Value 101

Design Research Seminar

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Table of Contents

1. Abstract

Entrepreneurship often buds from a technology breakthrough, a solution for a problem or just an idea for a novel product or service, that the entrepreneurs believe will be welcomed in the current market. However, after expending resources and efforts, a lot of them face disappointment in the real market, despite their cutting edge technology and innovative product or service. This happens because of the lack of understanding of the real need, and hence the idea lacks the core necessity of the customer.

"Value 101" is meant to introduce the concept and importance of values to the entrepreneurs. It is based on the codes for introductory courses (101) in most universities.

The game is targeted at the entrepreneurs and innovators to get their feet wet in the domain they are trying to disrupt. It allows them to discover and understand the underlying values to be addressed by their idea. It also brings in the value perspective for their product and helps to create innovative core concepts that cater to the unattended needs of the customers. It helps them get a clear view of the larger domain they are targeting and helps them suitably place their concepts in the market.

The report presents a detailed process followed during the evolution of "Value 101" from a piece of literature to an actual game. It also contains a section of possible explorations and different versions of the game, in both, physical as well as the virtual medium. Further, it encloses a plan to convert the game, with the current set of rules, into an online platform.

2. Introduction

When buying products, the customers often look for the solutions to their problems or the desirable experiences, in return for the price they pay. They focus on getting the output for the least monetary worth, thus, pressuring the businesses to reduce prices. To deliver a product that the customers are willing to pay for, the business needs to understand and deliver what its customers value.

In other words, they need to show the customers, and thus understand themselves, how the price they pay is being converted into something of "value".

2.1. What is "value"?

Value, or customer value, is the perception of what the product or service offers to the customers as against the possible alternatives.

It can also be defined as the benefits it provides the customer for the price they pay. The more the benefits, or the lesser the cost of the product or service, the more value it offers.

Benefits - Cost = Value

When developing the business model for a startup, the entrepreneurs need to focus on the values that they are offering to their customers, in order to stand out from their competitors. They also need to identify the nature and amount of the values to be offered.

2.2. What is the customer value proposition?

Customer value proposition, or simply value proposition, is a marketing statement that enlists all the values that a business offers to its customers. They work as a guiding light for the development of the concept, keeping the focus of the business on the core values instead of its functions.

If properly constructed, it can help skip the pitfalls for failure, and help create a flourishing market base for the product or service.

2.3. What are the elements of value?

In their publication “The Elements of Value”, Bain identifies 30 fundamental attributes, analogous to Maslow’s “Triangle of Needs”. They are divided into four categories: functional, emotional, life-changing and social impact. They focus on all types of consumer values, from addressing personal needs to the need for contribution to society.

2.4. How can these elements help in innovation?

The elements of values can be used as the building blocks for the ultimate product offering. The right combination of values, paired with a balanced amount of focus on each, can pay in a more extensive, more loyal and sustainable customer base.

2.5. How is Value 101 helpful?

The game is designed to help in finding the above-mentioned combinations. It is a tool that allows the fluidity to mix and match the values in order to find the values that are otherwise skipped while focusing on the product deliverables.

In other words, it helps them develop new value-systems, in a game-like environment, forcing them to think innovatively, while maintaining the profitability factor.

3. Process/Idea behind the game

The game was developed based on the 30 elements of value, identified by Bain and Co, one of the “Big 3s” of elite management consultancies. The report was published by Harvard Business Review in 2016.

Over a series of iterations, the game moved from being a mere tool for ideating to a complex set of rules. Throughout the development, the main focus was to engage the players in a discussion about the target domain and how some unanticipated value-systems can disrupt them.

Even though the game started with a tool to ideate for new products and services, the main idea has always been about bringing in a new perspective and exposing different possibilities for the same problem.

The game evolved into its current form over a series of iterations, tested with different audiences, with different educational backgrounds. Each iteration was followed by player feedback and suggestions, which were further discussed and analysed to lead to specific changes in the following iteration.

Throughout the development process, elements of fun were added, while maintaining the knowledge and discussion elements. Emphasis is laid on the players' understanding of the importance of values, and how they can be used as a powerful tool for innovation.

4. Iterations

This section enlists the iterations with the changes induced in each one, and how it is linked with the feedback received in the previous iteration.

Each table progressively covers one iteration of the game and encapsulates its rules and winning criteria that keep evolving. It also includes the observations while the game was being played from the third-person perspective and the feedback of the players, during and post the game.

