Dynamics of Strategic Initiatives and Expected Performance: An Application of Flexible Strategy Game-card

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Abstract

Business performance measurement and management has become a multi-million dollar industry. In the competitive and dynamic business environment, existing performance management frameworks have a limited mechanism to measure and manage the business dynamics. An evolving performance management framework named as flexible strategy game-card intends to support whole cycle of strategy formulation and execution and highlights to develop a integrated and dynamic view of performance management. This paper is an attempt to develop a system dynamics based performance management game taking flexible strategy game-card as a basis. This model has been developed in the context of one of the Indian telecom service provider firms. The performance measures have been identified on the basis of S-A-P-P (Situation-Actor-Process-Performance) framework, the causal links and feedback loops are identified, strategic initiatives and decisions have been identified. With the help of STELLA 9.1.4 software, a system dynamics based performance management game has been developed which helps the enterprise to analyze the impact of strategic initiatives on their performance and the likely coming performance results are being displayed. The model has been validated in a limited manner. The outcome is to provide a performance management model which helps to understand dynamics of strategic initiatives and expected performance.

Keywords: flexible strategy game-card, mental models, performance management model, system dynamics

"However beautiful the strategy, you should occasionally look at the results"

Winston Churchill

1. Introduction

In the current competitive scenario, annual reports and financial results are no more the only way to look for the performance of the enterprise. The enterprise needs such type of performance management framework which helps to align the management processes and performance with the long-term strategy, can help to clarify and update strategy and leads for the better performance results. Post 1990, many developments have occurred in the field of enterprise performance management in terms of strategic performance management frameworks. Balanced scorecard (BSC) is one of the major revolutions made in this area by Kaplan and Norton (1992). Although, this framework has brought the transformations in the way the performance of the enterprises are being measured and managed but still, this framework suffers some of the criticism as it considers basically unidirectional cause and effect linkages; it does not consider time delays and have limitations in designing phase, implementation and use (Barnabe, 2011).

To overcome some major limitations of BSC, Sushil (2010) proposes a strategic performance management framework which intends to support the whole cycle of strategy formulation, execution, measuring performance and brining corrective actions and thus bringing dynamism in the framework. This study is an attempt to make the application of this evolving performance management framework, i.e. flexible strategy game-card for developing a system dynamics based performance management game and this has been developed in the context of one of the Indian telecom service provider enterprises.

The structure of the paper is as follows: Section 1 gives the brief introduction about the background of field of enterprise performance management and the objective of the study, section 2 discusses about the literature review to cull out the issues discussing the needs of dynamics in performance management system for any enterprise. Section 3 describes flexible strategy game-card, a strategic performance management framework, which is being used to develop a system dynamics based game for a telecom company. Section 4 deals about the development of system dynamics based performance management model and the simulation results which exhibit the likely performance of company in next 10 years. Section 5 demonstrates the limited validation of the model. Section 6 highlights some discussion related to work done and limitations of study and scope for future work related to it.

2. Need of Dynamics in Performance Management Systems

The performance of any enterprise which was solely measured through financial indicators had faced a lot of criticism in literature. From the feedback system perspective, it does not access the behavior of the business system and does not provide double-loop learning. Post 1990s can be considered as an important period for the field of enterprise performance management, as many researchers and practitioners proposed and developed multiple performance management frameworks. Balanced scorecard (BSC) is one of the most dominantly used strategic performance management frameworks used by practitioners and researchers. Research showed that BSC was the most popular performance management system which is adopted by over 40 per cent of organizations worldwide (Speckbacher *et al.*, 2003). Kaplan and Norton (2000) developed strategy map concept as a complementary to the BSC approach. The strategy map can be regarded as a tool related to systems thinking and can be helpful for modeling the strategy. Looking system dynamics as a future perspective for BSC, Kaplan and Norton (1996) suggested, "BSC can be captured in a system dynamics model that provides a comprehensive, quantified model of a business's value creation process".

The researchers have realized some of the major criticism of BSC, which are more related to the concept of causality which is not being extensively explained and very often such causal relationships are assumed to be unidirectional (Norreklit, 2000). The other criticism highlighted of BSC is that it lacks dynamics and it does not consider time-delays between cause and effects (Bianchi and Montemaggiore, 2008).

To overcome some of these criticisms and make BSC more useful in dynamic environment, researchers have used system dynamics and simulation based experiments in the literature. The researchers (eg. Ritchie-Dunham, 2002; Akkermans and van Oorschot, 2005; Strohhecker, 2007; Bianchi and Montemaggiore, 2008; Capelo and Ferreira Dias, 2009; Barnabe, 2011) have conducted case studies and simulation based experiments for the development of "dynamic scorecard" taking into consideration feedback loop approach. They had realized that the system dynamics based scorecard comparing to traditional BSC specifically improve strategic architecture by using the mapping tools, better representation of causal structure of the system, and helps in analysis of systematic structure in terms of relationships between structure and behavior (Barnabe, 2011).

These previous researches and their results indicate that the use of system dynamics modeling and simulation techniques help the enterprise to get an effective and dynamic performance management system which is crucial in the current business environment.

3. Description of Flexible Strategy Game-card

Before giving the description of flexible strategy game-card, it is imperative to analyze the shortcomings of existing performance management frameworks, as this framework has been evolved to overcome some of the major shortcomings of BSC. Some of the aspects which are required to be balanced in BSC approach are: balance of enterprise and customer factors, balance of continuity and change forces, balance of reactive and proactive drivers, balance of internal and external actors and internal and external processes (Sushil, 2009).

The structural overview of flexible strategy game-card has been exhibited in Figure 1. It tells that this framework dominantly deals with two perspectives of performance, i.e. enterprise perspective, and customer perspective. All the major stakeholders are included under the enterprise perspective and as, customers are in the centre for enterprise's strategic decisions and actions, and they are being taken apart as another perspective. The theoretical roots of this evolving framework lie in some classical approaches: integrative approach (BSC), stakeholder perspective (stakeholder theory), duality perspective (flowing stream strategy crystal) and operational aspects (SAP-LAP framework) (Yadav *et al.*, 2011).

Enterprise perspective deals with S-A-P-P (situation-actor-process-performance) framework where situation factors are dealing with proactive and reactive measures of strategic actions and comprises of external and internal situation. Actors are crucial factors for strategy formulation as well strategy execution. Actor related measures deal with internal as well as external actors. Process factors are related to strategy execution which deals with internal and external business processes. Performance factors are treated as the lag factors which are the outcomes of the strategy. These can be considered as financial as well non-financial measures.

Customer factors related to game-card considers the performance of the enterprise from customer's perspective which is linked to value, offerings and relationships to the customers.

