



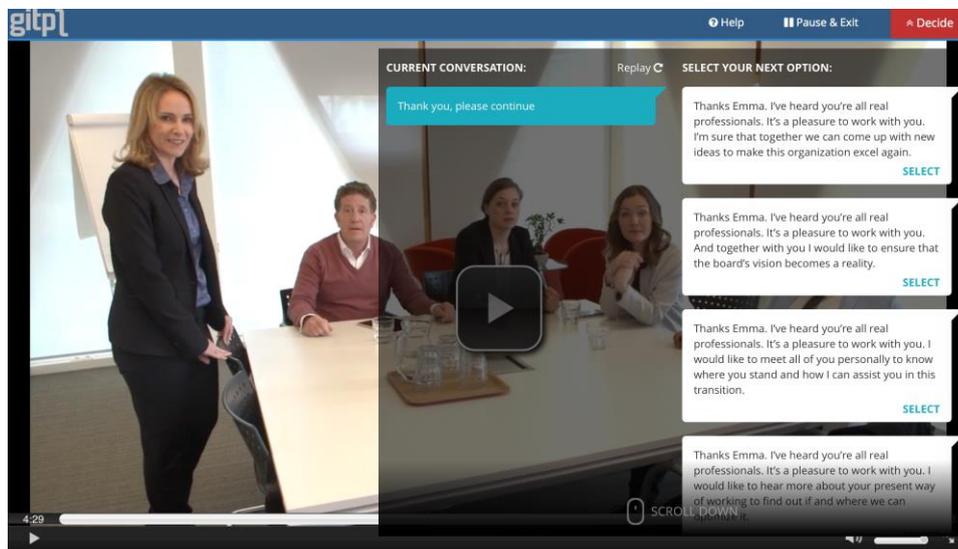
The Leadership Game: An effective and fun way of assessing and developing agile leaders

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1 About the DEVELOP project

Against the backdrop of rapid technological developments and changes within the workplace, it becomes challenging to assess workplace-relevant soft skills and plan individuals' learning paths for career development. The DEVELOP project – a research and innovation project funded by the European Commission – allows various industrial and academic partners to address this challenge. The solution is to create a web-based learning environment that offers employees personalised learning interventions to shape their career paths. This learning environment is based on a framework for assessing transversal competencies; competencies that apply across jobs and occupations, and can be acquired through formal and informal learning, through work and non-work activities. Within this framework, transversal competencies such as leadership, will be assessed by means of social network analysis that will reveal the importance of social networks at work for career development, self-reporting tools, and game-based assessments. Game-based assessments, henceforth 'games', form the focus of this paper, because of the innovative and unique nature of using games for behaviour assessment and development purposes.



2 Changing workplaces

The workplace as we know is changing drastically; organisations are becoming less hierarchical, more work is done from home, is project-based and internationally oriented, and technological advancements have brought about a shift from physical to virtual reality. These changes require a new type of agile leaders. This introduces challenges to the professionals in the Human Resources field to identify the right people for the right positions and develop them in the best way possible.

But how to assess and develop agile leadership?

3 Benefits of traditional assessments methods

Up to now, behaviour is usually measured in roleplays and sometimes by using the 360-degree feedback method. In a roleplay, the assessee takes on a certain role and has a conversation with an actor. The conversation may be about a problem that needs to be solved within an organization. An assessment psychologist evaluates whether the assessee's behaviour fits the behaviour required for the job. With the 360-degree feedback method, information about the assessee is collected via their direct social network; either their manager, their peers, or even subordinates. The disadvantage of these two methods is that they are time-consuming and therefore costly. Furthermore, they are not scalable as they require actual presence of observers and assessors. The fact that the observations are done by people increases the chances of all kinds of subjective observation errors. Modern methods of assessing behaviour, by using serious games, have several advantages.

4 Advantages of serious games

A game is called a 'serious game' if it has been developed to have certain well-intended effects on the player that go beyond pure entertainment, such as learning. Although researchers mention drawbacks associated with using serious games, such as the difficulty to validate the test, as well as the time and high costs to develop a game; in practice, these drawbacks are limited. What we know from experience is that the majority of these costs are earned back, because organizations do not have to spend extra money on actors or psychologists; the "observations" and interpretations are fully automated. On top of that, the game can be played from home and can be used with large audiences. Production costs are outweighed by the substantial number of times the game can be played.

