Organization's Changes Through its Lifecycle;
A System Dynamics Approach

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Abstract:

Many scholars have used organizational life cycle theory to explain development in organizations. Each has considered stages of organizational development from a specific perspective by unique sets of organizational characteristics. For example, Queen (1983) focused on changes in organizational structure or Mintzberg (1984) emphasized on Power perspective. So in most of the models, only some attributes are discussed to be able to cope with the complexity of change. As a result, the relationship between these attributes is not vividly discussed.

In this paper, we tried to extract some of the key attributes of organizations which cause the change from the literature and concentrated on the relationship between them. Resting on this approach, we were able to look at organizational change as a continuous process which is caused by the mutual relationship between different attributes.

After recognizing the feedback loops that shape the behavior of organizations through their life cycle, we simulated it with system dynamics tools. Since in different situations and presumption organizations may encounter with different barriers to growth, which are referred as crises, we developed our model for different scenarios. This way, it is possible to view the dynamics of organization's changes in its lifecycle.

Keywords:
Organization life cycle, Feedback loops, Limit to Growth, Fitness, Delegation, Control, Formalization, Flexibility

1. Introduction

Many scholars use the metaphor of organizational life cycle to explain organizational development over time. This theory seemed very interesting, specifically in the 1990s. However, different models differ in the number of stages of the life cycle. In general, theories on stages of organizational development postulated common sequences in organizations as they survive and develop over time, some of them also include the decline cycle. “According to life-cycle theory, change is imminent: that is, the developing entity has within it an underlying form, logic, program, or code that regulates the process of change and moves the entity from a given point of departure toward a subsequent end that is prefigured in the present state.”[1].

Although attempts to prove the existence of a general model of life cycles have failed (Levie and Hay, 1998)[4], a consensus exists among researchers that, in general, small business organizations progress through different stages of development over time, from existence to survival, success, and maturity (Eastlick, Lotz, & Shim, 2000)[5].

Each scholar has considered stages of organizational development from a specific perspective by unique sets of organizational characteristics. They range from the cognitive orientations of organization members to organizational structures and environmental relations [2]. For example, many researcher cited - like Queen (1983) - concentrated on changes in organizational structure, or Mintzberg (1984) emphasized on Power perspective.

As Mintzberg(1983) points out, “Each stage in organization life cycle is a cluster of attributes, or configurations in organizations”[3] and Queen mentions, “At least nine different models of organizational life cycles have been proposed, each of which emphasizes different factors to explain the changing characteristics of organizations over time.”[2] In order to cope with the complexity of organization attributes, organizational lifecycle models consider a limited set of organizational attributes. Although this makes it easier to track the changes and also to determine a boundary for each stage, the mutual relationship between different characteristics which indicates the change is not usually well described.

Although organizational life cycle theory considers organization’s changes abrupt and discrete, we tried to see transitions of organizations through different stages as a continuous process. In order to do that, we developed a model with system dynamics approach to explain the transition of organization and demonstrate the mutual effect of different organizational characteristic which was introduced in previous studies.

Organizational life cycle

Queen et al. (1983), in their article point to 9 most significant models of organizational life cycle. Among them, Adizes incorporates more organizational characteristic in his analysis and model development. Thus we choose this model as a basis for developing our dynamic model. Adizes model of organizational development suggests that organizations develop through stages because of changes in emphases on four activities; producing results (P), acting entrepreneurially (E), administering formal rules and procedures (A), and integrating individuals into the organization (I). Organizations, according to this model, begin with an emphasis on entrepreneurial activity (E) that later becomes coupled with an emphasis on producing results (P). Formalization, administrative activities, and integration emphases take precedence as maturity is approached. Organizational decline occurs primarily because of an over-emphasis on stability, administration, and rules and procedures.

In this model, Adizes enumerates 10 stages, first 5 explain development phase and next 5 discuss decline phase. Explanation of each stage is written below.

