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Article

Application of the prospective Tool Smic-Prob Expert in decision making in a bicycle trading company

Aplicación de herramienta prospectiva Smic-Prob Expert en toma de decisiones en empresa comercializadora de bicicletas

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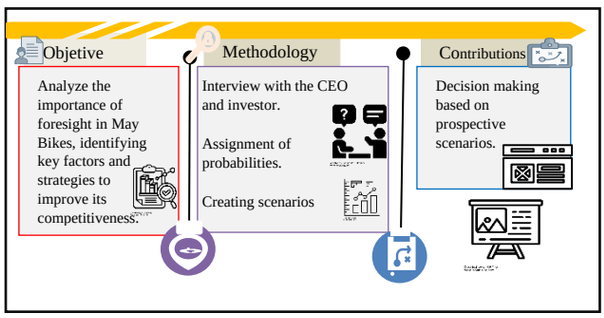
Abstract

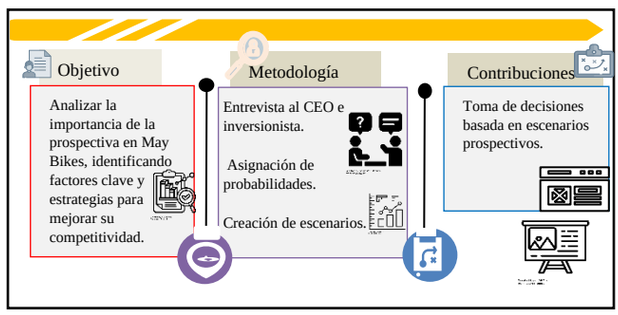
This study applies the prospective methodology to the company May Bikes, identifying the main driving forces of change in the bicycle market using the SMIC-PROB EXPERT tool. The study focuses on evaluating the impact of two key strategies: a loyalty system based on points and discounts, and an increase in visual marketing through infographics within the establishment. Through semi-structured interviews and exploratory analysis, future scenarios are built



Prospective Analysis, Strategic Decision Marking, SMIC-PROB EXPERT

Resumen

En este estudio, se aplica la metodología prospectiva a la empresa May Bikes, identificando las principales fuerzas impulsoras del cambio en el mercado de bicicletas mediante la herramienta SMIC-PROB EXPERT. El estudio se centra en evaluar el impacto de dos estrategias clave: un sistema de fidelización basado en puntos y descuentos, y el aumento del marketing visual a través de infografías dentro del establecimiento. A través de entrevistas semiestructuradas y un análisis exploratorio, se construyen escenarios futuros considerando variables clave, sin incluir factores externos como regulaciones gubernamentales



Análisis Prospectivo, Toma de decisiones estratégicas, SMIC-PROB EXPET

Area: Strengthening the scientific community

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Introduction

Foresight, far from predicting the future, facilitates the construction of possible scenarios Godet [2007]. By visualising different futures, the company can make strategic decisions that are more informed and aligned with its objectives.

This study presents a practical application of this methodology to the case of May Bikes. Through SMIC-PROB EXPERT, the main driving forces of change in the bicycle market have been identified and different future scenarios have been designed. The results obtained offer a strategic vision on the implementation of a loyalty system [points and discounts] and more visual marketing [infographics] within the shop.

Prospective, according to Jouvenel [1993], conceives the future as a reality yet to be built. This vision, shared by Godet [2007], who states that the future 'depends solely on human action', places human beings as the main architects of their own destiny. In line with this perspective, Medina [2006] defines foresight as a discipline that makes it possible not only to analyse the present and future trends, but also to influence the course of events. By identifying the present and future needs of society, foresight facilitates the alignment between scientific and technological supply and social demands.

Godet [2007] conceives of exploratory foresight as a tool that allows us to visualise a range of possible futures, or 'futuribles', considering both the influences of the past and the aspirations of different social actors. In line with this perspective, Arapé [2000] defines foresight as a discipline that studies the root causes of social and economic change, with the aim of anticipating future situations.

This article seeks to answer the following question: What would be the most probable scenarios for the year 2025 for the company May bike if the marketing strategies are implemented? For this purpose, the internal and external socio-economic context of the company was taken into account in the determination of variables within the prospective study at an exploratory level by means of semi-structured interviews.

In order not to affect its reproducibility and applicability, this study was carried out on the basis of future variables and hypotheses without taking into account other factors such as actors outside the company, policies, governmental regulations, tax reforms, etc. The research is composed of the following parts: the background, where the trajectory of the bicycle sector in the city of Villahermosa and the particular case of the Mayito Bike company are described; the theoretical framework in which the concept of foresight, scenarios and the SMIC-PROBEXPERT tool are reviewed; the methodology, where the hypotheses, simple probabilities, probabilities of occurrence and probabilities of non-occurrence per scenario are described in detail; the analysis of the results provided by the programme, where the research question is answered; and the conclusions of the analysis.

