IMPROVE THE EFFECTIVENESS AND EFFICIENCY OF ORGANIZATIONAL PROCESSES AT CHALLENGE FITNESS STUDIO



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Abstract

This project focuses on the implementation of company improvements using engineering tools. The Challenge Fitness Studio organization's based improvement process was analyzed. The main focus of the project focuses on the effectiveness and updating of the organizational system in an automated manner with methodologies and tools learned through graduate studies. The PDCA Cycle methodology was used to develop this project and successfully eliminate the outstanding problems determined in the analysis to implement improvements. Our goal was to provide Challenge Fitness Studio staff with the necessary tools in order to develop an organized structural strategy with a continuity of daily processes. We focus on demonstrating the staff that the organization and technological tools will help with the efficiency and facilitation of the process. We conclude the final project by presenting the customer's structured documents and enhanced processing that will help you through your journey to a thriving business.

Key Terms - Cause and Effect Five Why and Two How Tools Analysis (5W2H), Challenge Fitness Studio (CFS, Plan, Do, Check, Act Cycle (PDCA Cycle), Process Flow Diagram (PFD).

Project Description

Improve the efficiency of Challenge Fitness Studio's organizational processes, without any operational cost. As part of business improvements it is to evaluate the labor productivity opportunities and the deficiency on the method standardizations to provide better tools to the staff and the administration in eliminating deficiencies based on standardized methods that provide continuity and consistency in staff and administrative work functions that impede growth and stability.

Objectives

- Improve the inventory management system and automatize the administrative methods with technological means.
- Lean Process Improvement
- Increase effectiveness and efficiency with Engineering Tools in a PDCA Cycle methodology.
- Perform improvement, effectiveness, and continuity deployments without incurring additional costs.

Methodology

Plan Phase:

- Interview customers explore the daily task and process assigned to
- Confirm Scope and Problem Statement with project champion.
- Project Charter from the Customer Interview.
- Study the elements of the organization by means a PFD.

Do Phase:

- Measure current process effectiveness.
- Complete root cause analysis though prioritizing causes on a Cause and Effect Five Why and Two How Tools Analysis.
- Demonstrate effect on the problem of every potential cause prioritized.
- Design implementation plan.

Check Phase:

- Analyze each element of the CFS operation.
- Generate solution ideas and implementation requirements.
- Forecast benefits and Discuss solutions with customers.

Act Phase:

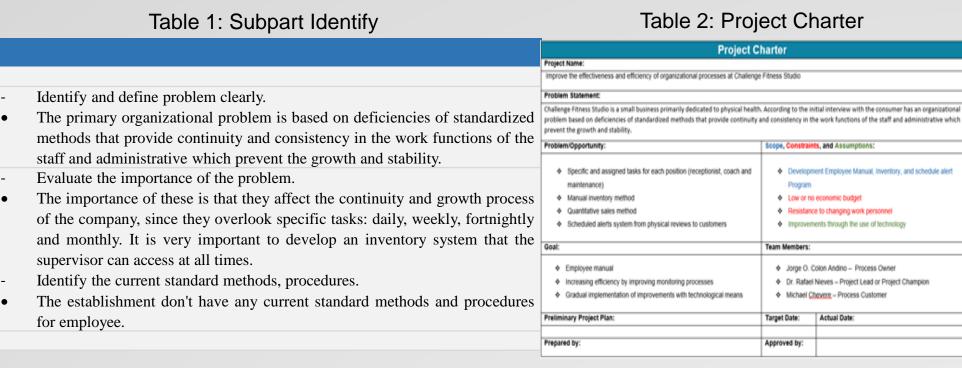
- Execute the recommendation of implementation plan.
- Analyze and verify improvement with the targeted cause on the project goal.
- Document and train personnel on new standard work.
- Share lessons learned and the repeat the cycle for continuity improvement.

