

Abstract

Challenge Fitness Studio is a fitness center incorporated in 2019. The organization's goal is to gain market penetration and increase members enrollment through partnership with private entities, citizen service centers, and healthcare professionals. DMADV will be the Six Sigma quality method used to implement the new strategies and initiatives. The project charter states the opportunity statement, scope, team, and goals of the project. Customer's requirements were identified during interviews and translated into specific and measurable performance requirements to align the design to the customer's needs. Possible design failures and outcomes of each failure were identified using a design failure mode and effect analysis (DFMEA) revealing facility and personnel availability as the two main constraints. A pilot run analyzes both constraints based on customer's profit goal. The KPI dashboard will allow the customer to visualize business' performance and expected growth by easily comparing and analyzing monthly data.

Key Terms — DMADV, expansion, KPIs.

Project Description

Business development design seeks to expand the company's activities through the expansion of services. The Six Sigma quality method that will be used to implement the new strategies and initiatives of capture and retention of customers will be DMADV. The tool allows the design of a business growth and expansion plan, minimizing risks, and incrementing efficiency in resource allocation. A standardized proposal is to be created and can be modified for and applied to different entities and health professionals to increase market penetration. The project also aims to develop key performance measurements (KPIs) that allow to monitor and improve the health of the company.

Objective

- Expand services to a variety of sectors
- Increase market penetration by partnering with different entities and healthcare professionals
- Increase the organizations' client portfolio
- Develop KPIs for business performance monitoring are the objectives of this research.

Methodology

- Define Phase:
- Interview customer to identify customer's requirements.
- Confirm Scope, goals, and problem statement with project charter.
- Measure Phase:
- Outline and tie business objective to metrics with measure plan
- Translate customer's requirements to critical to quality.
- Analyze Phase:
- Identify strength, weakness, opportunities, and threats with a SWOT.
- Recognize and evaluate potential systems failure with DFMEA.
- Design Phase:
- Generate solution ideas and implementation requirements.
- Run pilot test with failure considerations.
- Design business expansion analysis roadmap.
- Discuss solutions with customer.
- Verify Phase:
- Verify key performance measurements with KPI dashboard.

Results and Discussion

Define Phase

Early identification of customer's needs and requirements, expectations, mayor constraints, organization's strengths and goals were possible due to constant interviews with the customer shown on table 1. This allowed the design stage to be driven by what is most valuable to the customer.

Day	Length	Purpose	Highlights	Platform
12/04/20	1.5 hr	To identify customer's needs	Increase memberships Increase revenues Expand services to different sectors Way to monitor business performance Create association with entities to offer the service	Phone
		To identify customer's constraints	Small studio Limited classes available Proposal for Seniors Care Center Business Monitoring System	
		Material presentation to client	Display dashboard using 3 scale meters Maintain proposal presentation short and simple Request of a common conditions and limitation identification checklist Financial dashboard to be presented monthly	Zoom Meeting
01/07/21	2 hrs	Obtain feedback from client	Request needed information from client	
		Request needed information from client	Information of costs of activities Information of activities logistics on senior's care center Additional pictures to incorporate on presentation	
04/07/2021	45 min	Train client of dashboard interpretation	Minor updates presentation	Zoom Meeting

Table 1: Voice of the Customer Table (VOCT)

Define Cont.

Business Expansion Design for Challenge Fitness Studio	Date: January 12, 2021
Problem/Opportunity Statement: With the advancement of technology, the lifestyle of a large group of the population has turned sedentary. This has caused many sectors within the health field to recomen activities to reduce risk factors and improve wellness. The incrementing demand for fitness centers has been evident in recent years, however, many of these centers lack not only from an educated initial orientation that provides the client with a route to a sustainable fitness improvement program, they also have physical and resources limitations in serving special populations. This represents an opportunity for Challenge Fitness Studio to expand its products and services. The objective of this Project is to design a business expansion model to increase business scope and improve sales without modifying individualized training services. The organizational Benefit are: Increase the organizations' clients portfolio, increase client retention, standardization of key performance measurements to monitor the company's health, increase revenue per client and gross profit and certify trainers in various exercise disciplines and special population that Will allow expanding services to different sectors of the population and gain market penetration.	Customer Requirements: <ul style="list-style-type: none"> Increase customers Increase monthly revenues Increase market penetration Real time business performance monitoring Standardized business presentation proposal
Scope: <ul style="list-style-type: none"> Development of data sheet and KPI dashboard Staff acquisition requirement analysis Standardized business presentation Standardized business expansion checklist assessment 	Goal: <ul style="list-style-type: none"> Expand services to a variety of sectors Increase market penetration Increase organizations' client portfolio Develop KPI for business performance monitoring
Team & Support members: Dr. Rafael Nieves – Project Lead Kathiria Figueroa – Project Owner Michael Chavez – Project Customer	Vision of Success: The Project is considered successful if implementations results in: <ul style="list-style-type: none"> Increase customer enrollment on the different services provided by the center Increase client loyalty by decreasing CHURN Real time business performance monitoring Efficient use of space and staff Increase in revenues Overall efficient in business expansion planning No lost of revenue