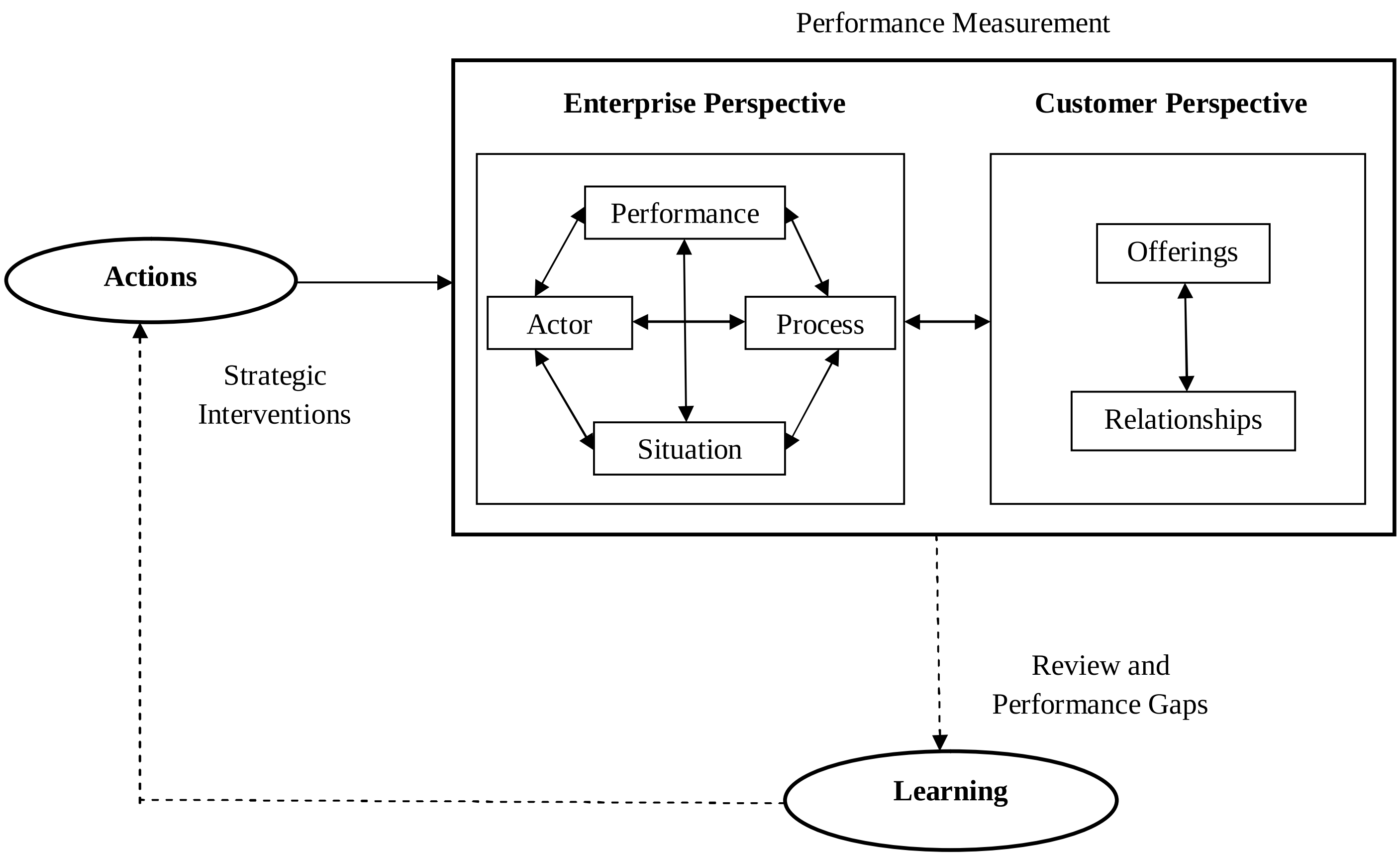

Figure 1: Flexible Strategy Game-card (Adopted from: Sushil, 2010)

This framework intends to support the full cycle of strategy formulation, execution, learning and corrective actions with the game-card and thus, gives a dynamic view to the performance. The LAP (Learning-Action-Performance) framework gives it strengths over existing performance management frameworks. It helps to make strategic actions as required by getting the learning from the performance measurements and reviews thus, it helps to deal with the changes in external as well as internal environment.

4. Development of System Dynamics based Performance Management Model

System Dynamics modeling and tools, which are originally theorized by Jay W. Forrester in well-known book titled, *Industrial Dynamics* (Forrester, 1961), have proved their validity over more than four decades by their application in various fields. System dynamics can be considered as a computer-aided approach to policy analysis and design. It enables to understand structure and dynamics of complex systems. (Richardson and Pugh, 1981). The role of system dynamics modeling process is to gain insights into a complex problem and influence thinking and action in management teams (Forrester, 1961, p.49).

The system dynamics approach begins with defining problems dynamically and uses different tools to reach its goals and to support decision-making processes. The tools are both qualitative (diagramming tools, as causal loop diagrams, stock and flow diagrams) and quantitative (formal model based on rigorous mathematical language, equations). For the present study, system dynamics modeling has been found appropriate to develop dynamic performance management model for a case enterprise which is described in the following sub-sections.

4.1 Case Description: The case company is one of the largest and leading public sector units providing comprehensive range of telecom services in India. The company is having a vision of being a leading telecom service provider in India with global presence and creating customer focused organization with excellence in customer care, sales and marketing. The company's mission is to generate value for all stakeholders including employees, shareholders, vendors and business associates, to offer differentiated products/services tailored to different service segments and providing reliable telecom services that are value for money.

The company is operating in a hyper competitive environment. The government policies related to tariff rates and spectrum allocation have a major impact on the strategic decisions and overall performance. For surviving in the competitive environment, the company has launched many new services which are 3 Generation (3G) services, value added services (VAS), and broadband services. It has done partnership to provide VAS including content-based services and video calls to customers. The company is having world class training centers and also established call centers in many parts of the country.

The financial annual report figures tell only about the past performance of the Company and it can't be used as a basis to take strategic decisions for the future. There is a need to develop a performance management model which can help to depict the dynamic behavior of performance and strategic interventions.

4.2 Development of Mental Model: For measuring and managing the performance of any enterprise, the interplays of leading and lagging factors are being studied and measured widely in the literature. There is a limited discussion related to learning and the feedback from the strategic actions. In order to overcome this, an attempt is made to develop the mental model which exhibits in Figure 2. This mental model has been taken as the basis for developing the causal loop diagrams further.

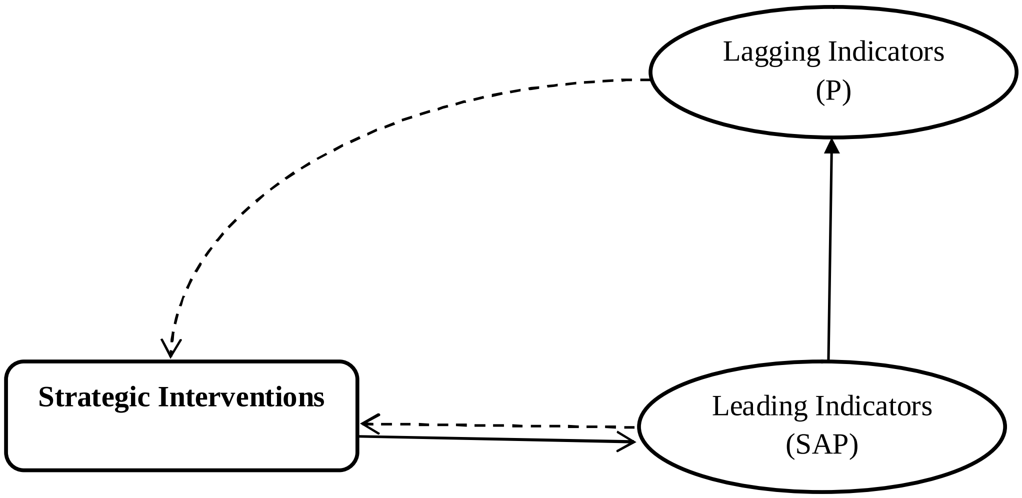

Figure 2: Mental Model

For the case context, the lead indicators (Situation, Actor, Process), lag indicators (Performance) and strategic interventions have been identified with the help of experts and exploring the published secondary information and shortlisted as are shown in Table 1.