Results and Discussion

Plan Phase

When the operational needs of CFS are defined, they are based on the practical use of up-to-date technological means in a way that significantly facilitates the monitoring process. The first phase of the cycle is subdivided into four (4) subparts...

Plan Phase Cont.



With the set of observations provided in Table 3 make an adapting the PFD (Figure 1) to the finding solutions it is analyzed the customer requisitions to develop the strategy.

Figure 1: PFD Table 3: Subpart Observe Investigate the characteristics and details of the problem. The characteristics of continuous problems are human errors due oversight, forgetfulness or lack of communication. On the other hand, goods posting failures occur as the method currently used is carried out manually. The relevance is that they result in unforeseen cleaning situations, accidents, lost working time which result in extra recurring payroll expenses and excessive time usage when manually inventorying. Failures in periodic Broaden your vision. Assess the situation from various points of view, and talk to people who will act directly on the execution and broaden your perception of the actual present situation. After brainstorming all participants have an impact on the same causes.

In the subpart of Analyze (Table 4) the root cause analysis is one of the common tools to use for continuous improvement. The main objective of the problem is to understand a problem and its cause. This analyze was make with 5W2H tools show in Table 5.

Table 4: Subpart Analyze

implementation of improvements

ANALYZE

Table 5: 5W2H

		Questions	Improvement Questions	
- Evaluate possible solutions and alternatives.		Anomone	improvement Questions	
 Possible solutions would be as follows: Create employee manual Develop a digital list of daily tasks for each area. Create a digital alert program. Monthly tasks as they are scarce can be included in the fortnightly ones to reduce possible neglect of them. Computerized inventory program. 	Who?	Who's doing this? Operator owner Who should be involved, but isn't? Employees without specific tasks assigned. Who's involved, but shouldn't be? Operator Owner How do you have to approve? Supervision	Should anyone else do it? No. Could fewer people do it? Yes If approvals could be eliminated? Approvals result in improved oversight	
In the Table 6 describes what the		What do you do?	Do we have to do all the steps?	
implementation plan and determine	What?	Physical training, administrative work, finance, maintenance, etc. What is essential?	Yes, for good results. Are the steps skipped? Regularly, yes.	
areas to impact in the execution.		Improving the overall organization		
Table 6: Subpart Action Plan		When does this activity start? Entry to work When does it end?	Can it be done at a different time? No Can you shorten the cycle time? Yes, it's one of the proposed goals. Can it be done less often? It is one of the possibilities with the implementation of improvement.	
 ACTION PLAN Define an action plan to prevent (or minimize) the causes of the problem. The employee manual will identify the duties and responsibilities, as well as 	When?	Out of labor When is it repeated? Daily, weekly, fortnightly and monthly		
 a training of the specific tasks of each particular area that implement the improvements. Using the to-do list, the employee himself can review and submit it when he 	Where?	Where is this activity or activity good for this place or activity? Challenge Fitness Studio Facilites	Can it be done elsewhere? At the moment, no.	
 or she has finished them, which would help the supervisor constantly monitor the progress and continuity of the company. The alert system will be used for periodic reviews of customer's physical conditions, and to alert to the weekly and fortnightly tasks of employees by facilitating the monitoring process. 	Why?	Why are we doing this? Provide continuity and agility of processes to meet the required objectives.	Can it be deleted? No Can it be outsourced? Yes, by identifying the variables involved in the process.	
• The inventory program would make it easier for the operating owner to remotely verify the goods needed within the establishment, as well as the square of daily sales by substantially reducing the time in performing these tasks currently.	How?	How do you do this? Assign daily, weekly and monthly tasks to employees according to their respective roles.	Is there a better way? Drafting of manual of duties and obligations for each employee. Digital task lists to improve and	
 Set goals to achieve and a schedule to follow. The implementation of the past action plan would complete the proposed goals to address the recurring situations that impede the continuity of the company . Define the methods to use. 		Developing inventory program reducing lost time. Creating alert program for continuity in customer reviews.	facilitate monitoring processes. Facilitate training for inventory tasks that in turn would facilitate processes of purchase and sale of products offered.	
• The methods to be used would be training and training both in the tasks to be carried out and in the computerized programs that were implemented. Tutorial videos can be designed as complementary tools in learning.	How Much?	How much does it cost? Non-significant cost	How much less could it cost? Free of charge	
 Be clear what the results achieved will mean and define the responsible for each step / goal. The results obtained would clearly and concisely indicate where the faults are occurring which can be corrected with proper supervision . 				
- Record this plan in a document. - Documents and programs must be completed before the start of				
• Documents and programs must be completed before the start of				

