

Improvement of Execution Time According to the Type of Character of the Engineering Personnel in an Ecuadorian Oil and Gas Industry

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Abstract: As part of the continuous improvement process of the Facilities and Construction Department of an Oil and Gas company, the analysis of the impact of character distribution of the engineering personnel was carried out and the correlation in the times of construction processes and decision-making was understood. The Characteristic TEST prepared by Mtra. Mariel Martínez Dueñas, with the authorization of Professor Jorge Huerta Bleck, MBA. Below are the results as of June 20, 2019, it was performed on 16 people, distributed Men - 7, Women - 11. The engineering team has a tendency to sanguine, followed by phlegmatic and choleric. (Calhoun, N. R. (1946)).

1 INTRODUCTION

The changing scenario of the Oil industry, not only at a global level but particularly at a national level, forces us to take better advantage of and optimize all resources, as is the case of Oil companies. (Tsigas, Z., Emes, M., & Smith, A. (2016)). Being able to implement on time the necessary projects for the proper functioning and development of the oil fields assigned to Oil companies implies that the best practices of the industry are implemented, as well as the cutting-edge technology available. (González, M. C. C. G. (n.d.)).

The oil industry adopts state-of-the-art technologies at a technical level, to increase the effectiveness of the operation and within this optimization of resources it is also necessary to optimize the engineering processes to be applied to the construction projects of oil facilities. (Montero V, J. C., Díaz R, C. A., Guevara T, F. E., Cepeda R, A. H., & Barrera H, J. C. (2013)

In the experience of being part of this type of projects, it has shown that one of the relevant factors that affects execution times and adequate decision-making is the technical preparation, the administrative training of the engineering personnel, as well as knowing, according to the type of character of each person, the most appropriate tasks and the

potentializing of the capacities of each member of the team. (Florencio Carrera, M. (2011))

The engineering staff in charge of construction projects is highly trained, motivated and has the appropriate software and tools to carry out the work, but from the analysis of the year 2018, which was carried out on the number of projects executed as well as the times it took to conceptualize them and achieve the contractual documents, it was observed that improvements could be made.

There have been administrative theories (Alhassan, M. A., Zulklipli, G., & Nizam Isha, A. S. (2014)) that have been implemented focusing on improving productivity by achieving relative success, but one variable that I want to focus on in this article is knowledge of the types of characters (Raza, A., & Capretz, L. F. (2011)) possessed by the engineering staff in order to optimize the functions of the equipment. Jara, M., Olivera, M., & Elmer, Y. (2018).

Carl G. Jung, the Swiss psychiatrist and philosopher concluded that we are all born with four psychological functions, four distinct ways of knowing and interacting with the world around us. (*Personality Type (Lenore Thomson)* (z-Lib.Org), n.d.)

Greek medicine classified people in terms of bodily secretions: phlegmatic, sanguine, choleric, and melancholic, as well as Neoplatonic, Tarot,

Astrological. (*Personality Type (Lenore Thomson) (z-Lib.Org)*, n.d.).

Greek Medicine	Neoplatonic Emanations	Tarot Suits	Astrological Elements
Sanguine	Spirit	Wands	Fire
Choleric	Mind	Swords	Air
Phlegmatic	Soul	Cups	Water
Melancholic	Senses	Pentacles	Earth

Figure 1: Different types of personalities.

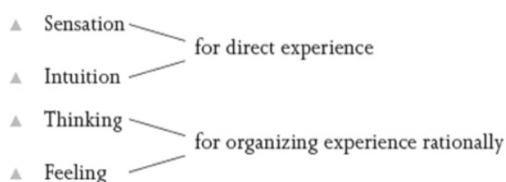


Figure 2: Jung defined four distinct ways of interacting with the world around us.

In the study of Personality dimensions and temperaments of engineering professors and students carry out by Raza A. Carpretz it's noticed that although all personality types contribute towards problem solving one way or the other, it states that software engineering discipline attracts people of all psychological types, even though certain personalities have more representation than others in this field. According to the survey analysis, both the professors and the students tend to be introverts. Similarly, in both the samples the dominant personality type is a combination of Introversion, Sensing, Thinking, and Judging (ISTJ).

Another popular indicator is The Myers-Briggs Type Indicator (MBTI) and is one of the most popular tools used in organizations for the classification of personality types.

The number of definitions of personality is probably only equalled by the number of books and articles on the subject. according to William Walter Farquhar(UMI Number: EP72888, n.d.)

In our study we will refer that there are types of phlegmatic, sanguine, choleric, nervous, passionate characters and each one has characteristics that benefit the tasks that must be carried out.

2 METHODOLOGIES

In this article, the Descriptive methodology was used, in which a survey was built based on the Characterological TEST prepared by the Mtra. Mariel

Martinez Dueñas, with the authorization of Professor Jorge Huerta Bleck, MBA, to know the types of characters of the engineering staff, it was applied to a population of 16 engineers from the Department of Facilities and Construction distributed as follows: 7 men and 11 women, in order to collect the information, the survey designed to be filled out by each person was provided and the data was processed and tabulated to know the different types of characters (phlegmatic, sanguine, choleric, melancholic).

1	Emotional	Active	Primary	EAP	Choleric
2	Emotional	Active	Secondary	EAS	Passionate
3	Emotional	No Active	Primary	EnAP	Nervous
4	Emotional	No Active	Secondary	EnAS	Sentimental
5	No emotional	Active	Primary	nEAP	Sanguine
6	No emotional	Active	Secondary	nEAS	Phlegmatic
7	No emotional	No Active	Primary	nEnAP	Amorphous
8	No emotional	No Active	Secondary	nEnAS	Apathetic

Figure 3: IESE Article: Family business: a sum of personalities. Published in Expansión magazine 2014.