Table 1: Key Strategic Elements related to Case Company

Lead Indicators	**Lag Indicators**	**Strategic Interventions**
Le1. Government policies related to tariffs	La1. ARPU (Average Revenue Per User)	S1. New service offerings
Le2. Amount of money invested in telecom infrastructure	La2. Number of subscribers	S2. Value Added Services
Le3. Connection rates	La3. Gross revenues	S3. Mergers and acquisitions (M&A)
Le4.Call completion rate	La4. Customer satisfaction index	

After identification of the elements, their linkages as well as feedbacks had been identified and the causal loop diagrams have been prepared, which are presented in the next sub-section.

4.3 Development of Causal Loop Diagrams: The existing literature related to causal loop diagrams is limited to identify the cause-and-effect relationships and their polarity as well but it gives a limited understanding to the reader about how they are related, so an attempt is being made to explore the interpretations of the linkages, from taking the understanding of basic work of interpretive matrix (Sushil, 2005).

Before dealing with interpretations, it is imperative to develop causal loop diagrams, which have been developed separately for enterprise perspective and customer perspective in Figure 3(a) and 3(b) respectively.

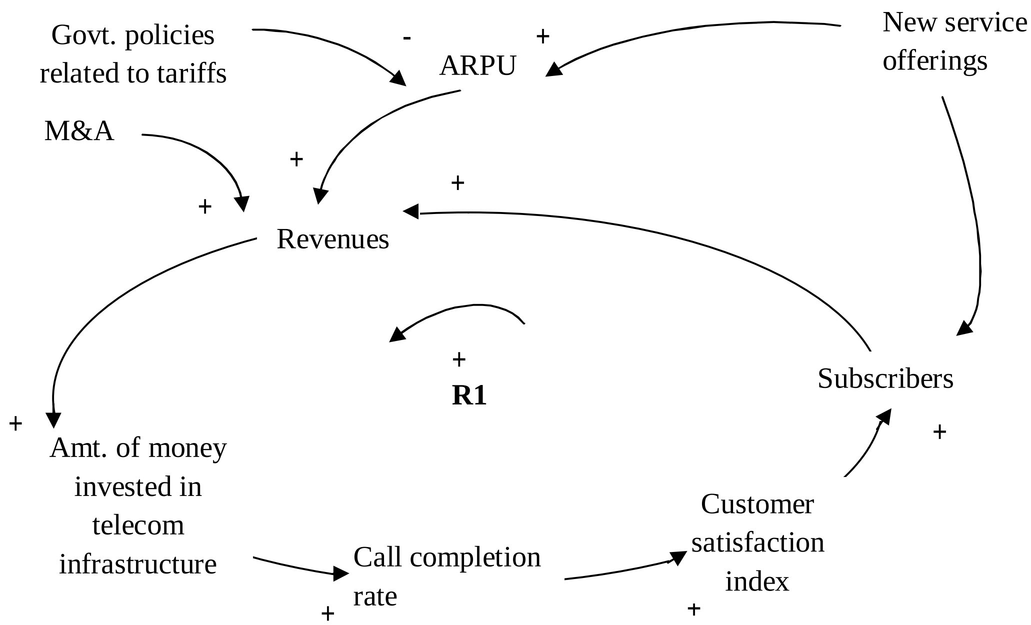

Figure 3(a): Causal Loop Diagram related to Enterprise Perspective

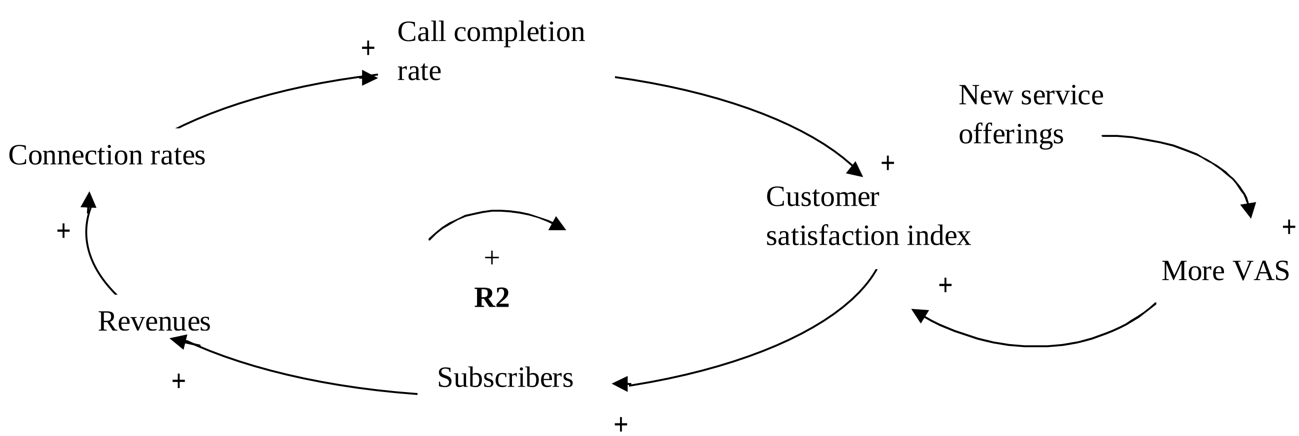

Figure 3(b): Causal Loop Diagram related to Customer Perspective

The causal loop diagrams in Figures 3(a) and 3(b) describe the main cause-effect relationships among leading lagging indicators, and impact of strategic interventions. The important strategic resources in these causal loop diagrams are revenues, number of subscribers and ARPU. There is a dominating loop in Figure 3(a), which is re-inforcing loop R1, describing the increase in the levels of ARPU and revenue because the increase in number of subscribers.

According to loop R1, the more ARPU will lead to more revenue levels and will make more and more investments in telecom infrastructure. It will make the infrastructure better and will lead to better network quality. The subscribers will be able get less call drops and better call completion rates with high quality. Call completion rate will work as an input for measuring customer satisfaction index and it will give the customers more satisfaction and this all will help to get more and more subscribers as well as retain the existing subscribers.

The strategic intervention as going for mergers and acquisitions will lead the company to increase its revenues as there will be one amount of money added to the revenues from the acquired companies. The new service offerings will also increase the ARPU as people will utilize more new and advanced services. The customer satisfaction index is also considered as the lagging indicator, as if the subscribers will enjoy better service quality and get better call completion rates, the customer satisfaction level will go up.