In the city of Villahermosa, in recent years the use of bicycles has increased due to the urban mobility they offer, since the use of this means of transport is more efficient financially speaking, the maintenance costs of this vehicle are low and few, it has very few components. When it comes to transport efficiency, the bicycle is a good transport alternative for short and medium distances. According to the magazine Bizkaia [2020], bicycles can efficiently cover distances of up to 7 km, or even up to 15 km. This means that a cyclist can cover an area of 150 km2 around his or her residence. Overall, half of all urban trips by car or public transport cover less than 5 km. About 45% of urban trips cover distances of less than 3 kilometres, a distance that can be covered by bicycle in 10 minutes on flat terrain.

The cycling sector is emerging in Villahermosa, but has great potential for growth, which may be due to several factors, from the price of fuel, to the rising prices of motorised vehicles and the growing incentive to do sport for better health. The Organisation for Economic Co-operation and Development [OECD] [2023] mentions the disadvantages that an organisation has when it is not aware of its competitive advantages, ranging from losses of market share, reduced economic returns, difficulty in attracting and retaining customers, increases in fixed costs and a decrease in prestige/reputation.

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Many of the retail bicycle shops in the city of Villahermosa are not aware of the competitive advantages they have and therefore it is not possible to exploit them, but more critical are the opportunities for improvement that they miss because they do not have a competitive analysis.

In this paper we will specifically analyse the company May Bike, which is located in the city of Villahermosa, Tabasco. It is a company dedicated to the marketing of Trek brand bicycles, operating under the franchise scheme, the company was founded on May 4, 2024, so the current year is being used to gather information and refining its sales strategy.

Currently the company is facing several challenges, the main and most critical one is the low number of sales and the adherence of customers, both in the sales service of Trek branded bicycles, as well as its maintenance service [corrective and preventive]. Marketing strategies are proposed that can favour the competitiveness of the May Bike company. This strategy is based on 2 strategic pillars.

1] A loyalty system [purchase points and discounts on consecutive maintenance].

2] Increased infographics indicating the competitive advantages offered by its maintenance service.

The first strategy addresses a loyalty system where the customer benefits from points for every purchase made, these points are redeemable for shop merchandise or services, as well as a discount after 30% after their fourth service.

The second strategy is the implementation of infographics that attract the attention of customers. This will indicate the competitive aspects of your maintenance service, as it uses high quality inputs and has specialised tools for the proper maintenance of bicycles, these infographics will inform the customer of the competitive qualities offered by this service and generates added value as the service is supported by the quality of the inputs used [oils, greases, degreasers, brushes, torque meters, among other specialised tools for bicycle maintenance.

The main tool to be used for the creation of the scenarios is the SMIC-Prob-Expert method, which allows the construction of future scenarios based on the most influential variables. These variables, through various hypotheses, made it possible to visualise different possible futures.

Methodology

The SMIC-PROB-EXPERT software, according to Prospective [2018], is a valuable tool to assess the probability of occurrence of different future scenarios. By analysing the interrelationships between multiple scenarios, this method allows identifying the most likely changes in a given system. To apply this method, Godet & Durance [2009] recommend using semi-structured questions to obtain the information so as not to overwhelm the experts with a large number of questions.

2.1 Using SMIC-Prob for decision making

SMIC-Prob [Systems and Probabilistic Cross Impact Matrices] is a powerful strategic foresight tool that allows companies to analyse multiple future scenarios and make more informed decisions in an uncertain environment.

This tool is particularly useful for engaging senior management in a process of joint reflection on the future of the organisation.

1.1.1 Identification of key assumptions

A set of hypotheses are defined, in this case they are hypotheses previously made by analysing the situation of the company, this is a process of dialogue and collective reflection, the team is guided towards the construction of scenarios, maintaining the same factors that conditioned the evolution of the key variable used including the time horizon.

- If a change is expected, specify its magnitude.
- Determining the best way to represent the future evolution of the variable. Promoting both the diversity of ideas and the search for agreements, the following hypotheses were developed

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Box 1

Table 1

Hypothesis

#	Broad Title	Open.	Description
1	Feasibility of implementing a loyalty programme in the first quarter of 15%.	Prog.Fid15	15% of existing customers will sign up for the loyalty programme in Q1 2025
2	Feasibility of loyalty programme implementation in the first quarter of 20%.	Prog.Fid20	20% of existing customers will sign up for the loyalty programme in the first quarter of 2025
3	Feasibility of loyalty programme implementation in the first quarter of 30%.	Prog.Fid30	30% of existing customers will sign up for the loyalty programme in the first quarter of 2025
4	Feasibility of loyalty programme implementation in the first quarter of 40%.	Prog.Fid40	40% of current customers will sign up to the loyalty programme in the first quarter of 2025
5	Increased consumption due to perceived benefits	Aum.Tiket	New customers recruited through the loyalty programme will have an average ticket size 15% higher than customers who do not participate in the programme.
6	Feasibility of implementing infographics detailing the benefits of maintenance	Imp.Infogr	A 20% increase in the number of customers requesting maintenance services after implementing infographics is expected by 2025.

