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The impact of interactive learning environments on the methods of learning used today

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Abstract

There have been changes in the world since technology made its entrance. The way of study at school, or the way of earning higher competence of subjects, have been brought online. There are dynamic changes to the ways of learning. This research project will investigate if traditional ways of learning, with reading papers and analyze them, is more efficient than making people interact with the learning environments.

This research focuses on how people gain knowledge around the marketing mix. This is one of the key factors when a company is performing a marketing campaign. Schools and business courses tend to make students read papers to learn marketing and gain the general knowledge.

By applying a learning environment with interactions, the students must use different trials to explore different outcomes. The research is looking at the comparison between the traditional reading and a new method of learning which is the interactive learning environment.

The results offer an opportunity to look further into the policy of interactive learning environments. There will be multiple analysis covering the reference participants documenting their improvements, and analysis of the participants who struggled with the learning.

The insight provided are practical for the stakeholders. It offers a critical view on traditional reading with insights of benefits with renewing the learning method. The interactive learning environment is statistically analyzed with suggestions of benefits and obstacles with implementations.

The critical review of conclusion is made for further research. The conclusions of this research paper are conducted for implementations. It provides a view of the interactive learning environment for the future of learning. This new way of learning, the dynamic and modern way of interactive learning, could greatly improve the results vs traditional ways of learning.

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1. Problem formulation

1.1 Introduction

In the past, a student had one avenue for learning. This has changed over the last few decades with the introduction of the internet and computers. One specific form of learning environment has formed, which is called interactive learning environment. An interactive learning environment is where the participants have the opportunity to make changes of parameters and see changes in a simulated event. An interactive learning environment could be defined as a game where participants make their own decisions to try different outcomes.

There has been few to zero studies on learning by interactions versus learning by traditional methods. This thesis will look at the differences in the learning of the marketing mix. Either by using a traditional reading material versus using a System Dynamics model based interactive learning environment.

The goal of this thesis is to determine if a System Dynamics model based interactive learning environment is a better method for teaching marketing mix than a traditional reading method. This thesis strives to measure the effectiveness of the material learned in both cases, and to compare and contrast.

1.2 Introduction of marketing:

In 1959 Neil H. Borden, a professor at Harvard came up with the concept of the marketing mix (Borden & Marshall, pp. 498-518, 1959). While the original study is old, the theory still enjoys continued use today. As late as 2021 there was made studies about the eight P of marketing (James, 2021). These states the continues research on the original topic which was the four Ps of Borden and Marshall. The basic theory states that the market is controlled by four different parameters that are well known within the marketing field as the 4P's.

The market mix is a combination of Price, Product, Promotion and Place. Borden and Marshall explain how these parameters operate within the brand awareness of a product towards the customer.

1.3 Price

The first P' is price. As is generally well understood, pricing is a key component of the marketing of a product. Pricing strategies are easiest to modify, and the only factor which directly affects income. The way a product is priced also helps to locate the product in a market. (Išoraitė, p.25-37, 2016). An example of this phenomena is Rolex. Rolex is expensive and high class, and due to its price and exclusivity the number of items sold is small. Continuing with the watch metaphor, on the other end of the scale is Timex, whos watches are cheap, and therefore, plentiful.

1.4 Promotion

The next P' is promotion. The purpose of promotion is to increase customers awareness, which leads to higher sales rates and generally helps to build or cement brand loyalty. The more money spent on promotion generally yields better visibility, but not always more customers. The quality of the money spent is an important factor on return of investment. (Išoraitė, p.25-37, 2016) If the companies promote the product correctly, they can gain customers by top of mind. This is the first product a person thinks of when asked a question. Example here will differ from person to person, but typically this will contain Coca Cola, McDonalds, Colgate etc. These are brand names which are typically the first a person thinks of when asked "If I say soda-brand, fast food chain or toothpaste, what do you think of?".

1.5 Product

The third P is product. A product is a physical product, or a service provided for the customer. A product is the favor given to a customer in exchange for their money. The product is a critical factor in marketing as it can create attention and satisfy needs and wants. It can also include experiences, people, places, property rights, businesses or organizations, information, and ideas. (Išoraitė, p.25-37, 2016) The product is what companies sell. Marketers need to give the customer something in exchange for their money. The product itself can create enough market power for the customer to buy it if it is a product of need, or a product that customers want. A company can however never have a product without price, place or promotion and still earn money.

1.6 Place

The last P of marketing is called place. This is in business equivalent to distribution.

Distribution is a part of the marketing mix that makes the product more accessible for the consumer. It is also a part of the marketing mix because it provides visibility for the company towards the customers during the stages of distribution.

Uzniene (p.89, 2011) argues that distribution chain is necessary to:

- Analyze customer needs
- Determine the distribution chain objectives and possible obstacles to achieve them
- Identify the key distribution chain alternatives
- Assess these alternatives

The placement of a product is critical for the business. The distribution does have an impact on the marketing mix. Marketing a product through distribution allows the company to have moving promotion, analyze the market and work with different positions for your product.

1.7 Marketing mix

The four P's above is the original market mix theory. To have a successful product in the market, a company is encouraged to use marketing of a product. These four parameters intervene with each other. What this mean is that a company needs a product to sell. Once they have a product, they need to know how to price it. The pricing of the product is how the company generate income.

The product needs promotion to help the people understand that the product fulfills a need or want. The promotion of a product creates the attention for the buyer. If a company has a great product but no one knows about it, the product will not sell. The product needs distribution. This includes the delivery of a product to the customers, where to sell the product and promotion during the distribution.

1.8 Learning by interactions versus learning by reading

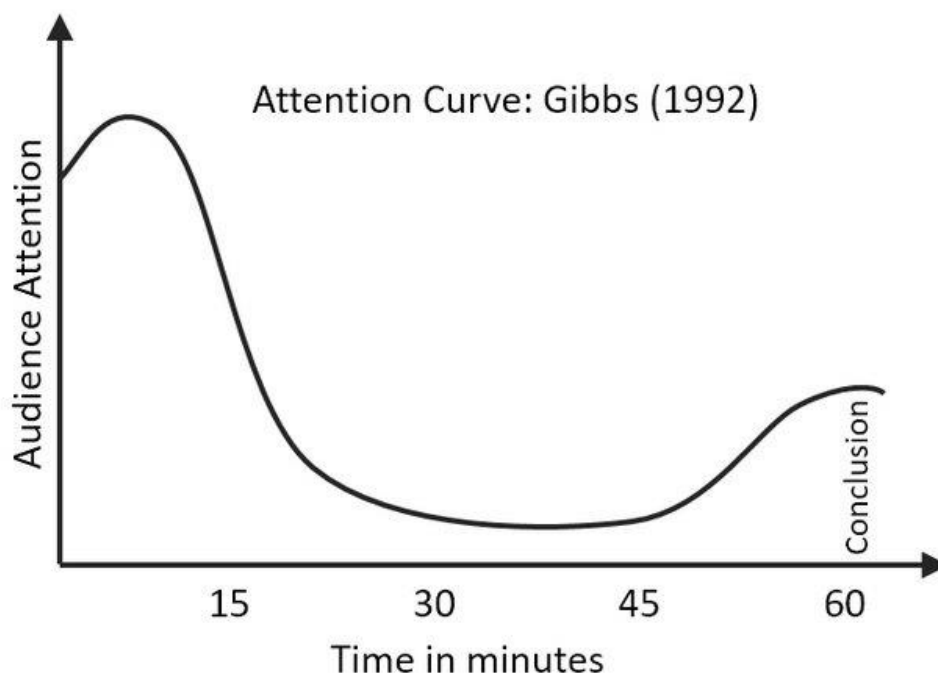
The McGraw Center of learning describes a problematic learning issue as follows: "Most people believe that repeated exposure to material, such as "going over" notes, "re-reading"

are the main and most important ways to learn and “absorb” information. In fact, research shows that memorizing in this way has significant shortcomings. Such methods are not only highly time-consuming and less than optimally effective, they are often rather boring. There are not only more effective and efficient methods of learning, but alternative approaches are often more engaging, interesting, and enjoyable.” (The McGraw Center of Learning, 2019).

The problems with learning by reading alone are nothing new, and this thesis demonstrates a potentially viable technique for improving learning outcomes when applied to the problem of teaching about marketing mix. There is a dynamic problem in learning. The modern way of making students, in all stages of school, consume readings, academic texts and quizzes might be “boring” as the McGraw Center of Learning says, and this has negative repercussions on the amount of material learned (The McGraw Center of Learning, 2019).

As the McGraw Center of Learning suggests, better methods of teaching will likely involve direct engagement by students, and this thesis measures learning outcomes from traditional reading methods vs. a more engaging System Dynamics model based interactive learning environment.

1.8.1 Reference mode



(Figure 1)

A wonderful example of the problem with traditional learning techniques, such as reading, is Gibbs (1992) study about attention. When a student reads a paper, the attention given to the paper will fall drastically after 15 minutes.

The attention of a student will stabilize at a low level after 20 minutes and the attention will remain low until the conclusion. Students show more attention in the end when the subject is concluded and there is a summary of the subject according to Gibbs (1992).

A study by Renaissance (2018) explains that the general reading done by students has lowered over time. 54% of students read less than 15 minutes a day. This drastically lowers the possibility via reading, and modern educational programs which relies on reading will clearly falter in such an environment.

1.9 Learning marketing

The overall ability to learn any subject will affect the ability to learn marketing management. The issues described above about learning in general are also directly relevant when learning market mix.

One of the problems with learning marketing management is the amount of knowledge needed to master the subject. To understand how difficult it is to succeed in marketing, one only needs to hear the words of Knotts who says “out of 1,500 organizations surveyed, nearly 85% of them said they had a content marketing strategy, yet just over 10% rated their content marketing strategy as excellent.” (Knotts, 2021)

Marketing management and the marketing mix is complex as it involves people, and the psychology of people. Learning how people think and behave is difficult. A key part of marketing is trying to persuade people to buy products and services. Marketing strategies can be read, but can students and junior marketers understand the material better through interactions? That is one of the questions this study will look at.

Learning marketing can be difficult. One must deal with different problems, and statistics may change from one project to the next one. “Marketing practice and scholarships are

facing unprecedented challenges. The unsustainability of resource use, increasing of equity of the market, and the continued decline in societal trust pose a threat to business and “marketing as usual.” (Pirson & Varey, p.1, 2014)

Marketing as a practice evolves over time. This is what makes it so difficult to learn. When dealing with marketing, marketing associates are dealing with perception of what people react to. The trends of the market will affect the market with great significance.

1.10 Objectives

The objective of this study is to determine if a system dynamic based interactive learning environment is a more effective learning tool than traditional reading when students are learning about the marketing mix.

1. Marketing is a complex subject which takes time to understand. The subject of marketing mix is the first basic and underlying structure of all marketing promotions and campaigns. The first objective of this study is to enhance the process of learning marketing.
2. The second objective of this study is to find a underlying method which can be applied to education at high school, undergraduate or at a business course level. This method should help students and new marketing employees understand the basics of marketing more easily.
3. The third and final objective of this study is to develop a learning environment which makes the subject of marketing more understandable then reading alone.

1.11 Who is affected?

This study is made for students, teachers, and marketing employees. The study was done to generate empirical evidence about how the design of educational material affects the learner’s ability to learn it.

Students will be affected as they are subjects of learning. If there are changes made to the ways that material is taught, students will be affected.

Marketing employees that take marketing courses are the ones that need to learn about marketing mix in addition to understanding their market. The employees will have to gain knowledge and use it in practice straight away. The employees are the people with the specific use of knowledge right after taking the courses.

The teachers of marketing will be affected as they will need to accomplish knowledge of new learning techniques. This study can provide an effective method for a teacher to teach a subject. The goal is to look at marketing, but this can be a more general knowledge to which of the methods of studies that has more impact when learning a new subject (interactive learning versus reading).

2. Hypothesis

To determine if a System Dynamic based interactive learning environment is a more effective teaching tool for marketing mix versus reading alone an experiment has been designed to measure people's ability to learn about marketing mix.

2.1 Overall learning

The testing of learning will be executed by analysis of different learning outcomes. There will be testing towards different hypothesis connected with the research. The research is looking at the stages of learning. What makes for more efficient learning, interactive learning environments or reading?

H0: Students show more improvement in their overall understanding of marketing mix when presented with a non-interactive reading.

H1: Students show more improvement in their overall understanding of marketing mix when presented with an interactive and engaging simulation.

The hypothesis states that there is a correlation between studying and the overall learning. There is a connection between interactive learning and the gain of knowledge. The hypothesis will combine the gain of learning with the correlation to studying.

2.2 Understanding of marketing

The next hypothesis to investigate is the understanding of the marketing mix. The understanding of marketing will be tested in simplicity as this is one of the stages of learning. In this thesis learning is divided between the understanding of marketing, which is how much each participant understood when reading the text, and knowledge of marketing, how much can a participant recall of the learning using their own words.

H0: Students show more improvement in their understanding of marketing mix when presented with a non-interactive reading.

H1: Students show more improvement in their understanding of marketing mix when presented with an interactive and engaging simulation.

This hypothesis is formed to make the research look at how much understanding is gained from the different types of learning. The hypothesis is combined with the research on interactive learning environment's impact on learning. This is believed to have a higher impact on the understanding than traditional learning.

2.3 Knowledge of marketing

When conducting this study, there is a separation between understanding and knowledge. The knowledge of marketing will be tested to see if people know more when they have submitted than they did before. This knowledge should be represented in the tests done. The knowledge captures the participants ability to write a short statement about aspects in the marketing mix in their own words.

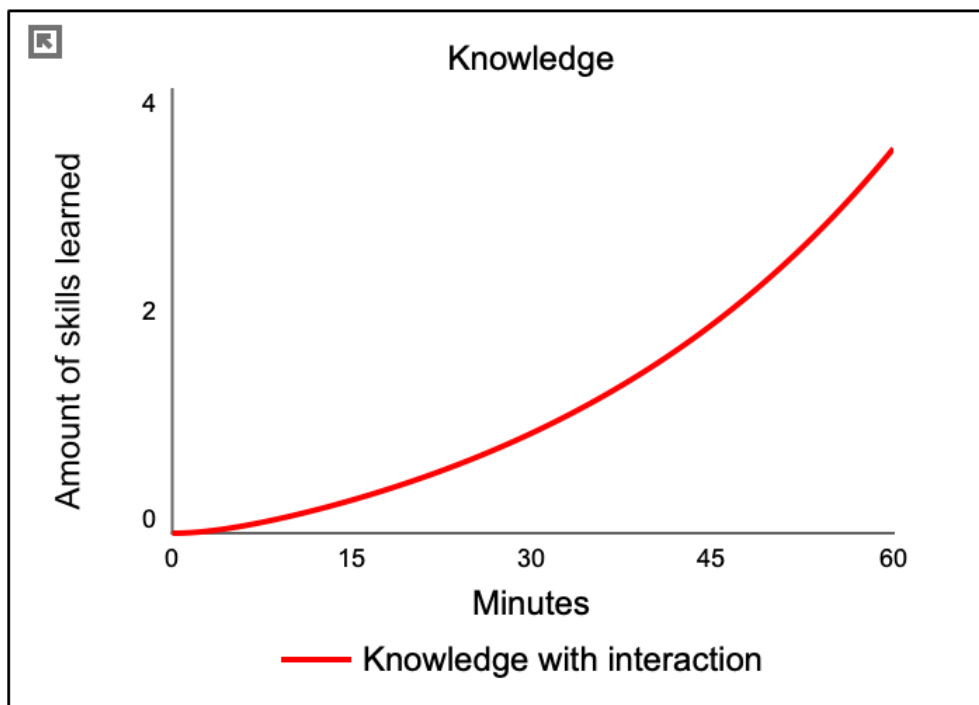
H0: Students show more improvement in their knowledge of marketing mix when presented with a non-interactive reading.

H1: Students show more improvement in their knowledge of marketing mix when presented with an interactive and engaging simulation.

The impact on knowledge will be influenced by the method of learning. This is the hypothesis connected to the alternative hypothesis that there will be analysis referred to.

2.4 Reference hypothesis

Educators are always challenged to keep their students' attention. They must learn to be engaging, to come up with interesting activities, and to go beyond traditional pedagogy to ensure that learners understand the information being imparted to them. Teachers seeking to keep their students engaged must employ interesting methods that will sustain the interest of as many students as possible (Ergas, p.66.81, 2016).



(Figure 2)

With Ergas words in mind, the following figure (2) was built. As recalled, the reading material had attention span of 15. Minutes. With the lack of science in the field of interaction, there is have made a reference mode of the hypothesis. There is a belief that the focus span can be prolonged because of the interaction.

2.4.1 Comparison of reference mode

To keep the attention of the participants for a longer amount of time, there is a need for actions. The interaction between the participants and the game will keep them focused, motivated and able to gain knowledge for a longer period before losing interest.

The interactive learning environment requires a similar attention span in the beginning as when compared with traditional learning. In the beginning there is a lot of information to be gained, and learners who read well will probably gain more information than the interactive learner. This is because the interactive learner is “playing around” to understand the game. Once the reader start losing focus, the interactive game learners ought to gain more knowledge with a more “fun” learning method. The sustainability of interactive learning should likely be an expanding advantage over time.

2.5 Method

The interactive learning environment which the treatment group uses, is based on a more complex form of the bass diffusion model (Bass, 1969) which was used as a teaching example in GEOSD-309 in 2021.

The idea is the same, but the execution is highly different. The model which the game is built upon has the same structure as the original model, but the parameters, weight of attributes and numbers are different.

The model was changed to represent the streaming market. The streaming market is highly relevant to today’s market as it is a well-established market. This is a subscription-based market where the customers pay a monthly fee to keep their subscription.

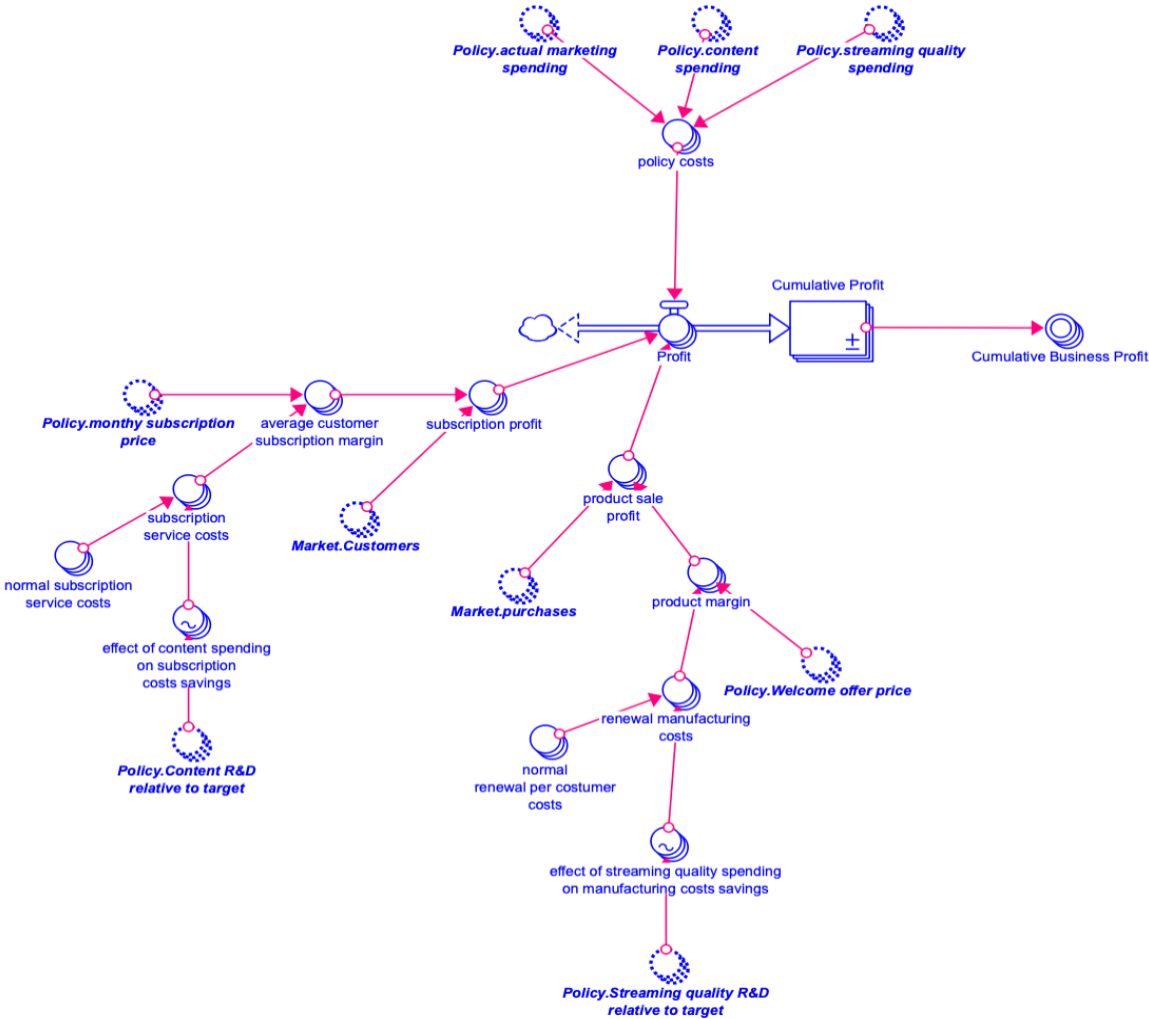
For this experiment the model is built around four different companies:

1. Discovery plus
2. HBO
3. TV 2 play
4. Netflix

There is made a game through interactive learning environment from this model. In the interactive learning environment, the participants are playing as “Discovery plus”.

2.5.1 Business

The model consists of three Modules. The first module is the business module.



(Model 1)

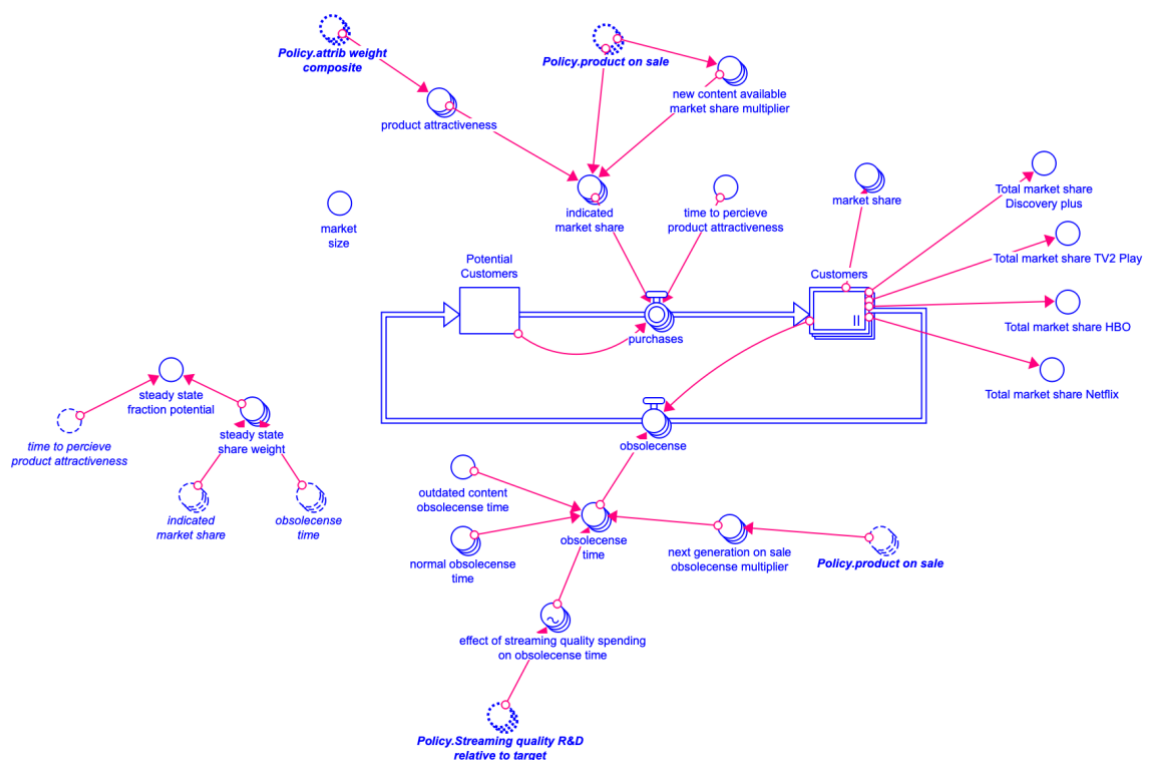
This module is made to calculate the profitability of the business. The income of the business will come from the one-time payment of welcome offer, then the monthly subscription fee. This module will affect the result of the game. The goal is to keep the participant active throughout the game knowing that they get a result.

The game is built so this module gives a cumulative profit at the end of time 96 (end of the game). This cumulative profit is an indication of how well the decisions of the participant has

been. The cumulative business profit can be used as a benchmark for understanding how well a participant understand what they have been thought, if the profits are low, the participants will know that their decisions is not the best for the company. This should capture the essence of real life. If a participant makes great progress in the interactive learning environment, they should have an idea of marketing mix in reality.

2.5.2 Market

The second module of the model is called market. The market module captures the costumers of each company. The module is working with both existing and potential customers.



(Model 2)

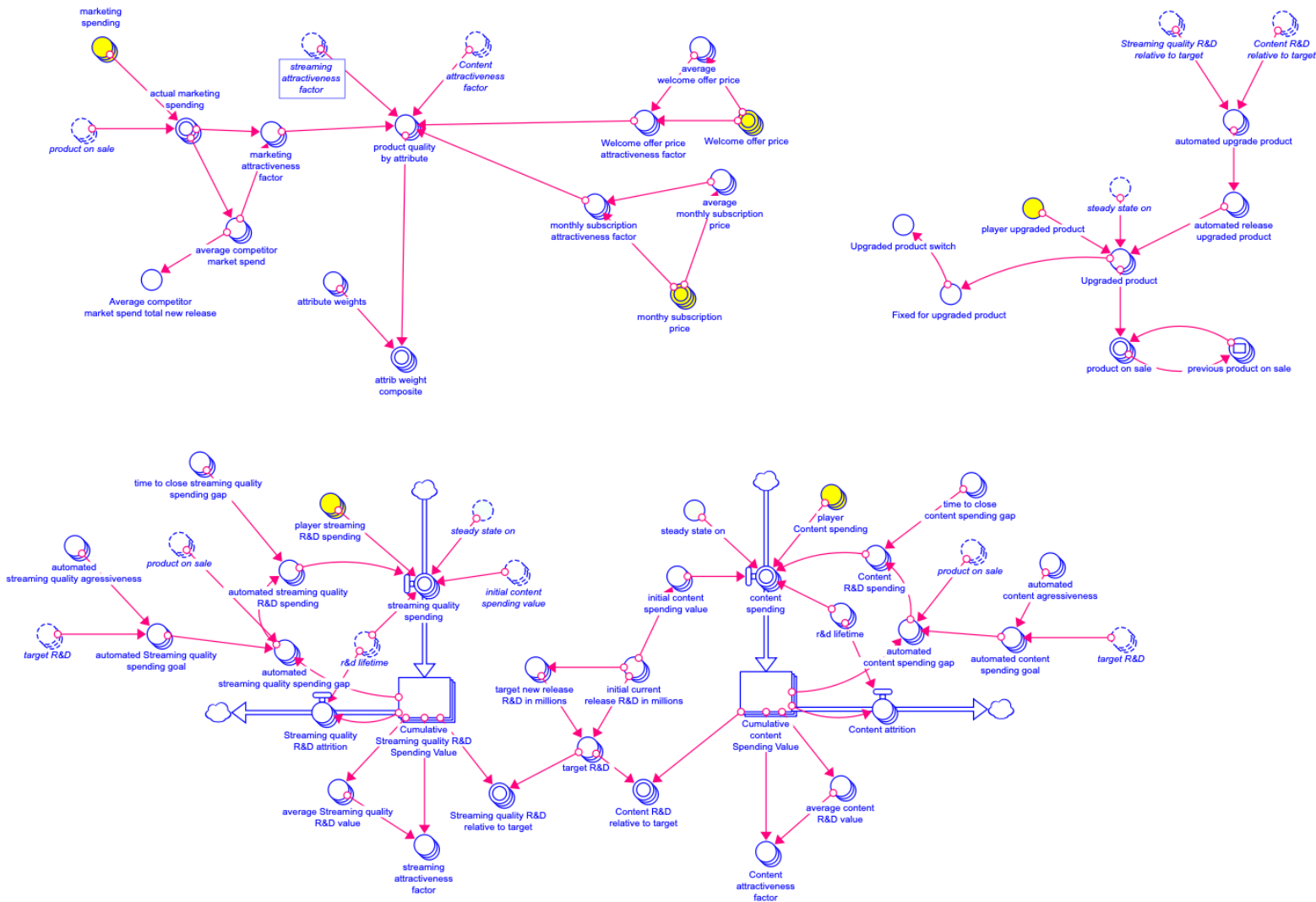
The market module captures the totality of the market. It is made so that the customers will have only one streaming network for simplicity. This is to make it easier for the participants of the game to understand the numbers they are given.