Even though the game went through a lot of changes, some general elements and guidelines for the game are:

- While setting up, the players choose an industry to focus on. Hence, all values in their game are aligned to the interests of a new business in that particular industry.
- There are a total of 30 cards, based on the report. Some of them are distributed to the teams, while the rest are stacked face down in the middle, with one open (face-up) card beside it.

4.1. Iteration I

Players	Teams of 2
Hardware	Value cards (30) Value table
Game rules	Each team is given 7 cards, to be maintained throughout the game. For each turn, the team either picks up an open card or from the stack of unturned cards, and swaps them for one of their cards, to keep most relevant cards for the chosen industry. After every 3 turns, inter-team card swap happens, blind or open. The priority of cards is revealed at the end of the game. The teams then ideate based on the final set of values.
Winning criteria	Analysis of the idea by a neutral audience Or voting among the players for the better idea
Observation	Ideas are discussed after each turn, both inter and intra team. Fewer inter-team discussions.
Player Feedback	No clear winning element. Ideation is time-consuming, lengthening the game.
Learnings	The game needs to have an objective winning criterion for a proper closure

4.2. Iteration II

Players	Teams of 2
Hardware	Value cards (30) Value table
Game rules	Each team is given 7 cards, but a minimum of 5 have to be maintained throughout the game. Either team can drop a card at any time in the game. *Rest same as Iteration I*
Winning criteria	Analysis of the idea by a neutral audience Or voting among the players for the better idea
Observation	More intra-team as well as inter-team discussions Newer ideas, but not so feasible ones
Player Feedback	Good as an ideation tool Lack of fun and interesting elements No well defined winning criteria
Learnings	The game needs to include inter-team interactions for better learning.

4.3. Iteration III

Players	Teams of 2
Hardware	Value cards (30) Value table Chance cards (10)
Game rules	For chance cards, teams do as instructed on the card. The cards are always to be kept in priority sequence, so as to ease the chance procedure. *Rest same as Iteration I*
Winning criteria	Points for the sequence, as given in the Bain report. (Each displacement of the card from the given sequence to the final priority will cost the loss of a point)
Observation	A lot of intra-team discussions Use of deceptive priorities, to deceive the other team
Player Feedback	Possibility of a lot of deception Replayability concerns Scoring criteria seems faulty due to the contextual difference in the current scenario, hence priorities emerge. Could be an interview tool
Learnings	The possibility of cheating brings more interest and fun to the game.

4.4. Iteration IV

Players	Teams of 2
Hardware	Value cards (30) Value table Chance cards (10)
Game rules	Players write their sequence of top 5 values for the sector, which is kept anonymous, but used to calculate the list of top 7 values. Each team can freeze upto 2 cards which are excluded from any swap, and use them at the end for the final list. The frozen cards can not be “unfrozen” *Rest same as Iteration III*
Winning criteria	Points based on the priority of the cards as per the average from the lists given by each player.
Observation	Players discussed internally their own average of values and observed the other teams priority to figure out their value priority. Deceptive priorities targeting the best and worst cards emerged, because of the repeated use of those positions in the chance cards.
Player Feedback	All the chance cards were not known to the players, hence they couldn't leverage it to their advantage.
Learnings	The predictability of the game elements and flow plays an important role in strategy making.

4.5. Iteration V

Players	Teams of 2
Hardware	Value cards (30) Value table Chance cards (10) Money (2*20k)
Game rules	All values are divided into 3 categories, highest costing 1000, the middle one 500, and lowest costing 100. Each team is given 20k, along with the 7 cards. In each turn, the team pays the cumulative worth of their current cards to the money stack. They can trade cards for cash as and when needed. *Rest is same as Iteration IV*
Winning criteria	Points based on the priority of the cards as per the average from the lists given by each player.
Observation	A lot of discussions targeted towards the balance of money and values
Player Feedback	The money balancing was a little too complicated but interesting. Too many chance cards Money should be considered as a winning criterion.
Learnings	The loss of money makes a high impact on the way the values are perceived.

