COVID-19 Effects on Antecedents and Outcomes of Trainees' Satisfaction in Personal Training Studios and Gyms: Differences between Online and Offline Training Sessions

Kesoglou Vasiliki, Tsourela Maria, ZourladaniAthanasia

Department of Accounting and Finance, International Hellenic University, Greece
Associate Professor, Department of Business Administration, International Hellenic University, Greece
Special Educational Staff, Department of Physical education and Sports Science, Aristotle University of Thessaloniki, Greece

ABSTRACT: This research aims to synthesize the challenges Personal training studios and gyms are facing during COVID-19 pandemic. The author of this study examined the differences in antecedents of trainee's satisfaction and outcome in loyalty between online and offline training. The main research question was whether trainee's perception about quality and value of session experience, as well as prior training expectation, affect their satisfaction and loyalty differently between online and offline training sessions. Influences were further examined for proving contingency upon demographic variables that may induce effects and engender discrepancies in each segment's parameter estimates. European Customer Satisfaction Index (ECSI) instrument was employed and data were collected during the CORONA-19 pandemic. It was demonstrated that Overall Satisfaction is influenced by Perceived Quality and Expectations more in offline than online sessions. The influence of both Perceived Value on Satisfaction and Satisfaction on Loyalty is stronger in online sessions.

KEY WORDS: Crisis, Trainees' Satisfaction, Trainees' Loyalty, ECSI instrument, Online/Offline training medium

I. INTRODUCTION

This research aims to synthesize the challenges Personal training studios and gyms are facing during COVID-19 pandemic. The goal is to provide insights of how sport managers and sport business people can handle and exploit this unprecedented situation. At the time of conducting the research, many countries have just exited a total lockdown, with substantial negative consequences in terms of damage to national economies, businesses and individual jobs [13]. Estimates of the negative economic effects of the crisis are at an early stage for many countries but are known to be substantial, even devastating for some emerging economies [3]

It is proposed that these novel circumstances may challenge or even permanently transform consumers' perceptions and behaviours, even after the end of pandemic, as a result of a complex cyclic permutation. Consumers may decide to permanently switch to the product/service suppliers that managed to serve them during the pandemic crisis, leading to competition reallocation. At this point in time, Personal Training studios and gyms were forced to offer online training sessions, diligently trying to make them as efficient as possible.

Corona virus outburst transformed various aspects of how the sports industry operates and competes. Research on use of technology to create and manage online training communities is still nascent. Personal Training studios and gyms should probably benefit from 'systematically encouraging and exploring a wide range of internal and external sources for innovation opportunities, consciously integrating that exploration with firm capabilities and resources, and broadly exploiting those opportunities through multiple channels [1, 16].

II.   LITERATURE SURVEY

The ESCI framework

The ECSI (European Consumer Satisfaction Index) originated from the American Customer Satisfaction Index model (ACSI). Kristensen, Martensen and Gronholdt (2000), describe it as "a structural equation model with unobservable latent variables ... that link customer satisfaction to its determinants and, in turn, to its consequence, namely customer loyalty".

In the present study, since consumer satisfaction and loyalty are the key constructs of interest [4], the direct effects of perceived quality, perceived value and consumer expectation were handled as antecedents of consumer satisfaction and the effect of the two endogenous variables of consumer satisfaction on consumer loyalty was investigated. Latent variables are equipped in proper manifest variables, which are measured in a consumer survey. Coefficients are calculated through partial least squares (PLS). As a result, derived path coefficients, denote the variables' effect level to one another, as well as its significance. Variable names and wording of the questionnaire were adjusted to sport industry, e.g. consumers being trainees. Fig. 1 illustrates the study's ECSI model, where there are nine relationships and solid lines represent direct effects. Additionally, Online vs Offline Construct direct effects with the four main study's variables aims on revealing any possible differences between the two training methods.
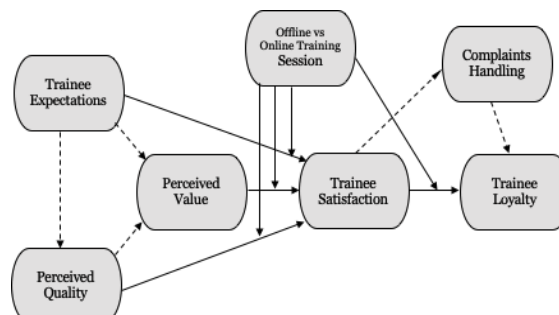
Fig 1. Conceptual framework