Source: Own elaboration

2.1.2 Construction of the impact matrix.

A matrix is created where the influence that each hypothesis has on the others is assessed. This makes it possible to identify the cause-effect relationships between the different hypotheses. Experts are brought together to evaluate these hypotheses, this is done taking into account the decision makers in the company, in this case the CEO of the business and 5 investors.

Definition of the experts

Box 2

Table 2

Experts.

#	Number	Group	Peso
1	Inversionist 1	Inversionist	5
2	Inversionist 2	Inversionist	5
3	Inversionist 3	Inversionist	6
4	Inversionist 4	Inversionist	4
5	Inversionist 5	Inversionist	6
6	CEO of the negocio	CEO	9

Source: Own elaboration

2.1.3 Asignacion Probability analysis

Each hypothesis is assigned a probability of occurrence. Mederos P [2013] indicates that this allows the uncertainty associated with each scenario to be quantified. For this, a meeting is organised where all the experts are present and the simple probabilities are asked, if realization.

Results

Simple probability data

Each scenario is analysed for each expert or for the set of experts, or each scenario is evaluated for a particular group of experts.

Box 3

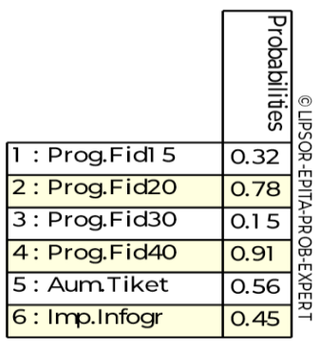

Figure 1

Simple probability data table Investor 1

Source: Own elaboration obtained from Smic-Pro Expert

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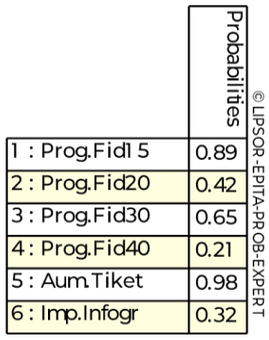
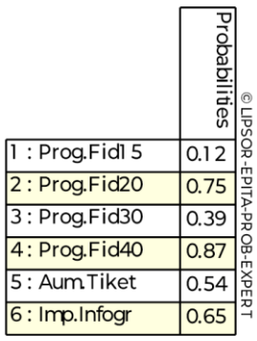
Box 4



	Probabilities
1 : Prog.Fid1 5	0.89
2 : Prog.Fid20	0.42
3 : Prog.Fid30	0.65
4 : Prog.Fid40	0.21
5 : Aum.Tiket	0.98
6 : Imp.Infogr	0.32

Figure 2
Simple probability data table investor 2
Source: Own elaboration obtained from Smic-Pro Expert

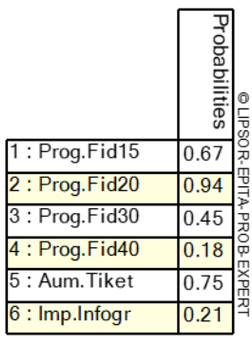
Box 5



	Probabilities
1 : Prog.Fid1 5	0.12
2 : Prog.Fid20	0.75
3 : Prog.Fid30	0.39
4 : Prog.Fid40	0.87
5 : Aum.Tiket	0.54
6 : Imp.Infogr	0.65

Figure 3
Simple probability data table investor 3
Source: Own elaboration obtained from Smic-Pro Expert

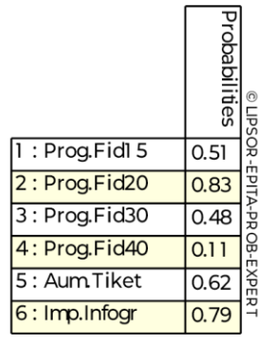
Box 6



	Probabilities
1 : Prog.Fid15	0.67
2 : Prog.Fid20	0.94
3 : Prog.Fid30	0.45
4 : Prog.Fid40	0.18
5 : Aum.Tiket	0.75
6 : Imp.Infogr	0.21

Figure 4
Simple probability data table investor 4
Source: Own elaboration obtained from Smic-Pro Expert

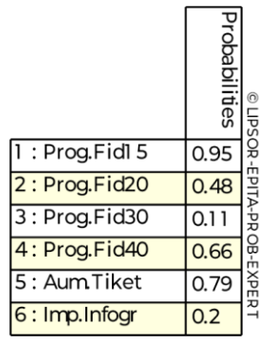
Box 7



	Probabilities
1 : Prog.Fid1 5	0.51
2 : Prog.Fid20	0.83
3 : Prog.Fid30	0.48
4 : Prog.Fid40	0.11
5 : Aum.Tiket	0.62
6 : Imp.Infogr	0.79

Figure 5
Simple probability data table investor 5
Source: Own elaboration obtained from Smic-Pro Expert

Box 8



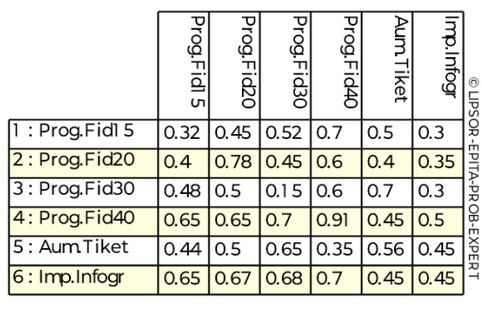
	Probabilities
1 : Prog.Fid1 5	0.95
2 : Prog.Fid20	0.48
3 : Prog.Fid30	0.11
4 : Prog.Fid40	0.66
5 : Aum.Tiket	0.79
6 : Imp.Infogr	0.2

Figure 6
Simple probability data table CEO of the business
Source: Own elaboration obtained from Smic-Pro Expert

Probability data Conditional yes.