The government policies related to tariff rates have an adverse impact on the level of ARPU, as if the government will reduce the rates of tariff, it will give less revenue per user to the companies, and will give less revenues. So, it is impacting at negative level.

According to causal loop diagram shown in Figure 3(b), the cause-and-effect relationships among the indicators related to providing better value and offerings to the customers. More VAS will provide a wide range of services to the subscribers and will increase the customer satisfaction level. Better connection rates will lead to get better call completion rates and it will also increase the customer satisfaction and this creates a re-inforcing loop R2.

These two causal loops have been merged and an integrated causal loop diagram has been developed which shows the cause-effect relationships among all indicators and strategic interventions related to both perspectives and it is shown in Figure 4. This integrated diagram shows that how the causes by the lead indicators have an effect on the lagging indicators with the interaction of strategic interventions.

As discussed earlier about interpreting the causal relationships, an attempt is being made to understand the interpretation of the cause-effect relationships by developing interpretive matrix which is shown in Table 2(a) which is in the form of a binary matrix. Here, +1 denotes that the causing indicator is having positive impact on effecting indicator, -1 denotes the negative impact and 0 denotes that there is no cause-effect relationship.

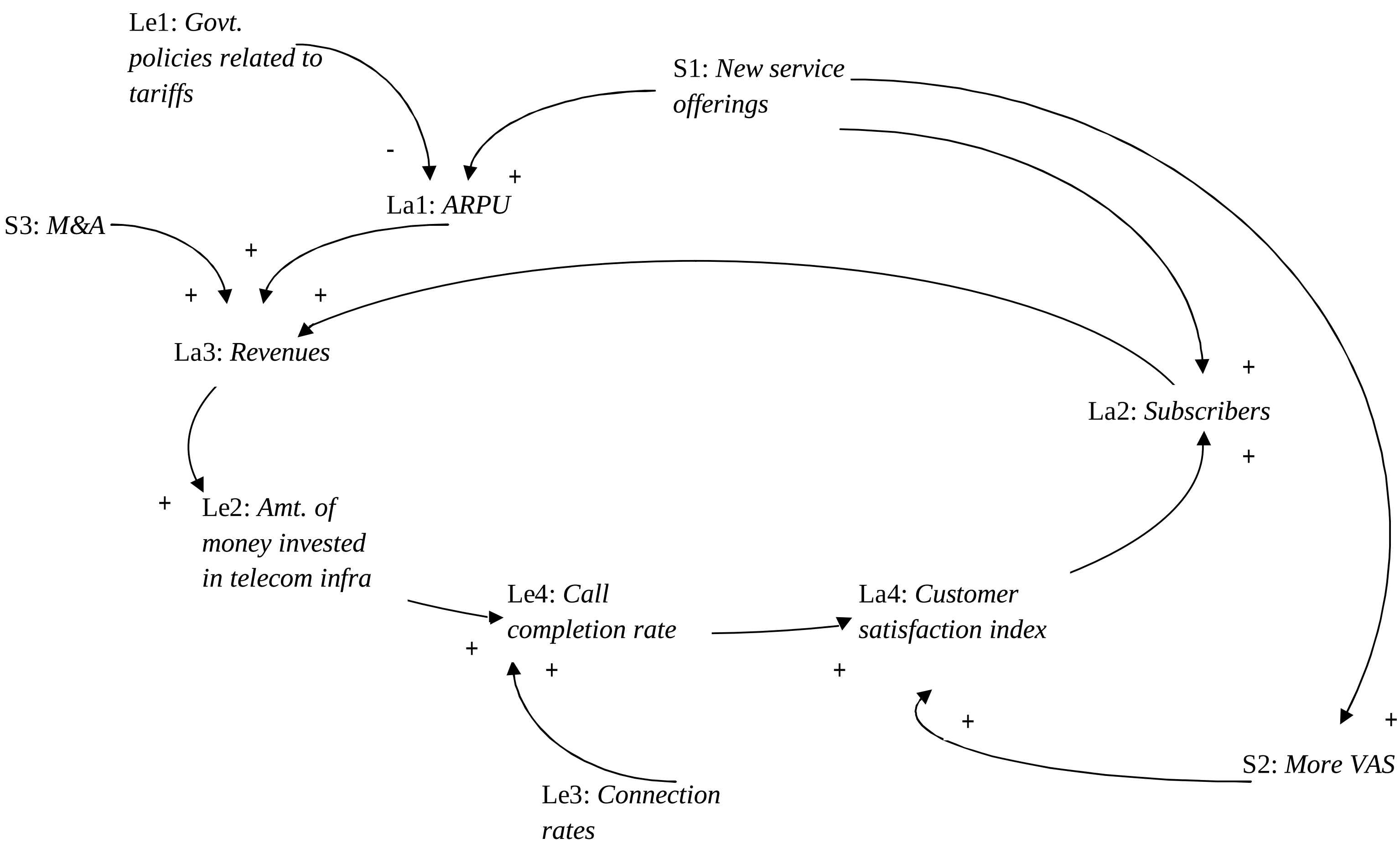

Figure 4: Causal Loop Diagram Incorporating both Perspectives

Table 2(a): Binary Matrix of Relationship in Causal Loop Diagram

	Le1	Le2	Le3	Le4	La1	La2	La3	La4	S1	S2	S3
Le1	-	0	0	0	-1	0	0	0	0	0	0
Le2	0	-	0	+1	0	0	0	0	0	0	0
Le3	0	0	-	+1	0	0	0	0	0	0	0
Le4	0	0	0	-	0	0	0	+1	0	0	0
La1	0	0	0	0	-	0	+1	0	0	0	0
La2	0	0	0	0	0	-	+1	0	0	0	0
La3	0	+1	0	0	0	0	-	0	0	0	0
La4	0	0	0	0	0	+1	0	-	0	0	0
S1	0	0	0	0	+1	+1	0	0	-	+1	0
S2	0	0	0	0	0	0	0	+1	0	-	0
S3	0	0	0	0	0	0	+1	0	0	0	-

There are total 13 cause-effect relationships identified from the binary matrix and their interpretations have been identified with the help of the experts as well as from exploring the published data, and these are reported in Table 2(b). This will be useful in identification of parameters and development of equations in the simulation model.

Table 2(b): Interpretive Matrix (Interpretation of Cause-effect linkages)

Linkage	Polarity	Interpretation
Le1-La1	-	Low tariff rates will decrease the revenues for the company for per user
Le2-Le4	+	Better telecom infrastructure will lead to increase the service quality and will give better call completion rates
Le3-Le4	+	Better call connection rates will lead to better call completion rates
Le4-La4	+	Better call completion rates will give a better customer satisfaction and will increase customer satisfaction index
S1-La2	+	More new service offerings will help to get more and more new subscribers
La1-La3	+	More per user average revenue will lead to increase gross revenue
La2-La3	+	More number of subscribers will lead to earn more and more revenues
La3-Le2	+	More the revenues, more money will be invested to improve telecom infrastructure
La4-La2	+	Higher the level of customer satisfaction, more number of subscribers will retain as well as new will add
S1-La1	+	New services will increase the usage level of subscribers and will lead to increase per user average revenue
S1-S2	+	New service offerings will lead to give more value added services (VAS)
S2-La4	+	More VAS will lead to provide advanced services and will increase customer satisfaction level
S3-La3	+	Mergers and acquisitions will lead to increase the revenue level of the mobile operator by adding some fixed amount from acquired firm(s)

The benefits of writing these interpretations separately experienced by authors are that first it gives clearer understanding at the time of developing stock and flow diagram in terms of identifying the flows and auxiliaries related to any stock and second, it gives more clarity to the readers at the time of understanding the causal loops and then linking it to the development of stock and flow diagram.

