

Analytical Study On The Importance Of Applying Advance Psychometric Testing Based On Marston's Disc Theory And Evaluating Its Effect On Organisational Productivity And Behavioral Engagement Of Employees: Research Review On It Sector

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ABSTRACT

When it comes to assessing the influence of psychometric testing on the productivity of employees and teams, it is clear that most of the studies assess are concerning how psychometric testing elements is applied to team performance of an organisation. The purpose of this research review is to study the previous literature articles that have highlighted the importance of adopting advance psychometric test based on Marston's Disc Theory on enhancing organisational productivity and employee behavioural engagement in IT sector.

Keywords: Psychometric Testing, Marston's Disc Theory, Behavioural Engagement, Employee Productivity, Organisational Performance

I. INTRODUCTION

Organisational productivity is possible when the entire team comes together and sees a common goal to perform for. The use of psychometric tools helps to assess the level of commitment among employees and how it would influence the value-productivity in the IT sector. This research highlights the significance of implementing Marston's DISC model in psychometric testing and how it influences the behavioural engagement in not only individual employees of the IT sector but even that of teams working in the organisation. Apart from this, the research analyses the influence of psychometric testing on the overall productivity of the organisation.

Research Goal and Objectives

The purpose of the research is to evaluate the use of psychometric tools based on Marston's DISC theoretical model in the IT industrial sector. The researcher sought to analyse the impact of applying psychometric testing tools based on Marston's DISC concept to understand its impact on behavioural engagement and the overall productivity level of working employees in the mentioned industrial sector. This was done mainly by investigating the research based on the following objectives:

- To evaluate the use of psychometric testing tools based on Marston's DISC model in the IT sector

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- To analyse the impact of psychometric testing tools based on Marston's Disc theory on behavioural engagement in the IT industry segment
- To analyse the impact of psychometric testing tools based on Marston's Disc theory on the overall productivity level in the IT sector
- To explain the relationship between psychometric testing based on Predictive Index and Thomas Profiling tools and behavioural engagement and its impact on organisational productivity in the IT sector.

II. DISCUSSION OF THE RESEARCH

Psychometric testing for resilience behaviour among employees

A total of three studies were found which show the use of psychometric testing for understanding the resilience of employees at the workplace. One of the researches done by Malik and Garg (2018) indicates that most people are affected by negative attitudes shown towards work at the workplace. The presence of negative people at work duly impacts the behaviour and mindset of the people. This often leads the employees to be subjected to stress. The research analysed the use of psychometric testing done at workplaces to see the problem-solving ability of the employees. This was done by using Psychometric testing of Resilience at Workplace (RAW) along with Connor-Davidson Resilience Scale (CDRS) aims to check the outlook of problems and resilience to stressful work situations at workplaces. The sample was collected by implementing purposive sampling technique to collect data from 546 IT managers. It was revealed that most workplaces promote the building of social circles to provide a supportive work culture. Most workplaces in the IT sector are noted to develop challenging events at work to develop resilience to work pressure among the employees. This development of stress busters through challenging events leads the IT sector to manage the burnout and stress behaviour tendencies of employees at IT workplaces.

Britt *et al.* (2016), were noted to conduct a research to see the use of psychometric testing to check the resilience behavioural engagement of employees carried out at workplace. The research was done by use of resilience as a personality trait in employees. The research was done by reviewing past literature papers to check about the use of psychometric testing for resilience behavioural management among the team members. Of the entire data analysed, 88.1% portrayed resilient trajectories, 10.1% portrayed reduced levels of stress while only 1.81% indicated moderate levels of stress. This indicates that the use of psychometric testing is implemented among few of the IT companies to check the resilience personality behavioural traits existing among the employees.

Another research by Rees *et al.* (2015) portrays the use of personality traits to assess the neuroticism and emotional stability of individuals when subjected to stress at the workplace. The research by Rees *et al.* (2015), aimed to assess the behavioural management in organisations based on the aspects of neuroticism, emotional stability, and self-efficiency aspects in personality tests. The research was done to assess the dominant traits found in the employees which shaped the behaviour of these people during crisis. It was revealed that individuals who scored high in neuroticism and low on self-efficiency showed higher scores in instability during crisis at workplace affecting the team performance. This lack of stability in behaviour created a negative impact especially when noted among leaders. It is due to this reason, organisations in the IT sector were found to conduct psychometric testing to test the neuroticism, self-efficiency and collaboration aspects dominating the personality traits of individuals, thereby collectively

impacting the behavioural management steps taken to develop resilience against stress and crisis at workplace.

