

# The Performance Potential of Future Employees in the Hospitality Industry in Terms of Cognitive Reflection Test

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## Abstract

*In this paper we aim to evaluate the capacity to perform of potential employees in the hospitality industry. We use Cognitive Reflection Test as a tool. We are considering possible future employees who have opted for Economics of Tourism, Trade and Services prior to the outbreak of the Covid 19 pandemic. According to our findings hospitality industry might face huge difficulties in insuring the required level of skilled resources in order to restart or increase the activity in good conditions of customer satisfaction by keeping at least same quality of the services like before the Covid 19 pandemic.*

**Key words:** workforce, hospitality industry risks, performance, potential, Cognitive Reflection Test

**J.E.L. classification:** M5

## 1. Introduction

The current pandemic context has led many businesses in the hospitality industry to close or reduce their activity. This has led to the loss of many jobs either as a result of people getting fired or as a result of abandoning the sector and migrating to other sectors not as much affected or, on the contrary, expanding due to the opportunities created by the pandemic.

In this context, the question arises, when we return to normality, will businesses find enough staffing on the market and at the expected quality? An indicator could be given by the number and intellectual abilities of young people who intend to work in the hospitality industry. A sub-indicator could be people who intend and apply for university programs in the field of Economics of Commerce, Tourism and Services. Based on their investigation, an assumption can be made about the performance potential of future employees in the hospitality industry.

## 2. Theoretical background

The literature approaches employees from the perspective of potential from several perspectives: skills, personality traits, morpho-psychology, strengths, attitudes, etc. (Burz, 2010).

The classical studying system, analyzing and classifying personalities comprises three interlinked ways - temperaments, skills and character (Popescu-Neveanu *et al*, 1996).

Character represents the relational-value side of the personality. It brings together features or particularities regarding the relations that the subject maintains with the world and the values according to which it is guided. It is mainly a set of attitudes and values. While temperament is neutral, in terms of socio moral (ethics) content, humanistic significance, character is defined mainly by the values according to which the subject is guided, by the relationships he maintains with the world and with his self being. The distinction between character and skills is even more pronounced. While ability, as an efficient operational system, is invested in the activity and is appreciated according to the results obtained, the character traits consist of the way of reporting to the various sides of reality, including one's own activity.

Temperaments represent the dynamic-energetic side of personality. Observations on the amount of energy available to the human subject, his vivacity and dynamism and the harsh way in which he organizes his conduct have been made since ancient times, finding that, in this regard, people are very different. Some are hyperactive, others are hypoactive, some are very fast and tumultuous in movement and speech, others are slow and cannot be taken out of this quiet rhythm, some are impetuous, impatient, impulsive, restless others keep calm, do not get angry easily and have no uncontrolled outbursts. Ancient research of Hippocrates and Galenus defined four types of temperaments: sanguine, phlegmatic, melancholic and choleric, while Pavlov focuses on the three characteristics of the central nervous system: strength or energy (greater or lesser resistance to stimulants), mobility (the ease with which one moves from excitement to inhibition and vice versa) and balance (distribution of force of the two processes - excitement and inhibition), which combined the following types of temperament: strong type - unbalanced - excitable (choleric temperament); strong - balanced - mobile type (bloody temperament); strong - balanced - impassive type (phlegmatic temperament); weak type (correlated with melancholic temperament). Later, C. G. Yung's research followed (he finds that there are typical differences between people, thus some people are predominantly oriented towards the external world - extroverts, and others towards the internal world - introverts), Hans Eysenck (adds a new dimension to that proposed by Yung, respectively, the degree of neuroticism - stability, instability) elaborating new typologies and personality models (Constantin, 2004).

Skills represent the instrumental-operational side of personality. It shows what the individual can do, not what he knows to do. They can be elementary (all the properties of sensitivity such as visual acuity, tactile, olfactory, visual and spatial orientation, sense of rhythm; representation of objects, memory properties such as volume, durability and reproduction; qualities of attention such as concentration and distributive attention) or complex (musical, driving, etc.), special (performance sports, acting, technical activity, educational activity, etc.) or general (observation, memory, intelligence).