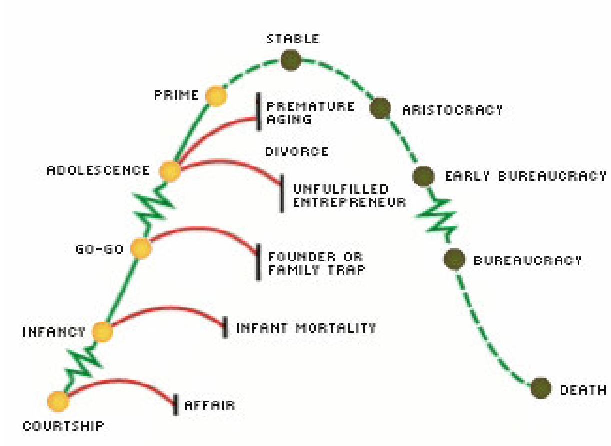

Figure 1- Adizes Lifecycle Model

Courtship:
"In this stage, the company is not yet born. The preliminary goal of this stage is to build founder's enthusiasm and commitment to his dream. The higher the risk, the dipper the commitment needed."

Infancy:
"Infancy begins the moment financial risk has been undertaken and the founder quits [his\] her paying job, signs the loan documents and etc. the focus instantly changes from ideas to action." Like a real baby, Infant organizations need two things to survive: 1) periodic infusion of milk (operating capital), and 2) the unconditional love of their parents (Founder(s)).

Go-Go:
"A Go-Go organization is a company that has a successful product and service, rapidly growing sales and strong cash flow. The company is not only surviving, it's flourishing. … Continued success quickly transforms this confidence into arrogance. Go-Go companies are like babies that have just learned to walk. They can move quickly and everything looks interesting. Fueled by their initial success, "Go-Go"-s feel that they can succeed at almost anything that comes their way."

Adolescence:
"In this stage the company must find a life apart from that provided by its founder". In transition from Go-Go to adolescence, organization encounters three principal challenges:

- Decentralization of authority
- Change in leadership from entrepreneurship to professional management.
- Goal displacement. In Adolescence, the company must change from the Go-Go's "more-is-better" goals to "better-is-more" goals. Profitability emerges as the most important goal for the organization in this stage.

Prime:
"Prime is the optimal position on the lifecycle, where the organization finally achieves a balance between control and flexibility. Prime is actually not a single point on the

lifecycle curve. Instead, it is best represented by a segment of the curve that includes both growing and aging conditions. This is because flexibility and self-control are incompatible and there is no stable equilibrium."

Stable:
"Companies that are in the Stable phase have started to lose their vitality and are aging. The leaders of Stable companies are starting to feel content and somewhat complacent. This attitude has been developing for some time. The company is strong, but it is starting to lose flexibility."

Aristocracy
"The effects of the steady decline in flexibility, which began in Prime, start to become more obvious in Aristocracy. Because it has neglected to pursue long-term opportunities, the company's focus becomes increasingly short-term. For the most part, its goals are financially-oriented and low-risk. Working within the system, supporting the status quo and not making waves, are the most important contributions. Aristocratic organizations exhibit a very characteristic set of behaviors. How people dress, where they meet, the facilities they own, how they speak to each other, handle conflict and make decisions are remarkably different from the other stages on the lifecycle."

Early Bureaucracy
"When an Aristocracy is unable to reverse its downward spiral and the artificial repairs finally stop working, management's mutual admiration society abruptly ends.

- People focus on who caused the problems, rather than on what to do about the problems.
- Problems get personalized. Rather than dealing with the organization's problems, people are involved in interpersonal conflicts, backstabbing, and discrediting each other.
- Paranoia freezes the organization.
- Personal survival and turf wars absorb all available energy leaving precious little to deal with the needs of customers or the world outside the organization"

Bureaucracy
"Although it should be dead, the company in Bureaucracy is kept alive by artificial life support. In the Bureaucratic stage, a company is largely incapable of generating sufficient resources to sustain itself.
The Bureaucratic organization:

- Has many systems and rules and runs on ritual, not reason.
- Has leaders who feel little sense of control.
- Is internally disassociated.
- Creates obstacles to reduce disruptions from its external environment.
- Forces its customers to develop elaborate approaches to bypass roadblocks."

Death:
"Death occurs when no one remains committed to sustaining the organization. "

2. *Models*

2.1. Base Model

In order to model organizational changes, first we built a base cycle of growth which has no limitation.