A hypothesis is analysed for each expert or for the set of experts, or a hypothesis is evaluated for a particular group of experts. A hypothesis to be evaluated and a baseline hypothesis are selected.

Box 9



	Prog.Fid1 5	Prog.Fid20	Prog.Fid30	Prog.Fid40	Aum.Tiket	Imp.Infogr
1 : Prog.Fid1 5	0.32	0.45	0.52	0.7	0.5	0.3
2 : Prog.Fid20	0.4	0.78	0.45	0.6	0.4	0.35
3 : Prog.Fid30	0.48	0.5	0.15	0.6	0.7	0.3
4 : Prog.Fid40	0.65	0.65	0.7	0.91	0.45	0.5
5 : Aum.Tiket	0.44	0.5	0.65	0.35	0.56	0.45
6 : Imp.Infogr	0.65	0.67	0.68	0.7	0.45	0.45

Figure 7
Probability data table If conditional Investor 1
Source: Own elaboration obtained from Smic-Pro Expert

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Box 10

	Prog.Fid1 5	Prog.Fid20	Prog.Fid30	Prog.Fid40	Aum.Tiket	Imp.Infogr
1 : Prog.Fid1 5	0.67	0.7	0.72	0.84	0.22	0.17
2 : Prog.Fid20	0.66	0.94	0.95	0.95	0.25	0.22
3 : Prog.Fid30	0.44	0.45	0.45	0.5	0.29	0.27
4 : Prog.Fid40	0.5	0.54	0.56	0.18	0.3	0.3
5 : Aum.Tiket	0.36	0.39	0.4	0.47	0.75	0.31
6 : Imp.Infogr	0.22	0.22	0.24	0.3	0.35	0.21

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Figure 8
Probability data table Conditional yes Investor 2
Source: Own elaboration obtained from Smic-Pro Expert

Box 11

	Prog.Fid1 5	Prog.Fid20	Prog.Fid30	Prog.Fid40	Aum.Tiket	Imp.Infogr
1 : Prog.Fid1 5	0.12	0.22	0.25	0.3	0.35	0.45
2 : Prog.Fid20	0.33	0.75	0.78	0.82	0.36	0.49
3 : Prog.Fid30	0.35	0.38	0.39	0.47	0.39	0.44
4 : Prog.Fid40	0.45	0.48	0.57	0.87	0.44	0.47
5 : Aum.Tiket	0.55	0.57	0.58	0.62	0.54	0.5
6 : Imp.Infogr	0.33	0.35	0.39	0.41	0.42	0.65

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Figure 9
Probability data table Conditional yes Investor 3
Source: Own elaboration obtained from Smic-Pro Expert

Box 12

	Prog.Fid1 5	Prog.Fid20	Prog.Fid30	Prog.Fid40	Aum.Tiket	Imp.Infogr
1 : Prog.Fid1 5	0.89	0.95	0.96	0.96	0.45	0.25
2 : Prog.Fid20	0.33	0.42	0.44	0.5	0.46	0.28
3 : Prog.Fid30	0.45	0.5	0.65	0.66	0.5	0.3
4 : Prog.Fid40	0.44	0.48	0.49	0.21	0.65	0.31
5 : Aum.Tiket	0.28	0.33	0.35	0.39	0.98	0.32
6 : Imp.Infogr	0.32	0.42	0.45	0.45	0.95	0.32

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Figure 10
Probability data table Conditional yes Investor 4
Source: Own elaboration obtained from Smic-Pro Expert

Box 13

	Prog.Fid1 5	Prog.Fid20	Prog.Fid30	Prog.Fid40	Aum.Tiket	Imp.Infogr
1 : Prog.Fid1 5	0.51	0.55	0.6	0.66	0.21	0.23
2 : Prog.Fid20	0.41	0.83	0.85	0.87	0.25	0.24
3 : Prog.Fid30	0.44	0.45	0.48	0.52	0.28	0.28
4 : Prog.Fid40	0.47	0.59	0.6	0.11	0.3	0.29
5 : Aum.Tiket	0.23	0.25	0.3	0.35	0.62	0.16
6 : Imp.Infogr	0.25	0.27	0.3	0.38	0.45	0.79

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Figure 11
Probability data table Conditional yes Investor 5
Source: Own elaboration obtained from Smic-Pro Expert