Apart from these more practical advantages, applied workplace competency games have shown to incrementally predict job behaviours. Furthermore, assessee experience more life-like scenarios and are therefore less likely to respond in a socially desirable way.

Also, outcomes of a recent study show that serious games motivate and stimulate player engagement. Game players can choose one storyline, but re-live another one due to the many provided answer options. The game setting also gives the player a more realistic environment to interact with, which allows for a better assessment of player's behaviour displayed throughout the gameplay. Furthermore, people can practise in a safe environment with different answers to choose from that lead to more effective or less effective behaviour. This way, they learn to adapt their behaviour depending on the situation. Assessee get the opportunity to obtain insights into their own behaviour and development potential through training.

5 Successful requirements for creating serious games

Serious games are being used more often by HR companies as a newer assessment and development method. A serious game has the distinguishing feature that it has clearly intended effects on the player that go beyond pure entertainment solely. The five aspects in game

entertainment consist of narrativity, game design, aesthetic presentation, an enjoyable game experience, and technological capacity. On one hand, the game should be enjoyable to play and constructed realistically. On the other hand, the game is implicitly a test to measure skills, such as agile leadership.

Furthermore, a game should encompass a sound evidence-based theory. Using a strong model also gives the opportunity of comparing intention and demonstrated behaviour.

This foundation is crucial to assess soft skills such as leadership; are individuals suitable to work in a leadership role and/or can they be further trained in their leadership competencies?

6 Solid scientific basis for the leadership game

6.1 Leadership theory

Classic theoretical leadership examples are McGregor's distinction between Theory X and Theory Yⁱ and Burns' distinction between transactional and transformational leadersⁱⁱ. Empirical examples in the literature often categorise between relational, autocratic versus democratic and directive versus participative leadershipⁱⁱⁱ.

More recently, Denison, Hooijberg and Quinn argued that effective leaders should be able to take up different roles when dealing with varying situational challenges rather than being categorised as a directive versus participative leader, for instance^{iv}. Thus, effective leaders should both be equipped with the cognitive and behavioural capacity to respond adequately to a wide range of situations, i.e., agile leadership.

6.2 Agile leadership

Agile leadership takes centre stage in Quinn's leadership model, which depends on an interaction between two dimensions: intern versus extern and stability versus flexibility^v. These two dimensions represent dilemmas in an organisational environment. On the one hand, a leader should be externally focused on completing tasks and attracting external means. On the other hand, a leader should be internally focused on the importance of employee well-being and continuous processes. Furthermore, a leader should find a balance between order and structure, and innovation and change^{vi}. Quinn's model is relevant, because many studies suggest that the model is reliable and valid across different cultures and contributes to one's understanding of complexity in an ever-changing world^{vii}. Additionally, Tong and Arvey argue that the Quinn model can widely be applied to organizational behaviour and change^{viii}. Quinn's leadership model of competing values consists of a horizontal and vertical axis with intern versus external and stability versus flexibility, plotted against each other (see Figure 1).



Figure 1: Quinn Model^v.

The Quinn Model consists of four quadrants: Human Relations, Open Systems, Rational Goal, and Internal Process, each with two roles^{ix}. Some studies speak of six instead of eight roles, or suggest the location of these eight roles to differ from their original hypotheses^x. Nevertheless, many support the four quadrants including the eight roles in the model^{xi}.

The *Human Relations quadrant* consists of the team builder and mentor role. The team builder stimulates collaboration and solves problems between people to guarantee an open work environment. The mentor is focused on developing skills and offers people the chance to take training.

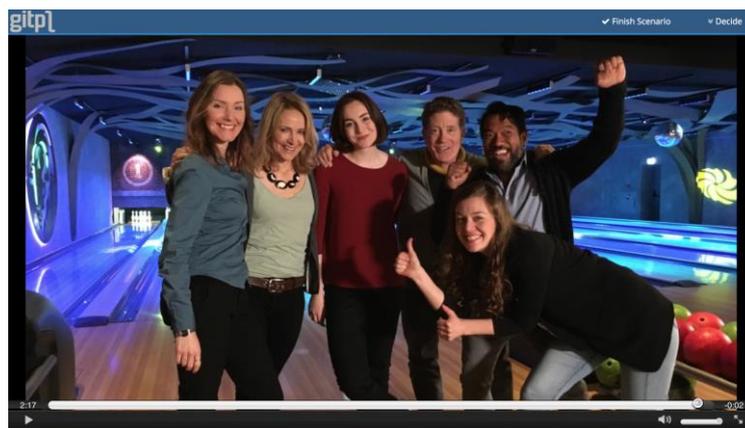
The *Open Systems quadrant* consists of the innovator and networker role. The innovator comes up with new ideas, spots trends and implements changes. The networker contacts people from outside the organization to foster his or her own reputation and the image of the organization. By connecting with others, the networker tries to obtain means of production externally.