Theories of intelligence can also be included in this section. The concept dates back to before 1912, when W. Stern introduced the notion of intelligence quotient (IQ) (Havârneanu, 2002). The subsequent concept was developed in 1983 by H. Gardner introducing the multiple intelligence concept (Dumitru, 2001). Emotional and social intelligence are intensely addressed within multiple intelligence concept (Albrecht, 2007), (Goleman, 2017, 2018).

In 2005, Shane Frederick, from MIT, discusses the idea of the connection between cognitive reflection and decision-making. Cognitive reflections fall into two categories, intuitive and reflective. Often people do not take time to reflect and make impulsive decisions that can be wrong. Among the factors that analyze what affects decision making are time preferences, patience and preference to risk. They are identified to be correlated with intellectual abilities - IQ (Frederick, 2005).

From another perspective, the one of talents, based on a systematic study of professional excellence in all fields, conducted in the last thirty years, by interviewing over two million people were identified 34 models (natural, recurrent thinking, feelings or behaviors) that group the most widespread themes of human talent (Buckingham, 2005).

### **3. Methodology and results**

Given our area of interest, the assessment of the potential to perform of future employees, we do not aim to identify the full psychological profile, but we will focus on the area of skills. We find in the literature numerous types of tests, (Carter *et al*, 1989, 1996), (Bodo, 2001), (Necula, 2003, 2003), (Janda, 2003), (Buckingham, 2005), (Băileşteanu *et al*, 2008), (Carter, 2007, 2015), (Craughwell, 2016), (Barrett, 2008, 2018).

Given that no clear assessment criteria can be defined and the limited time to apply, one solution is The Cognitive Reflection Test (CRT), also known in media as the world's shortest IQ test. It was developed by Shane Frederick (Frederick, 2005). CRT is a simple measure of one type of cognitive ability - the ability or disposition to reflect on a question and resist reporting the first response that comes to mind. This ability could be a good predictor for a potential high-performing employee. Being directly related to how we make decisions. Also The CRT correlates with measures of intelligence, such as IQ test, and it also correlates with various measures of mental heuristics

(Oechssler *et al*, 2009), (Toplak, 2011).

The CRT contains three items (Table no. 1):

Table no. 1 The Cognitive Reflection Test (CRT)

Question	Answer
1. A bat and a ball cost £1.10 in total. The bat costs £1.00 more than the ball. How much does the ball cost?	Correct answer = 5 cents
	Impulsive answer = 10 cents
2. If it takes 5 machines 5 minutes to make 5 widgets, how long would it take 100 machines to make 100 widgets?	Correct answer = 5 minutes
	Impulsive answer = 100 minutes
3. In a lake, there is a patch of lily pads. Every day, the patch doubles in size. If it takes 48 days for the patch to cover the entire lake, how long would it take for the patch to cover half of the lake?	Correct answer = 47 days
	Impulsive answer = 24 days

Source: (Frederick, 2005)

The test was applied over three years to 124 people. Given the aim, to identify the qualities of potential employees in the hospitality industry, they were selected from those who applied and enrolled in the study program Economics of Commerce, Tourism and Services at the West University of Timisoara, starting from the assumption that their intention is obvious to work in this sector.

The second hypothesis is that the West University of Timisoara has a high degree of regional attractiveness, being the best ranked university in western Romania, in the academic top QS Ranking, specific for countries in Emerging Europe and Central Asia, which would mean a quality high number of people attracted - so the identification of a maximum area potential of future employees.

During the analyzed interval, data were collected differently. In 2018, they were collected at the end of the semester together with the evaluation in a field discipline, which allowed the segmentation by sex. In 2019 and 2020 the data were collected at the beginning of the semester, anonymously.