Box 14

	Prog.Fid1 5	Prog.Fid20	Prog.Fid30	Prog.Fid40	Aum.Tiket	Imp.Infogr
1 : Prog.Fid1 5	0	0.34	0.4	0.45	0.32	0.24
2 : Prog.Fid20	0.61	0	0.67	0.7	0.33	0.29
3 : Prog.Fid30	0.65	0.7	0	0.7	0.35	0.35
4 : Prog.Fid40	0.69	0.72	0.76	0	0.42	0.35
5 : Aum.Tiket	0.22	0.25	0.3	0.32	0	0.36
6 : Imp.Infogr	0.15	0.19	0.24	0.26	0.42	0

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Figure 12
Probability data table If conditional CEO of the business
Source: Own elaboration obtained from Smic-Pro Expert

3.3 Data probability Unconditional.

One hypothesis is analysed for each expert or for all experts. A hypothesis to be evaluated and a reference hypothesis are selected.

a) Inversionists

Box 15

	Prog.Fid1 5	Prog.Fid20	Prog.Fid30	Prog.Fid40	Aum.Tiket	Imp.Infogr
1 : Prog.Fid1 5	0	0.65	0.67	0.7	0.22	0.18
2 : Prog.Fid20	0.45	0	0.66	0.7	0.27	0.24
3 : Prog.Fid30	0.5	0.65	0	0.71	0.3	0.26
4 : Prog.Fid40	0.54	0.6	0.7	0	0.32	0.25
5 : Aum.Tiket	0.25	0.26	0.3	0.36	0	0.14
6 : Imp.Infogr	0.14	0.18	0.18	0.19	0.32	0

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Figure 13
Probability data table Non-conditional Investor 1
Source: Own elaboration obtained from Smic-Pro Expert

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Box 16

	Prog.Fid1 5	Prog.Fid20	Prog.Fid30	Prog.Fid40	Aum.Tiket	Imp.Infogr
1 : Prog.Fid1 5	0.95	0.95	0.97	0.97	0.45	0.32
2 : Prog.Fid20	0.47	0.48	0.55	0.66	0.32	0.45
3 : Prog.Fid30	0.52	0.57	0.11	0.6	0.25	0.45
4 : Prog.Fid40	0.55	0.56	0.6	0.66	0.44	0.47
5 : Aum.Tiket	0.22	0.28	0.36	0.36	0.79	0.47
6 : Imp.Infogr	0.3	0.34	0.35	0.35	0.45	0.65

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Figure 14

Probability data table Unconditional Unconditional Investor 2.

Source: Own elaboration obtained from Smic-Pro Expert

Box 17

	Prog.Fid1 5	Prog.Fid20	Prog.Fid30	Prog.Fid40	Aum.Tiket	Imp.Infogr
1 : Prog.Fid1 5	0	0.44	0.47	0.52	0.25	0.21
2 : Prog.Fid20	0.65	0	0.71	0.71	0.26	0.22
3 : Prog.Fid30	0.69	0.72	0	0.75	0.3	0.22
4 : Prog.Fid40	0.72	0.75	0.79	0	0.35	0.25
5 : Aum.Tiket	0.22	0.26	0.26	0.26	0	0.26
6 : Imp.Infogr	0.13	0.15	0.19	0.19	0.35	0

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Figure 15

Probability data table Non-conditional Investor 3

Source: Own elaboration obtained from Smic-Pro Expert

Box 18

	Prog.Fid1 5	Prog.Fid20	Prog.Fid30	Prog.Fid40	Aum.Tiket	Imp.Infogr
1 : Prog.Fid1 5	0	0.54	0.6	0.63	0.24	0.21
2 : Prog.Fid20	0.45	0	0.5	0.55	0.24	0.26
3 : Prog.Fid30	0.54	0.6	0	0.71	0.3	0.22
4 : Prog.Fid40	0.61	0.65	0.7	0	0.35	0.22
5 : Aum.Tiket	0.25	0.3	0.32	0.34	0	0.2
6 : Imp.Infogr	0.16	0.18	0.18	0.18	0.2	0

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Figure 16

Probability data table Unconditional Investor 4.

Source: Own elaboration obtained from Smic-Pro Expert

Box 19

	Prog.Fid1 5	Prog.Fid20	Prog.Fid30	Prog.Fid40	Aum.Tiket	Imp.Infogr
1 : Prog.Fid1 5	0	0.22	0.25	0.3	0.25	0.12
2 : Prog.Fid20	0.35	0	0.4	0.45	0.3	0.17
3 : Prog.Fid30	0.47	0.5	0	0.55	0.3	0.2
4 : Prog.Fid40	0.52	0.56	0.6	0	0.35	0.2
5 : Aum.Tiket	0.32	0.35	0.36	0.36	0	0.21
6 : Imp.Infogr	0.15	0.18	0.2	0.2	0.16	0

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Figure 17

Probability data table Unconditional Investor 5.