The personnel were grouped by character type and compared against the functions they had been performing and the rjresults of the number of projects successfully completed in 2018 were compared. With the knowledge of the individual characters, a redistribution of functions and tasks was carried out and measured the number of successful projects carried out from January to June 2019, a distribution of projects by year 2018 and 2019 was made, observing the percentage of increase.

Formula	Name	Dominant value	Conduct
EAP	Choleric	Action	Lack of order
EAS	Passionate	Task oriented	Passion for order
EnAP	Nervous	Fun	undisciplined
EnAS	Sentimental	Intimty	Serious
nEAP	Sanguine	Social succes	do not cause problems
nEAS	Phlegmatic	Law	Prone to formalism
nEnAP	Amorphous	PleasurePassivityCalmness	Passively follows the movement
nEnAS	Apathetic	Traditionalism	Submit to discipline

Figure 4: Typology of Heymans-Le Senne.

In order to determine the types of temperaments, a survey was carried out based on the following questionnaire.

Characterological test of the adult		
Directions: RECORD your answers on the ANSWER SHEET. Below you will find a series of character traits subdivided into three levels: a high level (9), an intermediate level (5) and		
EMOTIVITY		
1	Directions: RECORD your answers on the ANSWER SHEET. Below you will find a series of character traits subdivided into three levels: a high level (9), an intermediate level (5) and	9
	Are you half flustered, and only by shocking events?	5
	Do you stay cool, whatever the circumstances?	1
2	Do you feel nervous as soon as you think you are offended or discussed?	9
	Are you more or less calm at all times?	5
	Does a serious difficulty have to arise for you to become nervous?	1
3	Is your mood very changeable?	9
	Is it quite stable?	5
	Extremely stable?	1
4	Do you fly into a rage easily?	9
	Or only on big occasions?	5
	Or is he always calm?	1
5	Do you feel restless when you have to make a management, or a visit to the doctor? Do you feel distress?	9
	Or do you easily dominate that restlessness?	5
	Or do you ignore her completely?	1
6	In the theater or in the cinema, do you get emotional before a tragic scene?	9
	Or do you manage to control yourself?	5
	Or do you remain insensitive?	1
7	Do you get excited easily?	9
	Or almost never?	5
	Or does something extraordinary need to happen?	1
8	Are you expressive? When you pronounce words like awesome, stupendous, sensational, wonderful, etc. Do you do it vigorously?	9
	Or are extraordinary occasions necessary for this?	5
	Or on very rare occasions?	1
9	Do you turn pale or blush easily?	9
	Or never?	5
	Or only on rare occasions?	1
10	Do you experience fear (even if you know how to master it)?	9
	Or not at all?	5
	Or only in dramatic circumstances?	1
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Figure 5: Emotional dimension.

Characterological Test						
Answers Sheet						
Name					Date	
					Age	
					Gender	
EMOTIVITY	ACTIVITY		RESONANCE			
1	5	1	5	1	5	
2	5	2	9	2	1	
3	5	3	9	3	9	
4	1	4	9	4	9	
5	5	5	9	5	5	
6	9	6	5	6	9	
7	5	7	5	7	5	
8	9	8	9	8	5	
9	5	9	1	9	9	
10	9	10	5	10	5	
TOTAL	58	TOTAL	66	TOTAL	62	
DIVIDE BY 10	5.8	DIVIDE BY 10	6.6	DIVIDE BY 10	6.2	
OBSERVATIONS						
DIAGNOSIS						
E - A - S						

Figure 6: Answer sheet.

3 ANALYSIS OF RESULTS

The survey was carried out on each person, instructions were given and 30 minutes were given to answer it.

From the application of the survey to FIC UIO (Facilities and Construction engineering team) the following results were obtained: Sanguineous 6, choleric 4, phlegmatic 4, passionate 1, nervous 1.

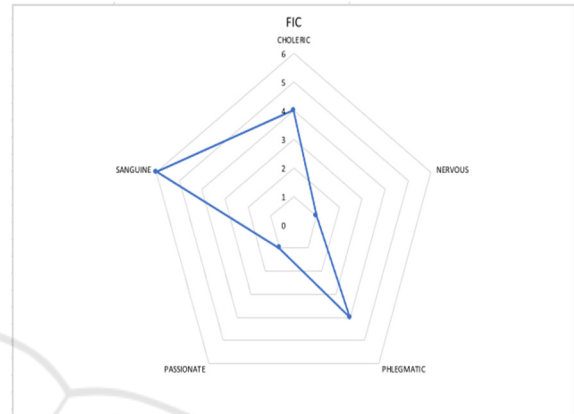


Figure 7: Type of personnel characters.

4 CONCLUSIONS

As a Facilities and Construction team, there was a tendency towards phlegmatic and sanguine personnel. From the results we obtain that the group of engineering technicians dedicated to preparing the technical information of the contractual processes 4 phlegmatic people who tend to be organized, practical, efficient, 4 sanguine who also tend to be warm, friendly, talkative, enthusiastic and 1 passionate who also tends to be a peacemaker, efficient, when it comes to support staff to prepare and review pre-contractual administrative documentation, we had 4 choleric who are willful, productive, tend to be leaders, result-oriented, 2 sanguine as well very attentive, enthusiastic and 1 nervous result-oriented, warm.

By distributing the work according to the type of character trend, it was possible to improve the performance of 70% of the work team, that is, the number of successful projects completed was increased compared to those of the year 2018.

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