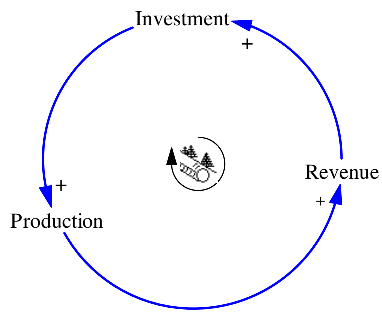

Figure 2- Base Model

Here production refers not only to the amount, but also the complexity. For example when a production amount increases in our models, it may mean that more products have been produced or it may also mean that more complex products have been produced.

When we went through the stages and encountered crises, we added limitations and also the mechanisms for overcoming them step by step. We have modeled crises of four stages: Infancy, Go-Go, Adolescence and Prime. The model finally we got to covers all the crises of these four stages.

The most important source we used was the Adizes model for organizational growth, although other lifecycle models like Greiner (1972) and Queen et al (1983) were used too.

2.2. Infancy

When companies start production, they sure need some kind of investment. They bear some fixed and variable costs at the beginning, whereas they would gain money with a delay after completing the products, putting them to market and selling them. This is true especially for start up firms because they don't have enough reputation in the market to sell their products. Followed, you can see a simple stock and flow model of the matter. (Figure 3)

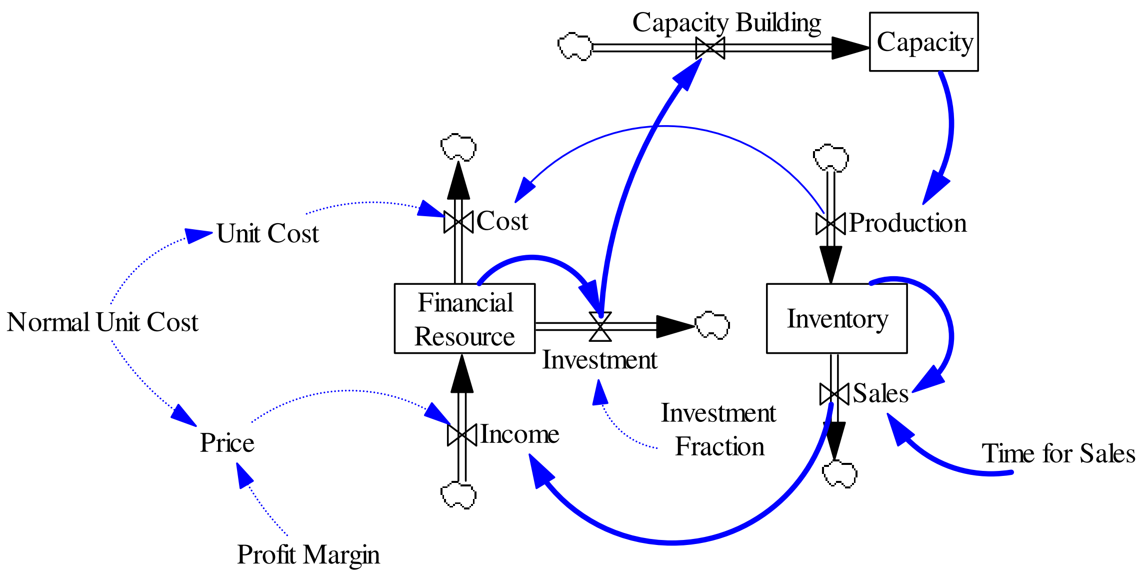

Figure 3- Financial Resource Limit

So, the mentioned delay in gaining income would cause a shortage in financial resources at the beginning. Some ways to overcome this shortage is by the help of loans, receiving pre-payments or stock sales. “An Infant company finally establishes its products or services with key "reference" accounts in the marketplace, and begins to enjoy strong demand, consistent sales growth and a healthy cash flow from sales, and that would facilitate the organization transition into the next stage of its lifecycle: Go-Go.” [7]

Figure 4, shows that in the first months financial resources decrease, and even may get negative as in this example. Then, after the success in sales, they start to increase.

