

# Game-based Profiler for Selection of Person-Organisation Fit

Nor Idayu Mahat

*Centre for Testing, Measurement & Appraisal, School of  
Quantitative Sciences, College of Arts and Sciences  
Universiti Utara Malaysia  
06010 UUM Sintok, KEDAH  
[noridayu@uum.edu.my](mailto:noridayu@uum.edu.my)*

Mohd Faizal Mohd Isa

*School of Business Management, College of Business  
Universiti Utara Malaysia  
06010 UUM Sintok, KEDAH  
[m.faizal@uum.edu.my](mailto:m.faizal@uum.edu.my)*

Shahrul Azmi Mohd Yusof

*School of Computing, College of Arts and Sciences  
Universiti Utara Malaysia  
06010 UUM Sintok, KEDAH  
[shahrulazmi@uum.edu.my](mailto:shahrulazmi@uum.edu.my)*

Wan Shakizah Wan Mohd. Noor

*School of Business Management, College of Business  
Universiti Utara Malaysia  
06010 UUM Sintok, KEDAH  
[shakizah@uum.edu.my](mailto:shakizah@uum.edu.my)*

**Abstract**—Many organisations nowadays give attention to person-organisation fit, to recruit and to keep talents who are really fit to organisation’s vision and goals. Having right talents is crucial to sustain the organisation’s existence in a long run, as such studies in human resource management and organisational behaviour have discussed various strategies on how to implement person-organisation recruitment. Despite of strategies to recognise the right talents that fit to organisations, opportunity from the advancement of technology should not be ignored. This article devotes the idea of developing a new game-based profiler called *Task-Manager Profiler* that offers a new strategy on matching individuals’ characteristics, skills and behaviour with organisation’s needs. The game was designed like a teambuilding game project, combines with technology for assessing individual via psychometric and performance assessments. Investigation on validity and reliability of the developed game reveals the possibility of using the game for new staff recruitment, staff placement, and identifying next in line.

**Keywords**—human resource management; person-organisation fit; profiling; organisation sustainability

## I. INTRODUCTION

Recognising right talents to fit into some predetermined jobs at an organisation is challenging and becoming a hot topic in human resource management and organisational behaviour [1]. Nowadays, the process of identifying the right talents has changed due to the rapid development of science and technology, application of new technologies, boundary-less of knowledge, accelerating the shift to high-skilled, economic globalisation, and knowledge economy [2], [3], [4]. Researchers from Universiti Utara Malaysia developed a socioscientific board game called “TaskManager” that can motivate students to make judgements on issues of science and society using Project Management tasks [5].

Companies are competing among each other, not only in the business market but also in getting the pool of talents [6], [7]. Therefore, the knowledge on how to recruit and retain the talents who fit the line of an organisation has become a focus to some hectic businesses like architecture and engineering,

IT and telecom companies as well as professional services [8], [9].

The conventional recruitment model emphasises on matching people with positions where an individual compatibility (i.e. knowledge, skills, and ability) is a weight to specific job requirements. This model is known as person-position fit and has been implemented in many years for staff recruitment. However, the model is too job-centric, ignores other organisational factors that have some impact on organisational development. In fact, the new era of knowledge economy, human resources is deemed to improve the well-being of every individual so they can reach their full potential in a career. Therefore, a new recruitment model that can address changes in human resources should be devoted.

Person-organisation fit recruitment model seeks for talents that could show some corporation with an organisation, where individual’s characteristics could be aligned to meet organisation’s characteristics such as culture, value, target, and specification [1], [10]. The advantage of person-organisation fit compared to the convention model has been identified as follows: First, choose the talents that line with organisation influence their work performance. Second, the recruited talents’ work attitude could be improved especially in sense of responsibility and belonging. Last, the particular recruitment process helps to reduce the turnover rate [1].