Perceived Quality and Trainees Satisfaction

In this research, it is proposed that trainees perceived quality have greater influence in offline than online training sessions on their satisfaction. Since Perceived quality is considered a trade-off between the consumer's evaluation of all the benefits derived and all the costs of acquiring those benefits [11], it as a multi-dimensional construct which includes "give" (e.g. cost, effort) and "take" (e.g. functional benefits, hedonic benefits) [14]. Thus, perceived value is created during the consumption experience [5] and it should be especially important in sports industry, which is characterized with frequent direct interaction of the trainee with the trainer.

Hypothesis 1. The influence of perceived quality on consumer *satisfaction is more positive in offline than online training sessions.*

Perceived Value and Trainee Satisfaction

COVID-19 pandemic drove both personal training studios and gyms and trainees to find new avenues to achieve their goals. Through innovative ways of communication, personal training studios and gyms used online channels that enabled trainees to access a wide variety of training services in easier, more convenient, sometimes cheaper and customized manners that increase perceived value of the offer. Therefore, in this research it is proposed that trainees perceived value influences more their satisfaction in online training sessions than offline.

Hypothesis 2. The influence of perceived value on trainee satisfaction is more positive in online than offline training sessions.

Trainees expectations and Trainees Satisfaction

Money spend on training activities is discretionary and can be considered a luxury. Trainees engage with personal training studios and gyms during their free time and in most cases, there is also an emotional investment in the activities of the sport organization, such as supporting a sport team, belonging to a club. All these factors and their immediate aftermaths on the connection between expectations and satisfaction were abruptly interrupted due COVID-19. Thus, in this research it is proposed that trainees' expectations will be stronger in the offline training sessions than the online.

Hypothesis 3. The influence of trainees' expectations on trainee satisfaction is more positive in offline than online training sessions

Trainees satisfaction and Trainees Loyalty

When trainees are satisfied with online sessions, they can more readily make an appointment, spend zero effort to actively engage, enter multiple group sessions more easily and easily locate the service even in an unfamiliar context. This may reinforce attitudinal commitment to the personal training studios and gyms. Thus, in this research it is proposed that consumer satisfaction will have a stronger effect on loyalty online than offline.

Hypothesis 4. The influence of trainees' satisfaction on trainee's loyalty is more positive in online than offline training sessions.

III.   METHODOLOGY

This study investigates where there are differences between the critical latent variables of ECSI model between two service channels -online and offline- of training sessions as well as whether the results can be generalized to all potential trainees or if there are differences among certain characteristics. The data were collected using web-based survey, and target population for this paper was individuals who were active members of personal training studio or gym during the CORONA-19 pandemic. Respondents were asked to answer the ECSI survey instrument on the basis of their perception regarding training sessions which they were part of. The ECSI's model questionnaire was adapted to fit personal training studios and gyms arena. All items of scale were measured on a seven-point Likert scale anchored with 1=completely disagree and 5= completely strongly agree.A pilot test was made to 12 trainees for ensuring the reliability and validity of the questionnaire as well as for ensuring instrument's wording, format and readability. A total of 583 questionnaires were obtained, after rejecting 42 unusable ones.

Of the 583 respondents, 289 were male (49.6 per cent) and 294 were female (50.4 per cent). 262 respondents (44.9 per cent) where digital natives (<40 years old) and 321 (55.1 per cent) where digital immigrants (>40 years old). 296 respondents (50.8 per cent) had less than two years training experience and 287 (49.2 per cent) more than two years. The majority of the respondents -487 (83.5 per cent)- train 2-4 hours per week, 86 (14.8 per cent) 4-6 hours per week, 6 (1.0 per cent) less than two hours and 4 (0.7 per cent) 6-8 hours per week.

IV.   STATISTICAL ANALYSIS

In social and behavioral studies, PLS-SEM is chosen because they regularly rely on nonnormal data and there is absence of distributional assumptions [6, 12, 2].Our first step in evaluating PLS-SEM is to examine the measurement models. Relevant criteria differ between reflective and formative constructs. Thereby, if the measurement models meet all the required criteria, the structural model will be assessed. In the end, the online-offline group differences will be examined for supporting our hypotheses.