The market module gives the participants a market share. This is mostly what they make their decisions on. They will play around, trying to gain market shares from the other

companies, earn more money (from the business module) and learn how marketing affect their market share.

2.5.3 Policy

The last module in the model of streaming wars is policy. The policy includes the parameters the players are controlling to gain market share and business cumulative profits.



(Model 3)

The policy of the model is the last module. This is the biggest and most complex part of the model. The converters marked in yellow is the player-controlled parameters. The whole game is built so the player controls the outcome. When the participants change the yellow converters, the whole system is affected.

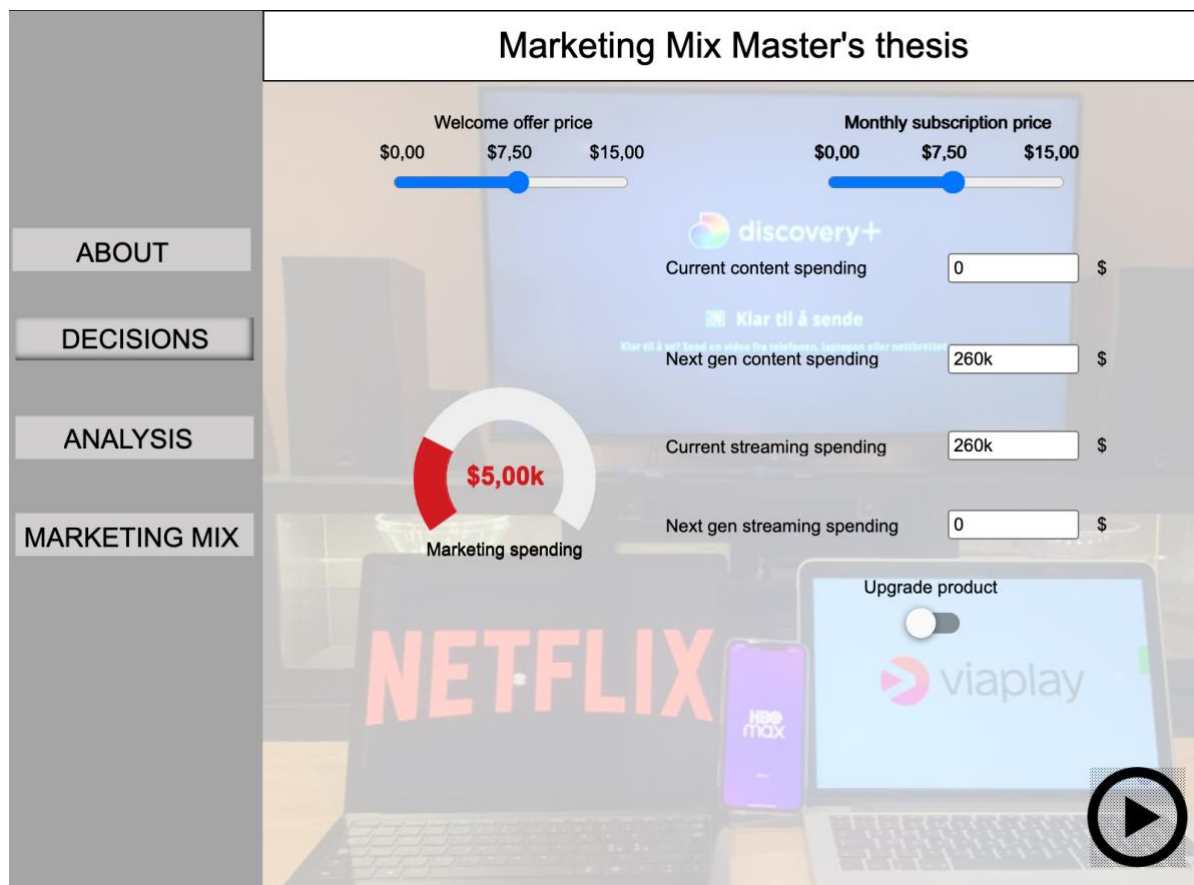
The policy is made to see changes in the market and business. When the player implements changes to the parameters, change will appear to their game. This is the market mix at work. The product is given. The price is changed by the player. The promotion is a parameter which the player can affect. The distribution can be affected as the players does change the streaming and content spending.

2.5.4 Interactive learning environment

From the model above, there is made an interactive learning environment. This represents the different ways of learning. There are two different methods of learning tested in this research,

1. Interactive learning environment
2. Traditional learning

The interactive learning environment is built from the system dynamic model shown in 2.3.1-2.3.3. The interactive learning environment is built based on a paper from Iřoraitė (Iřoraitė, 2016). The knowledge of Iřoraitė combined the modified “Console Wars model” makes the interactive learning environment.



(Picture 1)

The layout of the Interactive learning environment looks like this. Picture one shows how the player can change the parameters of marketing. The player can experiment and gain insights on the different parts of the marketing mix. When ready they submit their decisions by pressing the play button, and they are directly moved to analysis, where they can see the differences of impact from their own decisions.

2.5.5 Treatment groups

To measure students' knowledge the thesis has used a pre- and post-test survey. The pre-test survey is used to capture their base understanding and knowledge of the marketing mix.

After the participants have answered the pre-test survey, they were assigned to either the reference group or the test group. The reference group gets a text to read before they are answering the post-test survey. This is to capture the ability to gain understanding and knowledge. The text is made of Išoraitė (Išoraitė, 2016) and is called "*MARKETING MIX THEORETICAL ASPECTS*".

The test group then plays through the interactive learning environment. This is for them to try out different theories, play the game and learn at the same time after which the test group participants answer the post-test survey. This is to see if they have gained any knowledge. The surveys are identical for the two treatment groups. The pre and post-test surveys contain questions asked in the same order. The different alternatives for each question are randomly placed. This is done to make sure the participants cannot find a pattern or answer in a pattern.

2.5.6 Pre- and post-tests

The pre- and post-test surveys have been designed according to the method demonstrated by chapter 2.3. This pre- and post-tests are based on facts and knowledge that the participants could find from either the reading or the interactive learning environment.

The first portion of the pre-test survey captures the email address of the participant. This is to be able to contact them with part two and connect them with a participation number. The

emails will NOT be published in any way. This is a violation of GDPR, and the emails have been replaced with their participation number for any publishing.

To keep the participants anonymized, the information gathering is operating with vague demographic questions.

2.5.6.1 Demographics

The first questions after establishing contact are about demographics. The following questions were asked to the participants.

- How old are you?
- Where are you from?
- What is your highest educational level?
- What is your income (optional)?

These questions are made to verify that any observed differences in performance between the reference and test groups are due to the design of the experiment as opposed to any differences in background or experience.

2.5.6.2 Understanding the research

This is questions made to understand the research material presented. The understanding of marketing is put into a section of the pre-test survey. The participants are asked ten multiple choice questions. The questions are:

- What is the purpose of promotion?
- What is the most important strategy with pricing?
- Why is distribution (place) a part of the marketing mix?
- What is the purpose of a good distribution chain?
- What are the products most important factors in marketing?
- Does an increase in sales make more revenue?
- How do you generate income in a monthly subscription price model?
- Which effect does spending have on promotion?

- How is the product life cycle when you launch an updated product?
- What happen if you increase the budget on marketing and lower the price of the product?

All these questions have one right answer, three wrong and one where they can say that they do not want to answer. The questions test the participants understanding of marketing. The first four questions are definition questions given directly in the text; the last six questions are defined in the text with different wording.

2.5.6.3 Knowledge of marketing mix.

The knowledge of marketing is measured in open ended questions. The participants get three different open-ended questions to show what they have learned with the research material given to them. The open-ended questions were framed:

- Explain the market mix
- What is the importance of renewing a product?
- What happen if you do not want to renew your product?

These questions of the pre- and post-test surveys are formulated to capture how much each of the participants has gained in knowledge when doing the survey. The participants will show their knowledge with their own words.

2.5.6.4 Scoring the survey

The survey is made so each answer can get the participant one point. For simplicity the participants either get one point or they get zero points. In the multiple-choice answers, the correct answer gets a point, the wrong answer gets the participants zero points. For the simplicity of analyzing, the “Do not want to answer” will give the same number of points as a wrong answer.

The open-ended questions are corrected with a script, this is to determine “what this thesis is looking for”. Kelly states that it is important to understand which aspects of the survey are important, and therefore have some base-statements to correct after. “Prepare the essay rubric in advance. Determine what you are looking for and how many points you will be

assigning for each aspect of the question.” (Kelly, 2019). There are a few key points that the participants need to address to get a point. If the participants can show knowledge of marketing, they will earn a point accordingly to the scripts. If a participant answers partially right, AND show knowledge, it gets them one point. The participant needs at least 50% of the answer correct with them showing knowledge to gain the point needed.

These are the key words that will be looked at when scoring the survey.

- Explain the market mix
 - o Price, product, promotion, place.
- What is the importance of renewing a product?
 - o Product cycle. Profits. Maintaining brand name. marketing mix.
- What happen if you do not want to renew your product?
 - o The product will eventually capitate. There will be no needs to satisfy, and the profit will decrease to a bankrupt brand.

There can be a lot of different answers which are correct. This can give the participants a correct answer. The tests were scored anonymously using participant numbers to keep the study fair.

2.5.7 Decisions on interactive learning environment

The interactive learning environment is built so the participants can get more than one chance to play the game. This is not a win or loose game. The game is built for the purpose of learning. When the participant has played through the whole game, they get the opportunity to hit “play again”. All the parameters then reset, and the player can try again to see what works better, or what does not work at all. This is a part of the experience which the participants are highly encouraged to do.

There is also a part of the interactive learning environment which includes some background knowledge. This is where the participants can learn about the marketing mix. There are some brief explanations to what the different P’s of the marketing mix impact, and how they can see their different decisions impacting the overall result.

3. Analysis

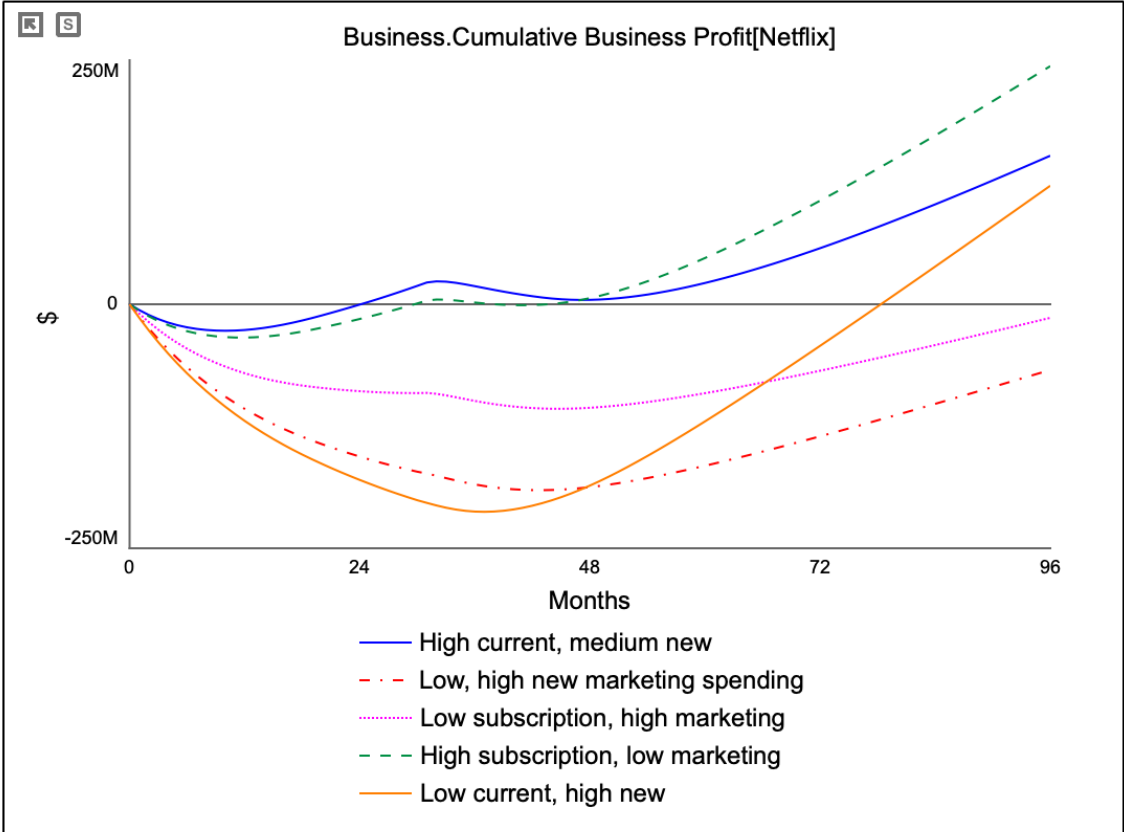
The participant solicitation had to be done by asking friends and family, crowd sourcing tools like Amazon Mechanical Turk were disregarded due to the complexity of the task, and the lack of motivation of the participants. The motivation for the participants was to help the thesis gain insightful knowledge and data. Around 100 people were recruited and 46 of them answered part one. From the 46 that answered part one, there was 43 that took part in part two, and 41 of them answered before the deadline for analysis passed.

3.1 Sensitivity analysis

There has been made different sensitivity analysis to the model. These sensitivity analyses were made to validate the model and its behavior before making the interactive learning environment.

The first sensitivity analysis made to validate the “marketing spending” and “subscription price”. The “marketing spending” was set between zero and \$25.000, while the “subscription price” was set between \$5 and \$15. This was tested to validate the structure of the model to make sure that the parameters did not have a bigger impact on the “cumulative business profits” than normal. Cumulative business profits were chosen as the metric to study during the sensitivity analysis because it is the key result the participant will use to judge their performance.

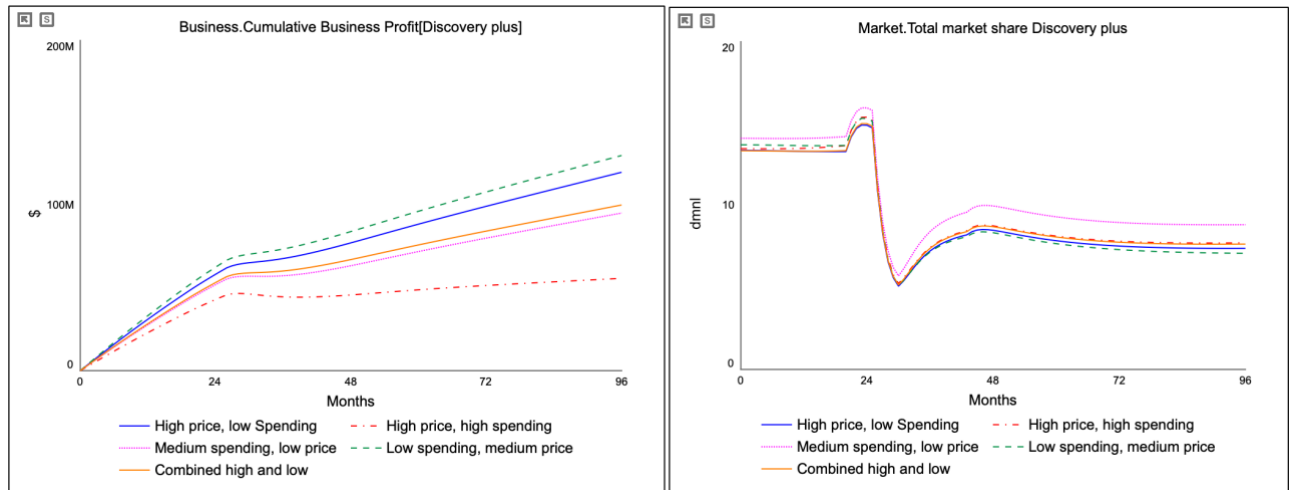
The test was done with the company “Netflix” for model validation.



(Figure 3)

The results of the first validation test shows that the model reacts to changes in these policies, but it does not react in an overly sensitive manner. This shows that the structure of the model is valid to the purpose of this study. The model properly reacts to the decisions of the participants

A second test was done using the same method to test the policy parameters which capture the spending on content and streaming quality. This was combined with the one time offer of welcome price. The results demonstrated by this second test, like the first demonstrate a plausible set of reactions without being overly sensitive. For instance, with a low price, the model does not allow the company to cover their expenses and therefore the company loses money throughout the simulation period. Likewise, with an attractive product on sale, the model generates significant profit if the price matches the customers expected value. This sensitivity analysis was included to look at the sensitivity when more than one variable is affected.



(Figure 4-5)

The sensitivity analysis shows similar results as earlier. There is plausible and realistic movement when the parameters are changed. This is as it should be, and maintains the realism for the player in the interactive learning environment. Because of this the learning of marketing can take place as the model behaves in a manner consistent with a realistic view of the market.

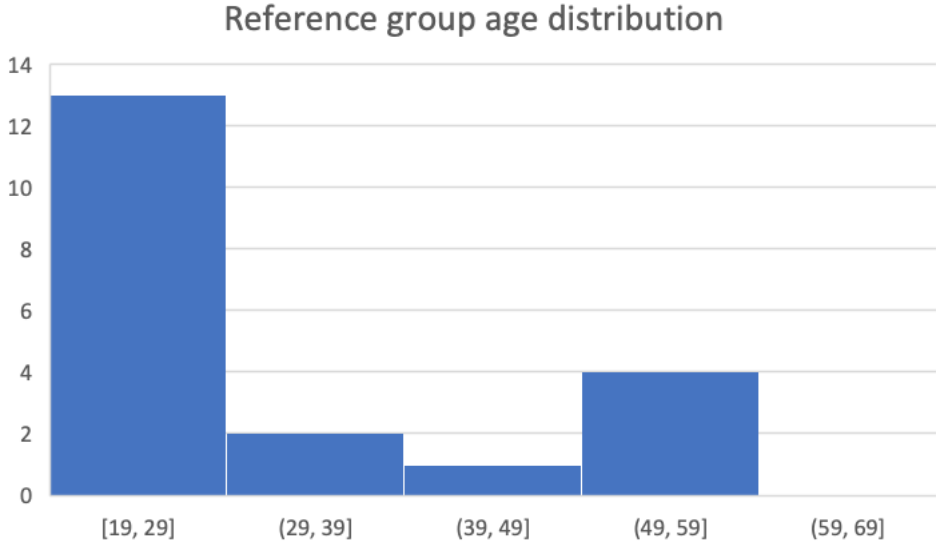
3.2 Demographics

3.2.1 Country of origin

To get an understanding of the results, the demographics of the participants needs to be taken to account. Of the 41 valid and timely respondents 39 of them are from Scandinavia. The last two respondents are from rest of Europe and Asia.

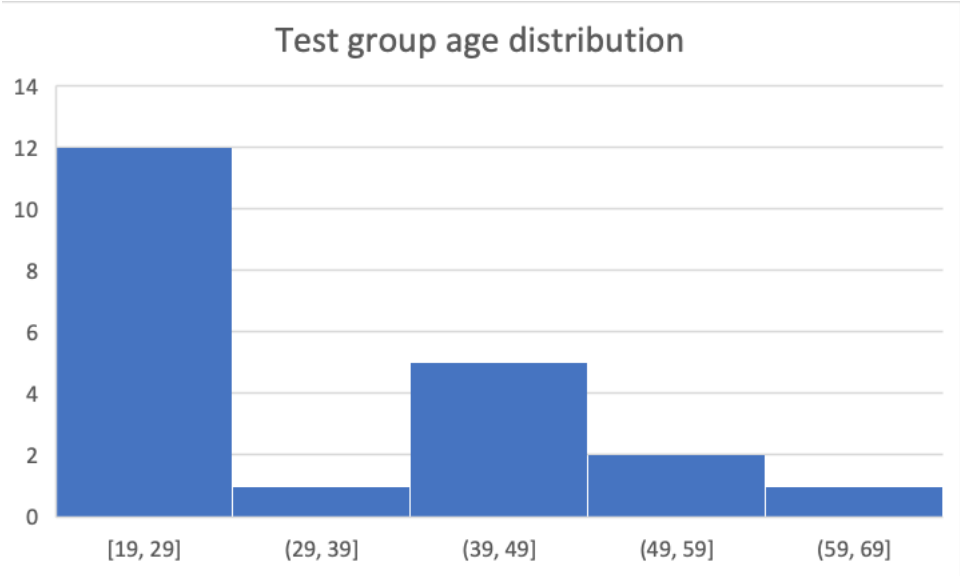
3.2.2 Age

The next demographic which should be looked at is the age of the respondent.



(Chart 1)

The average age in the reference group is 27 years old. In comparison the average age in the test group is located at 29 years of age. Compared to the average of 28 years of age in the experiment.

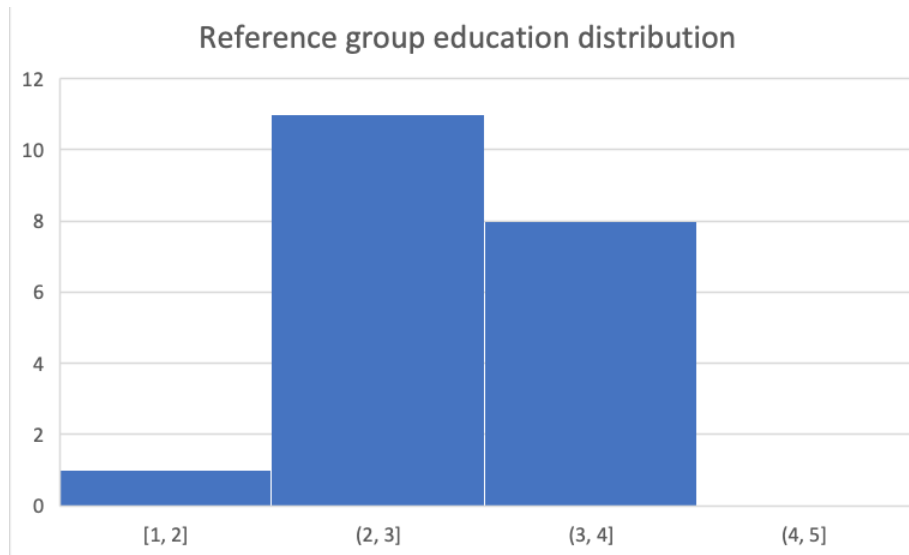


(Chart 2)

As be shown in chart one and two, there is a negligible difference in age distribution of the reference and test groups. Both are heavily skewed to younger participants and the variation in the older participants is minor.

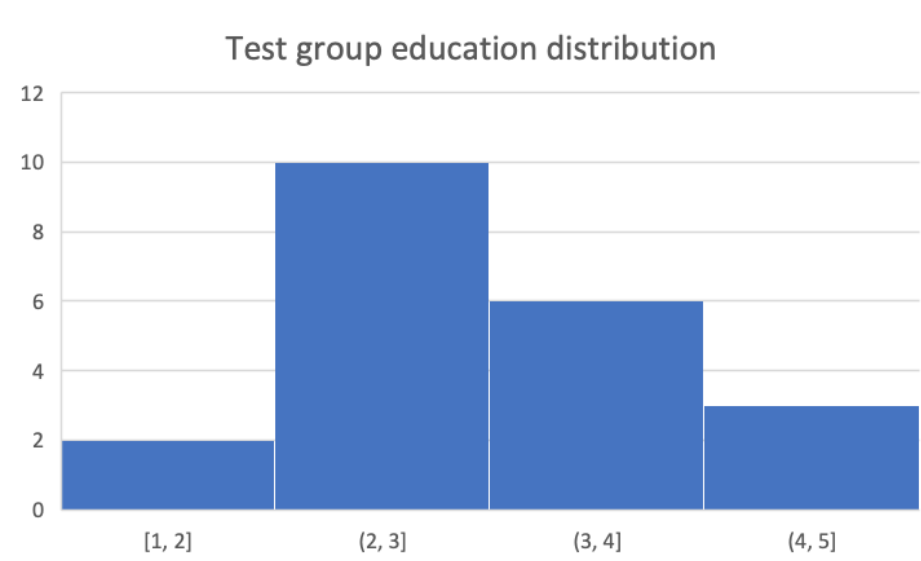
3.2.3 Educational level

The next demographic attribute is the level of education. From the answers attained in the survey, the average educational level is high school.



(Chart 3)

The answers are almost close enough to say that the average is bachelor's degree, but it is still short. The categories in education level are as following. 1= less than high school, 2= high school diploma, 3= bachelor's degree, 4= master's degree, 5= above master's degree.



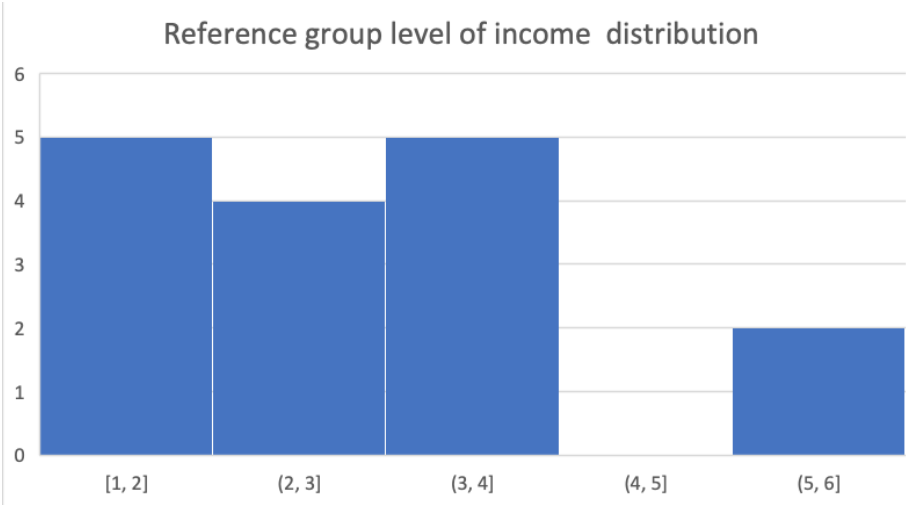
(Chart 4)

Once more there are differences between the groups, but the differential is small. The group which has interacted with the learning environment, are capable with 51% of the total education. This means the group which read the article contains 49% of the education. This is such a small difference that it cannot be concluded as the reason for differences.