This article illustrates the idea of person-organisation fit recruitment strategy using technology game-based profiling. This strategy combines technology as a driver of efficiency and accuracy and gamifying as a tool aiming in getting the right talent on board. Gamification does not work in silos [11]. The designated game includes assessment of skills, psychometric evaluation, and acts as a platform of early communication between employer-candidate. The developed game-based profiler was tested on two different groups of community namely university students and school counsellors. The obtained results give some promising

remarks on implementing the developed game for person-organisation fit recruitment.

The paper is arranged as follows. Section 2 gives the theoretical background of person-organisation fit and gamifying. Section 3 outlines the set-up of the game and evaluation strategy. Section 4 presents the results gathered from two different projects and finally, Section 5 gives the conclusion of all discussion.

## X. GAMIFICATION IN RECRUITMENT

Organisations invest significant resources in the development and career management processes for recruiting the right personnel, especially among graduates [12]. Most large organisations invest on finding the right people and tools to support such mission. Organisations expect high potential employees to achieve superior performance and to demonstrate flexibility, loyalty, and commitment to the organisation. Hence, the potential employees are expected to integrate quickly into the organisation's structure and culture.

Some studies use personality and level of initial degree as key points for recruitment. There are studies that show evidence of the relationship between personality and person-organisation fit. Siebert and Kraimer (2001) suggest that personality characteristics such as adaptability, flexibility, emotional maturity, and need for achievement may impact on graduate's ability to adjust his/her behaviour to match the requirements of the organisation [13].

Recruiters and talent acquisition professionals are gearing up their game to win the war for talent. They are constantly on the lookout for new and innovative ways to better attract, engage, and assess potential candidates. One such skill that they must learn is to integrate the latest technologies with the hiring process. Technology is the driver of efficiency and accuracy, and recruiters must not only be efficient but also highly effective at getting the right talent on board. An interesting proposition that recruiters are playing around with is the application of gaming to the recruitment pipeline. Barcelos (2018) elucidates that modern-day recruiters aware that gamification is one of the best approaches to tap millennial candidates who have grown up playing virtual reality games and easily relate to this kind of hiring dynamic [14]. Therefore, the recruiters should consider the idea of assessing a candidate by making him or her play a game on the smartphone.

Gamification in hiring and selection is the next big innovation [1]. Recruiters can easily spot the best candidates for the offered position by shortlisting those who achieve the highest points in the hiring game [14], [15].

## XI. GAME-BASED PROFILES

### a. Task Manager Profiler

The game called Task Manager Profiler was designed to assist an organisation in creating a comprehensive recruitment process as depicted in Fig. 1. The recruitment process mimic to real team project activity where CEO or team leader needs to be clear with the ultimate goal of a project to be handled. Then the CEO needs to strategize on how to execute the project and perform delegation of tasks. In a team, the project

needs to be built, submitted, and project postmortem activity should be performed to assess the team's performance. Like in a real case, sometimes the submission is rejected due to certain failures, for example, the project team fails to obey to the rules or deals with the clients, incompleteness of tasks, unfulfilled of specification and much more. Also, a team could face some penalties if there are evidence of cheating or misconduct.

All these exercises are recorded and critically addressed in Task Manager Profiler.

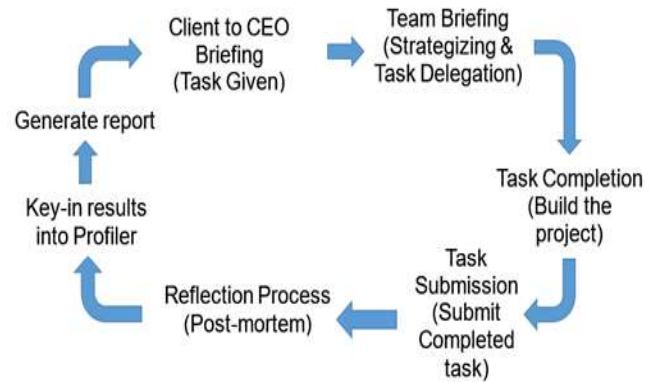


Fig. 1. Game flow in Task Manager Profiler

Fig. 2 to Fig. 4 display the developed interfaces of a system in Task Manager Profiler. All players need to sign-in into the system so that evaluation of each player as well as a team can be performed in real time during the gameplay. At the end of each round of the game, each player's performance is computed and summarised for further actions.