Psychometric testing for behavioural engagement and commitment

Another reason for which psychometric testing was found to play a critical role is to not only see to the behavioural engagement but even monitor and test to the level of commitment present among the employees. One of the many research papers assessed revealed that the survey results on a sample of 870 employees. The survey research was done to see the extent to which the personality traits influenced the behavioural engagement and the level of commitment shown by employees at the IT firms. As per the survey, psychometric testing done, especially through personality testing helped the organisation to understand ways to keep the employees engaged. The testing revealed that employee engagement and work environment has a major influence on the level of commitment behaviour exhibited by the employees (Hanaysha, 2016).

Psychometric testing is done even to measure the level of communication and collaboration with employees. According to Asif *et al.* (2019), in most of the testing done, management is seen to measure the potential of ethical leadership in employees. This resulted in looking out for organisational citizenship behaviour. It was found that psychometric testing done based on Marston's DISC concept, enabled organisations to monitor not only communication but even the collaboration between employees. This resulted in understanding leadership-follower behavioural patterns, thereby influencing the behavioural engagement and the commitment of the employees for the leader and the company as a whole. The results of the survey done revealed that the dominating traits of ethical leadership traits had a direct impact on the level of commitment exhibited by the employees in the IT firms. Not only this, people who had high scores in ethical leadership had a positive impact on the behavioural engagement exhibited by the subordinates in the team.

As mentioned by Kuok and Taormina (2017), psychometric testing is often done based on six subscales. These six subscales were tested by the management to keep a check on the cognitive, physical and emotional engagement with work by the employees. The higher scores were associated with high commitment and supportive behaviour portrayed by the employees. The research was done by collecting data from 1042 participants through implementation of focus group strategy. This was done by dividing the sample into four groups. The first group had 408 people, the second group consisted of 442 respondents, and the third group had 72 participants while the last group had 110 respondents. Each group was administered with a different psychometric testing tool. This was done to find out not only the most used psychometric testing tool but even the behavioural engagement, commitment and turnover intention exhibited by employees. Most workplaces were found to implement the Maslach Burnout Inventory (MBI). It was noticed that there is a variance score of 21.38. The test results revealed improved work level engagement behaviour on the administration of psychometric testing as compared to no psychometric tests.

As per Zhang *et al.* (2015), organisations in every sector are known to apply psychometric testing to manage the human resource behaviour exhibited by employees. The two most popular behavioural patterns tested were the level of organisational commitment and the turnover intention of the employees. It was found that a good level of supervisor-subordinate fit and collaboration scores reported in the organisation resulted in improved commitment behaviour. This as a result led to a higher level of feeling of security, commitment and trust

between employees resulting in decreased turnover intention among the people working in the firm.

Psychometric testing to influence organisational value-based productivity

Another objective for which this research was undertaken was to study the impact of psychometric testing based on Marston's Disc model on organisational productivity. To understand this aspect of the research one needs to understand the meaning of value-based productivity. By value-based productivity, one means the extent of quality productivity level from a team or individual. As revealed through research, psychometric testing is often done to see to the value of mentoring culture in the organisation. As per Hester and Setzer (2013), the use of psychometric testing was done under an experimental design setup to see to the provision of psychological support through workplace environment and how it helped to raise the value-based productivity levels of the firms. The research was done by implementing a brief survey to see the extent to which the domineering and influential traits revealed through psychometric testing tools impacted the value added in the organisational productivity. It was revealed that those who score high collaboration and communication along with openness to learning as dominating traits in the psychometric testing contributed more to the value-added productivity of the firm.

As per Hamid *et al.* (2011), improved performance levels resulted in better value-based productivity. The research mentions about the use of a questionnaire with psychometric testing aspects. The research was done by implementing the probability sampling method of simple random sampling technique to collect a sample size of 1500 employees in IT sector. The researcher received total of 210 filled questionnaires to understand how psychometric testing based on Marston's Disc theory affected value-based productivity. The results revealed that the compliance to core values of the organisation influencing the organisational value-based productivity. The higher the team complied with the core values such as timeliness, economy of scale, frugality and so on in performing tasks, the higher the value added to the productivity of the firm. These results were supported with 0.91 Cronbach's alpha value. Therefore, it can be considered to understand that even an indirect application of psychometric testing can influence the level of organisational value-based productivity in a firm.