This difference is not big enough to say that the average of one group is a higher degree than the other. Both groups have high school as their average degree.

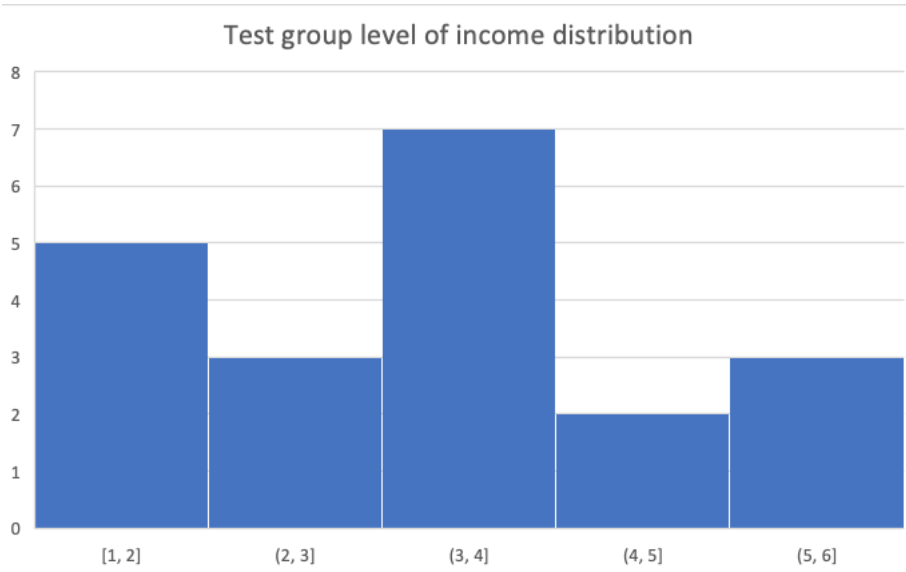
3.2.4 Income

The last demographic which is looked at is income. The average income is right around 50.000 dollars per participant per year. According Statistisk Sentralbyrå the average salary in Norway compares to 60.000 dollars. (SSB, 2022) This means the participants have a salary just below average in Norway.



(Chart 5)

The collection of data is determined as: 1= less than 10.000 dollars, 2= 10.001-30.000 dollars, 3= 30.001-50.000 dollars, 4= 50.001-70.000 dollars, 5= 70.001-100.000 dollars, and 6= above 100.000 dollars.



(Chart 6)

The group with the traditional learning has 48% of the income of the total answers. This means the group with the interactive learning environment has 52% of the total income. This is the same as with the age difference. The difference is small, and there cannot be drawn a conclusion that this is a definite factor of difference.

3.2.5 Results of demographics

The demographics between the test group and the reference group is as represented in chart one to six is very similar. Assigning the participants to the test or reference group was done at random. The participants that answered at an even number ended up in the test group, participants with an odd number were assigned the reference group. This random selection has given a fair split between the groups in demographics.

3.3 General results

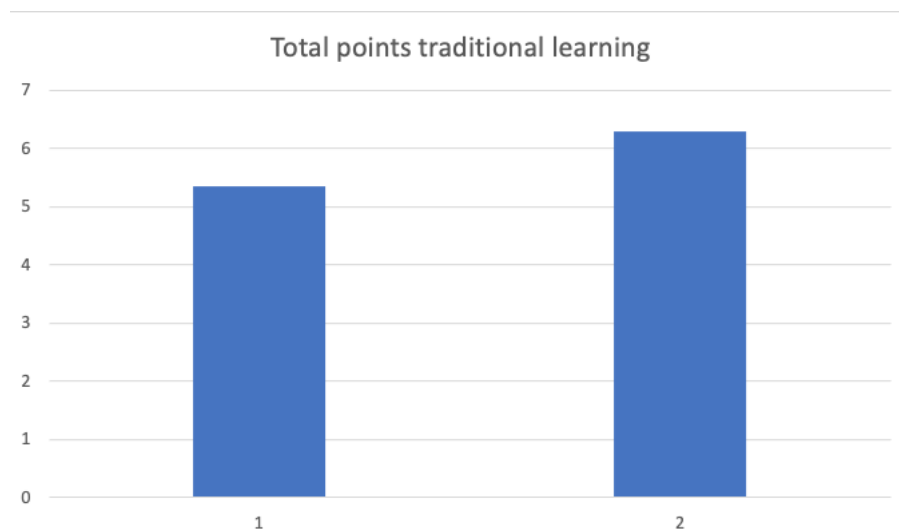
To analyze the results gathered in this thesis it was important to understand of how much marketing the participants knew prior to the experience. The first survey was designed to understand the level of marketing knowledge and understanding the participants had initially.

After scoring the tests, there is a gap in prior knowledge in the groups. From the group that was given the traditional learning test, after the first survey, they had a lower level of knowledge before learning material was given to them. It does not matter at which level the participants started, the average score from the first survey is so low, that the need for learning is huge on both the test and the reference group. The rate of improvement for both the reference group and the test group were the outcome of the analysis. How much prior knowledge the participants had did not impact the thesis, just the improvement rate.

3.3.1 Reference group's general results

The test had a maximum of 13 points. The average of the reference group (traditional learning) was 5,35 points on the test prior to the reading material.

After the first part was answered and the participants had completed their specific material, the total points had an increase. The reference group had an increase in total point from 5,35 to 6,3 points.



(Chart 7)

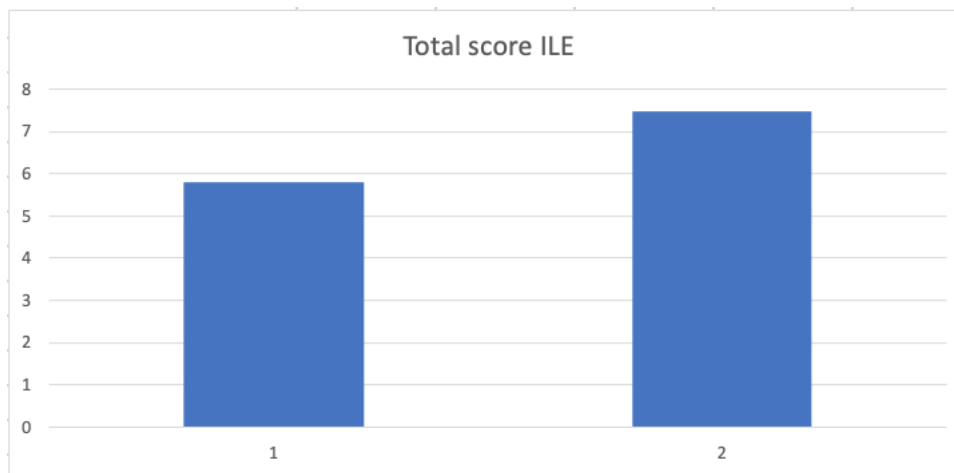
Here are the results of the improvement from first to second trial. From the 20 respondents there was an average increase in points of 0,95. This increase is a result of learning the material and getting research done.

A regression P-test was conducted to determine if the improvements was at random. The result was a statistically significant value of 0,000495 (P-test analysis in appendix 6). This means that the chance of increase in general knowledge by the participants being by chance is extremely small.

The point tally of 0,95 is an 17,76% increase from the testing with just prior knowledge to the testing done after the reading of the material. Here, the total score increases from the 5,35 points to 6,3 points. The analysis of increase in points is done to normalize across the two different starting positions of the treatment groups. To keep the knowledge level fair to the testing, one part of the analysis will contain statistics of increase. Increase in points keeps a statistical view, where the increase is divided by the original number. If the study was given the total score on each parameter, the group with higher prior knowledge and understanding would have an advantage.

3.3.2 Test group's general results

The test group does show an increase from part one to part two. The test group scored an average of 5,81 after the first survey.



(Chart 8)

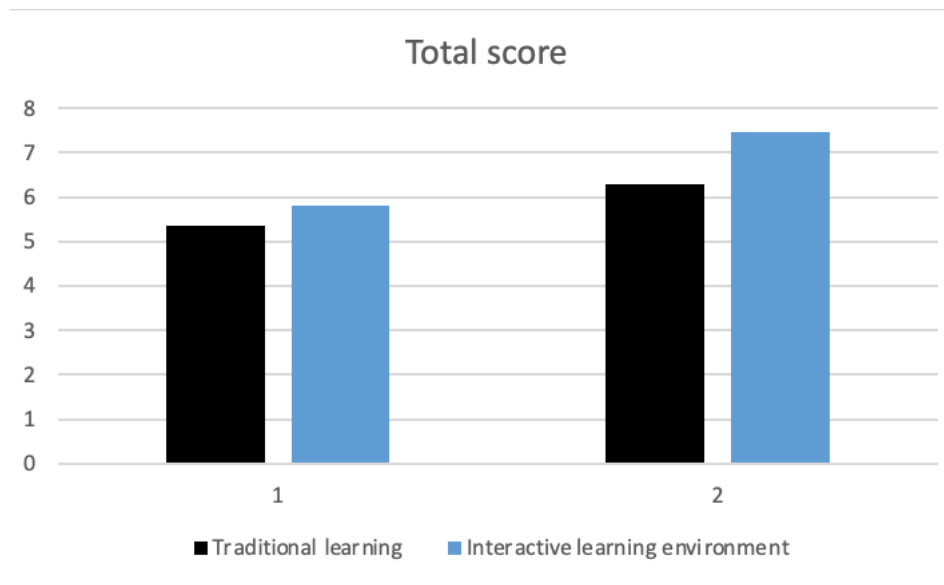
After the test group had some time to interact with the learning environment, the results improved. The test group had an overall improvement from 5,81 to 7,48. This is an increase of 1,67 points.

The regression P-test shows that the changes is not at random. The P-value of 0,000751 is significantly lower than 0,05. The significant P-value show interactive learning environment learning curve is not at random. (Appendix 7)

The improvement from the first test to the second test is at 28,67%. The results given from the test subjects shows a great increase after being presented with the research material.

3.3.3 Comparing test group with reference group on general results

There is an increase in overall score when testing. When looking at the differences between interactive learning environments and traditional learning there is an increase of 10,93% in favor of interactive learning environments. This number is taken relative to their scores on the pre-test survey. This change was measured by comparing the average improvement of all participants in the reference group to the average improvement of all participants in the test group.



(Chart 9)

From chart 9, there are clear differences from pre- and post- testing. The total improvement tallies 54 points spread across all 41 individuals in both the treatment groups, which is an average of 1,31 points per participant. The total improvement on the traditional learning group is 0,95 points. This is a 17,76% improvement with treatment. In the interactive learning environment, the total improvement were 1,67 points. This is an increase of 28,67% with interaction on the learning environment.

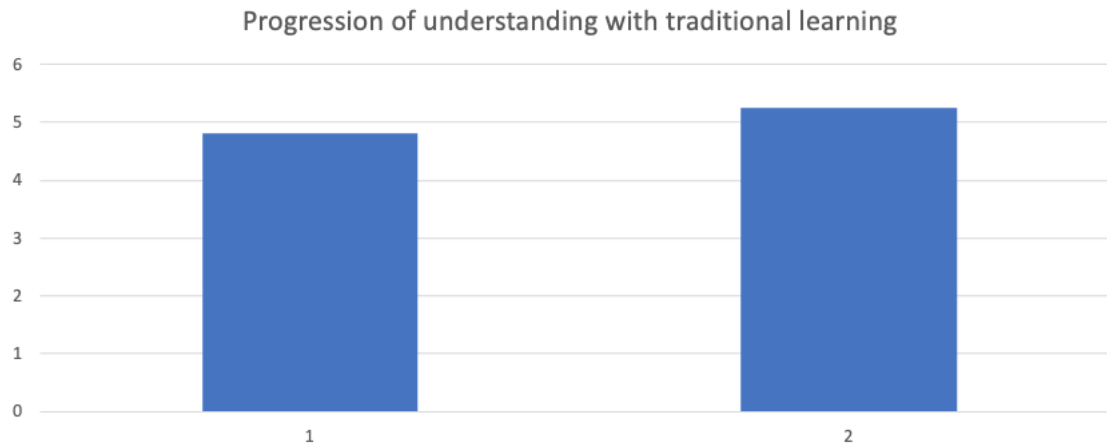
When conducting a student T-test to see if the statistical change in the total score is significant, there is a P-value of 0,275. This is above the significance level of 0,05. Which concludes that there is not a statistical significance between the improvement level in the total score.

3.4 Understanding marketing mix

When looking at the understanding of marketing mix, the first ten questions of the survey come to attention. These questions are formed in a multiple-choice format. This is to locate the level of understanding marketing the participants have progressed from and where they are located now.

3.4.1 Reference group's understanding of marketing mix

The understanding of marketing the reference group had before they did the reading was 4,8 out of a possible of 10 points. Of course, this means that the participants in the reference group had plenty of room for improvement after doing the reading.



(Chart 10)

The improvement in the post-test survey scores among the participants in the reference group, shows the very well-known effect that reading does improve the understanding of marketing. Those in the reference group improved from a baseline of 4,8 points to 5,25 points. This is a 9,38% increase in their total understanding of the marketing mix. A P-test was then performed to see if that change was statistically significant. The P-value was calculated at 0,00271 which is lower than the alpha of 0.05 which makes the value significant. The improvement in performance is very likely not random. (Appendix 8)

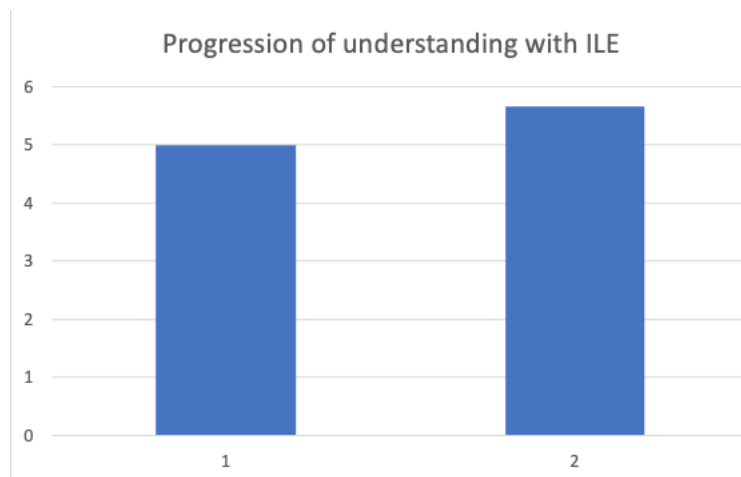
Diving deeper and looking at the different pieces of the survey, there are some interesting insights. The first four questions of the survey are answered by directly reading the text provided, while the last six require some thinking, reflecting and synthesis by the participant. On the first four questions the reference group improved from an average of 1,85 points per participant to 2,35 points per participant. This is an increase of 27,02%. This is important because it shows one of the key strengths of reading, namely that it is a good way to learn definitions.

Looking more closely at the last six questions which require an understanding of what the participants have read, the score of the reference group decreased. The average score of a participant in the reference group went from 2,95 to 2,9 on the last 6 questions. This leads

to one possible conclusion that traditional learning via reading may not be ideal for synthesis tasks.

3.4.2 Test group's understanding of the marketing mix

The test group using the interactive learning environment used the same surveys as the reference group and out of a possible 10 points, they on average scored 5 points.



(Chart 11)

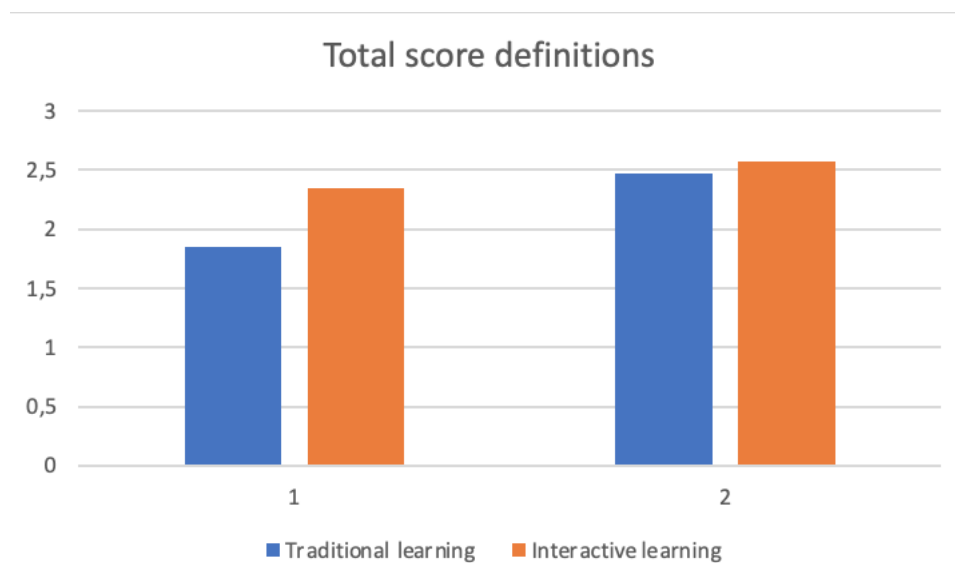
After using the interactive learning environment, those in the test group saw an increase in the score from 5,0 points to 5,67. This is an increase of 0,67 on average. The difference of 0,67 points is a 13,34%. This result shows great promise for the utility of interactive forms of learning for teaching marketing mix. This result was confirmed to be statistically significant using a regression P-test which was calculated to be 0,00000970 which is far below 0,05 demonstrating that this improvement was not random. (Appendix 9)

Looking more closely at the first four questions versus the last six, there are improvements in both on average. The improvement on the first four questions which measured the understanding of definitions, was 0,09 points from 2,48 points to 2,57 points. This is a 3,85% increase. On the final 6 questions which measured their ability to understand and synthesize, the improvement was 3,1 points on average which is a 22,64% gain.

3.4.3 Comparing test group with reference group on understanding and synthesis

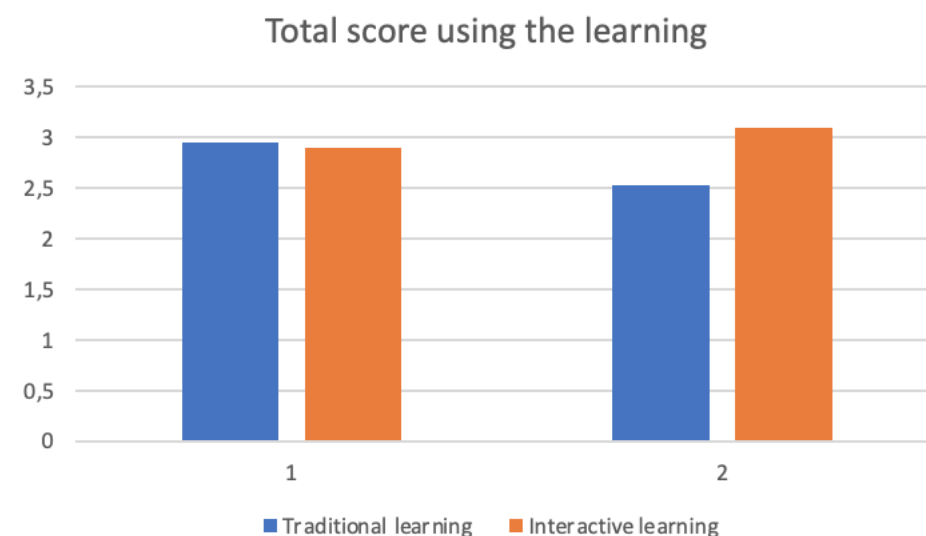
Overall, the test group using the interactive learning environment performed better and showed greater improvement. When looking at the differences between the traditional and interactive learning environment groups, there are some differences.

The first four questions about definitions are more easily found in the reading by participants in the reference group. While these definitions are also located in the interactive learning environment it would appear that most participants did not either: find them, read them, or retain them. This suggests that likely traditional learning techniques are more effective for teaching this kind of knowledge.



(Chart 12)

The next six questions to compare the participants ability to understand and synthesize based on what they experienced. Here the results are much different. It would appear that the reading had no effect on people’s ability to understand and synthesize while the interactive learning environment had a measurable impact of a 4% improvement.



(Chart 13)

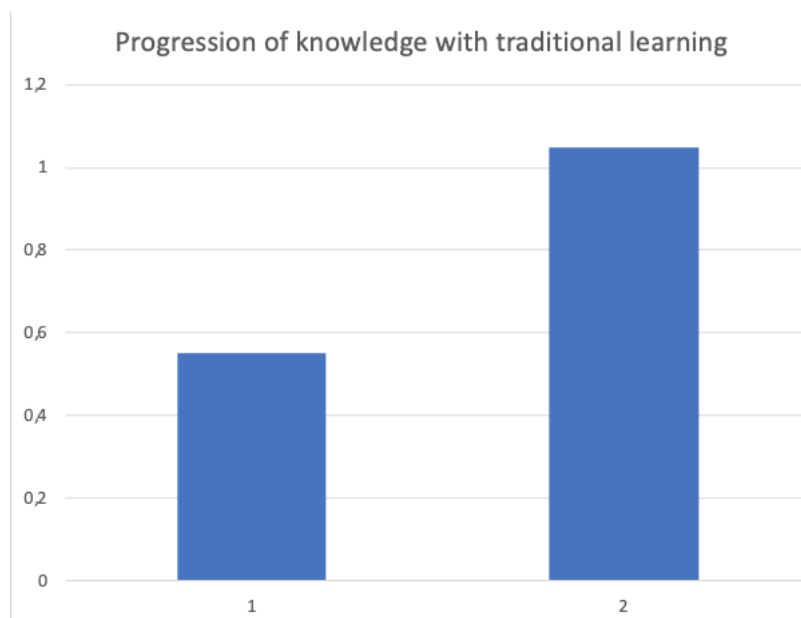
When testing the significance level with a student t-test, the P-value was 0,641 which is higher than the alpha of 0,05 which shows that there is not a statistically significant difference between the improvements in the test and reference group on understanding and synthesis.

3.5 Knowledge about marketing

There are as previously stated three open-ended questions. This is where the participant gets their opportunity to express their knowledge of marketing in words. The testing is done in the same manner as before, where there was both a pre and post experience measurement.

3.5.1 Reference group knowledge about marketing

When the reference group was given the first survey, their knowledge about marketing was very limited. The total score they could potentially earn was 3 points. The traditional learning group managed to earn 0,55 of those points. They clearly had a massive potential for improvement.



(Chart 14)

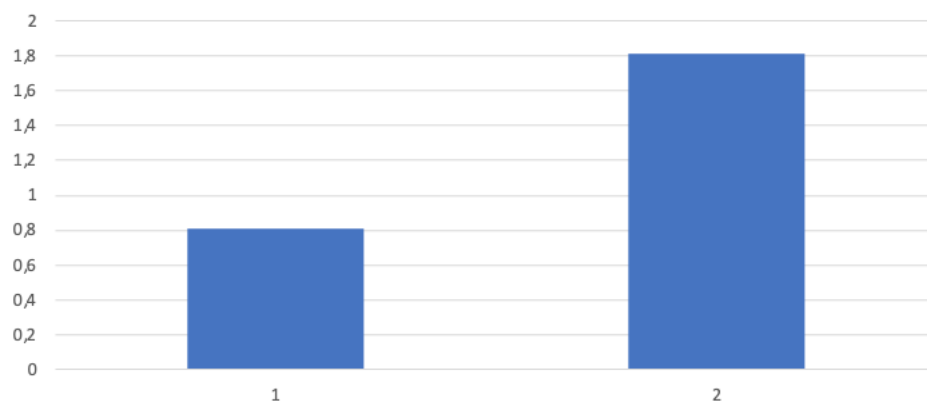
After reading the given materials the reference group managed to increase their score by 0,5 points. earning 1,05 points on the post-test which is an improvement of 90,9% which was

demonstrated to be statistically significant at an alpha of 0,05 using a regression P-test with a P-value of 0,00332. (Appendix 10)

3.5.2 Test group knowledge about marketing

The measured prior knowledge of marketing was higher in the test group, but still there was much room for improvement. The test group averaged a total of 0,81 points out of 3 points on the pre-test.

Progression of knowledge with interactive learning

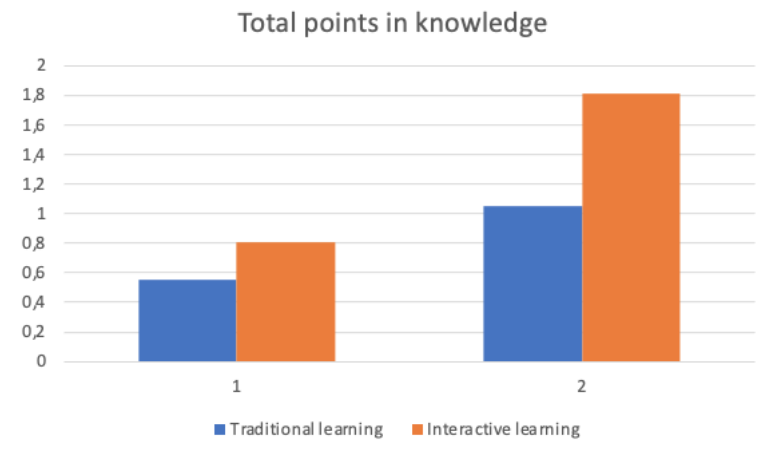


(Chart 15)

After the test group had finished with the interactive learning environment there was an average of 1 point in improvement to a massive 1,81 points per participant, which is an improvement of 123%. The regression P-test conducted shows a significant P-value measured against an alpha of 0,05, the calculated P-value was 0,0301 which leads to the understanding that this improvement was not random. (Appendix 11)

3.5.3 Comparing the test group to the reference group in marketing mix knowledge

The improvements in both treatment groups were significant and large. This leads to the known understanding that it is possible to teach marketing mix relatively easily, but as can be seen in Chart 16 those in the test group showed larger improvement and had a higher score on the post-test.



(Chart 16)

The improvement in knowledge were expected in the reference group, as reading has been used for many decades to teach marketing, but when measured against interactive learning, it appears that the interactivity may work better, and make it easier to visualize and understand how complex problems like marketing work.

The improvement measured using both methods of learning have shown positive results. To improve participants scores by a factor of 2x is outstanding. There is a reason why students who use more time studying have a greater chance of success than students who do not. (Renaissance, 2018). Although the improvement in the test group was larger than that of the reference group, it cannot be reported as statistically significant because a student t-test shows a p-value of 0,153, which is higher than the significance level of 0,05.

3.6 Limitations of analysis

There are limits to the applicability of the analysis done and they are important to address. First, the test group had a better understanding of marketing than the reference group from the start. This could lead to better understanding after being provided new material and closing the gap in knowledge could be harder to do when a participant has a lower level of prior knowledge and understanding.

There are some small differences in salary, education, and age. This could impact the participants ability to learn, likewise some may have had experience from a job which could impact the participants understanding of the material.