4.6. Iteration VI

Players	Teams of 2 + a banker
Hardware	Value cards (30) Value table Chance cards (10) Money (2*10k + Surplus)
Game rules	Teams can trade cards for cash and vice versa, as and when needed, with the banker. They can even take loans but will have to trade off the cards at the end of the game (as per their choice, but before the final results) if they are unable to pay it back. Interest can be negotiated with the banker. *Rest is same as Iteration V*
Winning criteria	Points based on the priority of the cards as per the average from the lists given by each player. If a draw, the team with more in-hand cash wins.
Observation	A lot of discussion on values and money, especially when chance cards came up. Expenses during chance cards were quite complex
Player Feedback	Exchanges and dealing with money is complicated. The chance cards create a lot of confusion.
Learnings	The game tasks should be such that the players spend time on the core objectives, instead of secondary tasks.

4.7. Iteration VII

Players	Teams of 2 + a banker
Hardware	Value cards (30) Value table Money (2*15k + Surplus)
Game rules	All values are divided into 2 categories, the ones chosen by at least one person 1000, and the others 500. Each team is given 6 cards and 15k In round 1, the teams are scored based on the sequence. Further rounds include 3 turns of card picking each. After each round, the team pays the cumulative worth of their current cards to the banker, in return of scores and secret hints regarding the positioning of the cards. Trade happens like in Iteration VI. Final payment for values can be negotiated with the banker.
Winning criteria	Points based on the relative priority of the cards as per the average from the lists given by each player. If a draw, the team with more in-hand cash wins.
Observation	Seemed like a deciphering hunt for the top values. A lot of trade and lending
Player Feedback	Monetary worth gives hints for top values. Focus is drifting from values
Learning	The hints need to be balanced in a way that they do not make the game too predictable.

4.8. Iteration VIII

Players	Teams of 2 + a banker
Hardware	Instruction manual Value cards (30) Software Money (2*20k + Surplus) Reveal Sequence Card
Game rules	Each value card costs 1000 cash. Each team gets 6 cards and 20,000 cash. In case the "Reveal Sequence" card appears, the teams can mutually agree to disclose the true sequence to the other team henceforth. This shall not count as a card picking turn. The calculations and listing is done by the software *Rest is same as Iteration VII*
Winning criteria	Points based on the relative priority of the cards as per the average from the lists given by each player. If that results in a draw, the team with more in-hand cash wins.
Observation	The game went smoothly, rather fast Small discussion over revealing the sequence
Player Feedback	Instruction manual needs to be more informative. The software makes the banker purposeless.
Learnings	Introduction of a tool for all secondary tasks may cause a loss in interest and also affect the core objective.

4.9. Iteration IX

Players	Teams of 2 + a banker
Hardware	Instruction manual Value cards (2*30) Value table Money (2*20k + Surplus) Reveal Sequence Card
Game rules	The banker has a spare set of value cards Cards can be bought from the banker, for negotiable cost, but having 2 cards with the same value shall not be added to the score twice. *Rest is same as Iteration VIII, but all tasks are done manually*
Winning criteria	Points based on the relative priority of the cards as per the average from the lists given by each player. If that results in a draw, the team with more in-hand cash wins.
Observation	Since the number of values can be equal for both teams, the focus was on the sequencing.
Player Feedback	The time for calculations led to enough discussion Can be played with more players, and double sets
Learnings	The time for tasks should be such that each player gets to do something meaningful.

Overall learnings

The iterative process helped to introduce and experiment with different elements in the game as well as to balance them to create a game that serves the objective and is interesting and fun at the same time.

The major personal learnings include:

- The importance of predictability of game elements on the strategy building, and how the introduction of certain elements can balance it.
- The effects of the scope for cheating on the game, even though the players may be sincere.
- The importance of the balance of freedom in the rules. While more freedom makes the game fun, it leads to a loss of objective of the game; on the other hand, stricter rules with less freedom makes the game highly predictable and limits the creativity of players.
- The importance of hardware and secondary tasks. Their quantity and quality should be well-curated, to neither overwhelm the players nor make it too bland.