Do Phase

In the Do phase we use a tool commonly used in organizational structures where at the same time we can continue to self-evaluate the system to add corrections to prevent deviations that produce our errors such as adapting them to face future changes without affecting the continuity of the company's processes. Assimilate the staff to feel part of it, increasing the expectations of group work by achieving cohesion among the members of the organization, and therefore building a business culture. In the Table 7 show the description of the design execute

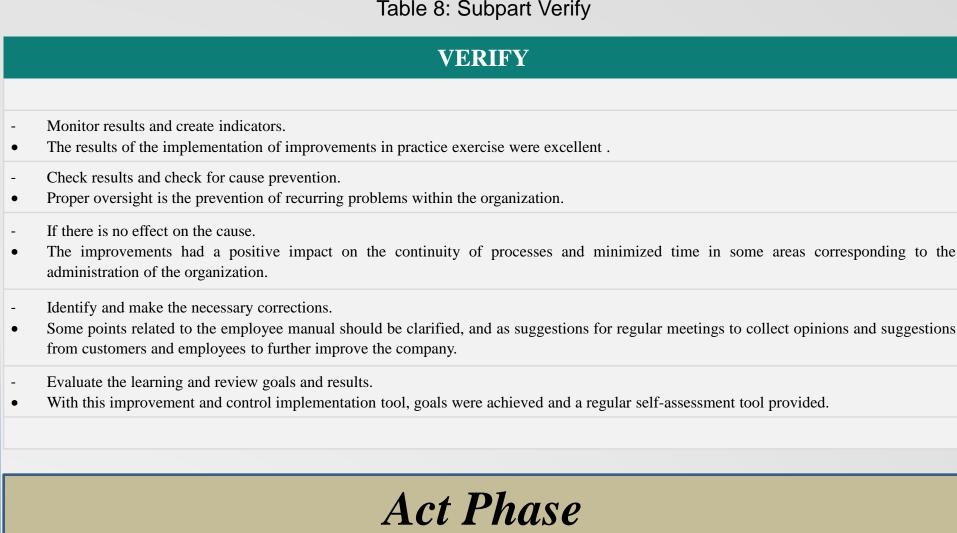
Table 7 : Subpart Execute

	EXECUTE
-	Train people to interpret the plan and work with focus.
•	Provide practical training focused on the group work goal to facilitate scopes of the proposed goals.
-	Get feedback from each person involved in understanding the plan.
•	Main problems are resistance to change and adaptations of new daily processes.
-	Perform the steps defined in the action plan.
•	Done.
-	Observe and compare the predicted and accomplished schedule.
•	In carrying out implementation practices, significant improvements can be seen in routine processes, such as decreased time in performing various tasks.
-	Compare also qualitative aspects. Make sure that the people involved have a clear understanding of the plan.
•	Correction in redacted documents, inventory programs, and alert programs. Additional meetings to clarify doubts regarding the functions,
	duties and implementation of the programs.

Check Phase

Table 8 contains a summary of the subpart Verify would look like and the important information to collect to establish upcoming corrections in the cycle.

Table 8: Subpart Verify



In the Act phase To solve the problem correctly, you need to improve the overall documentation and training process. The Table 9 describes the importance of customer-submitted implementations of recommended improvements.