The *Rational Goal quadrant* consists of the producer and director role. The producer is task-focused and highly values productivity improvement and achieving set goals. The director makes plans and sets goals for him or herself, and the rest. Also, the director clearly assigns roles and distributes tasks so people know what is expected from them.

The *Internal Process quadrant* consists of the coordinator and monitor role. The coordinator ensures that the processes and systems within the organization run smoothly so that work processes can be utilized optimally. The monitor is occupied with analysing facts and details, and ensures that the right information is reported to keep everyone up to date^{xii}.

Paying too much, or not enough, attention to one of these quadrants can have negative consequences^{xiii}. For instance, ignoring collaboration and employees' development in the human relations quadrant can downplay engagement, cohesion and morale required for effectivity. Even though leaders can have a dominant leadership style, it is crucial for them to be able to take on multiple contrary roles simultaneously. This statement is supported empirically by data analyses of 892 participants, of which 176 executives, showed that effective leaders display more complex and varied behaviour as opposed to ineffective leaders^{iv}. Denison et al. argue that a leader's capacity to unite the extreme axes of intern versus extern and stability versus flexibility, is characteristic of a higher level of development^{iv}. In the game, the versatility on this leadership behaviour is measured.

The scenarios within the game were crafted with the help of subject-matter experts. Interviews with subject-matter experts about leadership were conducted to decipher situations leaders typically deal with (i.e., critical incidents). These critical incidents were mapped onto each of the four quadrants of the Quinn model. For instance, the game player facing a situation where an employee has difficulty with work due to private issues, is associated with the human relations quadrant. Furthermore, the answers players can select could be scripted in such a way that they correspond to the four quadrants of the model. The quadrant the players choose most frequently indicates their dominant style. Effective agile leadership is measured by offering different situations that ask for different styles. If the player of the game uses the right style to deal with a situation, then the player scores high on agile leadership.



6.3 Role of agile communication in leadership

Apart from agile leadership, the game also measures agile communication, which indicates how well the player recognizes what communication style (e.g., analytical, driver, directive, amiable^{xiv}) to use depending on their communication partner and situation. In the game, the player's agile communication is measured during more heated discussions going on between the player and team member. Being an agile communicator is important for work effectiveness, because using the proper style in a certain situation fosters (work) relationships and getting tasks done.

6.4 Leadership competencies

Kurz and co-authors proposed a general competency model which distinguished eight general competency factors (i.e., the Great Eight): 1) leading and deciding, 2) supporting and cooperating, 3) interacting and presenting, 4) analysing and interpreting, 5) creating and conceptualising, 6) organising and executing, 7) adapting and coping, and 8) enterprising and performing^{xv}. For the leadership game, we focused on the first factor 'leading and deciding' (i.e., leadership). After having analysed a dataset of 31.245 assessees, a relation was found between the competency score given by an assessment consultant from GITP and Quinn, and personality items. The four quadrants of the Quinn leadership model were found to be related to GITP's competencies. For instance, individual leadership, coaching and empathy are competencies associated with the human relations quadrant.

6.4.1 Leader's risk behaviour

Under pressure, people may display destructive behaviour. Hogan identified this as the *dark* side of personality^{xvi}. Horney was first to identify three clusters, namely:

1. Moving away
2. Moving against
3. Moving toward^{xvii}

The first includes those who manage their feelings of inadequacy by avoiding contact with others, the second includes those who manage their self-doubts by dominating and intimidating others, and the third includes those who manage their insecurities by building alliances^{xvi}.