Fig. 2. Task Manager Profiler login form



Fig. 3. Interface for assessment in every round of the game



Fig. 4. Team's performance report

*b. The Game Structure*

The game was structured to deal with teams of candidates, each team consists of 4 to 5 people assigned with some common positions and responsibilities - CEO, manager, and workers. In each round of the game, each team is given with some capital to buy some resources in order to complete the assigned development project. All transaction of purchasing resources need to be done using an online application, but a team may increase their financial state by completing another extra project offered by the game instructor.

During the gameplay, each player needs to do their assigned job while ensuring that the given project can be submitted to a client at the best delivering time, adhere to specifications, and fit a certain standard. However, some challenges are imposed on each team which could distract them from completing the job. All challenges were designed to test individual's adaptability, flexibility, emotional maturity, communication, and risk-taking at three different levels namely easy, moderate, and difficult. This level of difficulty is determined earlier by game instructor depending on the level of education of players and the ultimate goal of the game. Besides, each player will keep on receiving some notifications during the game. Some notifications need them to assess their own teammates, leader, and sometimes opponents.

Since most communication between game instructor and players are using through the application, the data are available throughout the game. This would enable the game instructor to identify each player's characteristic and sometimes could fine tune the game accordingly.

*c. The Assessments on Talents*

There are two major assessments in the designed game. The first assessment is to measure the team's ability to achieve the core objective of their business. The measurements are objective including the project completion time, the quality of the final submission project, and the number of submission trial. Note that only submission that fulfils the given specification will be accepted, otherwise the team needs to improve the project several times.

The second assessment is concern towards an individual's social development skill sets. Each individual player is assessed both by the team's leader as well as team-mates on some skill sets such as problem-solving, leadership, emotional intelligence, teamwork, risk approach, communication, and project commitment. A rubric of skill sets assessment was

developed using an online platform in order to accelerate the generation of results. The developed rubric is essentially a psychometric assessment, commonly used in human resource with some modifications.

All results obtained through game-play were analysed using descriptive statistics and summarised by each individual player using a scorecard. The scorecard acts as a tool of communication that details out each individual player's strength and weaknesses and would recommend some plans for enhancing himself/herself.

Meanwhile, the team's performance was computed based on the quadrant of completion time distribution. Given that a starting time as  $t_0 = 0$  and the fastest completion time as  $t_B$ , then the  $i$ th time quadrant is explained by

$$Q_i = (t_B + (i - 1)t_s, t_B + (i \times t_s) - 0.5) \quad (1)$$

for  $i = 1, \dots, 4$  and  $t_s = t_B/4$ . Each quadrant represents the effectiveness of a team which can be described as Table 1. Any score falls below than quadrant 4 is considered very weak.

TABLE I. QUADRANTS OF PERFORMANCE IN TASK MANAGER PROFILER

Quadrant	Rank
1	Very Good
2	Good
3	Moderate
4	Weak

*d. The Pilot Projects*

The developed project was tested on two different settings, selecting a group of students for leading in university entrepreneurship funded project and identifying counsellors for next in line.

*i. Leaders for entrepreneurship funded program*

The best talents to fit for leaders in the entrepreneurship funded program should be the one who possesses the following set of criteria; the ability to perform risk assessment and analysis, inspiring group members to achieve goals, perform social engagement, and perform effective strategy to achieve goals. As all candidates have been exposed to entrepreneurship training, the game was run on four rounds ranging from easy to complex difficulties.

*ii. Next in line head of counsellor*

The mission of this program is to recognise the potential for the next in line leader among counsellors. Most of the counsellors are psychologists and familiar with psychometric assessments. Therefore, the game was set with a time of project completion and limited resources to induce mental and physical pressure among the counsellors. The criteria of next in line are: visionary, personality and emotional

intelligence, accuracy in decision making, risk approach, and communication.