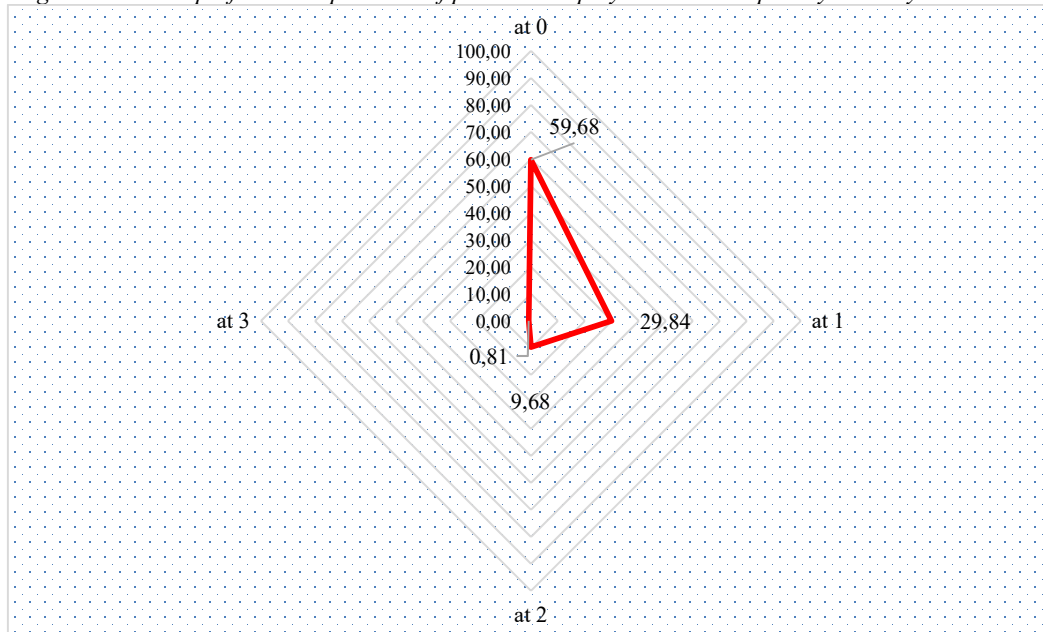
Table no. 2 CRT scores

year of data	sex	eval.	Low				High			
			at 0	at 1	at 2	at 3	Total	avg	POTENTIAL (%)	
2018	M	6.39	14	1	2	1	18	0.44	<b>14.81</b>	
	F	6.86	16	10	2	0	28	0.50	<b>16.67</b>	
	Total	-	29	12	4	1	46	0.50	<b>16.67</b>	
2019	-	-	24	14	2	0	40	0.45	<b>15.00</b>	
2020	-	-	21	11	6	0	38	0.61	<b>20.18</b>	
Total	-	-	74	37	12	1	124	0.52	<b>17.20</b>	
POTENTIAL (%)	-	-	<b>59.68</b>	<b>29.84</b>	<b>9.68</b>	<b>0.81</b>				

Source: own processing

Of those tested, only one person was able to answer all the questions, 9.68% to two questions, 29.84% to one question, and the vast majority to none. The potential is obviously very low for those who want to specialize and work in the hospitality industry (Figure no. 1).

Figure no. 1. The performance potential of potential employees in the hospitality industry



Source: own processing

The same result emerges from the average of the answers, 0.52 compared to a maximum of 3, i.e. only 17.20%.

#### 4. Conclusions

According to the initial model, CRT results should be lower in women than in men (Frederick, 2005). According to other tests, the model could fall victim to its own use. Once aware of the problem, users tend not to make mistakes (Haigh, 2016). In our case, this aspect is not a potential problem due to the low score obtained - it seems that the model does not have the supposed notoriety - level of education, region, country, etc. A low level could be due to the lack of interest in responding given that no direct stimuli were provided, but it is unlikely given that there are no significant differences between the different times and modes of administration (beginning - end of the semester, anonymous - non-anonymous). The results of the evaluation (standard field discipline) are correlated - both are low which can confirm the hypothesis that in fact the lack of relevant knowledge is the prominent cause of the reasoning errors. In the hospitality industry, as well as in others, patience and risk-taking are important not only for employees but also for entrepreneurs. In conclusion, the industry could face a new risk after the end of the pandemic, that one of impossibility to provide high potential talents, ready to solve problems and provide quality services.

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