The number of participants could impact the study. Even when the participants are randomly assigned and there are small differences in between the reference and test groups there may be other systematic factors which are unaccounted for which could impact the results as the experiment is scaled up in size.

Finally, this analysis did not capture the total time spent on the task by the participants and there was no measurement of how the participants spent their time and effort. This makes the analysis deficient in understanding gained per unit of time spent working e.g., it may be likely that those who worked with the interactive learning environment spent more time learning hence why their performance improved more. It also makes it difficult to understand which of the participants have actually fully read the text, or how much effort has been put into the simulation.

4. Policy

To understand why using an interactive learning environment to study and learn improves people's ability to learn this thesis will use reference participants and dissect their performance to comment on what worked and didn't work.

4.1 Comparison

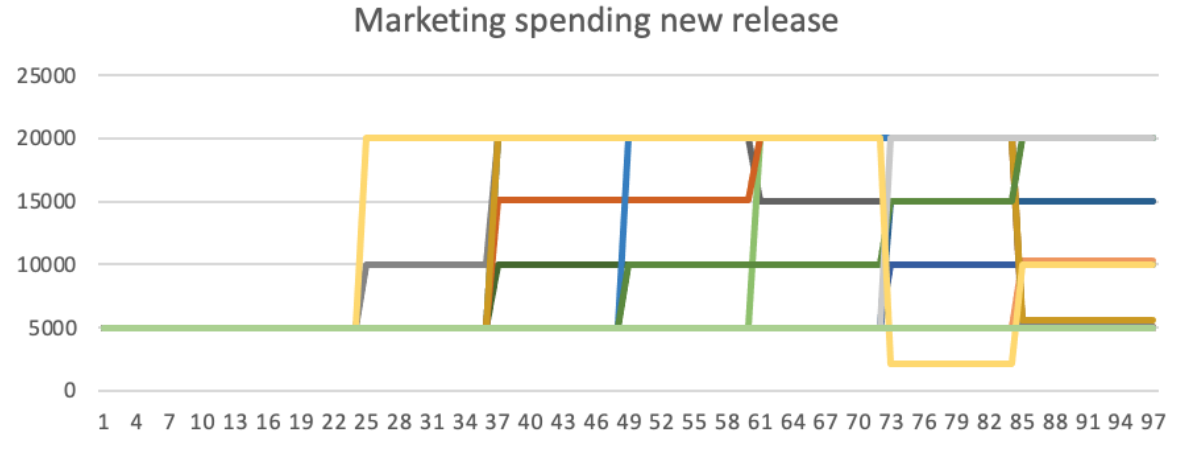
When looking at the results from a participant who did well and a participant who did not, there are many differences. For instance, some of the participants in the test group did not even play through one complete game before quitting, whereas others have made a large investment in effort as measured by the number of times they played through. As expected, there are also differences between the simulation runs of the highly motivated participants who played through many times. To learn the most from the data collected, this thesis will compare between participants who have done a great job, and those who needs a little work, ending with total data collection review at the end of this chapter.



(Graph 1)

There are collective differences between the participants who have done a good job and the participants who needs a little bit more learning, and we can see the differences in the effort they put into the simulation experience. The price seen above (Welcome offer price current) is one of the key parameters the participants had control over. It can be seen that some have experimented with the price while others have kept it constant.

The same type of behavior is spotted with marketing spend, which is another key parameter players can control. There is a distinct difference in how much experimentation has been done as seen in the changes (or lack thereof) in parameters.



(Graph 2)

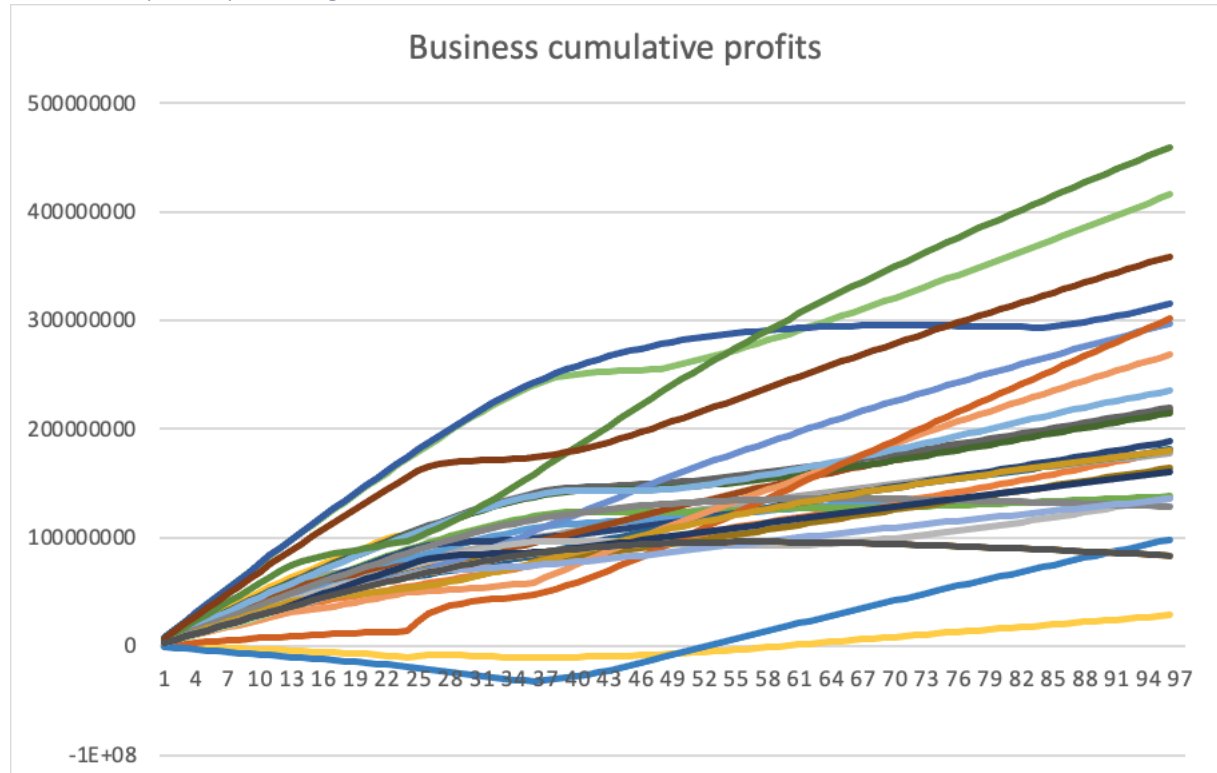
Above in graph 2 are the changes done by four of the participants. The effort put in by these different participants were reflected in the results each participant achieved (the marketing spend show a participant in light green with zero changes, while other participants have been made more changes). While only two parameters have been plotted here, the same hold true across all ten parameters in the interactive learning environment.

4.2 The participants with great increase in overall score

There were many outstanding candidates who did a good job learning by using the interactive learning environment. To identify which participants gained the most from the experience a review of the survey was done, and two representatives of great improvement was chosen. The two participants come from different stages in demographics. The first participant has a master’s degree and is between 40 and 50 years of age. The other participant has a high school diploma and is between 30 and 39 years of age.

There is one significant thing that these two participants have in common, effort. They have both used their time on the interactive learning environment. One of these two participants ran through the game 16 times!

4.2.1 First participant of great increase in overall score



(Graph 3)

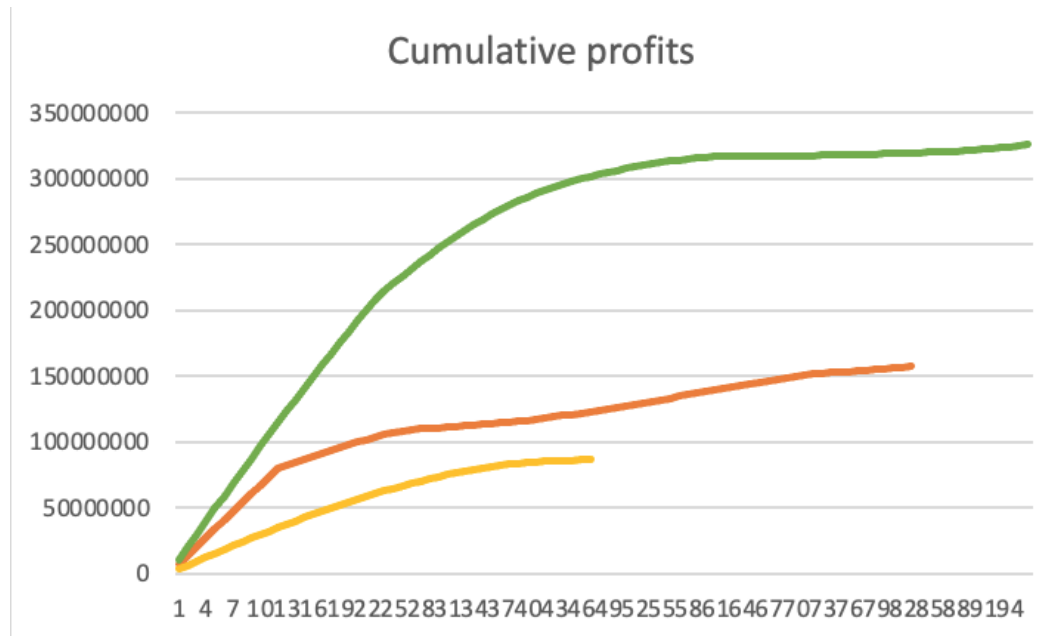
Here are all the different results of the one participant who created 16 different runs. The final results of the business cumulative profits, shows that this participant has tried many different techniques working through many different combinations of parameters and gained knowledge from the work as evidenced by their final post survey. The score of eleven out of 13 points in total is an improvement of five points above their initial pre-test survey score of six. This is an 83,33% increase.

When their decisions are looked at more closely, there is as expected many trials with different numbers used on all parameters overtime. The efforts made by this participant to understand, gain knowledge, and see changes cannot be talked about enough. Here again there are many different trial and error runs, leading to a result of learning.

This participant had a total of two hours and 45 minutes in the game. The results shows that marketing can be learned and understood during half a school day or one seminar at work.

4.2.2 Second participant with great increase in overall score

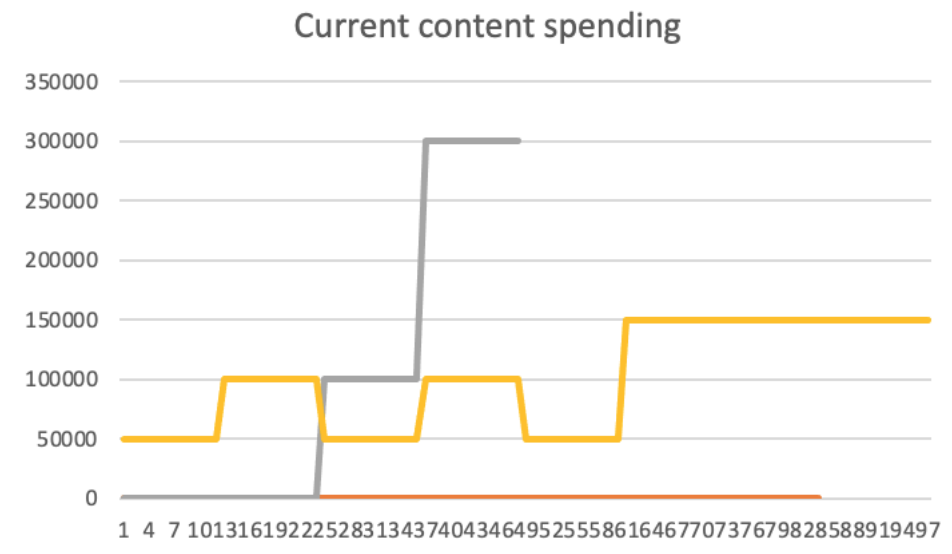
The other participant with great results had an increase from six to ten points. This is an 66,67% increase in score. When the result of this participant is looked at, their path to understanding marketing is very different.



(Graph 4)

This participant used their time to understand the differences and really analyze the differences in behavior during the simulation. This participant used three hours and 40 minutes on the game. The time was well spent in analysis to understand how the different parameters worked. As provided above, this participant used two runs to fully understand the parameters before finishing one run with great results.

When the participant's choices are analyzed, there is a clear pattern in their technique. The decisions made show a great deal of variation.



(Graph 5)

The numbers are constantly changing, where the participant is looking for changes and knowledge on how to play and how to improve. This is a similarity found in most of the participants with greater scores and higher value improvements.

4.3 Participants with less improvement in overall score

The two participants who were chosen as examples of poor performance were both between 20 and 29. They have different educational backgrounds. One has high school diploma, and the other is a bachelor graduate. The participants are chosen because they had zero and negative improvement, while having the pattern of decisions that most of the people with less gain acquired. One attribute that these two participants appear to have in common is lack of patience. The first participant finished two runs of the game while only advancing once during third try. The second participant did not advance the game more than once.

4.3.1 First participant of less improvement in overall score

The first example of a participant with little improvement used close to no time on the interactive learning environment. The first game played by this participant had one year of progress in the game, which means they pressed the advance button only once.

The next time this participant played the game, they also made only one year of progress.



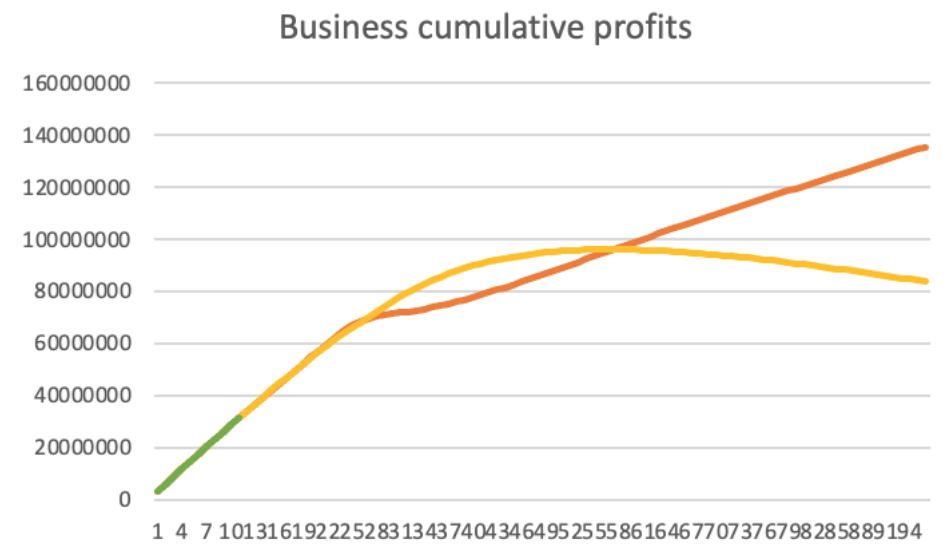
(Graph 6)

This participant likely represents a group of participants who had a hard time understanding the task provided and how to use the learning environment. This participant had a 0% increase.

This participant did not have the patience to really play the game or read the instructions. This participant used 40 seconds on the game. This shows a lack of interest and the lack of patience. When the game is not played with any motivation or care, there will clearly be problems with gaining knowledge.

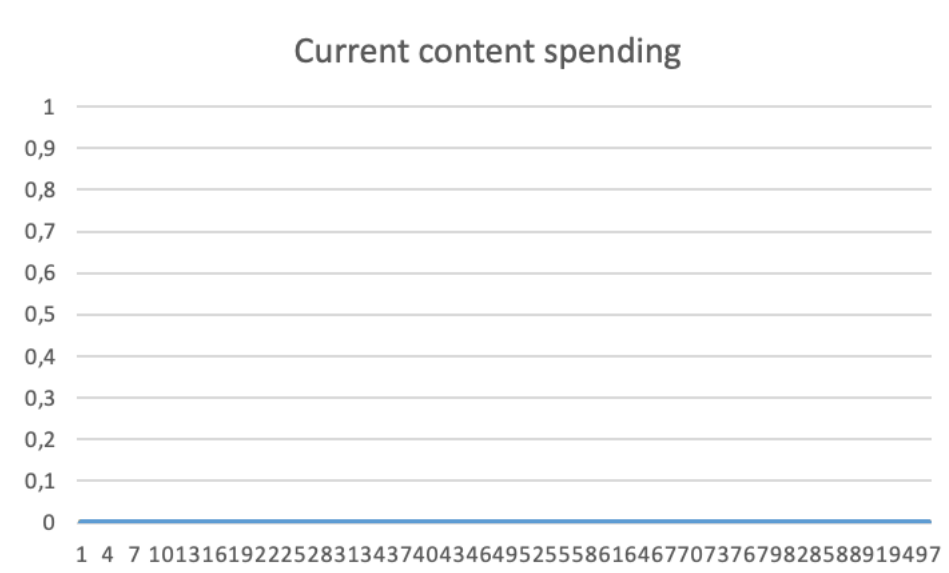
4.3.2 Second participant of less improvement in overall score

The second example of a minimally improved participant ran the simulation completely through twice.



(Graph 7)

There are similarities between this participant and the second participant with improvement. Both used three runs, both have stopped in the middle of the third run, but the differences here is the experimentation with the parameters and inputs. This participant made few changes to the parameters when running the simulation.



(Graph 8)

When looking at their current content spending decision, it can be seen that this participant completed two runs without making any changes. Compared to the participants with strong improvement there is a discernable pattern which shows that less effort leads to less learning.

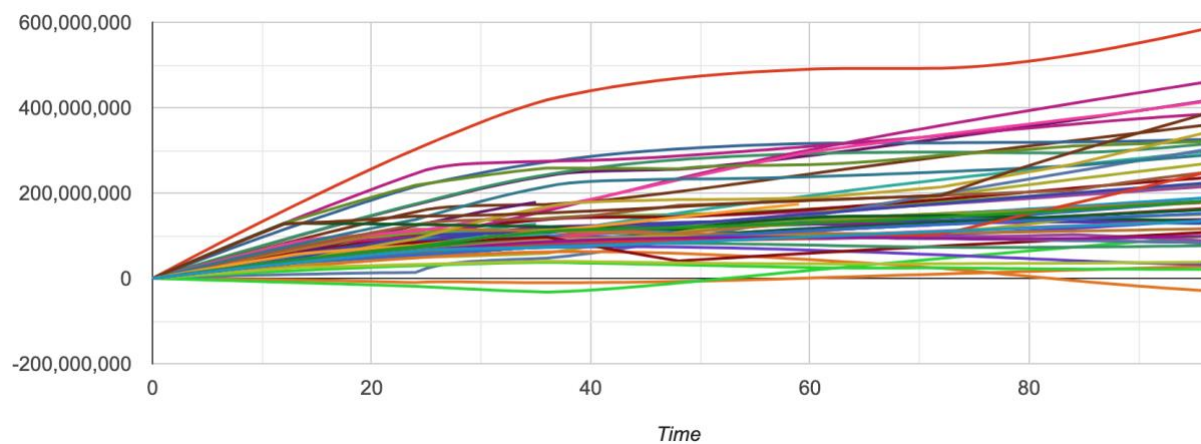
This participant used one and a half hours to complete the task. This is sufficient with respect to time, but there this interactive learning environment did not measure engagement so there is no real way to know how much effort was actually spent. This participant had a negative improvement from before the learning environment to after. Their score went from 7 points to 5 points, a decline of 28,57%.

4.4 All results

All the results in total gives a complete overview of all the strategies one could employ in the experience. From the 21 participants who participated, there were 68 completed runs. This shows that each participant had in average over 3 completed runs.

The average time spent by each participant in the test group was three hours. This is the total time the participants have used in the game. The measure of time has shortcomings as it does not measure the actual time spent on the game, just the total time each participant had the game open.

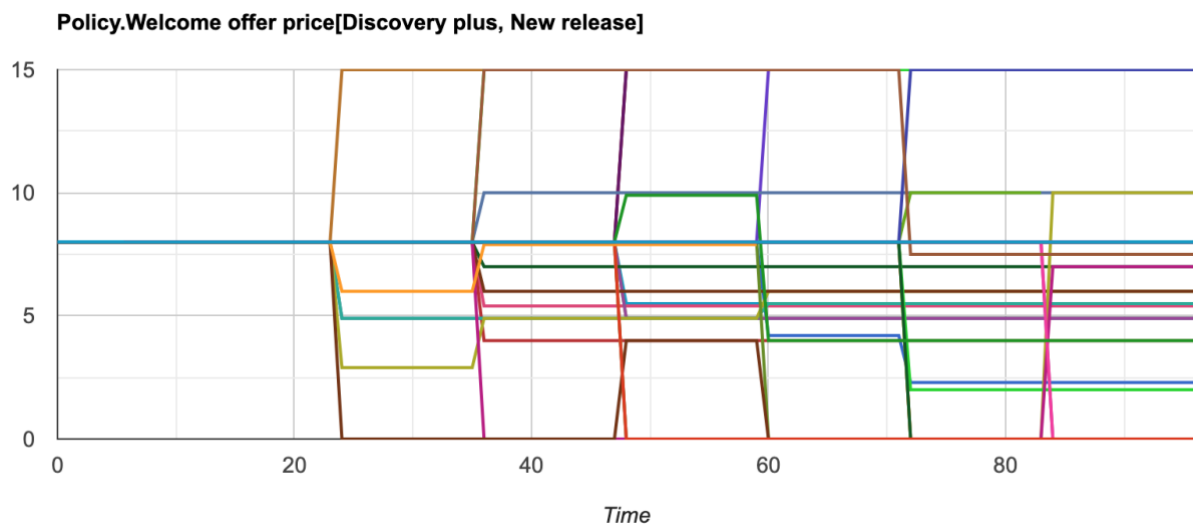
When the results are all plotted, we can see the full range of outcomes achieved and strategies employed.



(Graph 9)

This is the business cumulative profits made by each individual in the test group. There is a huge variety in these results and in the learning outcomes.

In the sensitivity analysis done at chapter 3.1, there is similar behavior to the graphs. In total, the participants have used the game to explore many different possibilities, outcomes, and opportunities.



(Graph 10)

In general, the participants have used their time well to do and make the necessary parameter changes to understand marketing and the marketing mix.

The range of results in Cumulative Business Profit shows that the practice of using interactive learning environments could likely inspire the students to learn. This way of learning makes it more intriguing for the participants. Within the interactive learning environment there is efforts of trying which shows the greatest amount of progression from no knowledge to great understanding.

5. Implementation

There are always challenges switching to new systems and new ways of doing things. The challenges of implementing a learning system with interaction in the form of system dynamics based interactive learning environments is fraught with problems.

5.1 How to implement an interactive learning environment

The first challenge in switching to interactive learning environments for the courses taught today, is content creation. Teachers, business course offerors and others will have to learn the skills of making learning environments based on user interaction.

Once the teachers and course offerors have the know-how to make interactive learning environments, they can implement the changes to their fields of expertise. The equipment needed to create changes like these in the education system are computers, skilled people, and a program like “Stella Architect” to build the models and the learning environments themselves.

Another critical factor is political. There are many political views and rules to consider when making changes to a public system. Decision makers have political opinions on how to spend their education budgets are one of the most important variables to take into consideration when looking at implementation.

5.2 Gain of implementing interactive learning environments

The goal of using interactive learning environments as the basis of education in schools and business classes could be achieved with some creativity. Of course, this would involve effort from teachers, who would have to spend time building interaction into their students’ curriculum. The gains in learning demonstrated within this thesis, although at an early stage, shows that this may be an efficient use of their time, which could in the future possible provide the teachers with more time to teach advanced marketing using other methods.

In this study, the interactive learning environment was provided to both students and adults with limited understanding of marketing. The total gain in measured understanding and knowledge shows great potential for interactive learning environments for all types of learning.

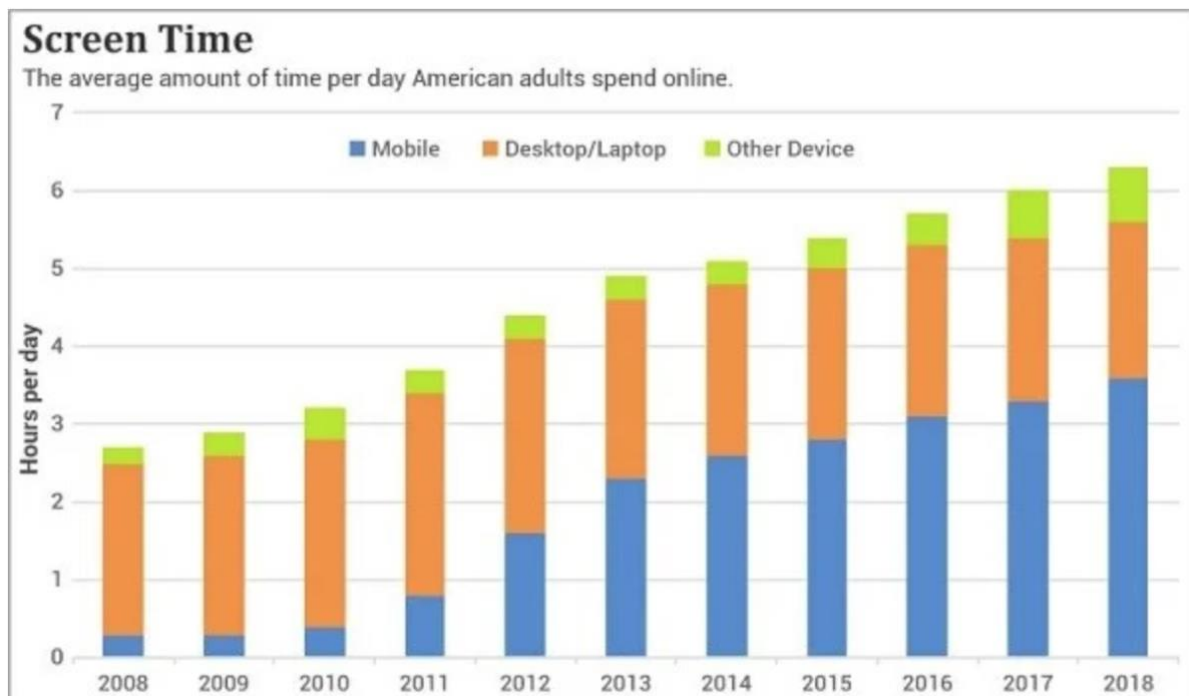
The gain of implementing an interactive learning environment can be more modernized and advanced schools. Modern schools could possibly keep students’ interest in a subject with advanced teaching techniques. There are many students with difficulties in reading, and there are students with problems with visualization. By implementing an interactive learning environment, it is likely that more students will be included in the learning.

5.3 Difficulties with implementing an interactive learning environment

The cost of an interactive learning environment can be a problem in some areas. When a student starts high school in Norway, they get a subsidy, enough to buy a cheap computer, but in poorer countries, computers are not universally available.

The cost of implementation, teaching teachers how to use and create an interactive learning environment, can be too much.

Interactive learning environments can affect the generation being educated now as well. The amount of time spent on the computer has been going up over the last 10+ years.



(Chart 17)

The chart from Investorplace (2020) shows an increase in time used on a screen per day. The trend in both schools and businesses, as well as courses, are including more screentime of learning. An interactive learning environment will affect the time students spend on their computers, even adding to screen time during school. In USA, the screen time had doubled over the last ten years adding up to 6,3 hours a day in average (Investorplace, 2020).

6. Conclusions

The problems of traditional learning, and its tendency of losing audience attention, have created the need for a change in how people learn and teach. Learning marketing can be challenging. There are many aspects to consider, especially when a person is trying to learn the marketing mix.