5. Final Gameplay

5.1. Contents of the set

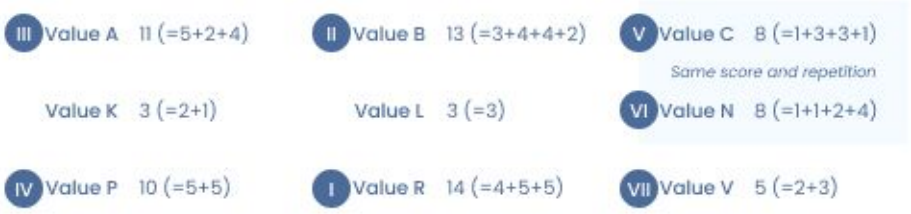
Value Table
Set of cards (2*30)
“Reveal Sequence” Card
Blank cards for writing sequences (5)
Money (60*Notes of 1000)

5.2. Setup

- The 5 players split into 2 teams of 2 players each, and one person becomes the banker.
- They collectively choose an industry for the startup.
- They then create a reference list (shown in 5.2.1), that is only known to the banker.
- After that, the banker distributes the elements among the teams. (shown in 5.2.2)
- The remaining cash stays with the banker.
- The remaining cards are kept in a face-down stack in between the teams.
- The top card of the stack is placed face-up beside the stack.

5.2.1. Calculating the reference list

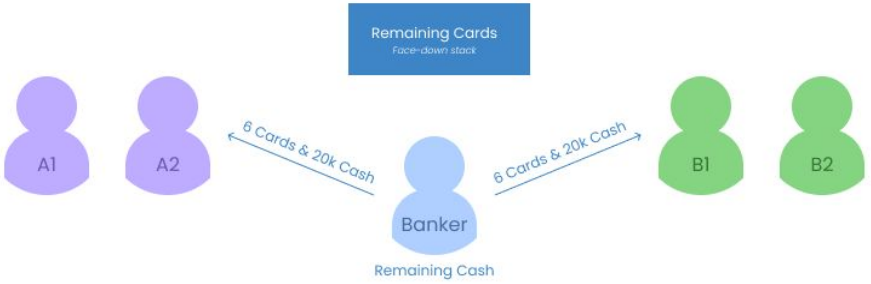
	Rank 1	Rank 2	Rank 3	Rank 4	Rank 5
Player A1	*Value A*	*Value R*	*Value B*	*Value K*	*Value C*
Player A2	*Value P*	*Value B*	*Value C*	*Value V*	*Value N*
Banker	*Value R*	*Value B*	*Value C*	*Value A*	*Value N*
Player B1	*Value P*	*Value A*	*Value L*	*Value N*	*Value K*
Player B2	*Value R*	*Value N*	*Value V*	*Value B*	*Value C*
	5 Points	4 Points	3 Points	2 Points	1 Point



- Each player selects the top 5 values out of 30 for the chosen industry, in priority sequence.
- The banker collects all values and creates a reference list for final scoring:
  (In the meantime, the elements are distributed, and teams can start the internal discussion for round 1)

- Each written value gets points for their positions, 1 to 5 for highest to lowest priority.
- The reference list of the top seven values is decided based on their total points.
- If two values get the same score, the one that has more occurrences is placed higher.
- If the number of occurrences is also the same, then one with a higher rank in the banker's list is prioritised.

5.2.2. Distributing the Elements



- The banker distributes 6 cards from the shuffled deck and 20,000 cash to each team.
- The cards are not known to the opposite team.

5.2.3. Card Picking (Starts from Round 2)

- Pick the top card from one of the stacks.
- Keep any 1 of your cards or even the picked one, face-up on top of the open cards.
- No card can be picked except the top ones from the face-up (open) and face-down (closed) stack.

5.3. Scoring

Team A Order		Reference List	Team B Order	
Value L		Value R	*Relative II→I* 8 (=10-2)	Value A
Value B	*Relative I→I* 10	Value B		Value Y
Value Z		Value A		Value D
Value Q		Value P	*Relative II→III* 9 (=10-1)	Value N
Value C	*Relative III→II* 9 (=10-1)	Value C		Value F
Value P	*Relative II→III* 9 (=10-1)	Value N	*Relative I→III* 8 (=10-2)	Value R
		Value V		
Score 28				Score 26

The banker identifies the cards common with the reference list from each set in the same sequence as placed by the team.

For each team, the identified cards' relative ranking is compared to that in the reference list following the steps given below:

- For each card in the same position in the relative ranking, the team gets 10 points.
- For each step away from the reference position, the team gets {10 - the number of steps away} points for that card.