Initially, in both pilot projects, the choice of talents namely leaders of students and next in line counsellor, have been recognised based on experts' judgment. Therefore, it is interesting to know whether the proposed game – *Task Manager Profiler*, could identify the same individuals.

## XII. RESULTS

The funded entrepreneurship program was attended by 54 university students, age between 19 to 25 years old from almost 29 different academic courses. Due to administrative constraints, the game-based profiling on these students was executed in four rounds within four (4) hours. Meanwhile, the next in line counsellor program was handled in seven (7) hours, attended by 52 counsellors from different schools, age between 28 to 59 years old.

Table 2 summarises the background of the game and statistics of achievements recorded from both programs using *Task Manager Profiler*. The time recorded to complete the task in each round fluctuates as the players need additional time to adjust themselves to the game. Both programs recorded almost half an hour to end the game in round 1, as they attempted to learn the game scenario. Overall, each round ended about half an hour.

TABLE II. STATISTICS OF ACHIEVEMENT FOR TWO PROGRAMS UNDER THE PILOT STUDY

Indicator	Program	
	University Students	Next in Line Counsellor
Number of characteristics measured	6	6
Number of game rounds / hours	4 / 4	3 / 7
Best time of completion (average in minutes)	#1: 26.93±7.07 #2: 15.91±10.14 #3: 37.05±15.16 #4: 26.63±21.50	#1: 31.35±17.34 #2: 28.45±31.04 #3: 30.74±8.37
Number of unsuccessful teams	0	0

Meanwhile, the assessment on six individual characteristics is summarised in Fig. 5 and Fig. 6. Both Figs show some signals on how the players could suit themselves to meet the target characteristics determined by the game coordinator. In a real implementation, one may choose to limit to only one game round so that players could not learn from any drawbacks from the game.

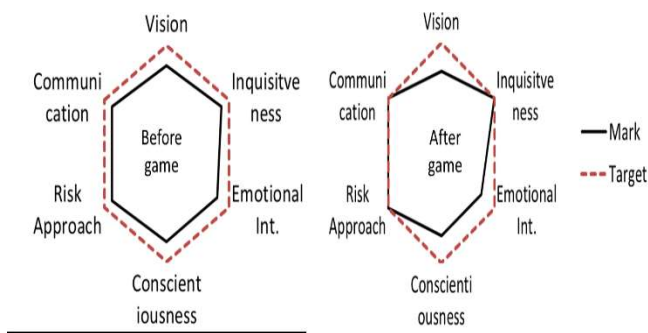


Fig. 5. Score on 6 characteristics for university students before and after the game

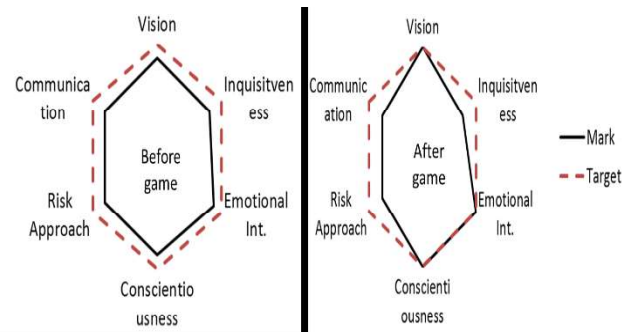


Fig. 6. Score on 6 characteristics for counsellors before and after the game

## XIII. CONCLUSION

The developed game-based profiler has created a new dimension for recruiting new talents to fit the organisation. The game blends psychometric assessment and technology in getting the right talents for multitasking jobs. The game setting, at the very best, attempts to show the true colours of each individual player by increasing the tense in every step of the game. In the end, the recruiter has broad information of the candidates and may judge them accordingly across personality, skills set, knowledge, and many other criteria.

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