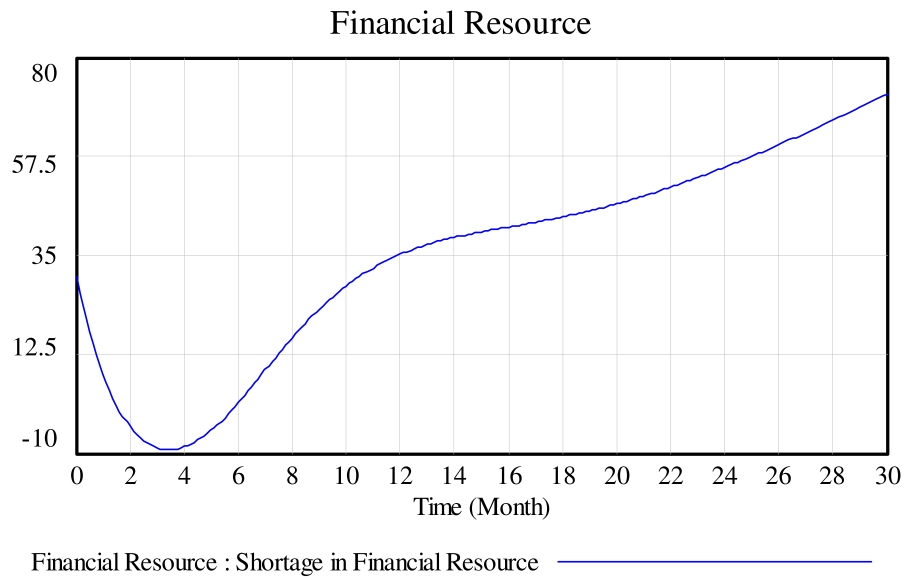

Figure 4- Shortage in Financial Resource

As we mentioned above, founder may decide to sell stocks not to be short on funds. As a result, the founder’s share would go less and decrease in founder’s share, may lessen his commitment to the firm. In these early years of organization’s lifecycle, founder’s commitment and effort has a very impressive effect on the output. Decrease in founder’s commitment would degrade the organization’s output and organization’s cash would diminish as a result. This would put more and more pressure on founder and would cause some more stock sales and again, both exacerbate founder’s commitment.

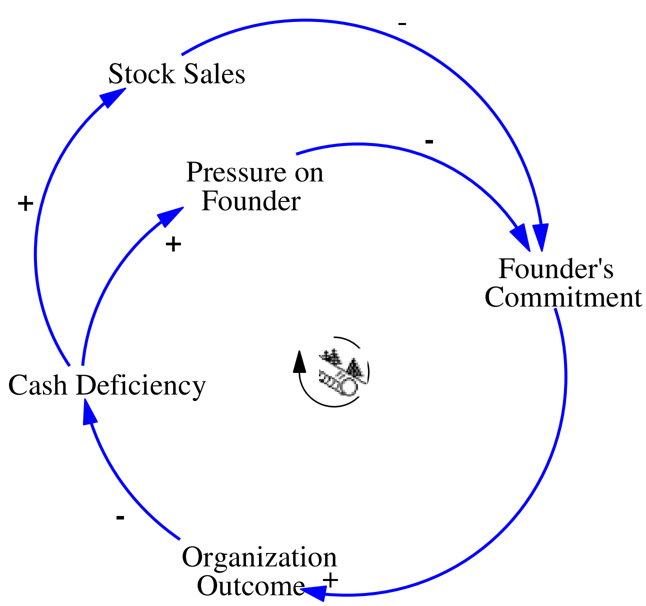

Figure 5- Effect of Stock Sales on Founder's Commitment

2.3. Go-Go

- Founder's Ambitiousness

After overcoming the first crisis, sales increase. Increase in sales, makes the founder think that he has gained a big success and he can make so many other wishes come true. So, he may think about expanding the business while he is optimistic to gain success in the new lines too. Most of the time, his ambitiousness follows product fitness reduction. Diversifying the business disregarding the fitness among lines, increases cost in different operations like distribution, production and marketing. Also, lack of enough knowledge and expertise in these dissimilar and new lines increases the costs of decision making for the organization.

So, founder's ambitiousness may lead to decrease in product fitness which in turns increases costs.