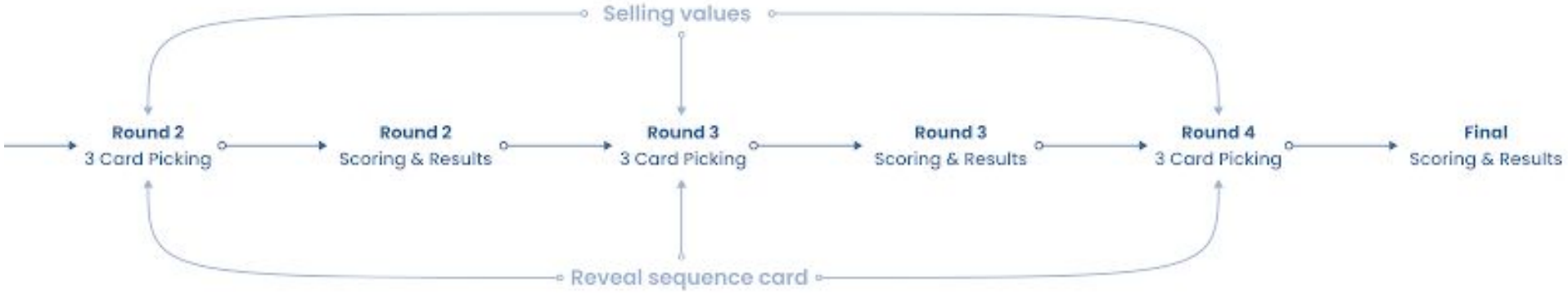
5.4. Rules

- The game has 4 rounds:
  - **Rounds 1-** Discuss and arrange the 6 given cards in the priority sequence of the most suitable value for the chosen industry and disclose it to the banker.
  - **Further Rounds-** Each round has 3 turns of card picking (as in 5.2.3) for each team. After each round, they disclose the sequence to the banker for scoring.
- After each round (1-4), each team pays {1000*the number of cards with the team} cash to the banker. The banker then announces the scores of each team and team-wise gives them hints for the position of cards.
- Any team can buy a card from the banker, for a negotiable price. However, having two cards with the same value shall still add to the score only once.
- When the "Reveal Sequence" Card appears, both teams shall agree to reveal their sequence to each other for the rest of the game. [This will not be considered a card picking turn]

5.5. Winning Criteria

- The team with the higher score wins.
- If the score turns out to be equal, the team with more in-hand cash wins.


5 players
Banker
Teams of 2
Write the values to create reference list
Distribute cards and cash
Create Reference List
Discuss values to create order
Create priority order
Round 1
Scoring & Results


Selling values
Round 2
3 Card Picking
Round 2
Scoring & Results
Round 3
3 Card Picking
Round 3
Scoring & Results
Round 4
3 Card Picking
Final
Scoring & Results
Reveal sequence card

6. Deliverables

The deliverables for the game include:

6.1. The packaging

6.2. The instruction manual

6.3. List of values

6.4. The sets of cards
- 6.4.1. Deck of value cards
- 6.4.2. Blank cards
- 6.4.3. Reveal sequence card

6.5. Cash

#The deliverables can be found here.

7. Future Possibilities/Alternatives

Due to the constraints of time and resources, the project was limited to its current version. However, there are a lot of possible versions of the game. Some of the alternatives that can be explored are:

7.1. Colour-coded cards

The cards can be divided into the 4 given categories, separated by colours. This might bring in a different perspective for thinking about the category of customer needs, and also the kind of market segment they are targeting. More number of higher values imply a product or service targeted to the higher class.

7.2. Limiting the cards per category

Each category corresponds to a level of customer need, hence restricting the number of values to be included in the final set will force the players to think for a different section of the population. Bringing in this new perspective can also lead to a drastically different concept.

7.3. More players

The game is currently limited to five players but can be extended to cater to a broader audience. Increasing the number of players in a team only increases the time of discussion, and sometimes leads to intra-team disputes. Hence, a safer way is to make more teams and use more decks of cards to balance uncertainty.

7.4. Blitz game

Limiting the time for each move to a short time can bring in a new fun element into the game. With the added pressure, the teams would be required to have more profound knowledge about the context and also have comprehensive discussions.

8. The e-version of the game

Value 101 is currently limited to physical elements. Even though there has been an iteration including a virtual element, the fact that it took away the role of one of the players could be overlooked, especially when the rest of the game is entirely tactile.

However, the benefits of switching the game to the virtual platform cannot be neglected. From reducing the resources needed to accommodate more extensive and diverse players, the virtual version can positively influence the game.

The online mode would be a virtual replacement of the hardware and the banker, thus reducing the time consumed in the process. It will also reduce the effort of creating the reference list, as it can source the same from online resources.