4.4 Development of Stock and Flow Diagram: With the help of the interpretations shown in Table 2(b), flow and stock diagram has been developed with the help of STELLA 9.1.4 software.

For developing stock and flow diagram, four stocks, which are lagging indicators and two others to compute them, have identified in the model. The related flow variables and auxiliary variables are also identified.

Stock Variables:

- Average Revenue Per User (ARPU)
- Revenue (REV)
- Number of subscribers (SUBS)
- Customer satisfaction index (CSI)
- M&A (LM&A)
- Investment in Infrastructure (INFRA_INV)

Flow Variables:

- Rate of change in ARPU (RCARPU)
- Rate of change in Revenues (RCR)
- Rate of mergers and acquisitions (RM&A)
- Rate of change in Subscribers (RCSUBS)
- Rate of Customer satisfaction (CSR)
- Rate of Investment in infrastructure (INVR)
- Rate of Depreciation (DEP)

Auxiliary Variables:

- Actual Revenue (AR)
- Call Completion Rate (CCR)
- Customer Satisfaction Index Goal (CSIGOAL)
- Discrepancy (DISC)
- Factor Customer Satisfaction Index (FCSI)
- Factor of New Service Offerings (FNSO)
- Industry Average of New Service Offerings(IANSO)
- Revenues earned from M&A (M&A)
- Minimum Customer Satisfaction Index (MCSI)
- New Service Offerings (NSO)
- Rate of Value Added Service (RVAS)
- Total Actual Revenue (TAR)
- Percentages of tariff rates (Tarrif_Rates)
- Investment rate (IR)
- Rate of Depreciation (DR)
- Target of Investment in Infra (TARGET)

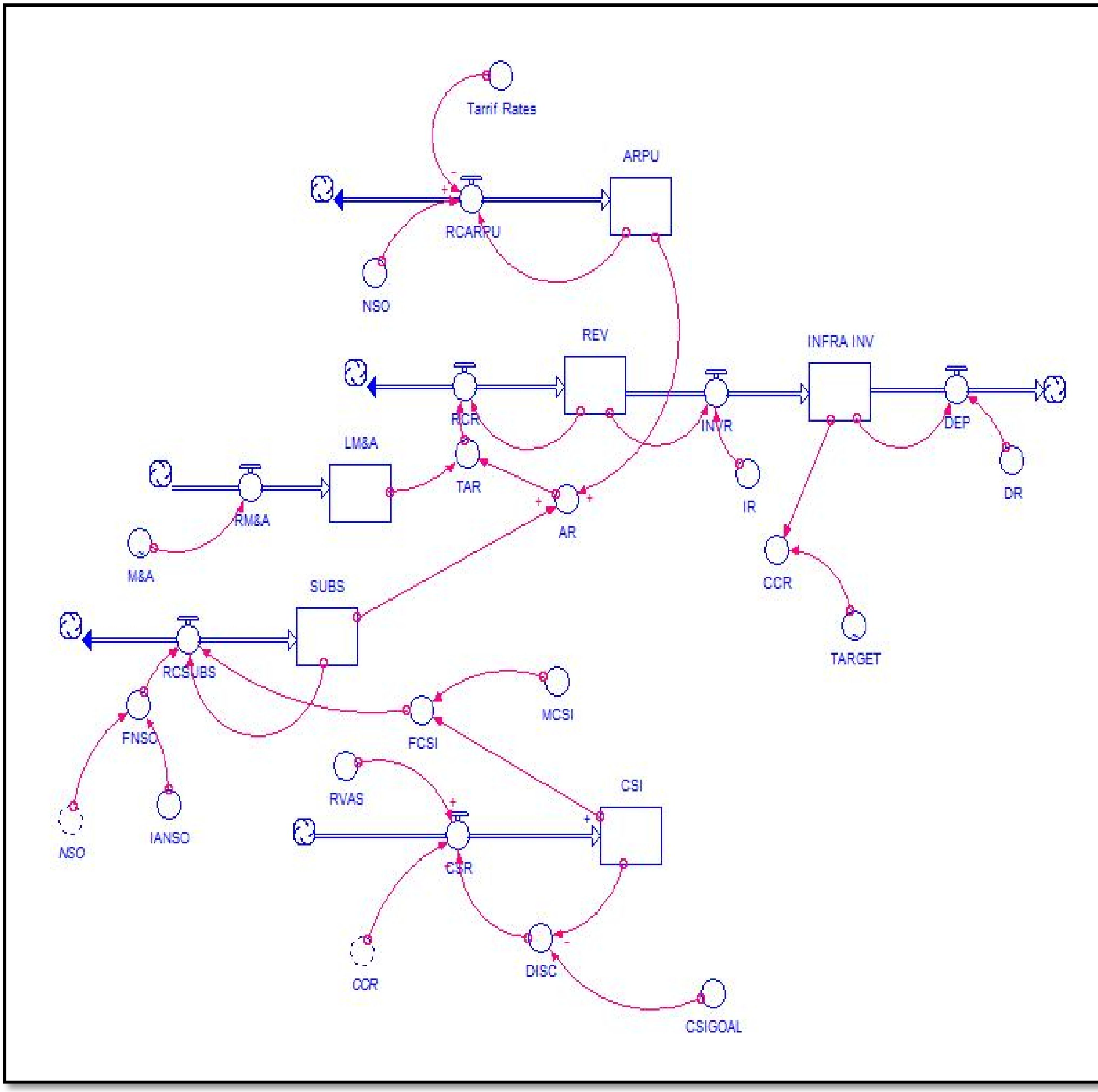

Figure 5: Stock and Flow Diagram for Performance Management Model

The stocks, related flows and auxiliary variables are being used and then by establishing the equations, the stock and flow diagram has been developed which is shown in Figure 5. The related STELLA equations are exhibited in Appendix A1.

4.5 Simulation and Results: After developing the flow and stock diagram, the model has been simulated by taking 2010 as a base year and simulation is run for next 10 years, taking the value of DT (Delta Time) as 1 (Numerical results of simulation is being presented in Appendix A2). STELLA graph pad showing the combined dynamics of lagging indicators is exhibited in Figure

6(a), and graphs showing dynamic behavior of individual stock variables are being developed with the help of Microsoft Excel which are being shown in Figure 6(b), (c), (d) and (e).