Measurement Model Evaluation

The first step in reflective measurement model assessment involves calculating standardised outer loadings of the manifest variables.The second step is assessing internal consistency reliability, using Jöreskog's (1971) Composite Reliability -CR and Cronbach's alpha. The third step of the reflective measurement model assessment addresses the validity of each construct measure.In our model, CR, Cronbach's alpha and AVE values exceeded the cut-offs for all constructs, Table 1.

Table1. Results of measurements model (convergent validity)

Construct	Item	Loading	Cronbach's α	CR	AVE
Perceived Quality	PQ1	0,842	0.873	0.944	0.654
	PQ2	0,796			
	PQ3	0,816			
	PQ4	0,762			
	PQ5	0,887			
	PQ6	0,873			
	PQ7	0,862			
	PQ8	0,701			
	PQ9	0,717			
Trainee Expectation	TE1	0,884	0.803	0.875	0.670
	TE2	0,859			
	TE3	0,762			
Perceived Value	PV1	1	1	1	1
Trainee Satisfaction	TS1	0,879	0.782	0.804	0.771
	TS2	0,859			
	TS3	0,896			
Trainee Loyalty	TL1	0,803	0.823	0.898	0.639
	TL2	0,862			
	TL3	0,783			
	TL4	0,716			
	TL5	0,824			
Complaint Handling	CH1	1	1	1	1

After confirming convergent validity, discriminant validity was established by the heterotrait-monotrait (HTMT) ratio of the correlations [8, 15].The results of HTMT as a criterion method can be seen in Table 2, indicating that the highest value is 0.732 which achieved the acceptable level. HTMT inference was smaller than 1 in all of the constructs, reassuring that there are not discriminant validity problems.

Table2. Results of discriminant validity -HTMT ratio

	P.V.	T.E.	P.Q.	T.S.	T.L.	C.H.
P.V						
T.E.	0.308					
P.Q.	0.295	0.375				
T.S.	0.397	0.428	0.732			
T.L.	0.648	0.519	0.381	0.163		
C.H.	0.541	0.298	0.419	0.281	0.462	

Structural Model Assessment and Validation

Structural model assesses relationship between exogenous and endogenous latent variables through standard assessment criteria, including coefficient of determination -R^2 value, the blindfolding-based cross validated redundancy measure Q^2 and the statistical significance and relevance of the path coefficients.Table 3 shows path coefficients and significances which strongly support all links and confirm the ECSI model structure. SMRN= 0.041, indicating high levels of model fit. Since R^2values, in ECSI model are $R^2_{satisfaction}$=0.682 and $R^2_{loyalty}$=0.612, which is higher than the suggested value, the model is considered to have substantial degree of explained variance in the endogenous constructs. Q^2 values of our model are 0.462 for Satisfaction and 0.381 for loyalty, which indicates strong predictive relevance.

Table3. Path coefficients and p-values estimates

Construct A→Construct B	Path coefficient (β)	p-value
CH → CL	0.471***	0.000
CS → CH	-0.182**	0.031
CS → CL	0.632***	0.000
PQ → CS	0.724***	0.000
PQ → PV	-0.196***	0.000
PV → CS	0.543***	0.000
CE → CS	0.712***	0.000
CE → PV	0.691***	0.000
CE → PQ	0.384***	0.000
Control Variables →T.S.		
Gender → T.S.	-0.014	0.752
Age → T.S.	-0.019**	0.091
Prior training experience→ T.S.	-0.031	0.186
Training hours/week → T.S.	0.024	0.293

Multigroup Analysis of Offline vs Online Personal Training Studios Trainees Sessions

A multigroup analysis was performed to test the possible differences between each segment's specific parameter estimates [7]. In our model, the moderator is a categorical variable of interest, so, multigroup analysis was performed to statistically assess the possible differences between the path coefficients resulting from the two different subgroups of online and offline Personal Training Studios sessions and check heterogeneity in model relationships.