Figure 1: Project Charter

The project charter shown on Figure 1 provides an overview of the entire project. It documents and shares an understanding of the project's opportunity statement, goals, what are the boundaries (scope) of the project, and vision of success. It also outlines the customers' requirements, the team members involve in the project, lists out of scope activities, and communicates what is the value of the project. Financial and market studies are out of scope and a subject matter expert must be consulted prior to begin any expansion activities.

Measure Phase

Objective	Financial Growth	Product / Service	Customers	Facility	Personnel	Technology								
CTDs	Increase revenue per client	Increase Personal training sales	Increase online trainings	Increase amount leads converted into members	Increase member loyalty	Decrease Drop clients	Space availability	Increase space utilization	100% Productive hours	Goal oriented personnel acquisition	Real time business monitoring			
KPIs	Revenue per client (RPC)	Gross profit	Growth in person PT Sections	Group class enrollment	Initial online training section enrollment	Conversion rate	Growth	Retention rate	CHURN	Membership capacity	Revenue per square foot	Utilization rate	Trainers needed	KPI Dashboard
Measurable metrics	Number of active members	Income	Initial PT sections enrollment	Initial group classes enrollment	Initial online training section enrollment	Number of leads	Initial members	Number of drops members	Number of initial members	Number of cycles per day (NCD)	Revenue	Hours on section	Revenue goal	number of weeks forecast to quarterly
	Total Revenue	Costs	Final PT sections enrollment	Final group classes enrollment	Final online training section enrollment	Number of new members	Present active members	Number of initial members	Number of new members	Total number of members the club can accommodate (TMC)	Total square foot of studio	Free hours	Cost per section	Average hours in section per week
Frequency	monthly	monthly	monthly	monthly	monthly	monthly	monthly	quarterly	quarterly	monthly	bi-weekly	quarterly	Real time	

Figure 2: Measure Plan

During the measure phase, the customer's requirements were translated into specific and measurable performance requirements or critical to quality (CTQ) in alignment with the customer's expectation of performance. The frequency of measurement was set to satisfy the customer's monitoring needs and design for early identification of deviations factors. Figure 2 shows the six drivers upon which the quality of the design project was judge, these were financial growth, product/services/ customer, facility, personnel and technology.

Analyze

Table 2 shows the SWOT analysis of the organization. Strategies and recommendations were provided focusing on leveraging business strengths and opportunities to overcome threats and weakness and minimize risks. The DFMEA shown on table 3 reviews in scope components to identify all possible failure for the business growth and expansion design for the company and their effect and outcomes of each failure. Failure modes with high severity and low detection are of mayor concern to the customer and represents a higher stability risk of operational performance.

S: Strengths	W: Weakness
<ul style="list-style-type: none"> Strategic location Personalize customer relationship Top of the line equipment High customer satisfaction Highly qualified trainers with a variety of certification Value-added services (nutrition, massages, etc.) 	<ul style="list-style-type: none"> New in the market Limited space for high tempo Lack of amenities and classes as opposed to health clubs No business performance monitoring system in place
O: Opportunities	T: Threats
<ul style="list-style-type: none"> Usage of Social medias to expand reach capabilities Growing demand for personalize training Increasingly health awareness Large target market in surroundings (businesses, universities, etc.) 	<ul style="list-style-type: none"> Strong competition by near health clubs Current restrictions due to pandemic Unstable economy

Table 2: Strength, Weakness, Opportunities and Threats (SWOT) Analysis

Analyze Cont.