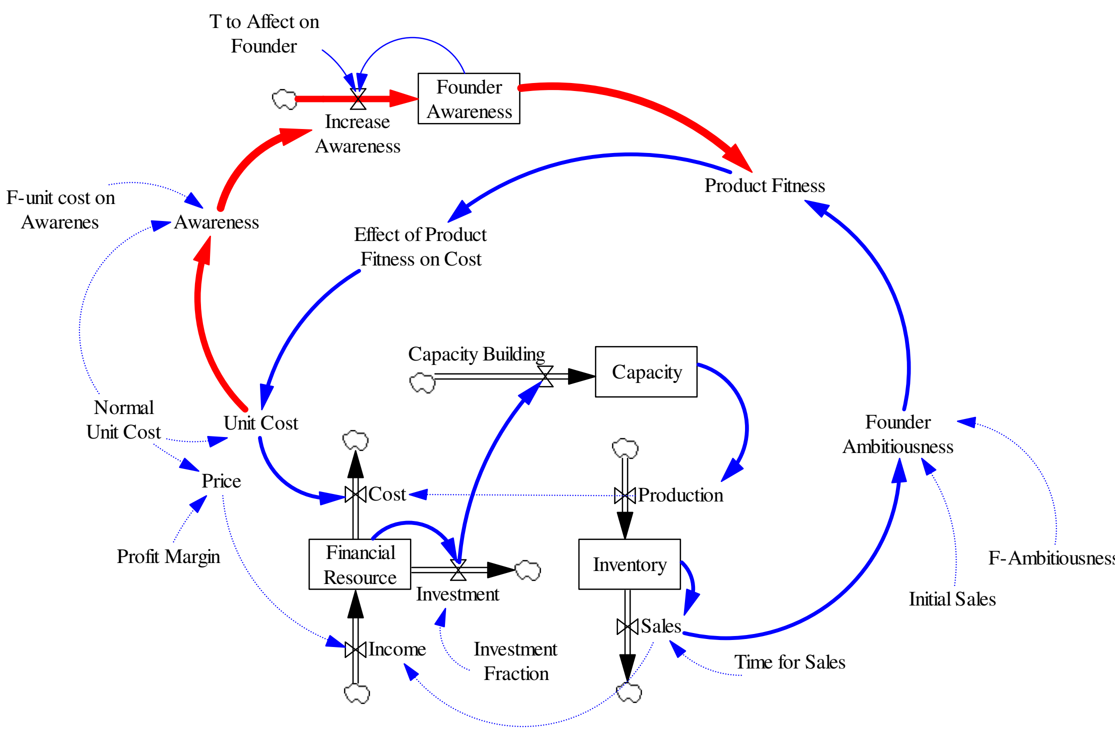

Figure 6- Product Fitness and Founder Awareness

As figure 6 represents, if the founder becomes aware of this low fitness and takes action to increase the fitness, the situation ameliorates. Figures 7 and 8 clearly show the change in financial resources and capacity. If we assume that financial resources reflect the organization's potential in production growth, you could see that production growth potential, increases as the founder becomes more aware of the fitness importance.

Other lifecycle models, also point to this crisis in this stage for example Greiner (1972) suggests that growth through direction take place in this stage.