Psychometric testing on Productivity of crowd teams

According to Salehi *et al.* (2017), elements of psychometric testing implemented in teams, impacts the team's performance. This, in turn, impacts the productivity level of teams. The study was done concerning several global IT companies, where a high level of communication and collaboration was emphasised in the culture to support more effective teamwork. This was carried out with the help of a field experiment study. A sample of 200 employees working in IT firm was taken. These employees were divided into crowd teams. Each crowd team was developed with help of a platform helped to increase the level of communication and collaboration in the organisation. As a result of the application of such psychometric aspects, there was a strong clustering noticed, leading 10% of workers to complete 69% of the tasks.

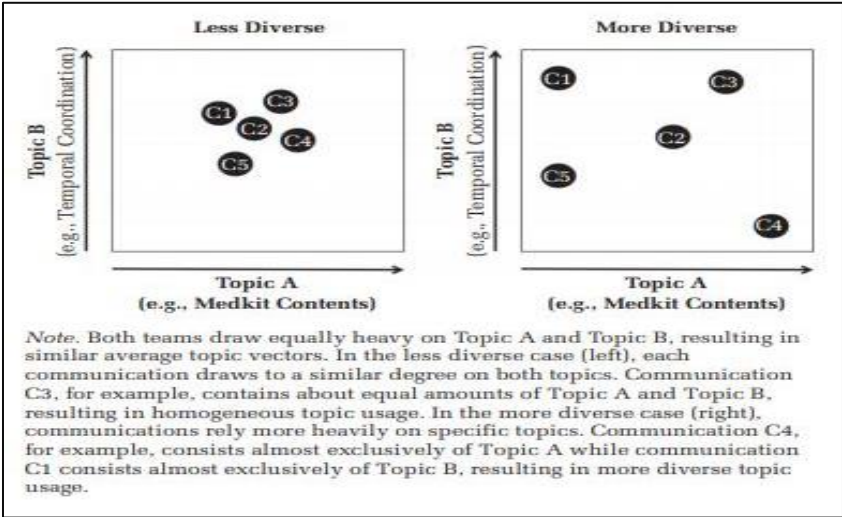


Figure 1: Illustration of less and more diverse team communication

(Source: Riedl and Woolley, 2017)

The research was supported by Riedl and Woolley (2017), in which, the psychometric testing aspects were applied to check the element of collaboration existing between team members. The research was done by conducting a large field experiment study. The results revealed that the implementation of psychometric testing to monitor collaborative behaviour in teams resulted in an increased level of goal sharing and problem-solving within the crowd teams. Once again, the psychometric testing done was only to see the team output level. It was seen that teams with high collaboration scores portrayed high productivity levels and were subject to higher cash incentives. The higher the diversity in communication found, higher was the collaboration level. This high collaboration in team resulted in better learning and higher productivity.

The above sample chosen can be considered for research understanding. This is because 13% of the sample was from IT companies. Lykourantzou *et al.* (2016), pointed out that psychometric testing was done based on Marston's Disc model to check the level of face-to-face collaboration between team members. This was carried out with the help of personality assessment tools as an instrument for testing the collaboration scores existing within team members. It was found that teams with a proper balance of members with high and low collaboration scores had better performance and productivity levels as compared to teams with extremely high and extremely low collaboration scores.

Psychometric personality tools to assess project success and productivity

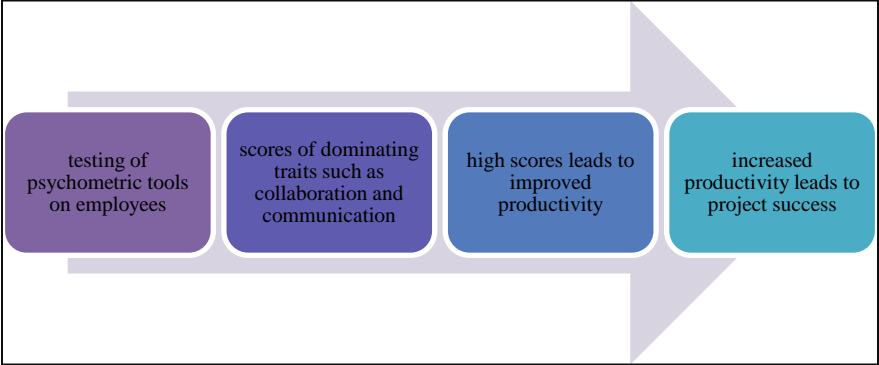


Figure 2: Influence of psychometric personality tools in assessing project success and productivity