Item	Potential Failure mode	Potential effect or failure	Potential causes of failure	Prevention Control	RPN	Recommendations
Personnel	Lack of certified trainers	Member injury by improper exercise prescription	Poor workforce developmental planning	Keeping track of recurring training and new certification requirement	56	Deploy a proper hiring process
	Under Staff	Member not reaching goal	Members drop program	Create affiliation with certified independent trainers in case support needed	32	Provide opportunities for professional development
	Lack of trainer personnel	Members drop program	Members drop program	Plan a hiring process prior to maximum capability of available trainers	84	Bring resources to expand knowledge and share experiences with staff
Facility	Over staff (too many trainers)	High payroll	Poor recruiting planning	Keep track of number of clients per trainer	36	Plan ahead staff requirements based on financial goals
	Space limitation	Member not assisting PT sections	Too much clients schedule for the same period of time	Schedule plan with maximum capacity per hour	63	Find more work, trim your staff
	Facility inaccessibility	Member drop from program	Lack of client profile information	Study each case individually for special requirements	72	Offer blended training packages that includes in person training and online trainings
Customer	Customer not satisfied with service	Early contract cancellation	Lack of market intelligence gathering	Regular interviews with customers	84	Lease or buy new facility
	Customer don't have time to assist to PT section	Customer not renewing contract	Lack of market intelligence gathering	Collect clients' availability in onboarding interview	63	Create affiliations with different sectors to use their facility in exchange of benefits
	Customer not achieving goal	Contract cancellation negative feedback	setting too many fitness goals at once Not setting deadline Actions do not align with goals Health problems Lack of consistency Lack of progress measuring Improper nutrition	Perform a Physical Activity Readiness Questionnaire (PAR-Q) prior to start any exercise program Monitor client progression regularly	48	Conduct customer satisfaction surveys continuously
Product Service	Incorrect exercise prescription	Client injury no progression on physical condition	Lack of trainer experience	Supervise each exercise prescription prior to assign Perform physical evaluation prior to prescribing any workout	45	Perform monthly performance monitoring Ensure client understand the importance of well nutrition for goal achievement
	Poor communication trainer/client	Customer dissatisfaction	Shyness discomfort from any of both parties	management should interview each client and trainers individually periodically	63	Contract resources for seminars and recurring trainings for staff on prescription of exercise and progress progression awareness
	Exercise prescription not personalized	discomfort	Lack of trainer's commitment Lack of knowledge Lack of time	Supervise all exercise prescription prior to assign	45	Management should perform recurring staff meeting to explain the importance of having an open fluent communication with each client
Facility	Trainer not showing up to section	Displeased client	Unintentional Forgetting Lack of commitment	Confirmation call 30 prior to section if trainer is not in facility	30	Regular staff meetings to discuss importance of personalize prescription as business moto
	Not supervised workout	Client injury	Trainer was distracted while in section Client was left alone during PT section	Periodic walkthrough to supervise performance	24	Provide trainers with support for unexpected situations
					10	Keep trainers motivated and committed with business goal and vision
					10	Regular staff meetings to discuss importance of supervising clients at all times

Table 3: Design Failure Mode and Effect Analysis (DFMEA)