When the traditional way of learning is put to test, there are shortcomings. The McGraw Center of learning called traditional learning "boring". (2019) During this study the shortcomings of traditional learnings have been put to test against a newcomer, interactive learning environments.

There was a survey given to each participant with the purpose of understanding their prior knowledge. Once their prior knowledge was established, each participant was assigned to either the test group or the reference group. The test group was given the interactive learning environment, while the reference group was given a traditional reading. They were then asked to answer the survey again.

6.1 Analyzing the hypothesis

6.1.1 Hypothesis one

There was done two tests to hypothesis one from chapter 2.1. The first test conducted was a student t-test.

With the student t-test, there is a significance value at 0,275. This is higher than 0,05, and the conclusion is that H0: "Students show more improvement in their understanding of marketing mix when presented with a non-interactive reading" is kept.

The second test conducted was the regression P-test. With a significant P-value on both traditional learning and interactive learning in the p-test, the statistic of provided is not at random. This mean that the improvement from the first survey (pre-test) to the last survey (post-test) is not random, and the improvement show statistical significance.

The participants in the test group who got the interactive learning showed an improvement of 28,67% in their total score. This was 1,67 points increase from prior knowledge to post knowledge. The group had an increase from 5,81 points to 7,48 points. This was a higher point tally in total and a larger increase in knowledge, though the gain in improvement was not statistically significant likely due to the relatively small sample size.

As a conclusion, there is a difference of 10,93% between traditional learning and interactive learning. It cannot be statistically demonstrated, but there is a great cause for further research to investigate if interactive learning environment can have impact on learning.

6.1.2 Hypothesis two

When the learning was put into different categories, the hypothesis two from chapter 2.2 show that the student t-test concluded a P-value of 0,641 which is significantly higher than 0,05. The conclusion is that H₀: "Students show more improvement in their understanding of marketing mix when presented with a non-interactive reading." is kept.

The second test conducted is to see if the change in improvement is an effect of the learning material. With the significance of both P-values in the regression p-test, the study concludes that the numbers improvement with learning material is not at random. The participants with the traditional reading material increased their understanding of marketing with 9,38%. This gave an increase in points from 4,8 points in the first survey to 5,25 points in the last. When the participants of interactive learning environment were handed the same task, they showed a 13,34% increase in their score. Their score increased from 5 points to 5,67 points.

As a conclusion this is not a significant difference. The 3,96% difference between traditional learning and interactive learning cannot conclude that there is a difference between the groups when learning marketing. The study will not conclude on the outcome between traditional and interactive learning environment, but rather encourage further research.

6.1.3 Hypothesis three

The third hypothesis was formulated around the knowledge in marketing. Both the test group and the traditional group was asked to write open-ended answers to questions regarding the marketing mix.

The student t-test gives an insignificant P-value of 0,152. This higher than 0,05 and H0: “Students show more improvement in their knowledge of marketing mix when presented with a non-interactive reading” is kept.

The regression P-test show a P-value on both variables gives an indication that the numbers collected in the survey is not at random and improvement would happen if the participants was given the same learning material again. The knowledge in both groups was low before applying some learning material. The group who got the traditional learning had a score of 0,55 out of 3 points. When the research was done, they had an incredible 90,91% point increase to 1,05 points.

The group with the interactive learning environment scored 0,81 points in average before the research material was handed to them. When they had the time to interact with the game their knowledge increased by astonishing 124%. This is 1 point in average to 1,81 points total.

The conclusion drawn by this study is that both methods of learning have great effect on the knowledge within marketing mix. When the study is looking at the highest gain of knowledge the conclusion is the knowledge gained of marketing is higher with the use of interactive learning environments. The 33% difference in understanding is noticeable and the study concludes that interactive learning environments has a higher impact in learning the knowledge in marketing mix. The results show great cause for further research. The statistics is not significant, but the numbers show that there can be relevant research to conduct if the improvement rate continues with more research on interactive learning environments.

6.2 Analyzing the objectives

There were objectives made to support the thesis. The objectives were made to make marketing an interesting and understandable subject. The study of marketing is complicated.

Knotts (2021) stated 85% of businesses do not do sufficient on marketing. The objectives of this study are there to make it easier for people to learn an essential of marketing.

1. Marketing is a complex subject which takes time to understand. The subject of marketing mix is the first basic and underlying structure of all marketing promotions and campaigns. The first objective of this study is to enhance the process of learning marketing.

The objective of learning has a close relation to the interactive learning environment. The result of this study gives a clear indication that studying marketing increases the knowledge of marketing. Both the interactive learning environment and the traditional learning environment gives great results on improvement.

The process of learning marketing mix can be done using both interactive methods and traditional methods. To help the process of learning, this study has made an interactive learning environment for the user to experience. For the participants who have used the interactive learning environment, the largest improvements were seen with those who put in the most effort as measured by time spent, and changes to parameters made.

2. The second objective of this study is to find a underlying method which can be applied to education at the high school, undergraduate or a business course level. This method should help students and new marketing employees to understand the basics of marketing more easily.

The structure of building an interactive learning environment with short definitions and encouraging trial and error made for strong results. The objective was to find a structure which made it easier for the participant to learn. With an interactive learning environment, the measured improvement was increased, not by a statistically significant margin though which is likely due to the relatively small sample size (41 individuals).

The interactive learning environment had the structure to make the user read four small definition pages and then learn by doing. These pages were made to encourage the

participant to try different strategies. This structure was made for the objective of a structure made for schools and courses. The structure helps to teach students about the basics of marketing.

3. The third and final objective of this study is to develop a learning environment which makes the subject of marketing more understandable than reading alone.

The overall conclusion for the study made in this thesis is built on the last objective. There are good preliminary results that shows the positive effect of interaction between the participants and the subject of study. The results shown by the study gives reason to believe that interactive learning environments make marketing more understandable.

The conclusion is a strong encouragement of further studies. This study is based of 41 participant, and 82 surveys doing this experiment on a larger scale will do a better job of measuring interactive learning environment ability to create knowledge.

The gain of introducing interactive learning environments on studies is more than just better scores for the average fully capable learner. There are students with disabilities and other learning difficulties that do not have the tools to participate in a normal school day. Students with dyslexia are just one example. These students can be a part of the learning in the classroom based on experiential learning instead of being taken out like they are in classrooms based on traditional techniques.

Adding interactive learning environments to schools and businesses could be a major change to studying as known today. The cost of implementation is a problem, but it will likely save some costs of extra classes for students with learning difficulties, extra teachers to follow up on these students and the space needed for them.

The results of this study show a solid and measurable increase in knowledge in marketing with an interactive learning environment. There is strong encouragement from this study to further test interactive learning environments on more participants in marketing, on different subjects and in school/courses.

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8. Appendix

Appendix 1.

Model documentation

Total	Count	Including Array Elements
Variables	112	765
Modules	3	
Stocks	5	33
Flows	7	56
Converters	100	676
Constants	24	104
Equations	83	628
Graphicals	3	24
Macro Variables	40	

	Equation	Properties	Units	Documentation	Annotation
Top-Level Model:					
End_of_game	IF TIME>80 THEN 1 ELSE 0		dmnl	This variable is made to move the user to the end page after the last click. Made for the ILE.	
Game_advance	IF TIME = 96 THEN 1 ELSE 0		dmnl	This equation is made for the ILE. To controll the stopping time.	
Keep_the_game	IF TIME<80 THEN 1 ELSE 0		dmnl	This equation is made for the ILE to keep buttons active at the time under 80.	
Move_to_brief	IF TIME<82 THEN 0 ELSE 1		dmnl	This variable is made to move the user to the end page after the last click. Made for the ILE.	
Quarter	INT((((TIME / 12) + 1) -		months	This equation is made for the ILE. It takes the years and make them to quarters	

	$\text{Year}) * 12) / 3) + 1$				
Test_knob	0		dmnl	This is made for the About page. The user can test the different sliders.	
Test_numeric_display	0		dmnl	This is made for the About page. The user can test the different sliders.	
Test_slider	0		dmnl	This is made for the About page. The user can test the different sliders.	
To_participate	0		dmnl		
To_submit	IF To_participate < 999 THEN 0 ELSE 1		dmnl		
Win_or_loose	IF Business.Cumulative_Business_Profit[Discovery_plus] < 250000000 THEN 1 ELSE 0		\$	This was initially made for the last page before I read research that you do not learn as well when you can win. Then you much rather want to win than learn.	
Year	$\text{INT}(\text{TIME} / 12) + 1$		months	This equation is made for the ILE. It takes the time and makes it to years.	
Business:					
Cumulative_Profit[Company, Content](t)	$\text{Cumulative_Profit[Company, Content]}(t - dt) + (\text{Profit[Company, Content]}) * dt$	INIT Cumulative_Profit[Company, Content] = 0	\$	This is the profit earned.	

Profit[Company, Content]	subscription_profit+product_sale_profit-policy_costs		US Dollars Per Month	This is the total margin of profit. You have all the income minus the expenses.	
average_customer_subscription_margin[Company, Content]	Policy.monthly_subscription_price-subscription_service_costs		\$/customer/Month	This is the margin of earnings. The subscription price minus the cost of a new customer.	
Cumulative_Business_Profit [Company]	SUM(Cumulative_Profit[Company; *])		\$	This is the business profits in total.	
effect_of_content_spending_on_subscription_costs_savings[Company, Content]	GRAPH(Policy.Content_R&D_relative_to_target) Points: (0,000, 0,500), (0,200, 0,500), (0,400, 0,515), (0,600, 0,559), (0,800, 0,726), (1,000, 1,000), (1,200, 1,394), (1,400, 1,714), (1,600, 1,9085), (1,800, 1,977), (2,000, 2,000)		dmnl	This is a graphical function made to show the relations between spending and cost saving. The manufacturing of content is costly, and the R&D can help save money on manufacturing.	
effect_of_streaming_quality_spending_on_manufacturing_costs_savings[Company, Content]	GRAPH(Policy.Streaming_quality_R&D_relative_to_target) Points: (0,000,		dmnl	This is a graphical function made to show the relations between spending and cost saving. The manufacturing of streaming is costly, and the R&D can help save money on manufacturing.	

	0,500), (0,200, 0,500), (0,400, 0,515), (0,600, 0,559), (0,800, 0,726), (1,000, 1,000), (1,200, 1,394), (1,400, 1,714), (1,600, 1,9085), (1,800, 1,977), (2,000, 2,000)				
normal_renewal_per_customer_costs[TV_2_Play, Current]	2,5		\$/customer	This is the cost of renewal per customer.	
normal_renewal_per_customer_costs[TV_2_Play, New_release]	2,5				
normal_renewal_per_customer_costs[Discovery_plus, Current]	0,5				
normal_renewal_per_customer_costs[Discovery_plus, New_release]	0,5				
normal_renewal_per_customer_costs[HBO, Current]	1,5				

normal_renewal_per_customer_costs[HBO, New_release]	1,5				
normal_renewal_per_customer_costs[Netflix, Current]	2				
normal_renewal_per_customer_costs[Netflix, New_release]	2				
normal_subscription_service_costs[TV_2_Play, Current]	2,5		\$/customer/month	This is the cost of subscription services per customer.	
normal_subscription_service_costs[TV_2_Play, New_release]	2,5				
normal_subscription_service_costs[Discovery_plus, Current]	1				
normal_subscription_service_costs[Discovery_plus, New_release]	1				
normal_subscription_service_costs[HBO, Current]	2				
normal_subscription_service_costs[HBO, New_release]	2				

normal_subscription_service_costs[Netflix, Current]	2,5				
normal_subscription_service_costs[Netflix, New_release]	2,5				
policy_costs[Company, Content]	Policy.actual_marketing_spending+Policy.content_spending+Policy.streaming_quality_spending		\$/month	This is the total cost of policies. The total amount of money used on marketing, content and streaming quality.	
product_margin[Company, Content]	Policy.Welcome_offer_price-renewal_manufacturing_costs		\$/Customer	This is the margin of earnings. The welcome price minus the cost of a new customer.	
product_sale_profit[Company, Content]	Market.purchases*product_margin		\$/month	This is the total market profit. Number of sales times margin.	
renewal_manufacturing_costs[Company, Content]	normal_renewal_per_customer_costs/effect_of_streaming_quality_spending_on_manufacturing_costs_savings		\$/customer	This is the cost of manufacturing. You take the cost of one customer and divide it with the cost savings.	
subscription_profit[Company, Content]	Market.Customers*average_customer_subscription_margin		US Dollars Per Month	This is the total market profit. Number of subscribers times margin.	
subscription_service_costs[Company, Content]	normal_subscription_service_costs/effect_of_content_spending_o		\$/customer/month	This is the cost of subscription. You take the cost of one customer subscription and divide it with the cost savings.	

	n_subscription_costs_savings				
Market:					
Customers[Company, Content](t)	Customers[Company, Content](t - dt) + (purchases[Company, Content] - obsolescence[Company, Content]) * dt	INIT Customers[Company, Content] = Potential_Customers * indicated_market_share / time_to_perceive_product_attractiveness * obsolescence_time	Customers	This is the actual customers.	NON-NEGATIVE
Potential_Customers(t)	Potential_Customers(t - dt) + (obsolescence[TV_2_Play, Current] + obsolescence[TV_2_Play, New_release]	INIT Potential_Customers = market_size * st	Customers	This is the potential new customers. This is the customers which does not have a streaming network yet.	NON-NEGATIVE

	<p>+ obsolecense[Discovery_plus, Current] + obsolecense[Discovery_plus, New_release] + obsolecense[HBO, Current] + obsolecense[HBO, New_release] + obsolecense[Netflix, Current] + obsolecense[Netflix, New_release] - purchases[TV_2_Play, Current] - purchases[TV_2_Play, New_release] - purchases[Discovery_plus, Current] - purchases[Discovery_plus, New_release] - purchases[HBO, Current] - purchases[HBO, New_release] - purchases[Netflix, Current] -</p>	<p>eady _stat e_fra ction _pot entia l</p>			<p>V E</p>
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	purchases[Netflix, New_release] * dt				
obsolecense[Company, Content]	Customers / obsolecense_time		customer/Months	This is when the customer moves back to a potential customer again. This is a delay where the customers in a first order moves back to "the start".	U N I F L O W
purchases[Company, Content]	Potential_Customers *indicated_market_share / time_to_perceive_product_attractiveness		customer/Months	This is the number of new purchases. This will move people from potential customers to customers.	U N I F L O W
effect_of_streaming_quality_spending_on_obsolecense_time[Company, Content]	GRAPH(Policy.Streaming_quality_R&D_relative_to_target) Points: (0,000, 0,500), (0,200, 0,500), (0,400, 0,515), (0,600, 0,559), (0,800, 0,726), (1,000, 1,000), (1,200, 1,394), (1,400, 1,714), (1,600, 1,9085), (1,800, 1,977), (2,000, 2,000)		dmnl	This is a graphical function to capture the spending on streaming to the obsolecense time. This mean that the more money you spent on streaming, the higher the quality, and the longer it will take to obsolecense a customer.	

indicated_market_share[Company, Content]	product_attractiveness/SUM(product_attractiveness) *Policy.product_on_sale* new_content_available_market_share_multiplier		Dmnl	This is the indicated market share, which means the indication of how many customers one could/should get.	
market_share[Company, Content]	Customers/SUM(Customers) * 100		dmnl		
market_size	4000000		Customers	This is the size of the market.	
new_content_available_market_share_multiplier[Company, Content]	IF (Content = 2) THEN 1 ELSE IF (SUM(Policy.product_on_sale[*; New_release]) = 0) THEN 1 ELSE IF (SUM(Policy.product_on_sale[*; New_release]) = 1) THEN 0,5 ELSE IF (SUM(Policy.product_on_sale[*; New_release]) = 2) THEN 0,005 ELSE 0		dmnl	This is a multiplier to which new content gets a market share value. This is to get a number of which the new content can affect the indication of market share.	
next_generation_on_sale_obsolescence_multiplier[Company, Content]	IF (Content = 1) THEN IF (Policy.product_on_sale[Company; New_release] = 1) THEN 0 ELSE 1 ELSE 1		dmnl	This is a multiplier for product on sale. If you have an upgraded product, your obsolescence time will proceed and the customer will be a customer for a longer time period.	

normal_obsolecense_time[TV_2_Play, Current]	40		Months	This is the normal obsolecense time for each company.	
normal_obsolecense_time[TV_2_Play, New_release]	40				
normal_obsolecense_time[Discovery_plus, Current]	35				
normal_obsolecense_time[Discovery_plus, New_release]	35				
normal_obsolecense_time[HBO, Current]	38				
normal_obsolecense_time[HBO, New_release]	38				
normal_obsolecense_time[Netflix, Current]	45				
normal_obsolecense_time[Netflix, New_release]	45				
obsolecense_time[Company, Content]	$\text{MAX}(\text{effect_of_streaming_quality_spending_on_obsolecense_time}[\text{TV_2_Play}; \text{Current}] * \text{normal_obsolecense_time}[\text{Company};$		Months	This equation captures the total obsolecense time for a company. This is the time the customer will stay a part of your customer base before they become a potential customer again.	

	Content]*next_generation_on_sale_obsolecense_multiplier[Company; Content]; outdated_content_obsolecense_time)				
outdated_content_obsolecense_time	3		months	This is the time it takes for the content to become outdated.	
product_attractiveness[Company, Content]	SUM(Policy.attrib_weight_composite[Company; Content; *])		dmnl	This is the total attractiveness for each company.	
steady_state_fraction_potential	$1/(1+(\text{SUM}(\text{steady_state_share_weight})/\text{time_to_perceive_product_attractiveness}))$		Dmnl		
steady_state_share_weight[Company, Content]	indicated_market_share * obsolecense_time		Months		
time_to_perceive_product_attractiveness	4		Months	This is the time it takes to understand the attractiveness of a product. This is the delay of attractiveness. Once you publish a product, people does not rush directly to you, it takes time for the value to be percieved.	
Total_market_share_Discovery_plus	$((\text{Customers}[\text{Discovery_plus}; \text{Current}] + \text{Customers}[\text{Discovery_plus}; \text{New_release}]) / (\text{SUM}(\text{Customers})) * 100)$		dmnl	This is the percentage of market share. The customers of one company divided by the whole market.	

Total_market_share_HBO	$\frac{(((\text{Customers}[\text{HBO};\text{Current}] + \text{Customers}[\text{HBO};\text{New_release}]) / (\text{SUM}(\text{Customers})) * 100))}{1}$		dmnl	This is the percentage of market share. The customers of one company divided by the whole market.	
Total_market_share_Netflix	$\frac{(((\text{Customers}[\text{Netflix};\text{Current}] + \text{Customers}[\text{Netflix};\text{New_release}]) / (\text{SUM}(\text{Customers})) * 100))}{1}$		dmnl	This is the percentage of market share. The customers of one company divided by the whole market.	
Total_market_share_TV2_Play	$\frac{(((\text{Customers}[\text{TV}_2\text{Play};\text{Current}] + \text{Customers}[\text{TV}_2\text{Play};\text{New_release}]) / (\text{SUM}(\text{Customers})) * 100))}{1}$		dmnl	This is the percentage of market share. The customers of one company divided by the whole market.	
Policy:					
Cumulative_content_Spending_Value[Company, Content](t)	$\text{Cumulative_content_Spending_Value[Company, Content]}(t) + (\text{content_spending[Company, Content]} - \text{Content_attrition[Company, Content]}) * dt$	INIT Cumulative_content_Spending_Value[Company, Content] = initial_content_spending_value	\$	This is the stock of cumulative spending. This stock captures the spending on research and development in content quality.	N O N - N E G A T I V E

<p>Cumulative_Streaming_quality_R&D_Spending_Value[Company, Content](t)</p>	<p>Cumulative_Streaming_quality_R&D_Spending_Value[Company, Content](t - dt) + (streaming_quality_spending[Company, Content] - Streaming_quality_R&D_attrition[Company, Content]) * dt</p>	<p>INIT Cumulative_Streaming_quality_R&D_Spending_Value[Company, Content] = initial_content_spending_value</p>	<p>\$</p>	<p>This is the stock of cumulative spending. This stock captures the spending on research and development in streaming quality.</p>	<p>N O N - N E G A T I V E</p>
<p>Content_attrition[Company, Content]</p>	<p>Cumulative_content_Spending_Value/r&d_lifetime[Content]</p>		<p>\$/month</p>	<p>This is the outflow of content spending. This is when the time has gone and the sufficient funding has worn out. What I mean by this is that the money you spend today does not have an impact for eternity, you will have to reinvest to keep the funds sufficient and the quality on top.</p>	<p>U N I F L O W</p>
<p>content_spending[Company, Content]</p>	<p>IF (steady_state_on = 1 AND Content = 2) THEN 0 ELSE IF (NOT(steady_state_on = 1) AND Company = 2) THEN</p>		<p>\$/month</p>	<p>This equation is made to capture the spending on content quality. This is a if, then, else function where we make it so company 2 which is the player controlled company will be influenced by their decisions. The rest will be automated from the model so the game makes decisions for the 3 other companies.</p>	<p>U N I F L O W</p>

	<pre> player_Content_spending[Content] ELSE IF (NOT(steady_state_on = 1)) THEN Content_R&D_spending ELSE initial_content_spending_value/r&d_lifetime[Content] {steady_state_on AND Product != 2} </pre>				
Streaming_quality_R&D_attrition[Company, Content]	<pre> Cumulative_Streaming_quality_R&D_Spending_Value/r&d_lifetime[Content] </pre>		\$/month	<p>This is the outflow of streaming quality spending. This is when the time has gone and the sufficient funding has worn out. What I mean by this is that the money you spend today does not have an impact for eternity, you will have to reinvest to keep the funds sufficient and the quality on top.</p>	UNIFLOW
streaming_quality_spending[Company, Content]	<pre> IF (steady_state_on = 1 AND Content = 2) THEN 0 ELSE IF (NOT(steady_state_on = 1) AND Company = 2) THEN player_streaming_R&D_spending[Content] ELSE IF (NOT(steady_state_on = 1)) THEN </pre>		\$/month	<p>This equation is made to capture the spending on streaming quality. This is a if, then, else function where we make it so company 2 which is the player controlled company will be influenced by their decisions. The rest will be automated from the model so the game makes decisions for the 3 other companies.</p>	UNIFLOW

	automated_streaming_quality_R&D_spending ELSE initial_content_spending_value/r&d_lifetime[Content]				
actual_marketing_spending[Company, Content]	product_on_sale*marketing_spending		\$/month	This variable is made for the actual marketing spending. This is the combination of which of the products that is on sale. Is it the first release or the updated product?	
attrib_weight_composite[Company, Content, Attribute]	product_quality_by_attribute * attribute_weights[Attribute]		dmnl	This is a equation to give us a number of attractiveness.	
attribute_weights[Streaming_Quality]	1		Dmnl	This is the weight of each attribute. This numbers is given by some perception and educated decisions. I personally have a marketing management bachelor, and I have used https://www.epsi-norway.org/wp-content/uploads/2020/11/Sammendrag-Streaming-2020.pdf as inspiration.	
attribute_weights[Content_Quality]	1,3				
attribute_weights[Market_attractiveness]	1,25				
attribute_weights[Subscription_Price]	,5				

attribute_weights[Market_desirability]	,8				
automated_content_aggressiveness[TV_2_Play, Current]	0		dmnl	This is how aggressive the companies work towards the R&D. The higher the number, the more aggressive the policy.	
automated_content_aggressiveness[TV_2_Play, New_release]	1,6				
automated_content_aggressiveness[Discovery_plus, Current]	0				
automated_content_aggressiveness[Discovery_plus, New_release]	1				
automated_content_aggressiveness[HBO, Current]	0				
automated_content_aggressiveness[HBO, New_release]	1				
automated_content_aggressiveness[Netflix, Current]	0				
automated_content_aggressiveness[Netflix, New_release]	1,4				
automated_content_spending_gap[Company, Content]	IF (Content = 1 AND product_on_sale[Company ;		\$	This is the automated spending gap on content quality. This is made for the purpose of a spending on content quality. This is the amount of money	

	New_release] = 1) THEN 0 ELSE automated_c ontent_spend ing_goal- Cumulative_ content_Spen ding_Value			spent to increase the quality of the attribute content quality.	
automated_co ntent_spendin g_goal[Comp any, Content]	target_R&D* automated_c ontent_agress iveness		\$	This is the automated streaming quality spending goal. It is determined by the target R&D and the aggressiveness of each company.	
automated_rel ease_upgrade d_product[Co mpany]	automated_u pgrade_pro duct[Company ; New_release]		dmnl	This is the release of the updated product.	
automated_str eaming_qualit y_agressivene ss[TV_2_Play , Current]	0		dmnl	This is how aggressive the companies work towards the R&D. The higher the number, the more aggressive the policy.	
automated_str eaming_qualit y_agressivene ss[TV_2_Play , New_release]	1,8				
automated_str eaming_qualit y_agressivene ss[Discovery_ plus, Current]	0				
automated_str eaming_qualit y_agressivene ss[Discovery_ plus, New_release]	1,3				
automated_str eaming_qualit y_agressivene	0				

ss[HBO, Current]					
automated_streaming_quality_agressiveness[HBO, New_release]	1,6				
automated_streaming_quality_agressiveness[Netflix, Current]	0				
automated_streaming_quality_agressiveness[Netflix, New_release]	1,4				
automated_streaming_quality_R&D_spending[Company, Content]	automated_streaming_quality_spending_gap/time_to_close_streaming_quality_spending_gap		\$/month	This is the gap to close. This equation is made for the closing of spending gap. It will be divided by the time to close the spending gap.	
automated_streaming_quality_spending_gap[Company, Content]	IF (Content = 1 AND product_on_sale[Company ; New_release] = 1) THEN 0 ELSE automated_streaming_quality_spending_goal-Cumulative_Streaming_quality_R&D_Spending_Value		\$	This is the automated spending gap on streaming quality. This is made for the purpose of a spending on streaming quality. This is the amount of money spent to increase the quality of the attribute streaming quality.	
automated_streaming_quality_spending_goal	target_R&D*automated_streaming_quality		\$	This is the automated streaming quality spending goal. It is determined by the	

oal[Company, Content]	ity_aggressiveness			target R&D and the aggressiveness of each company.	
automated_upgrade_product [Company, Content]	IF ((Streaming_quality_R&D_relative_to_target+Content_R&D_relative_to_target)/2 > 1) THEN 1 ELSE 0		dmnl	This converter is made so the other products go live with their updated product. We want the automated products to go live with their updated product even when the player controlled product is not live yet.	
average_competitor_market_spend[Company, Content]	(SUM(actual_marketing_spend[*; Content]) - actual_marketing_spend) / (SIZE(actual_marketing_spend[*; Content]) - 1)		\$/month	This is an average of spending. This average is made to see the differences and compare the market. The average is the sum of marketing divided on the market. This will give us an important input to the marketing attractiveness factor.	
Average_competitor_market_spend_total_new_release	(average_competitor_market_spend[TV_2_Play;New_release]+average_competitor_market_spend[Discovery_plus;New_release]+average_competitor_market_spend[HBO;New_release]+average_competitor_market_spend[Netflix;New_release])/4		\$/month	This variable is made for the ILE. This is made to make a graph of how much the average competitor has spend on marketing on the upgraded product. This graph is shown in the ILE.	
average_content_R&D_value[Company, Content]	(SUM(Cumulative_content_Spending_Value[*;		\$	This gives an average of content quality with research and development value. This is the average of the market	