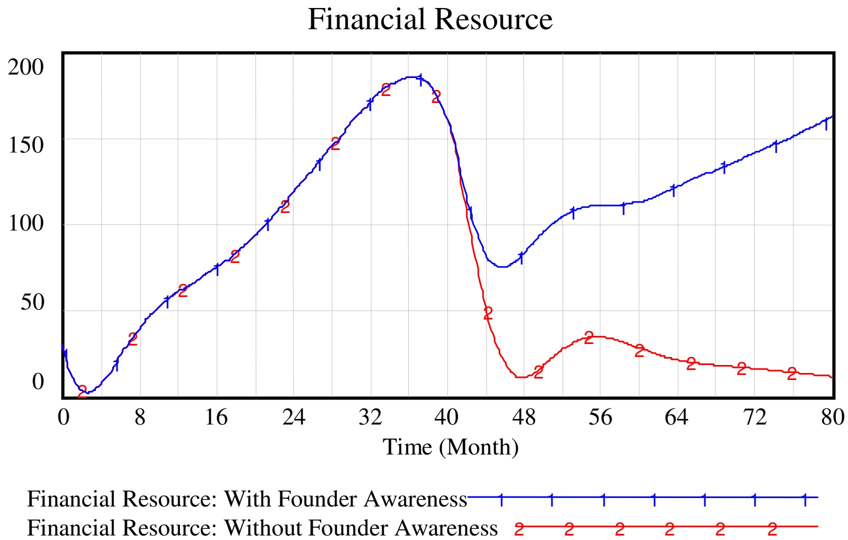

Figure 7- Effect of Founder's Awareness on Production

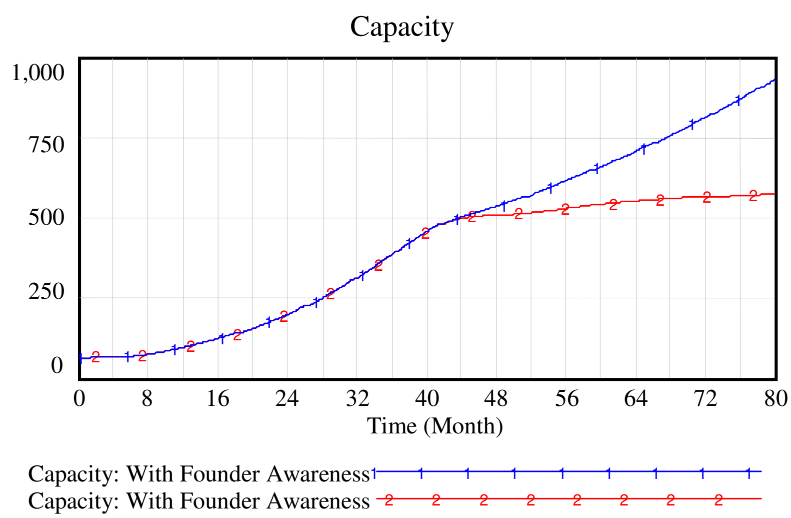

Figure 8- Effect of Founder's Awareness on Capacity

2.4. Adolescence

- Delegation Crisis

As the organization succeeds to preserve its product fitness while increasing production quantity, another crisis comes out. Founder would encounter new problems and issues to decide on and since he is used to making all the decisions by himself, he may find himself drowning in these issues. Following are some of the problems the founder may encounter while expanding the business:

- Founder may lack enough Knowledge to decide about all the issues, because the organization has become more specialized.

- Founder doesn't have enough Information about All Problems, because the organization is turning to a larger one and one would have much more delay in gaining information.
- Since there are a lot of issues to make decision about, the founder may be short in time.

It is the time to delegate. By delegation, the founder would tolerate less pressure and under less pressure he could make better decisions. If decision making by new managers is done well, decision making quality would increase. So, organization performance would improve which in turn would increase the revenue. Increasing in revenue can be used to invest more in production and so, founder would encounter more issues to solve. Greiner also, mentions crisis of autonomy as the next crisis that appears. He argues that growth in this stage is achievable through delegation. He continues "Decentralized managers with greater authority and incentive are able to penetrate larger markets, respond faster to customers, and develop new products." [6]

Figure 9 shows the issue discussed above. [1]