(Source: as influenced by Marić, 2019)

Psychometric testing regarding Marston's Disc model was found to be conducted not only for comprehending to the team productivity levels but even seeing to project success and productivity. As revealed by Marić (2019), such tools were often used by project managers to find people with openness to new knowledge within the firm. The study though is secondary research based on resources gained from Google Scholar. This was followed by carrying out a semi-structured interview with 7 IT managers. It was found that IT managers and personnel who portrayed high collaboration and openness to learning as dominating traits in personality had a positive influence on the productivity output level. This, in turn, resulted in project success.

It is revealed by Kosti *et al.* (2014) that project managers not only used the psychometric assessment of personality assessment subscales to assess openness to new experiences but also to test the emotional intelligence of the employees. The study though was done on software engineering students working in IT firms. It was revealed that when seeing productivity levels, it wasn't the tenure rather than the openness to knowledge that was considered. Montequín *et al.* (2013) point out that project managers used psychometric testing to find employees with a need for learning from project experiences. This led to the transfer of new knowledge among the employees resulting in an improved level of competency and higher project quality production levels. This research thereby supports the research of Marić (2019) where implementation of psychometric testing is found in IT companies among project managers to see to project success and productivity levels.

III. LESSONS LEARNT IN RESEARCH

This secondary research conducted has revealed several lessons in the paper. One of the lessons learnt is the implementation of psychometric testing tools in IT firms. It was found in several research papers assessed including Lykourantzou *et al.* (2016) and Chirila and Constantin (2014) that psychometric testing tools including personality assessment tools, questionnaires based on psychometric testing elements and MBTI are implemented by the IT firms. This is mainly done to find out the team output level in the organisation which is influencing the overall productivity of the organisation.

The second lesson learnt in this research is that implementation of any psychometric testing leads to the reduced intention of employee turnover and increased collaboration among employees. As revealed by the research done by Hanaysha (2016) and Makkar and Basu (2019), psychometric testing administered on the employees leads the human resource professionals to assess the teamwork scores along with emotional intelligence levels in leaders. This leads the management to understand the factors influencing the leader-follower relationship dynamics in the organisation, thereby influencing the behaviour and work engagement existing in the organisation. It was even learnt that teams with balanced scores showed more productivity levels as compared to teams with extreme scores in the psychometric scales (Turner *et al.* 2014; Lykourantzou *et al.* 2016).

IV. Conclusion

It is concluded from the above research review that psychometric testing tools such as personality assessment tools, MBTI, along with psychometric testing elements are applied in IT firms. It is concluded that implementation of psychometric testing based on Marston's DISC

model helps the management to assess the collaboration scores in the organisation. This enables the management to take steps regarding leader-team member dynamics and helps to promote a supportive work engagement through collaborative behaviour. This helps to increase commitment to work and decrease employee turnover intention. Not only this, psychometric testing done based on Marston's DISC concept even leads to improved value-based productivity, team productivity and project productivity levels. This increases the overall organisational productivity levels in the organisation.

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Appendices

Appendix 1: Impact of psychometric testing to see how ethical leadership behaviour impact commitment

	N = 233	Mean	SD	Correlations							
				1	2	3	4	5	6	7	
1. Ethical leadership		3.38	0.89	(0.83)							
2. Affective commitment		2.97	1.11	0.42 **	(0.79)						
3. Employee work engagement		2.80	1.29	0.23 **	0.27 **	(0.77)					
4. Employee creativity		3.13	1.18	0.39 **	0.38 **	0.33 **	(0.81)				
5. Age		31.45	11.23	0.06	0.09	-0.04	0.11 *	-			
6. Tenure		5.71	3.97	0.00	0.02	-0.02	0.01	0.45 **	-		
7. Education		2.91	0.51	-0.03	0.07	0.07	0.04	-0.07	0.15 **	-	

The square root of AVE (bold values) are shown in parenthesis demonstrating discriminant validity. * $p < 0.05$ and ** $p < 0.01$.

(Source: Asif et al. 2019)