Source: Own elaboration obtained from Smic-Pro Expert

Box 20

b] CEO of the business

	Prog.Fid1 5	Prog.Fid20	Prog.Fid30	Prog.Fid40	Aum.Tiket	Imp.Infogr
1 : Prog.Fid1 5	0	0.48	0.55	0.6	0.45	0.16
2 : Prog.Fid20	0.55	0	0.58	0.65	0.5	0.19
3 : Prog.Fid30	0.6	0.62	0	0.7	0.5	0.22
4 : Prog.Fid40	0.65	0.7	0.75	0	0.55	0.22
5 : Aum.Tiket	0.16	0.16	0.16	0.17	0	0.19
6 : Imp.Infogr	0.19	0.2	0.24	0.24	0.57	0

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Figure 18

Probability data table Non-conditional Investor 4.

Source: Own elaboration obtained from Smic-Pro Expert

3.4 Simple probabilities by group of experts

Box 21

A. investors.

	Probabilities
1 : Prog.Fid1 5	0.394
2 : Prog.Fid20	0.523
3 : Prog.Fid30	0.424
4 : Prog.Fid40	0.471
5 : Aum.Tiket	0.418
6 : Imp.Infogr	0.355

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Figure 19

Table of simple probability data by investor group

Source: Own elaboration obtained from Smic-Pro Expert.

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Box 22

B. CEO

	Probabilities
1 : Prog.Fid15	0.605
2 : Prog.Fid20	0.448
3 : Prog.Fid30	0.312
4 : Prog.Fid40	0.572
5 : Aum.Tiket	0.361
6 : Imp.Infogr	0.307

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Figure 20

Simple Probability Data Table by Business CEO Group.

Source: Own elaboration obtained from Smic-Pro Expert

3.5 Probabilities of Yes realisation by group of experts

Box 23

A. investors

	Prog.Fid15	Prog.Fid20	Prog.Fid30	Prog.Fid40	Aum.Tiket	Imp.Infogr
1 : Prog.Fid15	0.394	0.537	0.446	0.429	0.579	0.599
2 : Prog.Fid20	0.714	0.523	0.639	0.676	0.766	0.814
3 : Prog.Fid30	0.481	0.519	0.424	0.352	0.594	0.602
4 : Prog.Fid40	0.513	0.609	0.39	0.471	0.652	0.697
5 : Aum.Tiket	0.615	0.613	0.585	0.58	0.418	0.756
6 : Imp.Infogr	0.541	0.553	0.504	0.526	0.642	0.355

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Figure 21

Table of probability data of If realisation of the investor group

Source: Own elaboration obtained from Smic-Pro Expert

Box 24

B. CEO.

	Prog.Fid15	Prog.Fid20	Prog.Fid30	Prog.Fid40	Aum.Tiket	Imp.Infogr
1 : Prog.Fid15	0.605	0.888	0.729	0.881	1	0.914
2 : Prog.Fid20	0.658	0.448	0.274	0.536	0.669	0.613
3 : Prog.Fid30	0.376	0.191	0.312	0.231	0.43	0.293
4 : Prog.Fid40	0.833	0.684	0.424	0.572	0.901	0.772
5 : Aum.Tiket	0.597	0.539	0.497	0.569	0.361	0.688
6 : Imp.Infogr	0.464	0.42	0.288	0.414	0.585	0.307

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Figure 22

Simple probability data table by business CEO group

Source: Own elaboration obtained from Smic-Pro Expert

3.6 Probabilities of non-realisation by expert group

Box 25

A. investors.

	Prog.Fid15	Prog.Fid20	Prog.Fid30	Prog.Fid40	Aum.Tiket	Imp.Infogr
1 : Prog.Fid15	0	0.236	0.355	0.362	0.261	0.28
2 : Prog.Fid20	0.399	0	0.437	0.387	0.348	0.363
3 : Prog.Fid30	0.388	0.321	0	0.489	0.303	0.326
4 : Prog.Fid40	0.443	0.319	0.53	0	0.34	0.346
5 : Aum.Tiket	0.291	0.205	0.295	0.275	0	0.232
6 : Imp.Infogr	0.235	0.139	0.246	0.204	0.149	0

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Figure 23

Table of probability data of If realisation by investor group

Box 26

B. CEO

	Prog.Fid15	Prog.Fid20	Prog.Fid30	Prog.Fid40	Aum.Tiket	Imp.Infogr
1 : Prog.Fid15	0	0.375	0.549	0.236	0.382	0.468
2 : Prog.Fid20	0.127	0	0.527	0.331	0.323	0.375
3 : Prog.Fid30	0.215	0.411	0	0.421	0.246	0.321
4 : Prog.Fid40	0.173	0.481	0.64	0	0.386	0.484
5 : Aum.Tiket	0	0.217	0.3	0.083	0	0.217
6 : Imp.Infogr	0.067	0.215	0.316	0.164	0.15	0

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Figure 24

Data table of Yes realisation probabilities by CEO group

3.7 Scenarios

In this methodological phase, the most probable scenarios are selected, based on the probabilities of occurrence of the previously evaluated hypotheses. In other words, those scenarios that accumulate an 80% probability of occurrence are chosen. Based on these, Valarezo Aguilar et al. [2018] mentions three scenarios: the trend scenario, the break scenario and the normative scenario.