Design

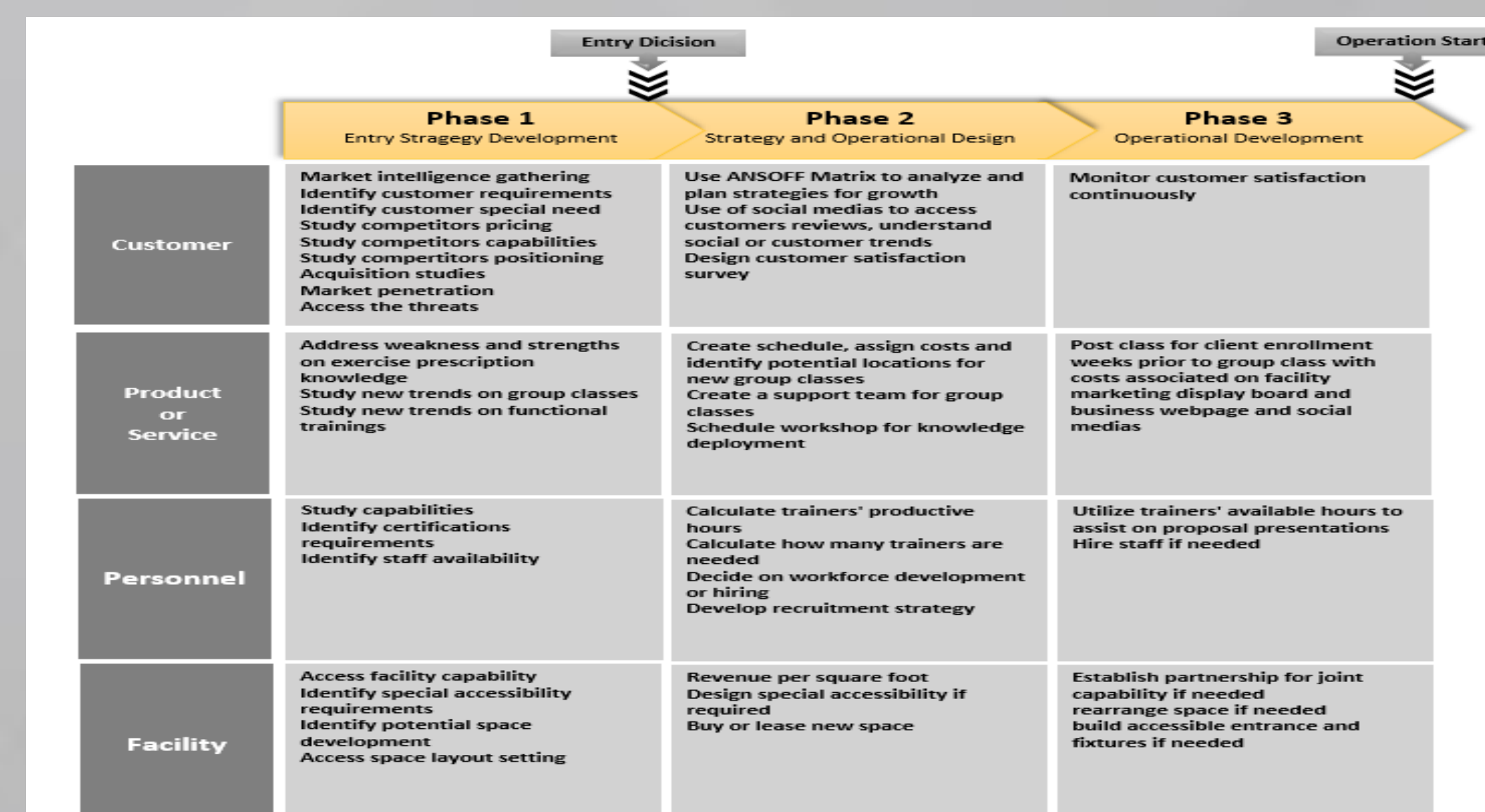


Figure 3: Strategic Developmental Activities by Phases

Design Cont.

A group of activities were developed from entry strategic development all the way to operational development in three phases shown on Figure 3. A point of entry decision was set after evaluating and assessing capabilities and constrains on four drivers. The activities design during phase 2 translated knowledge gain from the risk assessment into plans of actions to ensure the customer takes all preventive actions prior to full operation. The last phase are actions taken to start operation efficiently. The pilot run shown on figure 4 is a tool design to aim the customer on the decision-making process based on financial target vs main constrains.

Pilot Run	Analysis
Your goals	
Input your target revenue	15000
Enter in how many weeks do you want to achieve it	40
Sections and Client Information	
Enter average cost per section	40
Enter average time per section in hours	1
Enter how many sections per week clients buy on average	2
Enter total of actual active clients (Do not include online only clients)	10
Enter total quantity of sections in a week (including online and in person sections)	8
Staff Information	
Enter quantity of trainers available	2
Enter total free hours of trainer per week	20
Facility Information	
Total hours of operation per day	12
Quantity of cardio machines	5
Quantity of large gym equipment	5
Input facility square foot	1000