Table4. Offline vs Online training session differences

Relationships	Offline Trainee Session		Online Trainee Session		β differences	
	Path coefficient (β)	p-value	Path coefficient (β)	p-value	$\|\varDelta\|$	p-value
P.Q. +Offline T.S	0.482	0.000	0.386	0.000	0.096***	0.000
P.V. +Online T.S.	0.342	0.000	0.538	0.000	0.196***	0.000
T.E. +Offline T.S.	0.278	0.000	0.109	0.000	0.169**	0.003
T.S. +Online T.L.	0.534	0.000	0.713	0.000	0.179***	0.000
C.H. → T.L.	0.615	0.000	0.640	0.000	0.025	0.000
T.S. → C.H.	-0.152	0.034	-0.161	0.038	0.009**	0.037
P.Q. → P.V.	-0.128	0.000	-0.104	0.000	0.024	0.000
T.E. → P.V.	0.621	0.000	0.547	0.000	0.074	0.031
T.E. → P.Q.	0.721	0.000	0.764	0.000	0.043	0.000
Control Variables →T.S.						
Gender → T.S.	0.025	0.178	-0.021	0.193	0.004**	0.037
Age → T.S.	-0.042	0.031	0.012	0.541	0.030**	0.041
Prior training experience → T.S.	-0.023	0.416	-0.031	0.192	0.008	0.242
Training hours/week → T.S.	0.026	0.621	0.028	0.453	0.002	0.379

$R^2_{\text{satisfaction offline}}$=0.691; $R^2_{\text{satisfaction online}}$=0.716; $R^2_{\text{loyalty offline}}$=0.528; $R^2_{\text{loyalty online}}$=0.737
$Q^2_{\text{satisfaction offline}}$=0.641; $Q^2_{\text{satisfaction online}}$=0.695; $Q^2_{\text{loyalty offline}}$=0.518; $Q^2_{\text{loyalty online}}$=0.706
SMRN $_{\text{offline}}$= 0.058; SMRN $_{\text{online}}$= 0.049

Notes: $|\varDelta|$, absolute differences between path coefficients between the two groups.
*** Significant at 0.01; ; ** Significant at 0.05

Results, Table 4, suggest that Hypothesis 1 and Hypothesis 3 are validated. Perceived quality and trainees' expectations influence their satisfaction more in offline personal training sessions than in online ones (β_{offline}=0.482, p=0.000, β_{online}=0.386, p=0.000; $|\Delta|$= 0.096, p=0.000 and β_{offline}=0.278, p=0.000, β_{online}=0.109, p=0.000; $|\Delta|$= 0.169, p=0.003 respectively). As expected, satisfaction of trainees is more affected by session quality and experience when they actually visit a Personal training studio.

At the same time, Hypothesis 2 and 4 are also validated. The influence of both Perceived Value on Trainees satisfaction (β_{offline}=0.342, p=0.000, β_{online}=0.538, p=0.000; $|\Delta|$= 0.196, p=0.000) and Trainee satisfaction on Loyalty (β_{offline}=0.534, p=0.000, β_{online}=0.713, p=0.000; $|\Delta|$= 0.179, p=0.000) is stronger in online sessions. As a result, when trainees attendan online session they perceive value as an important satisfaction driver, that has a profound impact on their future decisions connected to the two different training methods.

V. CONCLUSION AND FUTURE WORK

One possible aftereffect of COVID-19, is that sport industry will change fundamentally based on societal needs. Due to difficulty on finding a vaccine or medicine to fight COVID-19 there may be a long-term to use social distancing and hygiene practices. At the time of writing this article there is still much uncertainty about when and if crisis will finish or sport activities will have to evolve based on the new normal. Considering the groundbreaking effects of this unprecedented situation, it is almost certain that there will be huge divergences of current practices connected with the whole sport industry and the ones that will evolve to match the new "of specific nature" society's needs. It is almost definite that nothing will be exactly as it was before the crisis, since as people's habits and routines are different now. Sport industry may be given a unique opportunity to expand into new markets and globalize its services. Restrictions forbidding sport activities led people to lean towards leisure activities by online training or fitness events. Meanwhile, due to the slowdown of sport activities, there is a need for a rethink about how sport is consumed. The whole engagement process in sports,considering social distancing, gave prominence to new possibilities for trainees and set out new entrepreneurial roads to practitioners.