Mojica, F. [2010] refers to the trend scenario as the continuity of events that have been occurring and are expected to continue to occur in the future [hypothesis]. You can choose to take one scenario from the group that adds up to 80% probability and write the baseline scenario, or you can combine several of these scenarios and write the baseline scenario that, according to your judgement and knowledge, is the most probable in the future.

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Normative scenarios, according to Parra, D. Q. [2008] are based on patterns and behaviours observed in the past or present. These scenarios project or extrapolate the past into the future, assuming that the future will be similar to the past and present. In other words, the assumption is that historical trends will continue over time.

For Pozuelo, M. [2010] the break scenario refers to a scenario that challenges the expected future trend [hypothesis]. You can select one scenario from those representing 80% of the probabilities and write the corresponding break scenario. Alternatively, you can combine several scenarios and draft the breakout scenario that, according to your judgement and knowledge, will materialise in the future.

3.8 Information

Box 27

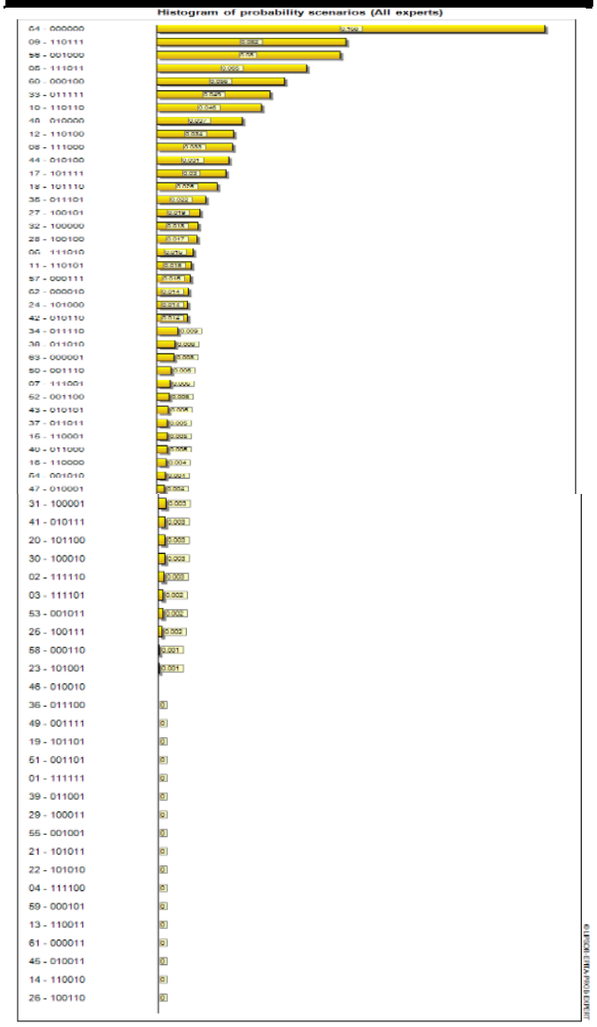

Figure 25

Histogram of Scenario Probability [All experts]
Source: Own elaboration obtained from Smic-Pro Expert

Box 28

	Inversionistas	CEO	Ensemble des experts
33 : 011111	0.066	0	0.049
34 : 011110	0.013	0	0.009
35 : 011101	0.029	0	0.022
36 : 011100	0	0	0
37 : 011011	0.007	0	0.005
38 : 011010	0.011	0	0.008
39 : 011001	0	0	0
40 : 011000	0.006	0	0.005
41 : 010111	0.004	0	0.003
42 : 010110	0.018	0	0.014
43 : 010101	0.007	0	0.005
44 : 010100	0.042	0	0.031
45 : 010011	0	0	0
46 : 010010	0	0	0
47 : 010001	0.002	0.008	0.004
48 : 010000	0.036	0.042	0.037
49 : 001111	0	0	0
50 : 001110	0.009	0	0.006
51 : 001101	0	0	0
52 : 001100	0.008	0	0.006
53 : 001011	0.003	0	0.002
54 : 001010	0.005	0	0.004
55 : 001001	0	0	0
56 : 001000	0.078	0.085	0.08
57 : 000111	0.02	0	0.015
58 : 000110	0.001	0	0.001
59 : 000101	0	0	0
60 : 000100	0.051	0.068	0.056
61 : 000011	0	0	0
62 : 000010	0.019	0	0.014
63 : 000001	0.004	0.018	0.008
64 : 000000	0.166	0.173	0.168

