test. In this test, respondents are provided with a piece of lined paper, and the instructions to list as many possible uses for an object (typically a brick, but sometimes a paperclip, a newspaper, or another household object) as they can think of in a span of five minutes. The more uses a respondent lists, and the more unusual the uses are, the more creative the respondent is determined to be. Both this test and the Wallace and Korgan (1965) can be used as a brainstorming and creativity exercise, as well as an assessment, and can be administered to individuals or to teams.

Creative problem-solving

Some measures of creativity are more focused on whether an individual can locate a viable answer to a challenging problem. In Mednick & Mednick's Remote Associates Test (1967), a respondent is given a group of three words, and is asked to provide a fourth word that is associated with all three. For example, a participant might be given the words "cottage", "blue", and "mouse"; the word that pairs well with all three is "cheese" (cottage cheese and blue cheese are both types of cheeses; and mice love cheese). The more quickly & accurately a respondent solves these word problems, the greater their creative insight is estimated to be.

Another more hands-on assessment of creative problem-solving is the Candle Problem, developed by Duncker (1945). In this test, participants are given a candle, a box of tacks, a book of matches, and a thin wall or partition; participants are tasked with finding a way to affix the candle to the wall and light it, such that it will not drip wax onto the ground. The typical solution to the test is to empty the box of tacks, use the tacks to attach the box to the wall, then place the candle inside the box and light it. A participant's capacity for creative insight and innovative problem-solving is determined by the length of time it takes them to divine this solution (Weisberg, 2015). This task can also be used as a creativity-building exercise, and can be conducted in teams.

Traits that predict innovative thinking

If you are interested in determining whether an employee or prospective hire has high innovation potential, there are many other attributes you can look to beyond creativity. These traits can be examined using assessments, during a more qualitative interview process, or by examining an individual's track record on the job. Fortunately, nearly all the factors that are positively correlated with innovation are also organizationally beneficial traits in their own right.

People who are honest and candid are typically more creative and innovative, perhaps because they are less inhibited (Sellier & Dahl, 2015). Unsurprisingly, people who are open to new experiences are more likely to think in unique, challenging ways (Costa & McCrae, 1992). The Five Factor Model (FFM) also called Big 5 can be used to describe and measure personality traits related to creativity.

Taking a proactive approach to personal & professional problems is also associated innovation (Jing, Wei, & Jun, 2016). Typically, individuals who see themselves as empowered and capable of determine their own fate are people who use their creativity in impactful, innovative ways (Malik, Butt, & Choi).

Proposing a new way of doing business, or identifying a problem that has not been recognized before requires a degree of bravery and self-confidence – as a result, risk-taking behavior is positively associated with innovation (Craig, Pohjola, Kraus, & Jensen, 2014). In addition, innovative thinkers often crave novelty and excitement, and tend to prefer work environments that are dynamic and involve multiple unique tasks (Lu,

Akinola, & Mason, 2017). As such, highly innovative team members can become dissatisfied within an organization that does not stimulate them; in organizations and industries where a risks are not well-tolerated, innovative employees may be challenging to work with.

Social and demographic factors that predict innovation

One of the greatest business [advantages of diversity](#) is that it increases creative, paradigm-shifting thinking on a team (Homan et al, 2015). Exposure to a variety of types of individuals tends to boost creativity for everyone involved, though often at the price of increased conflict in the short-term. Some researchers believe the conflict and discomfort that diversity sometimes introduces contributes to diversity's innovation-boosting potential (Paulus, van der Zee, & Kenworthy, 2016). Diversity in terms of race, gender, ethnic background, sexual orientation, and disability status are all found to improve creativity and the capacity for innovation with in a team.

People with multiple identities are more likely to come up with Innovative solutions

On an individual level, people multiple identities are more likely to think in outside-the-box ways (Gaither, Remedios, Sanchez, & Sommers, 2015). This does not mean that employee must be marginalized in multiple ways – merely that if an individual sees themselves as the member of many different groups, they are more likely to think in a flexible, dynamic manner. For example, a man who was raised on a farm then lived in a diverse urban area for many years may see himself as having a "city self" and a "country self"; the unique experiences and skills of each unique "self" can be used, when needed, to reframe problems and think creatively about challenges in the workplace. Some research suggests that individuals who are skilled at "code switching" – moving from one culture or sub-culture to another – are particularly adept at seeing problems in a variety of ways (Balam & de Prada, 2017). This can foster innovation on the individual level, and within work teams.

Key take-aways

- An employee's innovation potential can be assessed using creativity measures, or by examining their personality, outlook, and background
- Many well-researched personality tests can be used as assessment tools, or as practice activities for boosting creativity in the workplace
- Open-minded, risk-taking, stimulus-seeking individuals tend to be highly innovative
- Diversity of experience and identity are major advantages in an organization that needs innovative thinking

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