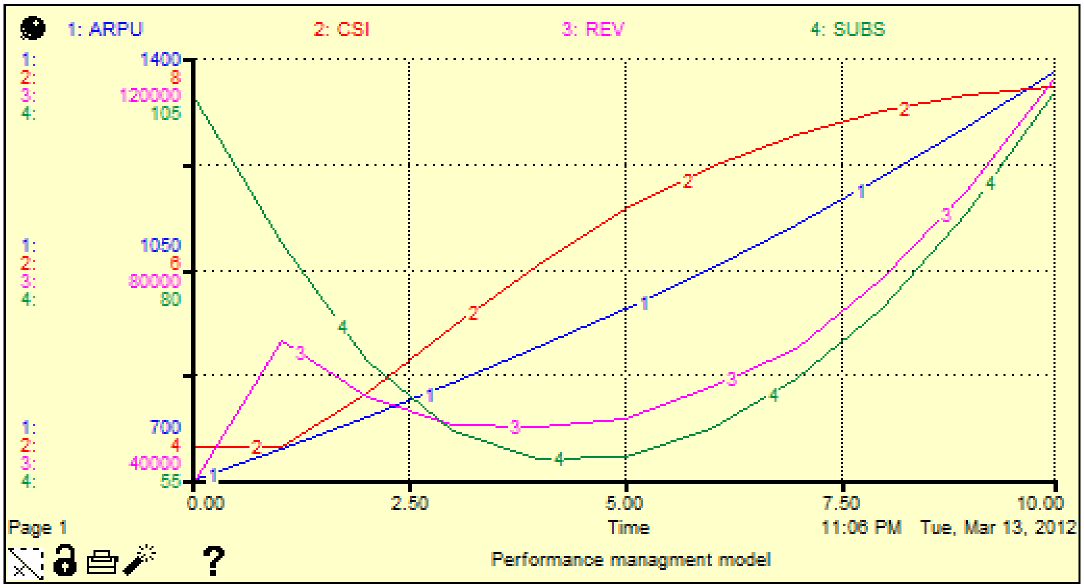

Figure 6(a): Dynamic Behavior of Lagging Indicators (Graph Pad of STELLA)

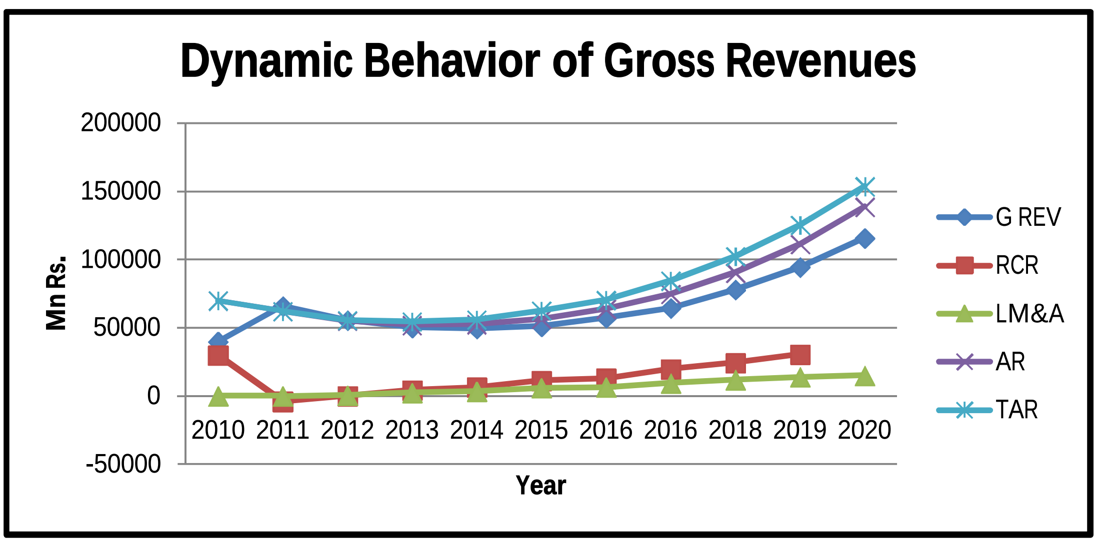

Figure 6(b): Dynamic Behavior of Performance in terms of Gross Revenues

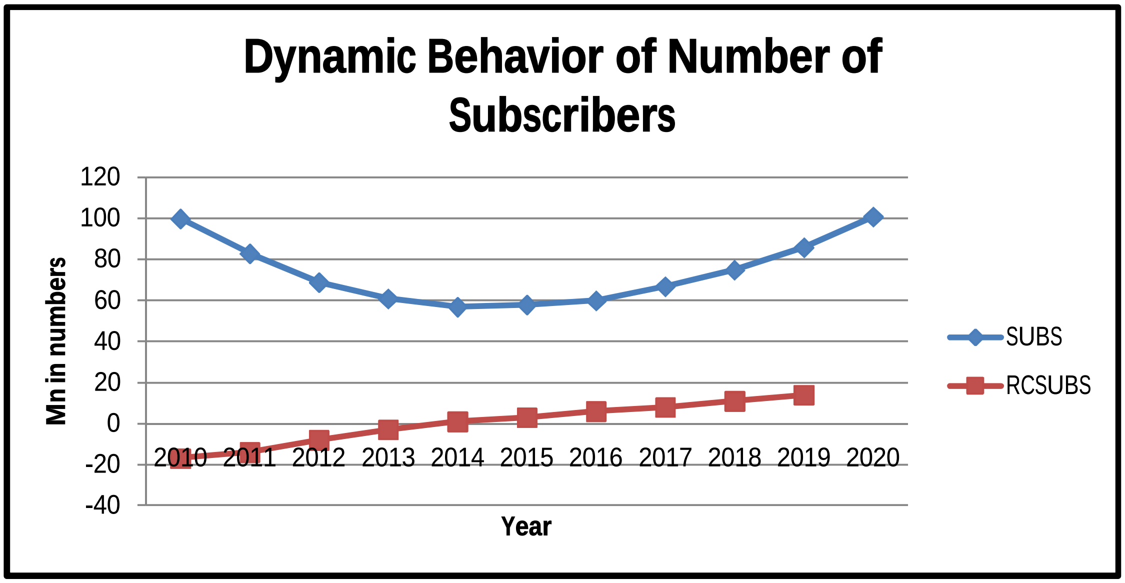

Figure 6(c): Dynamic Behavior of Performance in terms of Number of Subscribers

The dynamic behavior of performance which is shown in the graphs portray that because of new service offerings provided by case company is lower than the average industry service offerings, the number of the subscribers has gone down, which shows adverse impact on the gross revenue of company, but the increasing effect of ARPU (due to VAS) helps the company to get increments in gross revenues in coming years.