Thus, the game would simply begin once all four players are put in pairs and are given their cards and cash. They can also play it against the computer itself.

#Rough user flow for the game can be found here.

Physical Game Actions	Digital Version Actions
Players split into two teams of 2	Players are paired up together
Players decide on an industry	Players choose an industry from given options
Players create their sequences for the reference list	The game secures the reference list from online resources (Some are on HBR website)
Each team is given 6 random cards and 20k cash	Each team is given 6 cards and 20k cash
Rest of the cards are stacked face-down, while one card is kept face-up	Rest of the cards are stacked face-down, while one card is kept face-up (like in Spider Solitaire)
Teams start the internal discussion on sequence for Round 1 Banker prepares the reference list	The teams start the internal discussion online for Round 1, via text or voice The discussion is limited to 5 minutes
After Round 1, scores and hints are given to the teams individually	After Round 1, scores and hints are given to the teams individually
Players can see their cards, the stack and all the backend actions happening The scores are supposed to be remembered	Players can only see their cards, scoreboard, the stack in between and related actions They can see the other team's cards face down

Physical Game Actions	Digital Version Actions
For further rounds, they get 3 card picking turns The banked gives them roughly 2 minutes of time	For further rounds, they get 3 card picking turns Each turn is limited to 2 minutes of time
Teams can mutually decide to reveal sequence for the rest of the game, based on the "reveal sequence" card	Each team can request the other to reveal sequence after any turn, only once throughout the game. Both teams will reveal the sequence until the next turn if the request is accepted. Denied requests do not count.
After each round, each team pays some cash to the banker	The cash is already deducted from each team's portion
Cards can be bought from the banker, for a negotiable price	Cards can be bought from the computer. The prices are, however, non-negotiable
In the end, each team reveals its sequence, and are given the final score by the banker. The winner is then declared.	In the end, each team's sequence is revealed and scoring is done, declaring the winner
The teams are free to have post-game discussions	The teams can linger for another 10 minutes to have the post-game discussion

9. The Sequel

The current game ends with an understanding of how values can help to develop concepts in the right direction. To take it ahead, the sequel game brings in the element of converting the values into a deliverable form.

This part of the game is not yet fully developed. It includes the tactics cards that enlist 10 different tactics that can help convert ideas into concepts, based on the book “Ten Types of Innovation”. It also introduces a VC as a new player, along with the five initial players, two teams of two players and a banker. The VC, along with the banker, decides and declares the situation in the chosen industry.

This game too has four rounds:

9.1. Round I

The players select all or some of the six values they possess from the previous game, that they believe would help improve the given situation. Their scores, given by the VC and Banker, are based on this selection. Further, the VC allocates some base funding to each team.

9.2. Round II

Using the base funding, the teams can purchase or swap the values, to increase their score. Based on their selection in this round, the VC allocates them some angel funding. The amount of funding is subject to the discretion of VC and Banker.

9.3. Round III

The teams can now proceed to buy any three sets of tactics that they would like to use to develop the idea into a deliverable concept. The scores are based on their selection of tactics based on their relevance to the situation. This round does not include allotment of new funding.

9.4. Round IV

In this round, the teams ideate with their values and tactics, to come up with a few concepts. They briefly present the portfolio of concepts to the VC and Banker, along with their final chosen concept. The team with the better idea wins the game.

Since the winning criterion is entirely subjective, the VC is preferred to be someone who has a good knowledge of the targeted industry.

This sequel has yet to undergo the same process as Value 101 in order to become a proper game. Currently, it is designed speculating the possible player behaviours.

10. Conclusion

The idea behind the project was to help budding entrepreneurs focus on real-life problems and innovations that create value to society. The intent behind gamification of this process was to promote discussion and to create a fun, yet competitive environment that fosters creativity and freedom of expression.

Value 101 evolved through an iterative process, as described in the report above. Throughout the project, the focus was on getting the right balance between fun and learning, for the players and myself.

The output of the project is limited to an initial version of the game. However, the report encloses some ideas that can be further developed as variations of the current game. It also includes preliminary work on the sequel of the game. A section of the report contains some rudimentary work for the development of an online version, which, having a broader reach, shall amplify the outcome of the game.

The project helped enhance my knowledge of business and entrepreneurship, along with that of game design. The iterative process helped to strengthen my design process and approaches further.

To conclude, value 101 is an attempt to bridge the pitfall of customer value, where many innovations fail.