Table 4: Pilot Run and Analysis

Verify

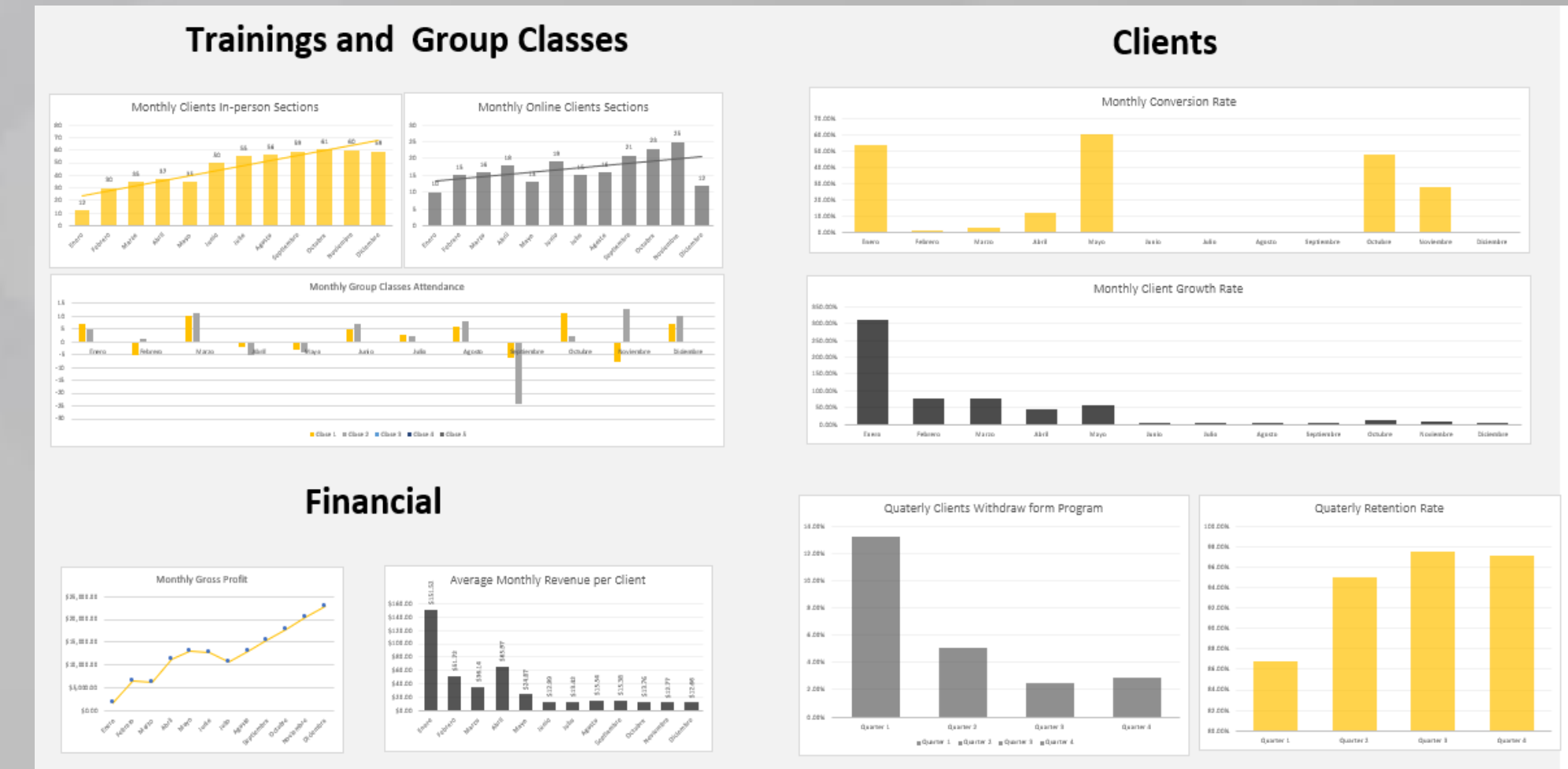


Figure 5: KPI Dashboard

The KPI dashboard is shown on figure 5 is the organization's new monitoring system. It was design to provide the user a visual representation of the company's performance and the tool also allows identification of any deviation from the target in a timely manner.

Conclusion

This business expansion project has been design based on customer's requirements. DMADV methodology was used to develop the new process to deliver the final product to the customer. Risks associated with expansion activities were assessed and all design activities and recommendations were based on failure modes to fully eliminate or reduce the likelihood of occurrence. The table of developmental activities by phases provides entry point signals and operational controls during the expansion process. The pilot run and analysis provides the customer with a tools to make decisions-based on target revenues and mayor constrains. Finally, the KPI dashboard is the organization's monitoring system

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