Table 9: Subpart Standardize

STANDARDIZE

- Use the standard adopted to prevent the recurrence of the problem. As mentioned above in the Check Step, the main recommendation to the client is to follow the steps of continuous improvement creating recurring habit of corrective self-assessment where the company will not only achieve the objectives already achieved, but will create a culture of job satisfaction, as well as a global satisfaction towards customers
- It is recommended that as the company's gradual growth can be suggested the change of a better inventory program and alerts of customer reviews a little more sophisticated, in which the additional expense incurred in it is justified.

The Figure 2 demonstrates the fully cost-free digitized inventory system, the operator owner will be able to carry out inventories remotely, speeding up the inventory replenishment purchasing process while accounting for the volume of purchases in an automated manner. Maximizing the monitoring task.

Figure 2: Inventory Program Sample

			Figure 2:	Invento	ory Progra	am Sar	nple			
	Inventario			Ventas Totales				Tipo de Pago por Articulo		
Articulos	Cantidad	Vendido	Disponible	Precio	Ventas	IVU	Precio + IVU	Cash	Tarjeta	ATH Mov
Batidas Vainilla	20	7	13	3.5	24.5	2.8175	27.3175	2	3	2
Powerade Uva	20	10	10	1.5	15	1.725	16.725	3	5	2
Powerade China	20	6	14	1.5	9	1.035	10.035	1	3	2
Batidas Chocolate	20	9	11	3.5	31.5	3.6225	35.1225	5	1	3
Batidas Fresa	20	6	14	3.5	21	2.415	23.415	3	2	1
Batidas Chocolate	20	7	13	3.5	24.5	2.8175	27.3175	3	2	2
Barras de Proteina	20	10	10	2	20	2.3	22.3	5	2	3
Agua	20	6	14	1	6	0.69	6.69	3	2	1
Suplementos	20	9	11	7	63	7.245	70.245	1	3	5
Fajas	20	6	14	12	72	8.28	80.28	2	1	3
Agua de Coco	20	7	13	2	14	1.61	15.61	2	2	3
Aminoacidos	20	10	10	10	100	11.5	111.5	2	3	5
Toallas	20	6	14	2	12	1.38	13.38	2	1	3
Mascarillas	20	9	11	1	9	1.035	10.035	3	5	1
Sanitizer	20	6	14	2	12	1.38	13.38	1	3	2
				Total =	433.5	49.8525	483.3525	38	38	

In the Figure 3 we observed an alert system for periodic physical reviews, in which it provides a notice seven (7) days in advance of the expiration date to have one week of preparation for the appointment of periodic reviews of customers.

Figure 3: Inventory Program Sample

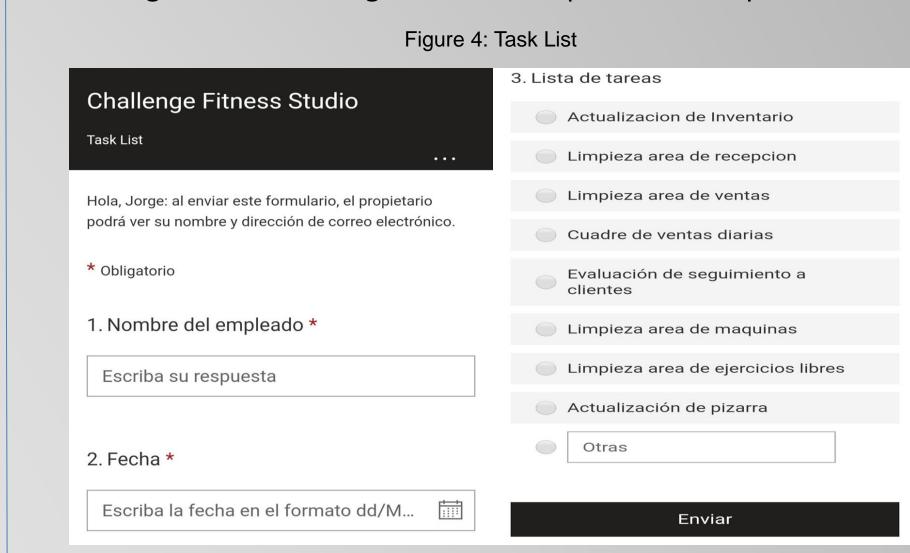
Sistema de alertas de revisiones fisicas