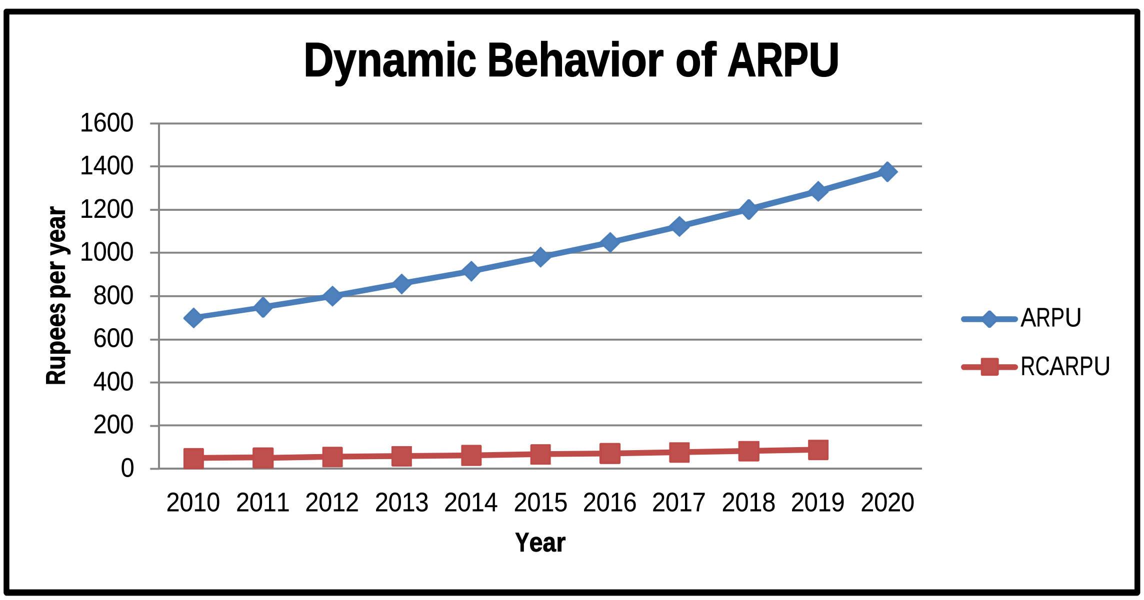

Figure 6(d): Dynamic Behavior of Performance in terms of ARPU

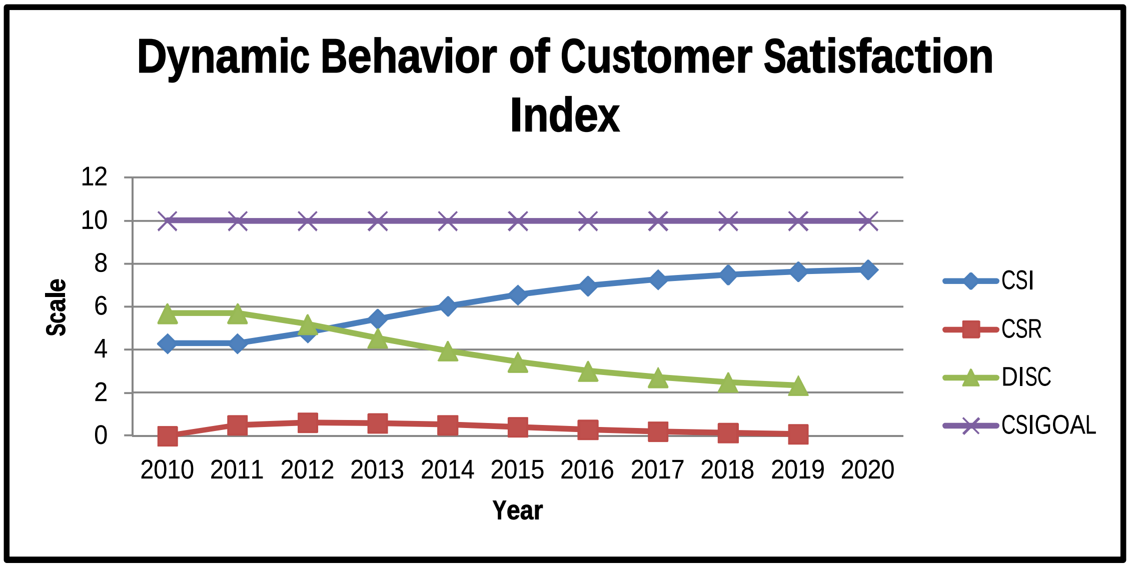

Figure 6(e): Dynamic Behavior of Performance in terms of Customer Satisfaction Index

The level of the customer satisfaction index (CSI) which is being measured on a 10 points scale, shows that initially CSI is below the level of 5 which can be considered as low satisfaction rate for the customers, but as company is looking for making investments in infrastructure which helps to provide better service quality and it will help to get more call completion rate and it will help to lead to increase the CSI level.

The level of CSI gives the feedback to rate of change in number of subscribers, which provides the dynamics to subscriber level. The level of gross revenues will determine the level of infrastructure investment, the company sets dynamic targets for the next 10 years for infra-investment and on this basis, the percentage of call completion rates are being determined, which treats as an input for determining the customer satisfaction rate, which finally determines the CSI.

The dynamics shown by the system developed in the form of stock and flow diagram, determines the behavior of the system. It shows that how the government policies related to tariff rates, the new service offerings by the company and the average of the industry offerings help to determine the level of revenues, and number of subscribers in the coming future. This dynamic behavior helps to make the corrective action in the policy structure and strategic interventions.

The policy makers need to look for encashing the opportunities in terms of offering more value added services and increasing CSI which lead the company to get more and more subscribers and will impact to get good results related to gross revenues. This system dynamics based performance management model gives an aid to policy makers to understand the behavior of system and by making corrective actions, it can lead to get better performance results in future.

With the help of interface layer of STELLA, a simulation performance management game developed. The snapshot is exhibited in Figure 7. Here the adverse impacts of tariff policies have been captured where the level of ARPU, revenues are going down.

The interface model helps to create a learning environment, where the effects of the changes in the value of parameters as well as the initial values of stock variables help to see the impact on company's performance. This can be termed as a performance management game showing the dynamic and interactive view of the stock and flow model. The projected performance results help the policy makers to alter the decisions related to new service offerings, service quality and other strategic interventions.