In the game, the dark side personality traits are not measured directly, but indirectly, by measuring the Big Five (bright) personality traits. Research has shown that there is a relation between dark side traits and the extremes of bright side traits^{xviii}. A combination of questionnaire data from GITP collected over the past decade allowed us to construct algorithms that form the backbone of the report and feed into players' report results.

6.4.2 From theory to practice: Train leadership by doing

By training a player's behaviour in various leadership situations, one can gain insight into the agility of the player's leadership skills, giving them spot-on feedback and helping them to become more effective leaders.

The leadership game can be played in an assessment and a training mode. In the assessment mode, the players go through the scenarios once and receive a report including their dominant style and versatility score.

In the training mode, the player receives the same report, but a coach subsequently gives feedback on the answers the player has chosen. Contrary to the assessment mode, the player can re-choose their answers and get insights about why a certain answer is preferable in a certain situation.

Apart from the inclusion of an e-coach, the game is also adaptive, as the story-line develops based on the answers the player selects. Therefore, each player can take an entirely different route within the game depending on the selected answers.

Next to behaviour being measured by different answers players select during the game, the game starts with a Quinn and personality-based questionnaire to measure intention. The measurement of both intention and behaviour offers a strong opportunity for training and development. A distinction can be made between what the player feels is best in a situation and what behaviour is actually shown. Four potential outcomes follow: (A) A low score on intention and a low score on behaviour, (B) a low score on intention and a high score on behaviour, (C) a high score on intention and a low score on behaviour, and (D) a high score on intention and a high score on behaviour (see Figure 2).

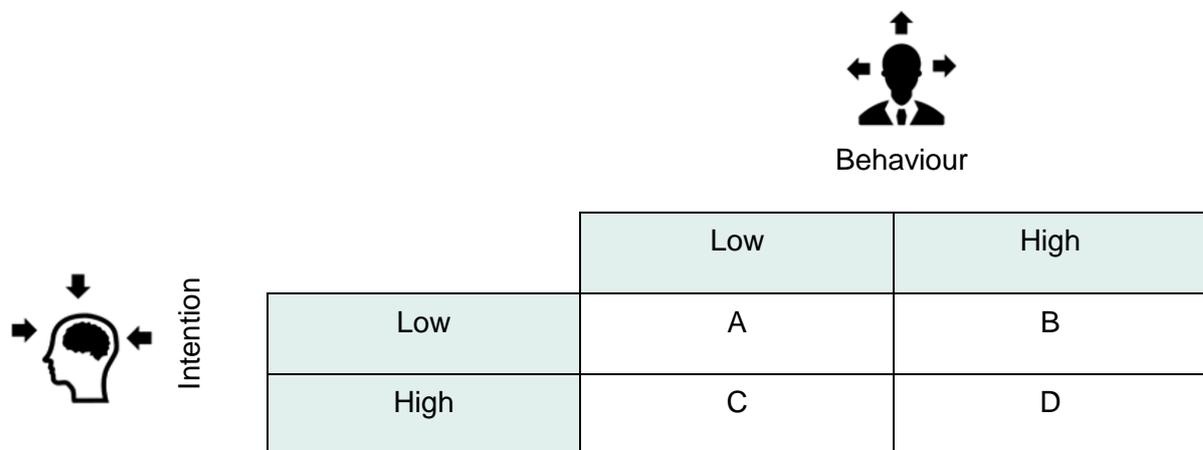


Figure 2: Intention (questionnaire) versus behaviour (game) discrepancy

If the intention shows that the players *want* to respond properly to the human relations quadrant, but *cannot* display this behaviour in the game when a situation asks for it, then there is room for players to practise their behaviour. However, if the intention shows that players *do not have the inclination* to respond adequately to the human relations quadrant, but *can* display this behaviour in the game if a situation asks for it, then this requires more self-reflection. Thus, the distinction between survey-measured intention and game-measured behaviour helps to determine someone’s development potential.

7 Conclusion

The (leadership) game offers an innovative, scientific, and data-driven solution to *both* selection and development queries. Apart from offering the player a unique experience by playing the game, the real value of the DEVELOP platform lies in using the game in combination with other tools, such as social network analysis and self-reporting tools. The data input generated by these tools can then be used to design tailored learning interventions. At the heart of the personalised learning environment lie data that inform us which way to pave for career development.

Interested?



Contact us: research@gitp.nl
Visit us: <http://develop-project.eu>

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