Num. Contrato	Nombre del Cliente	Fecha de Revision Fisica	Días Faltantes para Revision	Estatus
14431	Jorge Colon Andino	5/18/2021	-2	Vencido
14432	Rafael Nieves	5/21/2021	1	Por vencer
14433	Michael Chevere	5/23/2021	3	Por vencer
14434	Jose Benitez	5/25/2021	5	Por vencer
14435	Carlos Perez	5/26/2021	6	Por vencer
14436	Angel Morales	5/27/2021	7	Por vencer
14437	Keyla Santiago	6/5/2021	16	Con tiemno

Thursday, May 20, 2021

Act Phase Cont.

In the following Figure 4 you can see the digitized daily task list, where each employee daily will submit it to the system, so that the employee himself will have with him a reminder of the tasks to be performed minimizing errors or oversights in their respective workspaces.



In this task list there will be a space to write any observations or situations that occurred in the working hours. Only the owner operator of the establishment will have access to the answers

In the following Table 10 have a brief conclusion as last part of this phase.

Table 10: Subpart Conclusion

	CONCLUSION
- •	Document and measure the results obtained. The results are documented and submitted to the customer for the demonstration of the fulfillment of objectives required by the customer.
	Evaluate whether the results justify the new pattern. These improvements achieved a pattern with positive results, which as employees achieve adaptation to changes the results will be consistent.
	Validate the effectiveness of the problem solving process.
•	The solution to existing customer issues is validated and verified.
- •	Repeat the PDCA cycle and apply increment continuous improvements. As part of the control process, monitoring of all previous steps was implemented as a system of continuous improvement, creating an organizational culture designed to meet the highest corporate demands of the market.

Conclusions

The project carried out at Challenge Fitness Studio was mainly based on recommendations to achieve the automation objectives of the organization's administrative processes. It was facilitated to reduce uns measured working time with higher results and minimize errors, facilitating monitoring processes while substantially reducing customer discomfort due to lack of maintenance in areas of frequent use and lack of regular physical assessments.

In all these recommendations, no company expenses have been incurred, and substantially improve the monitoring process without having to interact with staff continuously. With the alert system we give continuity in the monitoring phase to customers fulfilling the objective of continuity of the organization and at the same time we increase customer satisfaction by providing the feeling that we are very aware of their physical health. This same alert system serves as a monitoring tool for the company's weekly and fortnightly tasks. In conclusion, we understand that meeting the implementation of the execution plan is sufficient to meet the satisfaction and correctness of the customer's main needs; without incurring additional costs and also causing savings by reducing inventory and material expenses among others; reducing operating costs that become benefits for the company.

And at the same time we take care of our natural environment by reducing the unmeasured production of solid waste, thus contributing even more to the health vision of the company.

References

[1] Professional Templates for Excel. (n.d.). (2021, February 1). From PDCA Excel Template: https://topexceltemplates.com/

[2]PDCA Cycle (Plan, D. V. (2013, August 23). PDCA Home. From PDCA Cycle (Plan, Do, Verify and Act): The Deming Circle of Continuous Improvement: https://www.pdcahome.com/5202/ciclo-pdca/

[3] What is Plan-Do-Check-Act (PDCA) Cycle? (n.d.). (2021, April 16). Retrieved from Kanbanize:

https://kanbanize.com/leanmanagement/improvement/what-is-pdcacycle