In these extraordinary times of a global pandemic, COVID-19 shut businesses, put economies at risk and paused our lives. Digital technologies made our everyday life a little bit easier and furthermore provided businesses with the opportunity to maintain a level of activity. Sports industry has also seen similar effects. Though government responses differed from place to lace, the global direction first prompted the almost total shutdown of group or indoor sport at all levels and next the enforcement of "hard" restriction concerning "how", "when" and "where" sports can take place. It is obvious that the long-term impact of the COVID-19 on sport industry is not yet apparent. We are not able to know how things will be after the pandemic, especially when conceding the health expects inability to ascertain that there will actually be an end point and not that the pandemic is likely to become a regular fixture in life from this point forward.

The fact that many trainees were forced to try out online training sessions and were turned out to be satisfied by them, may lead to new wave of online consumers, demanding better online offerings, prices, services and programs. This sudden growth in the numbers of trainees wanting to participate in online sessions may eventually drive sport business practitioners and managers to upgrade the online channel, synchronize the two mediums and ultimately try to provide the services of the same "quality" from both channels. According to the results of the current research, there are still some basic differences between offline and online channel concerning the perceptions of quality, value and expectations on satisfaction and loyalty.

REFERENCES

[1] Cohen, W. M., & Levinthal, D. A. (1990). Absorptive capacity: A new perspective on learning and innovation. *Administrative science quarterly*, 128-152.

[2] do Valle, P. O., &Assaker, G. (2016). Using partial least squares structural equation modeling in tourism research: A review of past research and recommendations for future applications. *Journal of Travel Research*, 55(6), 695-708.

[3] Evans, O. (2020). Socio-economic impacts of novel coronavirus: The policy solutions. *BizEcons Quarterly*, 7, 3-12..

[4] Fornell, C., Johnson, M. D., Anderson, E. W., Cha, J., & Bryant, B. E. (1996). The American customer satisfaction index: nature, purpose, and findings. *Journal of marketing*, 60(4), 7-18..

[5]Grönroos, C. (2011). A service perspective on business relationships: The value creation, interaction and marketing interface. *Industrial marketing management*, 40(2), 240-247.

[6]Hair, J. F., Sarstedt, M., Ringle, C. M., & Mena, J. A. (2012). An assessment of the use of partial least squares structural equation modeling in marketing research. *Journal of the academy of marketing science*, *40*(3), 414-433.

[7]Henseler, J., & Chin, W. W. (2010). A comparison of approaches for the analysis of interaction effects between latent variables using partial least squares path modeling. *Structural Equation Modeling*, *17*(1), 82-109

[8] Henseler, J., Ringle, C. M., &Sarstedt, M. (2015). A new criterion for assessing discriminant validity in variance-based structural equation modeling. *Journal of the academy of marketing science*, *43*(1), 115-135.

[9] Jöreskog, K. G. (1971). Simultaneous factor analysis in several populations. *Psychometrika*, *36*(4), 409-426.

[10] Kristensen, K., Martensen, A., &Gronholdt, L. (2000). Customer satisfaction measurement at post Denmark: results of application of the European customer satisfaction index methodology. *Total Quality Management*, *11*(7), 1007-1015.

[11] Lam, S. Y., Shankar, V., Erramilli, M. K., & Murthy, B. (2004). Customer value, satisfaction, loyalty, and switching costs: an illustration from a business-to-business service context. *Journal of the academy of marketing science*, *32*(3), 293-311.

[12] Nitzl, C. (2016). The use of partial least squares structural equation modelling (PLS-SEM) in management accounting research: Directions for future theory development. *Journal of Accounting Literature*, *37*, 19-35.

[13] Parker, J., Boles, C., Egnot, N., Sundermann, A., & Fleeger, A. (2020). Return to normal operations: COVID-19 mitigation strategies for workplaces. *Toxicology and Industrial Health*, 0748233720967525.

[14] Sarantidou, P. (2017). Enriching the ECSI model using brand strength in the retail setting. *European Journal of Management and Business Economics*.

[15] Voorhees, C. M., Brady, M. K., Calantone, R., & Ramirez, E. (2016). Discriminant validity testing in marketing: an analysis, causes for concern, and proposed remedies. *Journal of the Academy of Marketing Science*, *44*(1), 119-134.

[16] West, J., & Gallagher, S. (2006). Challenges of open innovation: the paradox of firm investment in open-source software. *R&d Management*, *36*(3), 319-331.