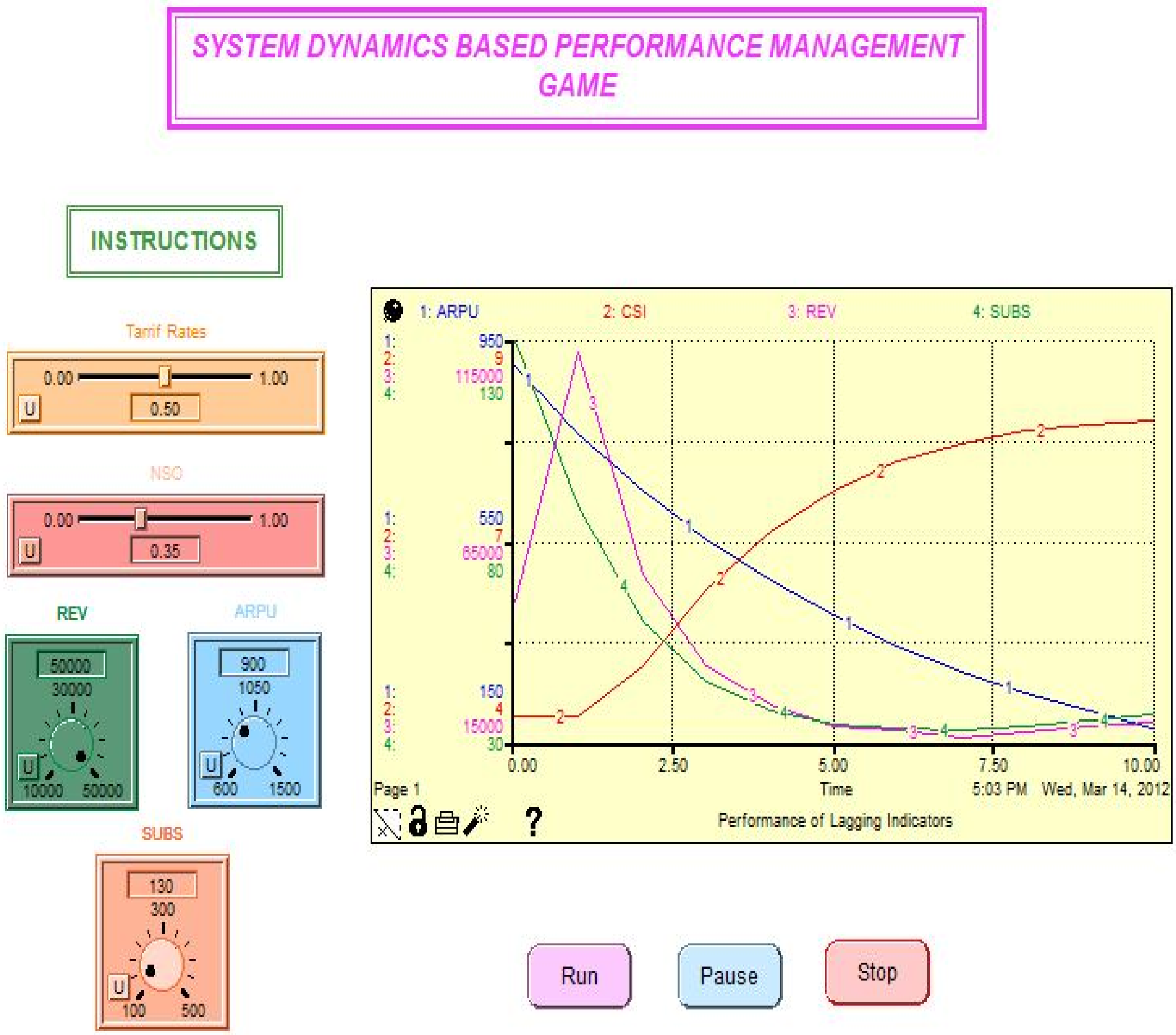

Figure 7: Snapshot of Visual Interface for Performance Management Game

5. Validation of the Model

The purpose of validation of any model is to assure that it is an acceptable description of real system behavior with respect to a problem (Barlas, 1996). The model which is obtained and called as a system dynamics performance management model is being validated on the following fronts:

Structural Validity Test: Structural validity tests are being applied to check whether the structure of the model is a meaning full description of real relations that exist in the system (Barlas, 1996). This model looks an approximation to the real and existing telecom service providers system.

Behavioral Validity Test: Behavior validity tests are carried out to assess how accurately the model can reproduce the major behavior patterns exhibited by the real system (Barlas, 1996). The simulation results and behavior shown by the model is discussed with the experts from the company and experts find the behavior of model is approximately close to real system's behavior.

More validity tests, such as retrospective validity, sensitivity analysis etc. are under progress.

6. Discussions and Conclusion

The present study describes the development and testing of system dynamics based performance management model, gives an opportunity to researchers to think beyond scorecard approach and trying to play with the strategies to get the better performance results. The benefits recommended in literature to develop system dynamics based performance management system as getting the better representation of causal structure of analyzed system (Senge, 1990), helps to formalize and analyze the systemic structure of business environment in terms of relationships between structure and behavior (Davidsen, 2000) have been experienced while the process of development the performance management model for this study.

The outcome of the present study can be seen as this helps to understand the behavior of a telecom service providing system and development of the performance management model, which helps to understand the projected performance on the basis of existing strategies, and it is helpful for policy makers to look for the review of strategic interventions if required. The visual interface creates the learning environment of performance management game. This study attempts to contribute to knowledge base by showing the dynamics of an evolving performance management framework, i.e. flexible strategy game-card.

As, the percentages of exogenous variables are determined by understanding the industry trends, the calibration of model is required, which can be seen as the future work. Retrospective validity, sensitivity analysis and policy analysis are in the process for the present study. These analyses give more precision to the model presented in this work, and then it can be tested on other telecom service providing companies, which would help to get more insights to develop a generalized system dynamics based performance management model. This work can be considered as a stepping stone related to dynamics in enterprise performance management system.

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Appendix A1:

STELLA Equations:

ARPU(t)= ARPU(t-dt)+ (RCARPU)*dt

INIT ARPU= 700

INFLOWS:

RCARPU= ARPU* (NSO- Tarrif_Rates)

NSO= 0.50

Tarrif_Rates= 0.43

CSI(t)= CSI(t-dt) + (CSR)*dt

INIT CSI= 4.3

INFLOWS:

CSR= DISC* (CCR*RVAS)

RVAS= 0.35

CSIGOAL= 10

CCR= Ghost Variable

DISC= CSIGOAL- CSI

REV(t)= REV(t-dt) + (RCR)*dt

INIT REV= 40000

INFLOW:

RCR= TAR-REV

AR= ARPU* SUBS

TAR= LM&A+ AR

LM&A(t)= LM&A(t-dt) + (RM&A)*dt

INIT LM&A= 0

INFLOWS:

RM&A= M&A

M&A= GRAPH (TIME)

(0, 0), (1,525), (2, 2025), (3,975), (4, 2525), (5,500), (6, 2975), (7, 2475), (8, 2025), (9, 1025), (10, 975)

INFRA_INV(t)= INFRA_INV (t-dt)+ (INVR-DEP)*dt

INIT INFRA_INV= 0

INFLOWS:

INVR= REV*IR

OUTFLOWS:

DEP= INFRA_INV* DR

CCR= INFRA_INV/ TARGET

IR= 0.10

DR= 0.04

TARGET= GRAPH (TIME)

(0, 10000), (1, 15500), (2, 30000), (3, 42000), (4, 53000), (5, 70000), (6, 100000), (7, 140000), (8, 225000), (9, 400000), (10, 500000)

SUBS(t)= SUBS(t-dt) + (NSUBS)* dt

INIT SUBS= 100

INFLOWS:

NSUBS= SUBS* (FNSO+ FCSI/ 10)

FCSI= CSI-MCSI

FNSO= NSO- IANSO

IANSO=0.60

MCSI= 5

Appendix A2

Numerical Results of Simulation for Lagging Indicators (Table Pad STELLA)

11:13 PM 3/13/2012 Table 1 (Lagging i...tors of performance)

Time	ARPU	CSI	REV	SUBS
0	700.00	4.30	40,000.00	100.00
1	749.00	4.30	66,000.00	83.00
2	801.43	4.81	55,567.00	68.89
3	857.53	5.45	50,178.81	60.73
4	917.56	6.04	49,606.00	57.36
5	981.79	6.56	51,198.80	57.58
6	1,050.51	6.98	57,460.50	60.80
7	1,124.05	7.27	64,680.10	66.74
8	1,202.73	7.50	78,070.58	75.24
9	1,286.92	7.65	94,689.71	86.52
Final	1,377.01	7.74	115,902.51	100.77