	$\frac{\text{Content]) - Cumulative_content_Spending_Value)}{\text{(SIZE(Cumulative_content_Spending_Value[*; Content]) - 1)}}$			<p>where we have the sum of cumulative streaming quality R&D spending value, divided on the market.</p>	
<p>average_monthly_subscription_price[Company, Content]</p>	$\frac{\text{(SUM(monthly_subscription_price[*; Content]) - monthly_subscription_price)}{\text{(SIZE(monthly_subscription_price[*; Content]) - 1)}}$		<p>\$/customer/month</p>		
<p>average_streaming_quality_R&D_value[Company, Content]</p>	$\frac{\text{(SUM(Cumulative_Streaming_quality_R\&D_Spending_Value[*; Content]) - Cumulative_Streaming_quality_R\&D_Spending_Value)}{\text{(SIZE(Cumulative_Streaming_quality_R\&D_Spending_Value[*; Content]) - 1)}}$		<p>\$</p>	<p>This gives an average of streaming quality with research and development value. This is the average of the market where we have the sum of cumulative streaming quality R&D spending value, divided on the market.</p>	
<p>average_welcome_offer_price[Company, Content]</p>	$\frac{\text{(SUM(Welcome_offer_price[*; Content]) - Welcome_offer_price)}{\text{(SIZE(Welcome_offer_price)}}$		<p>\$/customer</p>	<p>This is the average welcome price of the market. The whole market is added together to get the average price. This will give an indication of how much the service cost in the market.</p>	

	ce[*; Content]) - 1)				
Content_attra ctiveness_fact or[Company, Content]	SAFEDIV(C umulative_co ntent_Spendi ng_Value; average_cont ent_R&D_va lue; IF Cumulative_ content_Spen ding_Value > 0 THEN 5 ELSE 1)		dmnl		Here we can see the attractiveness of each company on content. This will affect the product quality by attribute. The more money spent, the bigger the chance of high product quality by attribute. The attributes will be decided compared to the market.
Content_R&D _relative_to_t arget[Compan y, Content]	SAFEDIV(C umulative_co ntent_Spendi ng_Value; target_R&D; 0)		dmnl		This is the targeted spending relative to the target R&D.
Content_R&D _spending[Co mpany, Content]	automated_c ontent_spend ing_gap/time _to_close_co ntent_spendi ng_gap		\$/month		This is the gap to close. This equation is made for the closing of spending gap. It will be divided by the time to close the spending gap.
Fixed_for_up graded_produ ct	IF Upgraded_pr oduct[Discov ery_plus]=1 THEN 0 ELSE 1		dmnl		This is a visibility button made for the ILE
initial_content _spending_val ue[Company, Content]	IF (Content = 1) THEN initial_curren t_release_R& D_in_million s[Company] * ,5 * 1000000 ELSE 0		\$		This is the initial spending on content. This is a sum of how much money that initially goes to creating content.
initial_current _release_R& D_in_millions [TV_2_Play]	130		\$		This is the initial R&D spendings

initial_current_release_R&D_in_millions [Discovery_plus]	125				
initial_current_release_R&D_in_millions [HBO]	175				
initial_current_release_R&D_in_millions [Netflix]	250				
marketing_attractiveness_factor[Company, Content]	SAFEDIV(actual_marketing_spending; average_competitor_market_spend; IF actual_marketing_spending > 0 THEN 5 ELSE 1)		dmnl		The marketing attractiveness factor is a number given from how attractive the marketing spending is in the market. This will give us a attractiveness factor given the marketing spending of you compared to the market.
marketing_spending[TV_2_Play, Current]	20000		\$/month		This is a fixed number for the player to change. The numbers of marketing is fixed to match the model. The purpose of marketing is to learn the user how changes in budget impact the earning, market share and the market mix.
marketing_spending[TV_2_Play, New_release]	20000				
marketing_spending[Discovery_plus, Current]	5000				
marketing_spending[Discovery_plus, New_release]	5000				

marketing_spending[HBO, Current]	10000				
marketing_spending[HBO, New_release]	10000				
marketing_spending[Netflix, Current]	12000				
marketing_spending[Netflix, New_release]	12000				
monthly_subscription attractiveness_factor[Company, Content]	SAFEDIV(average_monthly_subscription_price; monthly_subscription_price; IF average_monthly_subscription_price > 0 THEN 5 ELSE 1)		dmnl		This is a attractiveness factor. This will give the attractiveness of the subscription price. If the subscription price offer is a good offer to the customer, the attractiveness will influence the product quality.
monthly_subscription_price[TV_2_Play, Current]	11		\$/customer/month		This is the monthly subscription price. The prices are found at HBO.no, Netflix.no, Discoveryplus.no and tv2play.no. The user can change this variable as they please in the ILE.
monthly_subscription_price[TV_2_Play, New_release]	11				
monthly_subscription_price[Discovery_plus, Current]	8				
monthly_subscription_price[Discovery_pl	8				

us, New_release]					
monthly_subscription_price[HBO, Current]	8				
monthly_subscription_price[HBO, New_release]	8				
monthly_subscription_price[Netflix, Current]	12				
monthly_subscription_price[Netflix, New_release]	12				
player_Content_spending[Current]	0		\$/month	This is a fixed number. The user can change this variable as they please in the ILE. This will impact the whole system of content spending. The player is given the opportunity to change this number, and learn the differences in content quality on market.	
player_Content_spending[New_release]	260000				
player_streaming_R&D_spending[Current]	260000		\$/month	This is a fixed number. The user can change this variable as they please in the ILE. This will impact the whole system of streaming spending. The player is given the opportunity to change this number, and learn the differences in streaming quality on market.	
player_streaming_R&D_spending[New_release]	0				

player_upgraded_product	0		dmnl	This is the switch made for the user to upgrade the product in the ILE. Ones the product is upgraded, it cannot be taken back.	
previous_product_on_sale[Company, Content]	SMTH1(product_on_sale; DT; 0)		dmnl	This converter shows the previous product on sale.	D E L A Y C O N V E R T E R
product_on_sale[Company, Content]	IF (Content =1) THEN IF (Upgraded_product[Company] = 1 OR previous_product_on_sale [Company; New_release] = 1) THEN 0 ELSE 1 ELSE IF (Upgraded_product[Company] = 1) THEN 1 ELSE previous_product_on_sale		dmnl	This is a converter showing which product is on sale. This is important for the marketing spending. We need to market the product on sale, streaming quality and content spending.	
product_quality_by_attribute [TV_2_Play, Current, Streaming_Quality]	streaming_attractiveness_factor[TV_2_Play; Current]		dmnl	These are the equations of the attractiveness. Here I have made the attributes equation of attractiveness. This will give the attractiveness of each products given the attributes. This is a representation of the attractiveness.	

product_quality_by_attribute [TV_2_Play, Current, Content_Quality]	Content_attractiveness_factor[TV_2_Play; Current]				
product_quality_by_attribute [TV_2_Play, Current, Market_attractiveness]	marketing_attractiveness_factor[TV_2_Play; Current]				
product_quality_by_attribute [TV_2_Play, Current, Subscription_Price]	monthly_subscription_attractiveness_factor[TV_2_Play; Current]				
product_quality_by_attribute [TV_2_Play, Current, Market_desirability]	Welcome_offer_price_attractiveness_factor[TV_2_Play; Current]				
product_quality_by_attribute [TV_2_Play, New_release, Streaming_Quality]	streaming_attractiveness_factor[TV_2_Play; New_release]				
product_quality_by_attribute [TV_2_Play, New_release, Content_Quality]	Content_attractiveness_factor[TV_2_Play; New_release]				
product_quality_by_attribute [TV_2_Play, New_release, Market_attractiveness]	marketing_attractiveness_factor[TV_2_Play; New_release]				
product_quality_by_attribute [TV_2_Play,	monthly_subscription_attractiveness_fa				

New_release, Subscription_Price]	ctor[TV_2_Play; New_release]				
product_quality_by_attribute [TV_2_Play, New_release, Market_desirability]	Welcome_offer_price_attractiveness_factor[TV_2_Play; New_release]				
product_quality_by_attribute [Discovery_plus, Current, Streaming_Quality]	streaming_attractiveness_factor[Discovery_plus; Current]				
product_quality_by_attribute [Discovery_plus, Current, Content_Quality]	Content_attractiveness_factor[Discovery_plus; Current]				
product_quality_by_attribute [Discovery_plus, Current, Market_attractiveness]	marketing_attractiveness_factor[Discovery_plus; Current]				
product_quality_by_attribute [Discovery_plus, Current, Subscription_Price]	monthly_subscription_attractiveness_factor[Discovery_plus; Current]				
product_quality_by_attribute [Discovery_plus, Current, Market_desirability]	Welcome_offer_price_attractiveness_factor[Discovery_plus; Current]				
product_quality_by_attribute [Discovery_plus, New_release,	streaming_attractiveness_factor[Discovery_plus; New_release]				

Streaming_Qu ality]					
product_qualit y_by_attribute [Discovery_pl us, New_release, Content_Qual ity]	Content_attra ctiveness_fac tor[Discover y_plus; New_release]				
product_qualit y_by_attribute [Discovery_pl us, New_release, Market_attrac tiveness]	marketing_at tractiveness_ factor[Discov ery_plus; New_release]				
product_qualit y_by_attribute [Discovery_pl us, New_release, Subscription_ Price]	monthly_sub scription_attr activeness_fa ctor[Discover y_plus; New_release]				
product_qualit y_by_attribute [Discovery_pl us, New_release, Market_desira bility]	Welcome_off er_price_attr activeness_fa ctor[Discover y_plus; New_release]				
product_qualit y_by_attribute [HBO, Current, Streaming_Qu ality]	streaming_att ractiveness_f actor[HBO;C urrent]				
product_qualit y_by_attribute [HBO, Current, Content_Qual ity]	Content_attra ctiveness_fac tor[HBO;Cur rent]				
product_qualit y_by_attribute [HBO,	marketing_at tractiveness_				

Current, Market_attractiveness]	factor[HBO; Current]				
product_quality_by_attribute [HBO, Current, Subscription_Price]	monthly_subscription_attractiveness_factor[TV_2_Play;Current]				
product_quality_by_attribute [HBO, Current, Market_desirability]	Welcome_offer_price_attractiveness_factor[HBO;Current]				
product_quality_by_attribute [HBO, New_release, Streaming_Quality]	streaming_attractiveness_factor[HBO;New_release]				
product_quality_by_attribute [HBO, New_release, Content_Quality]	Content_attractiveness_factor[HBO;New_release]				
product_quality_by_attribute [HBO, New_release, Market_attractiveness]	marketing_attractiveness_factor[HBO;New_release]				
product_quality_by_attribute [HBO, New_release, Subscription_Price]	monthly_subscription_attractiveness_factor[HBO;New_release]				
product_quality_by_attribute [HBO, New_release, Market_desirability]	Welcome_offer_price_attractiveness_factor[HBO;New_release]				

product_quality_by_attribute [Netflix, Current, Streaming_Quality]	streaming_attractiveness_factor[Netflix; Current]				
product_quality_by_attribute [Netflix, Current, Content_Quality]	Content_attractiveness_factor[Netflix; Current]				
product_quality_by_attribute [Netflix, Current, Market_attractiveness]	marketing_attractiveness_factor[Netflix; Current]				
product_quality_by_attribute [Netflix, Current, Subscription_Price]	monthly_subscription_attractiveness_factor[Netflix; Current]				
product_quality_by_attribute [Netflix, Current, Market_desirability]	Welcome_offer_price_attractiveness_factor[Netflix; Current]				
product_quality_by_attribute [Netflix, New_release, Streaming_Quality]	streaming_attractiveness_factor[Netflix; New_release]				
product_quality_by_attribute [Netflix, New_release, Content_Quality]	Content_attractiveness_factor[Netflix; New_release]				
product_quality_by_attribute [Netflix,	marketing_attractiveness_factor[Netflix				

New_release, Market_attractiveness]	; New_release]				
product_quality_by_attribute [Netflix, New_release, Subscription_Price]	monthly_subscription_attractiveness_factor[Netflix; New_release]				
product_quality_by_attribute [Netflix, New_release, Market_desirability]	Welcome_off er_price_attractiveness_factor[Netflix; New_release]				
r&d_lifetime[Current]	48		months	This is the time our research and development is active. The research done now will eventually have little to no impact, and this is the time where it is relevant.	
r&d_lifetime[New_release]	120				
steady_state_on	0		dmnl		
streaming_attractiveness_factor[Company, Content]	SAFEDIV(Cumulative_Streaming_quality_R&D_Spending_Value; average_Streaming_quality_R&D_value; IF Cumulative_Streaming_quality_R&D_Spending_Value > 0 THEN 5 ELSE 1)		dmnl	Here we can see the attractiveness of each company on streaming. This will affect the product quality by attribute. The more money spent, the bigger the chance of high product quality by attribute. The attributes will be decided compared to the market.	
Streaming_quality_R&D_relative_to_target	SAFEDIV(Cumulative_Streaming_quality		dmnl	This is the targeted spending relative to the target R&D.	

et[Company, Content]	ity_R&D_Spending_Value; target_R&D;0)				
target_new_release_R&D_in_millions[Company]	initial_current_release_R&D_in_millions		\$	This is the targeted spending in R&D on the new release.	
target_R&D[Company, Content]	IF (Content = 1) THEN initial_current_release_R&D_in_millions[Company] * ,5 * 1000000 ELSE target_new_release_R&D_in_millions[Company] * ,5 * 1000000		\$	The target R&D is the target we have on spending. We want to spend the targeted amount of money on research and development. This target is determined by each company individually.	
time_to_close_content_spending_gap[TV_2_Play, Current]	4		months	This is a converter to delay the spending gap. This is so the decisions made is not constant, but a closing of gap. It takes x amount of time to close 67% of the gap.	
time_to_close_content_spending_gap[TV_2_Play, New_release]	20				
time_to_close_content_spending_gap[Discovery_plus, Current]	3				
time_to_close_content_spending_gap[Discovery_plus, New_release]	18				
time_to_close_content_spending_gap	2				

ding_gap[HB O, Current]				
time_to_close _content_spen ding_gap[HB O, New_release]	18			
time_to_close _content_spen ding_gap[Netf lix, Current]	2			
time_to_close _content_spen ding_gap[Netf lix, New_release]	16			
time_to_close _streaming_q uality_spendi ng_gap[TV_2 _Play, Current]	2		months	This is a converter to delay the spending gap. This is so the decisions made is not constant, but a closing of gap. It takes x amount of time to close 67% of the gap.
time_to_close _streaming_q uality_spendi ng_gap[TV_2 _Play, New_release]	20			
time_to_close _streaming_q uality_spendi ng_gap[Disco very_plus, Current]	3			
time_to_close _streaming_q uality_spendi ng_gap[Disco very_plus, New_release]	22			
time_to_close _streaming_q uality_spendi	3			

ng_gap[HBO, Current]					
time_to_close_streaming_quality_spendi ng_gap[HBO, New_release]	24				
time_to_close_streaming_quality_spendi ng_gap[Netfli x, Current]	4				
time_to_close_streaming_quality_spendi ng_gap[Netfli x, New_release]	24				
Upgraded_pro duct[Compan y]	IF (steady_state_on = 1) THEN 0 ELSE IF (Company = 2) THEN player_upgra ded_product ELSE automated_re lease_upgrad ed_product		dmnl	This if, then, else switch is made so the product is either upgraded by the player, or the automated product. This is made so the player can go live with their product. The whole model is made so Discovery Plus does not go live unless the player upgraded product is switched on. This is for the purpose of the ILE.	
Upgraded_pro duct_switch	DELAY(Fixe d_for_upgrad ed_product; 11; 0)		dmnl	This is a switch made for the ILE	
Welcome_off er_price[TV_2_Play, Current]	10		\$/customer	This is the welcome offer a new customer will get when he signs up for a streaming network. The prices are found at HBO.no, Netflix.no, Discoveryplus.no and tv2play.no. The user can change this variable as they please in the ILE.	

Welcome_offer_price[TV_2_Play, New_release]	10				
Welcome_offer_price[Discovery_plus, Current]	8				
Welcome_offer_price[Discovery_plus, New_release]	8				
Welcome_offer_price[HBO, Current]	5				
Welcome_offer_price[HBO, New_release]	5				
Welcome_offer_price[Netflix, Current]	8				
Welcome_offer_price[Netflix, New_release]	8				
Welcome_offer_price_attractiveness_factor[Company, Content]	SAFEDIV(average_welcome_offer_price; Welcome_offer_price; IF average_welcome_offer_price > 0 THEN 5 ELSE 1)		dmnl		This is a attractiveness factor. This will give the attractiveness of the welcome offer. If the welcome offer is a good offer to the customer, the attractiveness will influence the product quality.

Run Specs	
Start Time	0
Stop Time	96

DT	1/1
Fractional DT	True
Save Interval	1
Sim Duration	0
Time Units	Months
Pause Interval	0
Integration Method	Euler
Keep all variable results	True
Run By	Run
Calculate loop dominance information	False

Array Dimension	Indexed by	Elements
Attribute	Label (5)	Streaming_Quality Content_Quality Market_attractiveness Subscription_Price Market_desirability
Company	Label (4)	TV_2_Play Discovery_plus HBO Netflix
Content	Label (2)	Current New_release

Custom Unit	Aliases	Equation
Console		People

Appendix 2.

Reference group article. Source: Išoraitė, M. (2016). *MARKETING MIX THEORETICAL ASPECTS*; *International Journal of Research* (Vol. 4). *Granthaalayah*.

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Management

MARKETING MIX THEORETICAL ASPECTS

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ABSTRACT

Aim of article is to analyze marketing mix theoretical aspects. The article discusses that marketing mix is one of the main objectives of the marketing mix elements for setting objectives and marketing budget measures. The importance of each element depends not only on the company and its activities, but also on the competition and time. All marketing elements are interrelated and should be seen in the whole of their actions. Some items may have greater importance than others; it depends mainly on the company's strategy and its activities. Companies that provide services - the provision of services will be a key element. Article arises research questions is marketing mix create added value for enterprises. There are used scientific literature and analysis methods in article. An analysis of the scientific literature, it can be said that the marketing mix measures are the actions and measures necessary to achieve marketing goals. Marketing elements: product, price, place and promotion are used for marketing objectives. These instruments operate most efficiently when all the elements are combined and working together.

Keywords: marketing mix, price, product, place, promotion, advertisement, direct marketing.

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1. INTRODUCTION

The twenty-first century processes of globalization result in a significant change in all business environments. Companies have to change their usual practices. Nowadays, trading companies that seek to meet the needs of customers cannot rely on any previous job application techniques. Customers are becoming choosier; they are not sufficient for traditional marketing solutions. Users are encouraged to exchange a trading sector company, whereas its management has to adapt and to provide an updated marketing mix. Companies are facing high competition, so that to run a successful business activity in the trade sector, need to do the following: to expand the range of services, sell quality goods, to pay in order to satisfy the desires of buyers, and to reduce costs. It is also important to align and effectively use marketing mix elements and their actions in

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direction of market programming, is to decide upon the instruments and the strategy to meet the needs of the customers and the challenge of the competitors. It offers an optimum combination of all marketing ingredients so that companies can realise goals for example profit, sales volume, market share, return on investment etc. The marketing mix is grouped under four elements i.e., Product, Price, Place, Promotion.

Therefore, while satisfying the needs of consumers, the company makes decisions related to the product, its price, distribution / place and promotion, and the four of the group is considered to be the key marketing mix elements also called - "4P" marketing mix (see. Fig.1) (Gronholm (2012)).

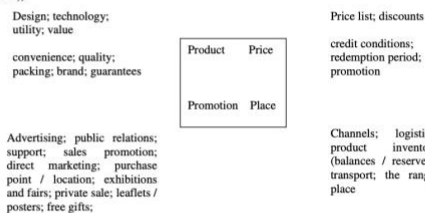


Figure 1: "4P" marketing mix elements (Gronholm (2012))

These main marketing mix elements that work in isolation are supplemented by scientific literature and some authors with these additional elements: people, process, and physical evidence. In scientific literature this addition to the complex is called "7P" marketing complex. The planning of marketing activities can be used in all the marketing mix elements.

3. PRODUCT

Product is defined as a physical product or service to the consumer for which he is willing to pay. It includes half of the material goods, such as furniture, clothing and grocery items and intangible products, such as services, which users buy (Singh (2016)).

Dang (2015) emphasizes that the product is the first and one of the key marketing elements. Author cit. Kotler and Armstrong emphasizes that the product: "is what can be offered to the market, to get attention, to be the acquisition of used or used, and can satisfy the wants or needs." In fact, it was observed that in most cases the literature is dominated by a narrow "product" concept of perception, so in order to better understand the nature of the product see Figure 2, which shows a wider perception.

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order to achieve effectiveness. Effective marketing mix management enables marketers to create a combination of elements that will enable wisely manage the company's budget in order to achieve the desired objectives. Companies that strive to operate effectively and achieve their goals have to pay well to control all elements of the marketing mix. In order to achieve the best result it is not enough to use only one or a few elements. The formation of the marketing mix elements requires taking into account the characteristics of each element so that they could be aligned. The non-alignment of the above-mentioned elements of interaction might be the company's shortcomings. Marketing mix analyzes authors like Pruskus (2015), Rad. Akbari (2014), Rahnama, Beiki (2013), Ria (2011), Sereikiėnė-Bromaitė (2013), Singh (2012) and others.

2. THE CONCEPT OF MARKETING MIX

Marketing mix means the product, distribution, promotion and pricing strategies to produce and carry out exchanges and achieve the target markets. "Marketing mix - interrelated actions and solutions to meet consumer needs and to achieve the company's marketing goals, a whole" (Sereikiėnė-Bromaitė (2013)). "Marketing mix - a set of relevant factors and solutions that enable customers to meet the (national) needs and achieve the goals set by the company (Pruskus (2015)). According to Singh (2016), marketing is a complex range of marketing mix solution variables used in the company seeking to sell their goods and services.

Table 1: Definition of marketing mix

Author	Definition
Goi (2009)	Marketing mix is originating from the single P (price) of microeconomic theory (Chong, 2003). McCarthy (1964) offered the "marketing mix", often referred to as the "4Ps", as a means of translating marketing planning into practice (Bennett, 1997). Marketing mix is not a scientific theory, but merely a conceptual framework that identifies the principal decision making managers make in configuring their offerings to suit consumers' needs. The tools can be used to develop both long-term strategies and short-term tactical programmes (Palmer, 2004).
Riaz (2011)	Marketing mix is defined as set of controllable marketing tools that a company uses to create a desired response in the targeted market. (Set of these tools is generally referred to as 4P's of Marketing, being Product, Price, Promotion and Place).
Rad, Akbari (2014)	Marketing mix is a controllable part of marketing tools that affects the demand and increases it (Jonathan Ivy, 2008: 298). By the compound, mix, or a combination, it is meant that the four ps (product, price, promotion, place) should have an established and coordinated systematic approach in order to have effective influence on persuading the customers. In other words, the right product at affordable prices is accompanied by better distribution and use of appropriate communication techniques and they act together in customers' views.
Singh (2012)	Marketing mix is the combination of different marketing decision variables being used by the firm to market its goods and services. After identifying the market and gathering the basic information about it, the next step is the

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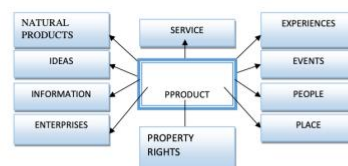


Figure 2: Product wider perception (Strazdas (2011))

Thus, the product concept is very broad and includes not only natural products and services, but also the experience, people, places, property rights, businesses or organizations, information and ideas.

Uznieėnė (2011) emphasizes that all products on the market have a life cycle (PGC) - selling of goods or services, and making profit during its life time (see Fig. 3).

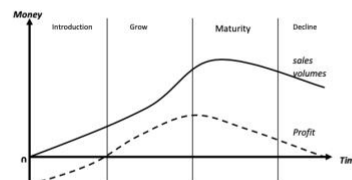


Figure 3: Product / service life cycle stage

Therefore, it is divided into these PGC (product life cycle) phases (Uznieėnė (2011)):

- 1) Product development, which begins when a business finds a new product idea and begins to implement it, the sales revenue of which in the course of its development is zero, and investment costs are high;
- 2) Placing on the market, the sales revenue begins to rise slowly, but it lacks profitability, because the product marketing costs are still high;
- 3) Growth, during this period the market is encouraged by the product and the profits start to rise;

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- 4) Maturity, in this period, sales revenue growth decreases, because the majority of potential buyers choose alternative products or due to the increasing marketing expenses in order to protect the product from its competitors;
- 5) Decline, the stage when sales revenues and profits begin to decrease.

However, in order to further expand the product awareness, Thrush (2011) proposes to assess these three points of view:

- Customer Satisfaction approach;
- The materiality of importance in terms of;
- The process and outcome perspective.

Thus, the real benefits - the main reason why a consumer buys a product, which shows the basic benefits of the product to the consumer. The main product - this is the minimum characteristics of the product, which requires that the user can receive substantial benefits. The expected product includes the following features of the product, which the user expects to get out of it, and this covers the user's expectations. A supplemented by product - this is a product that surpasses the expectations of the average user, and can be supplemented with new properties or the improved existing ones. It depends on many factors: the chosen marketing strategy targeted segment features competing product characteristics, product technical feasibility, the available amount of resources, etc. The potential of the product can transcend not only the smallest but also the largest expectations of a contemporary user and have properties, which may surprise the user (Thrush (2011)).

The products are also classified (Uznień (2011)):

- Consumer product - it (toothpaste, bread, newspapers, clothes, household appliances, etc. The product they purchase for their personal use and these products are still divided into minimum, valuable, exclusive and unmarketable (not intended to search);
- Necessary product - a product that the consumer buys frequently and almost immediately without comparing it to other products of the same type;
- Valuable product - more Consumer-oriented product, which the consumer usually compares to others, considers its suitability; the quality, price and style;
- Exclusive product - is Consumer product that has unique characteristics or is distinguished by its brand, which is bought by a large group of customers;
- Transgressed (not intended to search) the product (blood donation, life insurance) - Consumer is a product which a user does not know, and if he knows he has no intention to buy it.

Meanwhile, the product range covers all goods family, class types, brands and units, which the seller offers to the buyer. The range - it's the company's goods group/whole offered to the consumer, which are similar not only in their features, but are also grouped according to certain characteristics, and focused on the users' needs. Where the range width of products offered number of groups, and shows the depth of one product group in the number of goods. The range can be characterized on the basis of not only the depth (deep range), N (width), but also alignment and saturation.

marketing element, on which income and all other elements are related to the cost. Thus, price is one of the factors affecting the consumer, because it helps him to understand the value of the product. Also, the price can be specified as an actual or valuable, giving value, and the price of companies to identify their products or services in the role as the regulation of its marketability (Owomoyela, Olanuskanni, Oyenyi (2013)).

Singh (2016) highlights that a very important factor in determining prices is influenced by the cost of the product, marketing strategy and costs associated with the distribution, advertising costs or price changes in the nature of the market.