	Inversionistas	CEO	Ensemble des experts
1 : 111111	0	0	0
2 : 111110	0.004	0	0.003
3 : 111101	0.003	0	0.002
4 : 111100	0	0	0
5 : 111011	0.075	0.036	0.065
6 : 111010	0.021	0	0.016
7 : 111001	0.008	0	0.006
8 : 111000	0.027	0.05	0.033
9 : 110111	0.068	0.124	0.082
10 : 110110	0.033	0.083	0.046
11 : 110101	0.015	0.015	0.015
12 : 110100	0.016	0.085	0.034
13 : 110011	0	0	0
14 : 110010	0	0	0
15 : 110001	0.004	0.006	0.005
16 : 110000	0.006	0	0.004
17 : 101111	0.022	0.052	0.03
18 : 101110	0.012	0.068	0.026
19 : 101101	0	0	0
20 : 101100	0	0.013	0.003
21 : 101011	0	0	0
22 : 101010	0	0	0
23 : 101001	0	0.002	0.001
24 : 101000	0.016	0.008	0.014
25 : 100111	0.003	0	0.002
26 : 100110	0	0	0
27 : 100101	0.009	0.046	0.019
28 : 100100	0.017	0.019	0.017
29 : 100011	0	0	0
30 : 100010	0.004	0	0.003
31 : 100001	0.004	0	0.003
32 : 100000	0.025	0	0.018

Figure 26

Probability matrix of the scenarios [All experts]
Source: Own elaboration obtained from Smic-Pro Expert

The scenarios were divided into two categories based on their probability of occurrence. The probable scenarios grouped those with a cumulative probability up to 80%, while the improbable scenarios included the remaining ones, which represented 20% probability, these scenarios are discarded.

The matrix of likely scenarios, constructed from the 6 hypotheses, presents us with 64 possible combinations. By assigning probabilities to each combination for both groups of experts [Investors and CEO], we obtain a histogram that orders the scenarios from highest to lowest probability. The most likely scenarios, which account for around 80% of the possibilities, are:

a. Scenario 64: 000000 with a probability of 16.8%.
b. Scenario 09: 110111 with a probability of 8.2%.
c. Scenario 56: 001000 with a probability of 8%.

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d. Scenario 05: 111011 with a probability of 6.5%.
e. Scenario 60: 000100 with a probability of 5.6%.
f. Scenario 33: 011111 with a probability of 4.9%.
g. Scenario 10: 110110 with a probability of 4.6% g.
h. Scenario 48: 010000 with a probability of 3.7% h. Scenario 48: 010000 with a probability of 3.7% i.
i. Scenario 12: 110100 with a probability of 3.4%
j. Scenario 08: 111000 with a probability of 3.3%.
k. Scenario 44: 010100 with a probability of 3.1%.
l. Scenario 17: 101111 with a 3% probability
m. Scenario 18: 101110 with a 2.6% probability
n. Scenario 35: 011101 with a 2.2% probability
o. Scenario 27: 100101 with a 1.9% probability
p. Scenario 32: 100000 with a 1.8% probability
q. Scenario 28: 100100 with a probability of 1.7%.

From the histogram, the four most likely scenarios were identified.

Box 29

Table 3

Scenario 64

Scenario 64 - 000000 - (Rupture Scenario)

The implementation of the loyalty system is a success and is obtaining the expected market share, as well as an increase in maintenance services by the infographic, and an increase in the sales ticket of the customers who are enrolled in the loyalty programme. The probability of occurrence of the scenario is 16.8%.

Source: Own elaboration.

Box 30

Table 4

Scenario 05

Scenario 05 - 111011 - (Normative Scenario)

The implementation of the loyalty system is not accepted by the customers as expected, the average sales tiket did not increase and the maintenance services did not have the desired increase. With a scenario probability of occurrence of 6.5%.

Source: Own elaboration.

Box 31

Table 5

Scenario 56

Scenario 56 - 001000 - (Regulatory Scenario)

The implementation of the loyalty system is not well accepted by customers, nor is there a difference in the consumption of customers enrolled in the loyalty programme compared to those who are not enrolled in the programme, and similar sales in the maintenance service compared to those who are not enrolled in the programme, as well as similar sales in the maintenance service compared to those who are not

Source: Own elaboration.

Box 32

Table 6

Scenario 09

Scenario 09 - 110111 - (Baseline Scenario)

Loyalty system implementation is slower than expected, average tiket increase of shoppers who are enrolled in the loyalty programme is not as high as expected, slight increase in maintenance services due to implementation of infographics. With a scenario occurrence probability of 8.2%.

Source: Own elaboration.

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Conclusions

After analysing the data of all possible scenarios and their probability of occurrence, it is feasible to implement the loyalty programme, as well as the implementation of infographics detailing the benefits of performing maintenance services in the company. This will help the company to increase its service sales as well as customer loyalty.

In a sector as dynamic as the bicycle industry, strategic planning is essential to ensure long-term success. Foresight provides us with the necessary tools to identify opportunities and threats, and to develop action plans to achieve our business objectives. By analysing variables such as competition, regulatory changes and consumer preferences, we can build a stronger future for business. It is essential that all members of our team, from management to sales people, understand the concepts of foresight and apply them in their daily work.

Declarations

Conflict of interest

The authors declare that they have no conflicts of interest. They have no known competing financial interests or personal relationships that might have appeared to influence the article reported in this paper.

Authors' contribution

Mendez-Perez, Irving: Synthesising information and conducting the study.

Lopez-Valdivieso, Leticia: Supervision.

Eliseo-Dantes, Hortensia: Supervision.

Notario-Priego, Ezequiel: Supervision.

Availability of data and materials

Public Availability

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