Pricing is dependent on volume of marketed production, so there is always an inverse relationship - the higher the price, the sales decline. Therefore, setting your product price can be complicated and it is therefore possible to use the following measures:

- Cost-plus - are accompanied by a standard percentage of profits to the future costs to manufacture the product, e.g., the evaluation of the fixed and variable costs;
- Value basis - some are based on the buyer's perception of value (rather than its cost). Here, the buyer's perception depends on all aspects of the product, including the price of factors such as the quality of the image and prestige;
- The competition - which relies on other companies competing products prices. Here, the company's prices compare the prices of their competitors and thus can directly monitor their competitors and price response to changes occurring in the market. Because otherwise, customers can select other vendors on the basis of proposals submitted;
- Input Size - When entering a market is established a joint product price. Then, most companies have to cut down or too not to increase prices in order to keep control of the market;
- Discount - which is based on advertising, helps reduce prices and thus can attract new customers and expand the market share;
- Unprofitable guide - which is based on the assumption that the sale takes place at a price lower than the cost of production in order to attract customers to the store to buy other products;
- Psychological - which has an impact on consumer behaviour, such as a price that looks better: 4.99 \$ per pound instead of \$ 5.00 per pound.

In summary, it can be said that the price is one of the factors affecting the consumer, because it helps him to understand the value of the product. Therefore, the cost should include the following in terms of money that will give value for the consumer willing to pay. Price is the only element of the marketing for the income and all other elements are related to the cost. Its level depends on the volume of marketed production, so there is always an inverse relationship: the higher the price, the sales decline.

5. PLACE

Another very important element of marketing is a place that is also called the distribution, which is defined as the process and methods by which products or services reach customers (by Martin (2014)).

The analysis of the scientific literature revealed that the product is associated with the service. The same services as compared to the product / product have different characteristics, namely:

- Intangibility - intangible traits, which have many items, but the service can be considered as a product only when this feature is dominated by the tactile qualities. As such, the result - in addition to visual expression can customer awareness;
- Non-accumulation - in which many services are projected at the same time as granted and must not be prepared in advance and stored. This raises labor allocation problems, such as seasonality;
- Non-severability - since services production and consumption are closely related, so they cannot be separated and have no severed features. As such, it cannot tell the customer where there is none;
- Heterogeneity - this is when the service is nothing other than the service provider and the recipient interaction, which may be granted not to every user similarly, for example, a television program about the increased taxes can be understood by each individual and focused on the perception about heavier tax burdens on others that helps assess the country's budget collection (Sereikiene-Abromaityte (2013)).

In summary, the product concept is very broad and includes not only natural products and services, but also the experience, people, places, property rights, businesses or organizations, information and ideas. Perception through the user needs of the approach includes 5 product levels: the real benefits, the main product, expected product, added to the product, the potential of the product. Furthermore, the products are classified according to the objects of consumption products, which is still divided into minimum, valuable, exclusive and unmarketable (not intended to search).

4. PRICE

Price is one of the most important marketing mix items and many scientists consider the price as one of the most important elements of the market, which increases not only profits, but also market share. However, the price is not only one of the key factors in a competitive situation, which directly affects the company's sales and profitability indicators, but also one of the most flexible marketing mix elements, which can quickly adapt to environmental changes. Therefore, it is the price is perceived as the only element of the marketing mix, generating revenue and the most important customer satisfaction and loyalty factor.

With respect to prices, as one of the marketing mix elements observed in the scientific literature, there are different rates of conceptions and interpretations of the definition, for example:

The price includes a fair assessment of the product, e.g., a good price for a good product (Ehmke, Filten, Lask (2016)). Kotler and Armstrong, the price is defined as the amount of money to pay for a product or service, or the value of the exchange help customers receive a product or service for a certain amount. "Thus, the direct cost of the period is the amount of money the buyer has to pay for the product or service that is likely to buy it. "The price may also be defined as a monetary expression of value for the consumer agrees to pay" (Entrepreneurship Academy (2012)). The price is the amount that the consumer must pay, that would involve exchanges, so the price of the product depends on the different elements of change. The price is the only

Uznień (2011) states that "distribution - companies' products in the dissemination of measures to ensure the identification and implementation. Distribution - that helps customers and users to find and keep purchase those products from those manufacturers / providers with them at the time of need. " "Distribution - this element of the marketing mix, which includes decisions and actions related to the movement of goods from the producer to the consumer" (Matola (2009)).

Thus, the distribution may become a functioning complex system where producers, brokers and independent trade and the interests of consumers wholly compatible with each other in a certain environment and a certain time.

Uznień (2011) argues that marketing distribution function is twofold:

- Distribution perceived as a marketing channel, whose purpose - to make the service become not only more accessible but also easier accessible to a friendly user;
- Physical distribution, which is attributed to local conditions, technical feasibility, transportation and other conditions, depending on the nature of the service.

The distribution channel is defined as an integral part of the service, which involves the service provider, intermediaries (agents) and the same service user (in most cases). Therefore, in order to control and manage these processes, companies need to develop an appropriate marketing channel, to coincide with the company's goals (Dang (2015)). Uznień (2011) argues that for the creation of the distribution chain, it is necessary to:

- analyze consumer needs;
- determine the distribution chain objectives and possible obstacles to achieve them;
- identify the key distribution chain alternatives;
- assess these alternatives.

The analysis of the scientific literature revealed that there are different ways by which companies can choose to provide products and services customers. Among them are usually assigned two typical distribution channels, the direct and indirect marketing channels (Dang 2015)).

Thus, this channel directly from the producer provides a product or service to the consumer. Direct distribution of goods can take place in two forms, namely: through its own sales branches and employees and through independent brokers who operate in accordance with the production company's directions (through dealers, brokers (brokers), commissioner).

Meanwhile, the indirect distribution channel includes brokers, in this regard; any producer company sells its goods wholesalers, the retailer and as products reach consumers. This can increase the cost of products, because each agent will receive a percentage of their profits.

In summary, the distribution - it is marketing mix elements, which include decisions and actions related to the movement of goods from producer to consumer. The distribution channel is defined as integral part of the service, which involves the service provider, intermediaries (agents) and the same service user (in most cases).

6. PROMOTION

The last 4P marketing complex element of the promotion, which helps to increase consumer awareness in terms of their products, leads to higher sales and helps to build brand loyalty. Thus, the promotion of the marketing mix is a tool that helps disseminate information, encourage the purchase and affects the purchase decision process.

Sponsorship is the most important consumer sales promotion tool that includes discounts and promotions, as well as coupons, samples, refunds, bonuses, awards, contests and product demonstrations, and to say what motivates consumers to buy. "Sponsorship - is an activity that makes the target customers aware of a product or service and their advantages and is convincing to buy the product (Kotler, Armstrong, Saunders, Wong). Sponsorship - this element of the marketing mix, covering decisions and actions provided for groups of people that are informed and encouraged to buy (Pranulis, Pajodis, Urbonavicius, Virvilaitė (2012)). However, in order to understand what is the promotion is, it is necessary to consider the complex elements provided in the scientific literature, such as advertising, sales promotion, personal selling, public relations and direct marketing.

Advertisement, The word banner is derived from the French Reclams (Lat. RECLAMA - "screaming") and has two lexical meanings:

- 1) it is the dissemination of information about goods (books, sanatoriums, excursions and so on.);
- 2) it is an advertisement, poster, display, message through radio, television and so on.

Advertising - by far the most widely used marketing tool, the core of which consists of a pragmatic valuable social information associated with the advertising image and is focused on the direct compelling or fascinating hidden, but a pragmatic directional communication with the audience. Advertising is any form of information and the promotion of a set of ideas that helps to inform customers about new products and helps to reduce barriers between customers and organizations (Rahnama, Baker (2013)).

Sales promotion- Sales promotion is attributed to the actions and decisions which provide specific short-term measures, but to encourage the purchase, use, as well as by facilitating the purchase of goods and can be directed to the end user or intermediary. This promotional tool used by a consumer or buyer provocation - to buy more and faster. Inducements include coupons, prizes, free samples, discounts, promotional items, etc.

Thus, sales practices may be directed to:

- User (samples, coupons, bonuses, prizes, guarantees);
- traders (including price reductions, promotional allowances and free products);
- corporate sales personnel (sales exhibitions, sales representatives contests and special promotion)

Matola (2009) argues that, despite the measures to promote diversity, they can be grouped as follows:

- organization of competitions between the dealers and the buyers, the awarding of prizes;

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- increasing public interest, taking into account the interests and needs;
- develop and maintain communication and cooperation with the public;
- gain understanding and approval of the organization's activities;
- organizations expressing interest, delivery and adjustment;
- operation of public opinion;
- conflict resolution and negotiation;
- consensus, harmony of creation.

Matola (2009) emphasizes that communication with the public is important for both internal and external communications. Internal communications, spreading further affect the company employees' opinion about their firm and production, because each worker transmits the information for many people with whom he interacts. And, external public relations, helping to shape public opinion by external means, namely: promotion (primarily various events, actions, charitable activities), relationships with influential people, relations with the press, press conferences, contacts with various organizations, fund establishment (e.g., fund children's abilities to develop).

Thus, public relations activities can help achieve the objectives related to the company's reputation and confidence in the market, but the company needs to anticipate and to choose the appropriate means of communication, namely:

- Promotion (propaganda) - is a free information about business products, services or dissemination in the media - reached a short-term effect. Promotion measures groups include: newsletters, feature articles, press conferences, authoritative views of those delivery;
- Exhibitions and fairs. Fair - In certain locations periodically organized an event in which the participants, the various business areas of the company, offering potential users of their products or services. The exhibition- is can be defined as an event which aims to show the public and specialists familiar with their business achievements and new ideas;
- Advertisement "word of mouth" - this is where information about the company passed through the business staff, customers and so on., Without the use of the media or other outsiders communication channels;
- Event Marketing - this is a purposeful and impressive product, service and / or company presentation in a particular event, corporate promotion;
- Indirect demonstration - is "unintentional" company goods, services Showing films, theatre and television broadcasting.

Direct marketing- Direct marketing involves direct communication between the client and manufacturer. Direct marketing features include: direct communication, interactivity, traditional direct marketing, taking place in the media. Thus, in one case the user's reaction to the buying process takes place immediately (suggested liked, buy), and in another case - the registration, the product is tested, questions are asked, the communication process is completed to the acquisition of goods or services. The authors distinguish the main forms of direct marketing:

- personal selling;
- mailbox;
- the phone;

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- product demonstration shelves;
- sending the samples free of charge;
- coupons guaranteeing price discount for buying a product, use;
- gifts buy other goods in the same company;
- discounts to wholesalers;
- selling price reduction.

Sales incentives in store include: visual (score board in the store or screens are used not only as an advertising display products, but lotteries, contests the place and also - product layouts, boxes lotteries and the like.); product presentations and demonstrations - is a new delivery of goods in the store, where customers not only discover but also to test the goods; games and sweepstakes, coupons - which aims to attract buyers through positive emotions), and discounts and rebates (the most common promotional tool, in which users are particularly interested. Meanwhile, sales promotion measures outside the shop at the store includes distributed coupons (mailboxes, newspapers or magazines, on the streets) and loyalty schemes (buyers events, customer cards, buyers clubs, excursions, etc.).

Private sale- Private sale - it is a personal communication to convince a potential buyer to purchase the proposed product or service. This is the most expensive form of sponsorship, because it includes a contact with one person rather than with a broad audience, but this measure generally has a decisive influence on the buyer's decision. Private sale - it is the interaction between the buyer and seller.

Marketing researchers such as Pajodis, Albrechtas, and others identify the following key personal sales targets:

- to inform potential buyers of the supply;
- to establish and maintain the relationship with customers;
- to cause interest of buyers for their offers;
- to make the buyer positively assess the proposed goods and services;
- the need to awaken the hidden;
- to help customers solve problems;
- award the sale.

The following basic types of private sales are discerned: retail sales (supermarkets, drugstores and other shops); missionary sale (doctors, dispensing medications); retail sales (end-users); business-to-business sales (production, operations); professional selling (opinion leaders, sponsors).

Public relations- Public relations involve communication between the organization and the management of society and affects behaviour. Public relations (PR), it is - to support the complex element that helps to maintain good relations with the public, and the contact points of the classrooms with a positive corporate image of the company, owned by unfavourable rumours, gossip and incidents.

Dambava (2013) distinguishes the following main objectives of RSV, which is necessary to implement the sales:

- develop and enhance the credibility and acceptance of the organization;

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- catalogs;
- interactive television;
- internet marketing.

Thus, the discussion of the promotion mix elements, another important aspect - is to understand the strategy for the promotion, which is made by selecting a number of ways of supporting and combinations thereof. There are distinguished four support strategies, which are designed for the product, which is precisely the market introduction stage:

- Quick-skimming strategy - which provides a high price and high support costs, and the company aims to get the maximum profit from the sale of a unit;
- Slow skimming strategy - which provides a high price and low support costs. It is a strategy that is effective when consumers are informed about the product and they are not afraid of the high price;
- Rapid penetration strategy - which provides low commodity prices and high support costs, but however, it is effective when consumers are badly informed about the product, price sensitivity and the competition or market is quite capacious;
- Slow penetration strategy - which provides a low cost and low support costs. It is used when the market is capacious and it dominates the competition, to it informs users about the product, who do not agree to pay a lot for it.

Despite all of these strategies for a new product to enter the market, regardless of whether the product is new at the global level or whether it is new in a particular market segment, the main thing is that the user does not have or have very little information about the product, and probably has not heard about it.

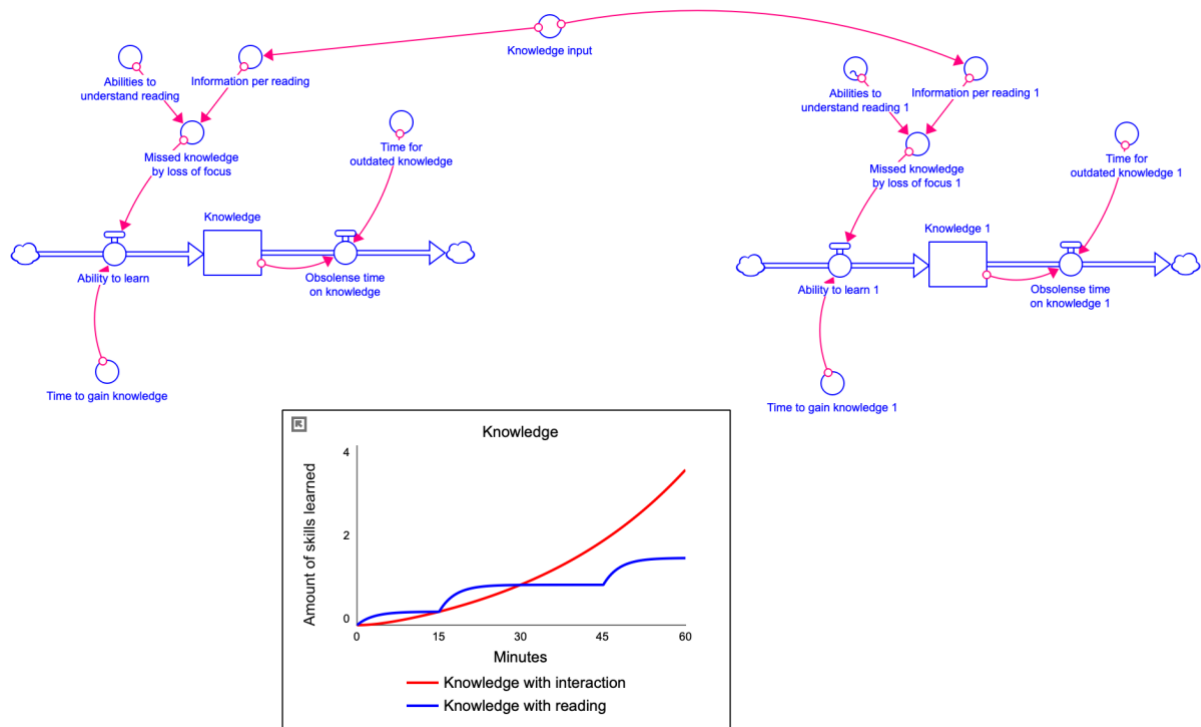
In summary it can be said that sponsorship helps to increase consumer awareness and helps build brand loyalty. Thus, the promotion of the marketing mix is a tool that helps disseminate information, encourage the purchase and has an impact on the decision to buy. Supporter complex includes 5 elements, namely: advertising, sales promotion, personal selling, public relations and direct marketing.

7. CONCLUSIONS

Marketing mix - certain actions and decisions aimed at the company's goals and meeting the customer needs. In these modern times, the company operates in a constantly changing environment. In order to successfully set up and remain profitable it is necessary to provide services that can meet the needs of customers. To this end, the marketing experts who are constantly monitoring the environment and its changes can properly respond and adapt to them. Businesses are very important for users, whose desires should be satisfied. Satisfaction is implemented in decisions and actions related to the 4p complex elements. This complex is composed of the company's variable. The product - is a marketing element, covering decisions and actions related to the sale of property development or change. Price - element of the marketing mix, covering decisions and actions related to pricing and variation. Distribution - this element of the marketing mix, which includes decisions and actions related to the movement of goods from producer to consumer. Sponsorship - actions and decisions in order to create a smoother relationship between the supplier and the end user.

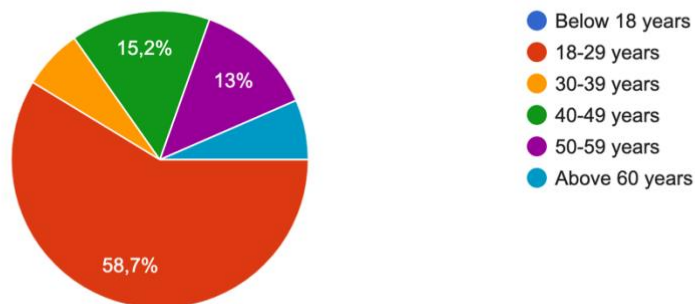
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Appendix 3.
Hypothesis model.



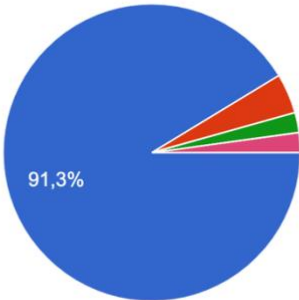
Appendix 4.
Survey answer's part 1.

How old are you?
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Where are you from?

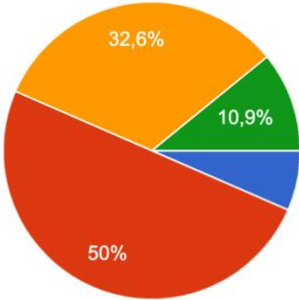
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- Scandinavia
- Rest of Europe (without Scandinavia)
- Africa
- Asia
- Oceania
- North America
- Central America
- South America

Educational level

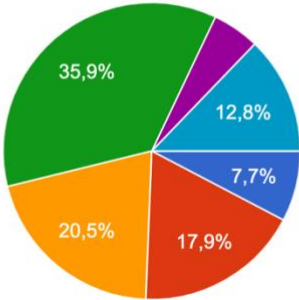
46 svar



- Less than high-school
- High-school diploma
- Bachelor's degree
- Master's degree
- More than master's

What is your income (optional)

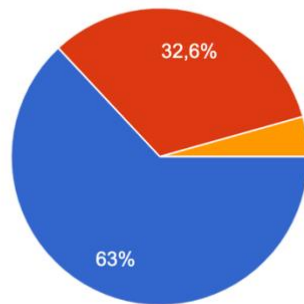
39 svar



- Below 10.000 Dollars per year
- 10.001-30.000 Dollars per year
- 30.001-50.000 Dollars per year
- 50.001- 70.000 Dollars per year
- 70.001-100.000 Dollars per year
- Above 100.001 Dollars per year

What is the purpose of promotion?

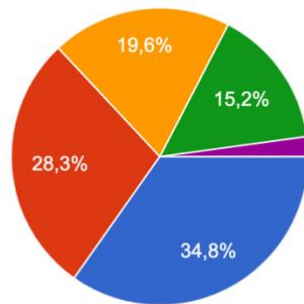
46 svar



- To help to increase consumer awareness in terms of their products, leads to higher sales and helps to build...
- To increase knowledge about the product, higher sales rate and power...
- To help people use the product, increase sales and undermine the competition.
- To show power, money and control over the market.
- Do not want to answer.

What is the most important strategy with pricing?

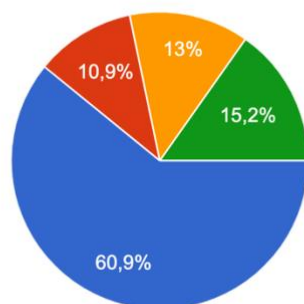
46 svar



- Revenue, position the product and generate market share.
- Sell more products, build brand loyalty and position the product.
- Revenue, build brand loyalty and increase customer awareness.
- Generate market share, increase customer awareness and decrease cost price.
- Do not want to answer.

Why is distribution (place) a part of the marketing mix?

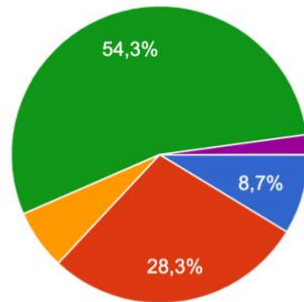
46 svar



- Because it makes the product more accessible, and more visible.
- Because it sends the product to the stores.
- Because it have an impact on the pricing strategy.
- Because it makes the product sellable and valuable.
- Do not want to answer.

What is the purpose of a good distribution chain?

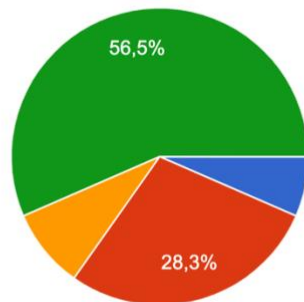
46 svar



- Analyze customer needs.
- Determine the distribution chain objectives and possible obstacles to achieve them.
- Identify the key distribution chain alternatives.
- All of the above.
- Do not want to answer.

What are the products most important factors in marketing?

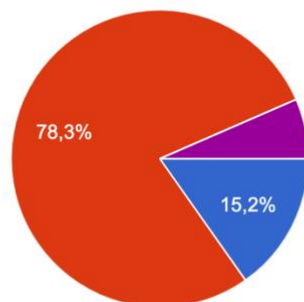
46 svar



- Make a brand name.
- Create attention and satisfy needs and wants.
- Increase sales and revenue.
- All of the above.
- Do not want to answer.

Does an increase in sales make more revenue?

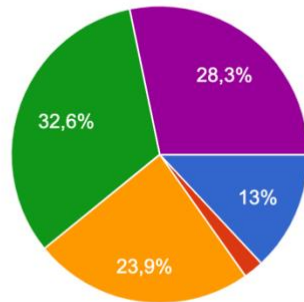
46 svar



- Yes.
- Not necessarily.
- Not at all.
- Do not want to answer.
- Not necessary.

How do you generate income in a monthly subscription price model?

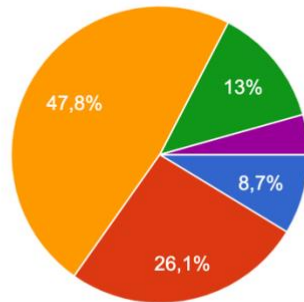
46 svar



- (Market*market share*subscription fee)
- (Market share*market)
- Income- expenses
- ((Market share*subscription fee)/ market)- expenses
- Do not want to answer.

Which effect does spending have on promotion?

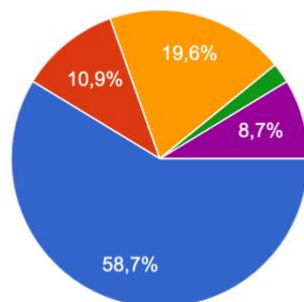
46 svar



- You will get more customers, higher income and build relationships.
- You will build loyalty, increase customer clusters and get more distribution.
- You will get more visible, available and possibility of higher income.
- All of the above.
- Do not want to answer.

How is the product life cycle when you launch an updated product?

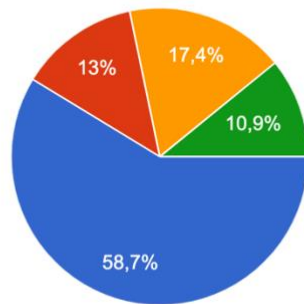
46 svar



- It is similar, but the growth is faster as the product is already promoted and well known.
- It looks just like the product life cycle.
- The updated product takes longer before it earns a profit because it has competition from the first release.
- The product life cycle does not apply to a updated product
- Do not want to answer.

What happen if you increase the budget on marketing and lower the price of the product?

46 svar



- You get more visible and sell more product but not necessary earn more money.
- You get more visible and sell more product which leads to a higher profits.
- You get more customers, which increase the sales and profits.
- You get more loyal customers which over time gives higher income
- Do not want to answer.

Explain the market mix with maximum 250 words:

24 svar

The way you divide spending and activities between different communication channels in order to reach your goals in regards to sales, awareness and earnings

Tiltak bedriften gjør for å bygge et marked for produktet

4xP

No

A mix between product, marketing and price.

I think it's how companies thinks about price, costs and marketing strategies?

Skape en følelse av behov, definere målgruppen, definere hvilke sosiale plattformer, tv program (event kanaler), aviser/magasiner målgruppen bruker, rette reklamen inn på de mest brukte plattformer som benyttes av definert målgruppe.

It is the mix of the things in the stores

Explain the market mix with maximum 250 words:

24 svar

The market mix is the different activities you do in your paid or unpaid marketing activities.

Er dette en prøve?

A marketing mix includes multiple areas of focus as part of a comprehensive marketing plan. The term often refers to a common classification that began as the four Ps: product, price, placement, and promotion.

??

The market mix is the foundation of several factors in the business model. Essentially necessary tools for a company that are selling products.

Market Mix. Er når en tilpasser market, sjekker hva forbruker trenger og markedsfører seg etter hva analysen sier.

Our market is competes within mid range and high end products, our costumer are more concerned with quality and trends than price

Explain the market mix with maximum 250 words:

24 svar

Not sure if I know what the market mix is

Different ways to expose your product to the market, like commercials, stands, business meetings etc.

I think it may be relevant to chain of marketing. So, it could include all elements from supply to demand that are relevant to the market.

The marketing strategy of the product based on the place, price, promotion and product

Price, product, placement, promotion. In the marketing mix these four factors have to be considered for a product's/service's marketing activities and for each of them a specific strategy has to be defined that ideally is in line with the others

?

Forstår ikke helt spørsmålet..

I do not know what market mix is.

Im not really sure what this means. But if I had to guess, its the preliminary survey of the market and how to predict/maximise on product launching or product promotion.

What is the importance of renewing a product?

30 svar

Be more relevant to attend to customer needs and to keep a competitive edge towards your competitors.

Henge med i nyere teknologi(?) gir kunden følelsen av at produktet er bedre(?)

More sale of the product

Taking your costumers critics and put it into the new one for satisfaction

To prolong the lifetime of the product,

The product gets longer lifetime

To be better than the last one

to stay relevant for the customers

Følge med utviklingen i markedet og konkurrentene. Utdaterte produkter vil ingen kjøpe. Se f.eks hva som skjedde med Nokia når Apple kom på markedet.

What is the importance of renewing a product?

30 svar

Beholde, eller helst øke, markedsandelen

To make it better

The sale of the produkt increase.

Keep your Brand and your product attractive to your customers to outperform competition to keep growing your business.

Improvmnts over competing produkts, new intrst in the product from consumers,

The reason renewals are so valuable is because they increase the possibility that your existing clients will take on new products from you, thus increasing their long-term value as a customer.

Getting owners of the old product to spend more money on a new product

??

What is the importance of renewing a product?

30 svar

As you may build a loyal customer base around one product, it can always be improved. Whilst renewing a product you can improve the flaws of the old product, able to make it more efficient/usable in certain areas. You may have made production cheaper or found other ways to make it more cost-efficient. You may not have reached all targeted customers due to lack of accessibility the product provides. All in all - a renewal of a product is often healthy in form of meeting the increasing demands of users and to match competitors, but the improvement needs to be noticeable.

Hvis produktet fungerer bedre eller en kan få en tryggere produksjon av produktet er fornying viktig. Hvis en gjennom fornying kan nå nye kunder er fornying viktig

Since our market (fashion) is a very rapid changing business, the products must be renewed continuously.

Happier customers

So that it may stay competitive in the market

First, because of market saturation. Second, to be able to compete with others so that we can have a share from market.

What is the importance of renewing a product?

30 svar

Allow to refresh the product and gives a new boost to the product. Can reach new profile of consumer

Not losing track to competitors and staying relevant in the market

Have a product on the market with recent technology and features

Man selger mer da forbrukerne ofte leter etter en litt bedre versjon av de fleste produktene. Produktet holder seg lenger på markedet da det blir økt markedsføring av produktet.

If renewing means launching an updated product based on customer feedback to improve flaws in the product, improving performance or increasing ease of use you will establish yourself as a company that listens to customers, takes feedback seriously, and you will end up with a better product

Keep up with market competition, and be able to maintain customers.

Being relevant in the market. Show precense and create excitement. By renewing a product it is assumed this product will be better by consumers.

What happen if you do not want to renew your product?

31 svar

Sales might go down as the product no longer is as relevant.

Faller bak på resten av markedet.

Sales are going down

People will forget about your product and stop buying

It will probably disapare from the market.

The sale will decrease

You will probably be outdated and people will find other products instead

Se over, ref Nokia

Et godt produkt vil få konkurranse, fordi flere vil nyte godt av profitten. Nye lignende produkter, vil da kunne seile forbi. og ta markedsandeler.

What happen if you do not want to renew your product?

31 svar

It gets old, less people are bying it

You sell less

Over time your product will be in danger of getting outdated and outperformed by competitors.

Competing brands may get an advantage. Your product may become «old» and uninteresting, does not provide the requierments of the market, regulations and consumers.

If yoy do not renew your products you can eesely fall back in time.

With lack of innovation, causes can be devastating and cause an end to the business. (nokia, polloroid and so on)

People stop buying it and you wont get any sales

??

What happen if you do not want to renew your product?

31 svar

If a product is not renewed, the user-base will slowly fall. The user will find a better product for the same price, maybe a bit higher too if it makes up for the upgrade. As you may find ways to make it more and more cost-efficient, there are competitors which will make products that are more suited to customers demands. Surely, it depends whether it is a streaming service, a technological device or a whisk for your cooking.

Noen produkter kan en ikke endre. Merket er så godt i seg selv. Andre må oppgradere for å selge. Eksempel pundet første er Freia Melkesjokolade, mens et dataspill må en fornye formå skape et nytt behov av bruker

You die

Customers get tired of product and find another that is better

You can get left behind in technology /features /costs etc. Your opposition will eventually offer a better product

Then a gradual decrease (decreasing decreasingly) in market share will occur.

What happen if you do not want to renew your product?

31 svar

Kunder ønsker alltid endringer og endringer skaper nysgjerrighet, som gjør at kunder undersøker nye produkter.

Risk of losing market share except if your product is a cash cow

You might lose market share if your product becomes unattractive relative to competitor's

Competitors with newer technology and features takes over your sales/income

Ofte blir programvaren tregere, da det ikke går an å oppdatere flere ganger, for eksempel iphone

You risk letting competitors into the market, losing relevancy and in turn market share

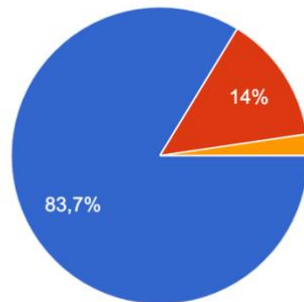
You might lose customers, and possible future customers.

I would assume this depends on the product. Considering that its a product that is widely popular (ex. Chanel No.5) the product will need regular promotion to keep consumers interested. A less popular product would be harder to keep relevant, and without any renewal, I would assume would need more extensive promotion to keep in the market

Appendix 5.
Survey part 2.

What is the purpose of promotion?

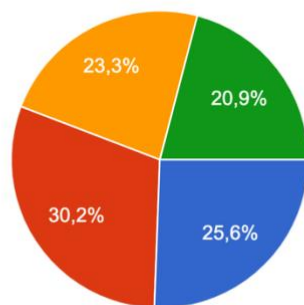
43 svar



- To help to increase consumer awareness in terms of their products, leads to higher sales and helps to build...
- To increase knowledge about the product, higher sales rate and power...
- To help people use the product, increase sales and undermine the competition.
- To show power, money and control over the market.
- Do not want to answer.

What is the most important strategy with pricing?

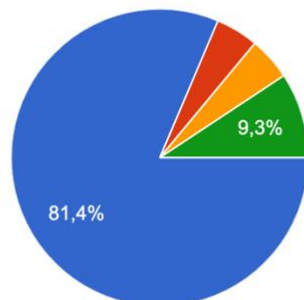
43 svar



- Revenue, position the product and generate market share.
- Sell more products, build brand loyalty and position the product.
- Revenue, build brand loyalty and increase customer awareness.
- Generate market share, increase customer awareness and decrease cost price.
- Do not want to answer.

Why is distribution (place) a part of the marketing mix?

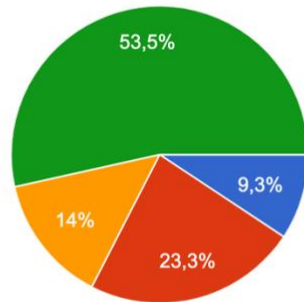
43 svar



- Because it makes the product more accessible, and more visible.
- Because it sends the product to the stores.
- Because it have an impact on the pricing strategy.
- Because it makes the product sellable and valuable.
- Do not want to answer.

What is the purpose of a good distribution chain?

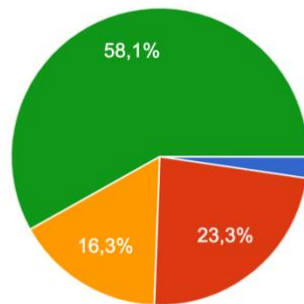
43 svar



- Analyze customer needs.
- Determine the distribution chain objectives and possible obstacles to achieve them.
- Identify the key distribution chain alternatives.
- All of the above.
- Do not want to answer.

What are the products most important factors in marketing?

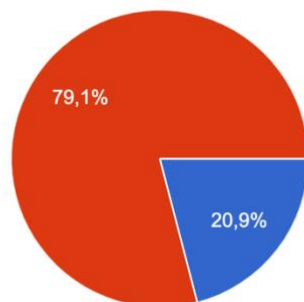
43 svar



- Make a brand name.
- Create attention and satisfy needs and wants.
- Increase sales and revenue.
- All of the above.
- Do not want to answer.

Does an increase in sales make more revenue?

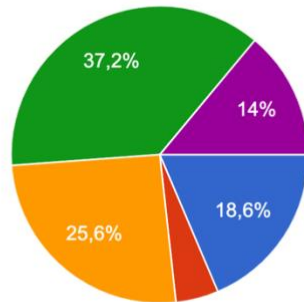
43 svar



- Yes.
- Not necessary.
- Not at all.
- Do not want to answer.

How do you generate income in a monthly subscription price model?

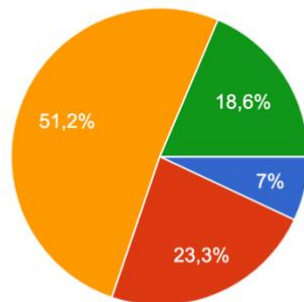
43 svar



- (Market*market share*subscription fee)
- (Market share*market)
- Income- expenses
- ((Market share*subscription fee)/market)- expenses
- Do not want to answer.

Which effect does spending have on promotion?

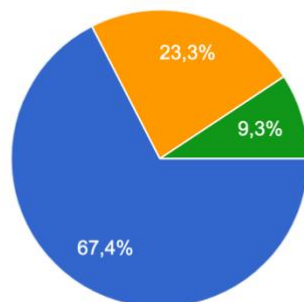
43 svar



- You will get more customers, higher income and build relationships.
- You will build loyalty, increase customer clusters and get more distribution.
- You will get more visible, available and possibility of higher income.
- All of the above.
- Do not want to answer.

How is the product life cycle when you launch an updated product?

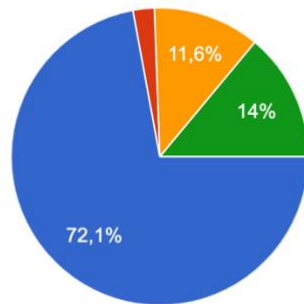
43 svar



- It is similar, but the growth is faster as the product is already promoted and well known.
- It looks just like the product life cycle.
- The updated product takes longer before it earns a profit because it has competition from the first release.
- The product life cycle does not apply to an updated product
- Do not want to answer.

What happen if you increase the budget on marketing and lower the price of the product?

43 svar



- You get more visible and sell more product but not necessary earn more money.
- You get more visible and sell more product which leads to a higher profits.
- You get more customers, which increase the sales and profits.
- You get more loyal customers which over time gives higher income
- Do not want to answer.

Explain the market mix with maximum 1000 characters:

27 svar

In market mix you got four moduls product, price, promotion and place. You have to think of what product you want to sell, if it is an upgrade or something new. The lower the price is. it's easier to sell it, but maybe you not earned so much.

4xp

A marketing mix includes multiple areas of focus as part of a comprehensive marketing plan. The term often refers to a common classification that began as the four Ps: product, price, placement, and promotion. Effective marketing touches on a broad range of areas as opposed to fixating on one message

Market mix handler om å optimalisere produkt, pris, plass og markedsføring for å kunne få flere kunder og høyere inntjening/omsetning. Ved å bruke med penger på markedsføring vil produktet bli mer kjent og skape en større kunde base. Samt er det viktig å skape en pris på produktet som ikke er for høy, som skaper en inntjening for bedriften, men samt tiltrekker seg flere kjøpere.

It is looking at product, place, promotion, and price to improve the net revenue and market share. Considering all of them is essential.

Explain the market mix with maximum 1000 characters:

27 svar

The combination of product, price, marketing and distribution.

A marketing mix includes multiple areas of focus as part of a comprehensive marketing plan. The term often refers to the four Ps: product, price, placement, and promotion. Effective marketing touches on a broad range of areas and is a mix of the above four P's.

Market mix are several important things. Product, Price, Promotion and Place. This is important mix for success in Brand loyalty, awareness, turnover, income, distribution, product life cycle. Pricing, marketing and product placement are main factor.

The 4 P's. Help your business think of the product, distribution, pricing and promotion.

There are four cornerstones of the market mix: Product, Price, Place and Promotion. Product is what you are selling, Price is the cost people must pay for your product, Place is the distribution of the product, and Promotion is the marketing of the product.

It is the mix between the different companies

Explain the market mix with maximum 1000 characters:

27 svar

The marketing mix refers to the set of actions, or tactics, that a company uses to promote its brand or product in the market. The 4Ps make up a typical marketing mix - Price, Product, Promotion and Place. However, nowadays, the marketing mix increasingly includes several other Ps like Packaging, Positioning, People and even Politics as vital mix elements.

Market mix is the actions a company takes to promote their product.

Without any prior economical understanding besides playing the game presented in this master thesis, I would say the marketing mix is the relationship between product, price, promotion and distribution, the mix and relationships within determine the products strategy based on how much it spends in the different categories of the mix.

The market mix is a term consisting of several factors. The physical product or service offered, pricing, promotion and distribution. Each of these factors can have big impact on the full package delivered to the customer.

It's a mix of how to spend money, how to earn money, and how to keep your product alive

Explain the market mix with maximum 1000 characters:

27 svar

marketing mix is one of the main objectives of the marketing mix elements for setting objectives and marketing budget measures. The importance of each element depends not only on the company and its activities, but also on the competition and time. All marketing elements are interrelated and should be seen in the whole of their actions. Some items may have greater importance than others; it depends mainly on the company's strategy and its activities. Companies that provide services - the provision of services will be a key element

The term "marketing mix" is a foundation model for businesses, historically centered around product, price, place, and promotion[1] (also known as the "4 Ps"). The marketing mix has been defined as the "set of marketing tools that the firm uses to pursue its marketing objectives in the target market".

Market Mix is marketing after tiu have traced your costumers needs and how much they want to spend. Here it is importan to have good tools to trace the costumers need.

Market mix is meeting the customers need at the same time as doing actions and taking decisions aimed toward the companys goal. The market mix is about adapting to a changing world. It consists of the product itself, the marketing, setting the price, distribution and sponsors.

Explain the market mix with maximum 1000 characters:

27 svar

The market mix is a strategy for a company on how to sell more of a product. Distribution, promotion, pricing etc is all a part of the mix

It consists of the 4 P: Price, promotion, place, product . It is a set of marketing tools to create a response in the targeted market.

The market mix is not a theoretical concept, but rather a framework for companies to use in a changing market. it includes the 4 ps; price, promotion, product and place. Other others also add in certain other elements. and expands the theory to 7ps, one of whom being people.

Marketing mix is the accumulation of strategies involving the "4P" - Product, Price, Place(distribution) and Promotion. With the goal to read the market, and customer needs, and from this use the tools to achieve desired response in the target market.

"Marketing mix - interrelated actions and solutions to meet consumer needs and to achieve the company's marketing goals, a whole"

Marketing mix is the product, promotion, distribution and pricing strategies a company can take advantage of in order to sell its product or service.

The marketing mix combines product, price, place and promotion. Each of the factors influences the success of the product and service. The factors should be alligned to each other in order to maximise profits.

Price, Product, Place, Promotion, Advertisement, direct marketing. MARKETING MIX is one of the main objectives og the marketing MIX elements for setting objectives and marketing budget measures.

What is the importance of renewing a product?

31 svar

It's easier to sell it, because it's already on the market. So when you sell the new product, it's already known for customers, and you don't need to sell it on the market as a new thing. You will also earn more from the start.

depends on the product.

The reason renewals are so valuable is because they increase the possibility that your existing clients will take on new products from you, thus increasing their long-term value as a customer

For å beholde/øke markedsandel. Samt være bedre enn konkurrenter på markedet.

It could be seen from two different aspects. First, the saturation of the market. In other words, consumers will not feel the necessity of buying a product when they have it now, except that it is broken. For example, when a family has one or two cars, there is often no reason for buying the third car. But using renewing, the necessity could be induced, for instance what we do about our phones.

Secondly, to remain in the market when competitors have renewed their products. What if Nokia didn't update its phones and its only choice was Nokia 3310?!

For the product to stay relevant/competitive so you don't get passed by the competition.

What is the importance of renewing a product?

31 svar

Renewal of your product is key to continue to be interesting for your customers, keep your market share (or gain market share) and ultimately make a healthy revenue and gross margin.

Renewing a product is important for increasing market shares, increase income, brand awareness and position of product.

Keep up with the competition, create attention to the product and so on

Renewing your product will extend the product cycle, making the grow and maturity stages last longer, maximizing monetary gains

To make more money

To keep updated and keep up with competition, more sale, keep relevant

For å øke etterspørselen etter nye oppdateringer og modeller, som gir økt salg

"It's cheaper to keep an old client than find a new one."

What is the importance of renewing a product?

31 svar

Reach more customers, not only the old ones but new ones too

To increase the income

You get to improve your product which is already established, improving upon a service people already like, you can spend less in marketing because it is already established, you can also justify a higher price because of the newly added features which offsets the increased spending in perhaps welcome offers and increased spending in product improvement

Renewing a product will often boost sales before it slowly descends over time. It is important to generate market share. While renewing the product it will be competitive to other brands or service providers while being attractive to the user

Keeping your product at the same or better level than recent released competitors

to keep getting sales

renewing is for rise the competence or the get a better use of the product.

What is the importance of renewing a product?

31 svar

To make it better and meeting the customers new needs, to keep the customer interested in the product

To use reviews and the trust of the customers you already have

To satisfy needs in the market, or make new wants. This will generate sales.

to stay relevant in the market, and keep loyal customers interested

In order to maintain a large market share, companies always have to innovate in order to keep up with the competition and customer needs.

Keep it relevant, and renew interest in the product.

Renewing a product can prevent it losing its market share over time and prolonging its income.

Increase the income

Not falling behind competition and prolonging the product life (product life cycle)

To increase lifecycle, Brand awareness, increase sales, distribution and loyalty.

What happen if you do not want to renew your product?

32 svar

You will stop earn money, and the profit will go down as well.

depends on the product

Without innovation and renewing the product will die out as we can see on the product life cycle

Produktet blir utdatert.

Of course there could be a small share of the market. Maybe from customers with more resistance against change or those who like nostalgia. But when the market or related markets are changing, there is no other way for remaining in the market. This is obviously more relevant to continuously changing ones such as phones, home appliances, computers, and software.

Generally speaking sooner or later your competition will out run you. This means Lower market share, lower incomes, etc.

You will become outdated and competitors will steal your market share and ultimately you will be left out of business.

What happen if you do not want to renew your product?

32 svar

You loose market shares, position and brand awareness.

Consumers may choose another competitors product.

The product will fall in popularity. You can also make a new product under the same brand, saving on marketing.

No one is want your old product

Lose costumers

Produktet blir utdatert og andre konkurrenter kommer på banen

You may loose the battle of the clients.

At last it's probably going to disappear from the market due to no more interest from customers.

The product will sell less

What happen if you do not want to renew your product?

32 svar

You lose relevancy and the market share goes to a competitor. Could be a quick cash grab if you don't want to build a long term brand though.

The market share will slowly decay over time. The product or service provided will slowly be less relevant, other competitors may provide a product/service that is better for the same price. Over time sales volume will decrease - which leads to lower profit

You end up like Nokia!

it will probably die

Companies count on renewal sales for predictable recurring revenue, which is extremely important for the stability of a business. In addition, because you are providing value over time, renewal business fosters higher lifetime value and a greater opportunity for customer loyalty than nonrecurring revenue streams.

Some thing you cannot change, to renew a product you make new need at the costumers.

It does not longer meet the customers need and the customer will probably be buying a product from another brand that is meeting the customers needs that is changing with time

What happen if you do not want to renew your product?

32 svar



Market gets saturated and sales goes down.

you run the risk of someone else making a similar product, wich can make customers swich their loyalty. you also run the risk of having an outdated product

You are not able to keep up with the market and will lose market share.

Without a renewal, and assuming the product follows the PGC cycle. The product will reach a point where the decrease in sales because of new competing products, and cost of protecting the product from competitors, will make the profit decrease to the point of 0

It will lose its value over time. And probably die

The customer buys other products

Your product might become too old and loose profitability when it is in the decline phase of the product life cycle

Product decrease market shares and disappear from the market.

Appendix 6.

P-test Traditional learning

SAMMENDRAG (UTDATA)

Regresjonsstatistikk

Multipel R	0,72103109
R-kvadrat	0,51988584
Justert R-kva	0,49164383
Standardfeil	1,54601612
Observasjon	19

Variansanalyse

	<i>fg</i>	<i>SK</i>	<i>GK</i>	<i>F</i>	<i>Signifikans-F</i>
Regresjon	1	43,9987594	43,9987594	18,4082453	0,00049501
Residualer	17	40,6328196	2,39016586		
Totalt	18	84,6315789			

	<i>Koeffisienter</i>	<i>Standardfeil</i>	<i>t-Stat</i>	<i>P-verdi</i>	<i>Nederste 95%</i>	<i>Øverste 95%</i>	<i>Nedre 95,0%</i>	<i>Øverste 95,0%</i>
Skjæringspur	1,53309157	0,97312131	1,57543726	0,13358114	-0,5200149	3,58619806	-0,5200149	3,58619806
6	0,61559383	0,14347891	4,29048311	0,00049501	0,3128798	0,91830787	0,3128798	0,91830787

Appendix 7.

P-test interactive learning environment

SAMMENDRAG (UTDATA)

Regresjonsstatistikk

Multipel R	0,69048507
R-kvadrat	0,47676964
Justert R-kva	0,44770129
Standardfeil	2,01587594
Observasjon	20

Variansanalyse

	<i>fg</i>	<i>SK</i>	<i>GK</i>	<i>F</i>	<i>Signifikans-F</i>
Regresjon	1	66,6523955	66,6523955	16,4016734	0,00075151
Residualer	18	73,1476045	4,06375581		
Totalt	19	139,8			

	<i>Koeffisienter</i>	<i>Standardfeil</i>	<i>t-Stat</i>	<i>P-verdi</i>	<i>Nederste 95%</i>	<i>Øverste 95%</i>	<i>Nedre 95,0%</i>	<i>Øverste 95,0%</i>
Skjæringspur	1,43422875	1,19126286	1,20395657	0,24420061	-1,0685216	3,93697914	-1,0685216	3,93697914
10	0,60758793	0,15002549	4,04989795	0,00075151	0,29239607	0,92277979	0,29239607	0,92277979

Appendix 8.

P-test

Understanding of marketing with traditional learning

SAMMENDRAG (UTDATA)								
Regresjonsstatistikk								
Multipel R	0,64779203							
R-kvadrat	0,41963452							
Justert R-kva	0,38549537							
Standardfeil	1,260305							
Observasjon	19							
Variansanalyse								
	<i>fg</i>	<i>SK</i>	<i>GK</i>	<i>F</i>	<i>Signifikans-F</i>			
Regresjon	1	19,5240482	19,5240482	12,2918869	0,0027087			
Residualer	17	27,0022676	1,58836868					
Totalt	18	46,5263158						
	<i>Koeffisienter</i>	<i>Standardfeil</i>	<i>t-Stat</i>	<i>P-verdi</i>	<i>Vederste 95%</i>	<i>Øverste 95%</i>	<i>Nedre 95,0%</i>	<i>Øverste 95,0%</i>
Skjæringspur	1,36054422	1,03427157	1,31546129	0,20582144	-0,8215781	3,54266649	-0,8215781	3,54266649
4	0,64852608	0,18497718	3,50597874	0,0027087	0,25825833	1,03879382	0,25825833	1,03879382

Appendix 9.

P-test

Understanding of marketing with ILE

SAMMENDRAG (UTDATA)								
Regresjonsstatistikk								
Multipel R	0,76118702							
R-kvadrat	0,57940568							
Justert R-kva	0,55603932							
Standardfeil	1,40889018							
Observasjon	20							
Variansanalyse								
	<i>fg</i>	<i>SK</i>	<i>GK</i>	<i>F</i>	<i>Signifikans-F</i>			
Regresjon	1	49,2205122	49,2205122	24,7965833	9,7031E-05			
Residualer	18	35,7294878	1,98497155					
Totalt	19	84,95						
	<i>Koeffisienter</i>	<i>Standardfeil</i>	<i>t-Stat</i>	<i>P-verdi</i>	<i>Vederste 95%</i>	<i>Øverste 95%</i>	<i>Nedre 95,0%</i>	<i>Øverste 95,0%</i>
Skjæringspur	1,09696668	0,85406972	1,28439945	0,21528746	-0,6973672	2,89130059	-0,6973672	2,89130059
7	0,69965191	0,14050316	4,97961678	9,7031E-05	0,40446572	0,99483811	0,40446572	0,99483811

Appendix 10.

P-test

Knowledge of marketing with traditional learning

SAMMENDRAG (UTDATA)								
Regresjonsstatistikk								
Multipel R	0,63755079							
R-kvadrat	0,406471							
Justert R-kva	0,37155753							
Standardfeil	0,6092498							
Observasjon	19							
Variansanalyse								
	<i>fg</i>	<i>SK</i>	<i>GK</i>	<i>F</i>	<i>Signifikans-F</i>			
Regresjon	1	4,32142857	4,32142857	11,6422401	0,00331988			
Residualer	17	6,31015038	0,37118532					
Totalt	18	10,6315789						
	<i>Koeffisienter</i>	<i>Standardfeil</i>	<i>t-Stat</i>	<i>P-verdi</i>	<i>Nederste 95%</i>	<i>Øverste 95%</i>	<i>Nedre 95,0%</i>	<i>Øverste 95,0%</i>
Skjæringspur	0,18609023	0,18108751	1,02762593	0,31852633	-0,195971	0,56815148	-0,195971	0,56815148
2	0,39285714	0,11513739	3,4120727	0,00331988	0,14993849	0,6357758	0,14993849	0,6357758

Appendix 11.

P-test

Knowledge of marketing with ILE

SAMMENDRAG (UTDATA)								
Regresjonsstatistikk								
Multipel R	0,48534483							
R-kvadrat	0,2355596							
Justert R-kva	0,19309069							
Standardfeil	0,83836775							
Observasjon	20							
Variansanalyse								
	<i>fg</i>	<i>SK</i>	<i>GK</i>	<i>F</i>	<i>Signifikans-F</i>			
Regresjon	1	3,89851138	3,89851138	5,54663621	0,03006435			
Residualer	18	12,6514886	0,70286048					
Totalt	19	16,55						
	<i>Koeffisienter</i>	<i>Standardfeil</i>	<i>t-Stat</i>	<i>P-verdi</i>	<i>Nederste 95%</i>	<i>Øverste 95%</i>	<i>Nedre 95,0%</i>	<i>Øverste 95,0%</i>
Skjæringspur	0,16637478	0,34554322	0,48148762	0,63597155	-0,5595846	0,89233415	-0,5595846	0,89233415
3	0,36952715	0,15690309	2,35512977	0,03006435	0,03988598	0,69916831	0,03988598	0,69916831

Appendix 12.

T-test.

Improvement between ILE and Traditional learning overall score.

t-Test: To utvalg med antatt ulike varianser

	Variabel 1	Variabel 2
Gjennomsnit	1,66666667	0,95
Varians	5,53333333	3,10263158
Observasjon	21	20
Antatt avvik	0	
fg	37	
t-Stat	1,10765708	
P(T<=t) ensid	0,13757945	
T-kritisk, ens	1,30485438	
P(T<=t) tosid	0,2751589	
T-kritisk, tosi	1,68709362	

Appendix 13.

T-test.

Improvement between ILE and traditional learning in the understanding of marketing.

t-Test: To utvalg med antatt like varianser

	Variabel 1	Variabel 2
Gjennomsnit	0,5	0,71428571
Varians	1,73684211	2,51428571
Observasjon	20	21
Gruppevarian	2,13553114	
Antatt avvik	0	
fg	39	
t-Stat	-0,4693242	
P(T<=t) ensid	0,32072562	
T-kritisk, ens	1,68487512	
P(T<=t) tosid	0,64145123	
T-kritisk, tosi	2,02269092	

Appendix 14.

T-test.

Improvement between ILE and traditional learning in the knowledge of marketing.

t-Test: To utvalg med antatt like varianser

	Variabel 1	Variabel 2
Gjennomsnitt	0,5	1
Varians	1	1,4
Observasjoner	20	21
Gruppevarians	1,20512821	
Antatt avvik	0	
fg	39	
t-Stat	-1,4577602	
P(T<=t) ensidig	0,07645638	
T-kritisk, ensidig	1,68487512	
P(T<=t) tosidig	0,15291276	
T-kritisk, tosidig	2,02269092	

Appendix 15.

Link to the game:

<https://exchange.iseesystems.com/public/daniel-michelsen/marketing-mix>

For entry, apply the participation number of 9922.