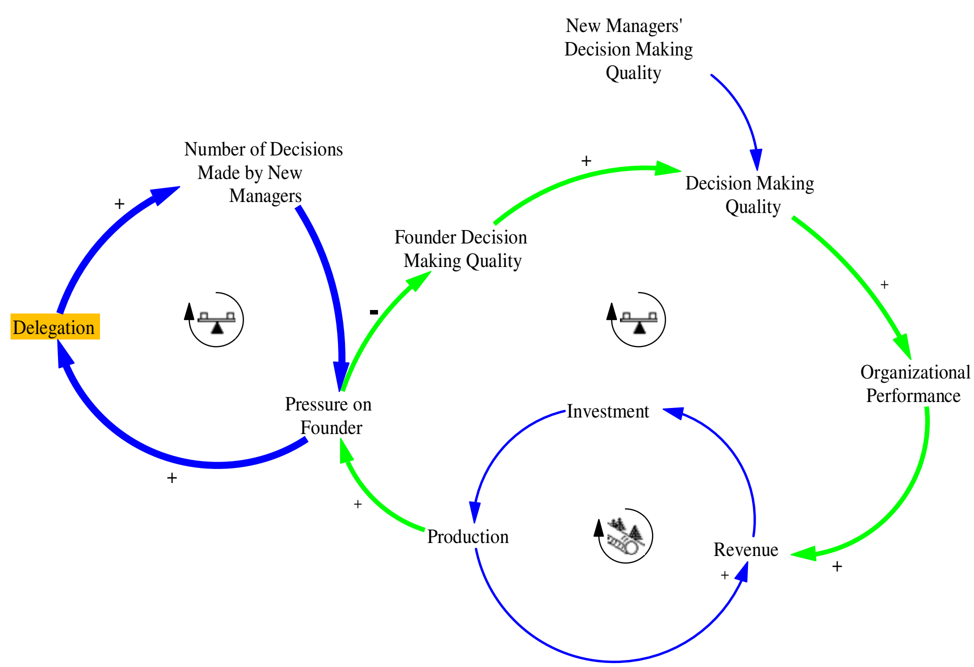

Figure 9- Delegation to New Managers

But usually the new managers to whom delegation is done are not experienced like the founder. Also, most of the time, they are more technical and are not familiar with managerial issues. Even if they are managers from outside the company, they may lack information about the company. Another important issue is that the new managers' ideas and approaches may differ from the founder.

[1] Since casual models are easier to deal with, we have put them in the text and the sock and flows are placed in the appendix.

So, it is very common that not after a long time passed from delegation, the founder realizes that he could make better decisions than the new managers. So, he would take back the responsibility and authority. But, as he is not able to deal with all of them, he would delegate them again. This yo-yo delegation happens till the founder gives the new managers the opportunity to learn and bears them to make wrong decisions.

As you see in figure 10, if the founder gives enough opportunity to new managers to gain experience in dealing with issues, they would be able to increase their capacity in decision making and the founder can delegate more as a consequence.

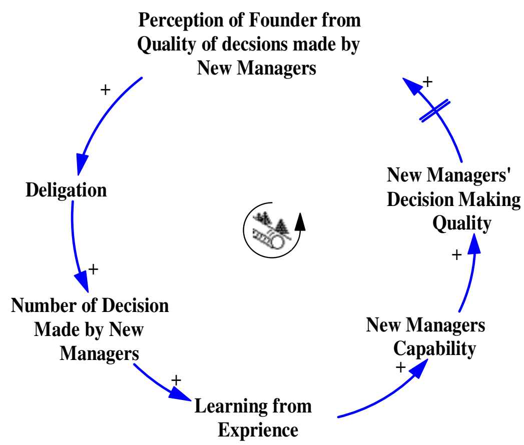

Figure 10- Opportunity to Learn for New Managers

In the following charts, you could see how giving more time and opportunity to the new managers would affect their experience and change the number of delegated decisions.

Figure 11- Effect of Experience Opportunity on New Manager's Experience

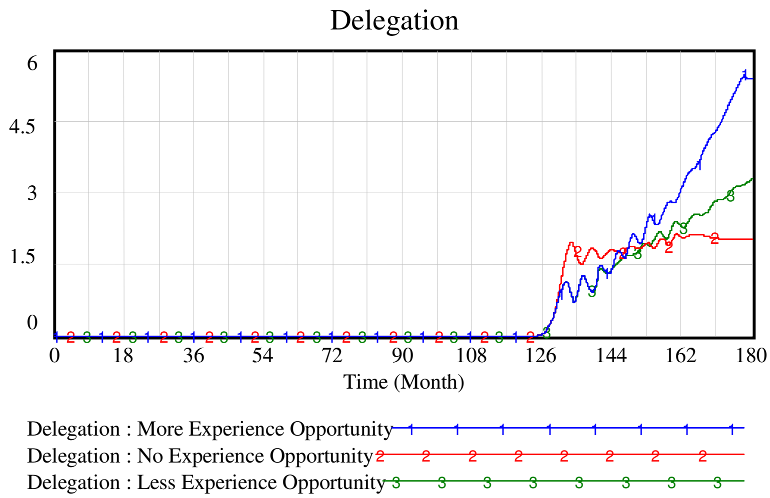

Figure 12- Effect of Experience Opportunity on Delegation

As it is shown in figure 13, if the orgaznization succeeds in passing this barier, the growth in production will continue.

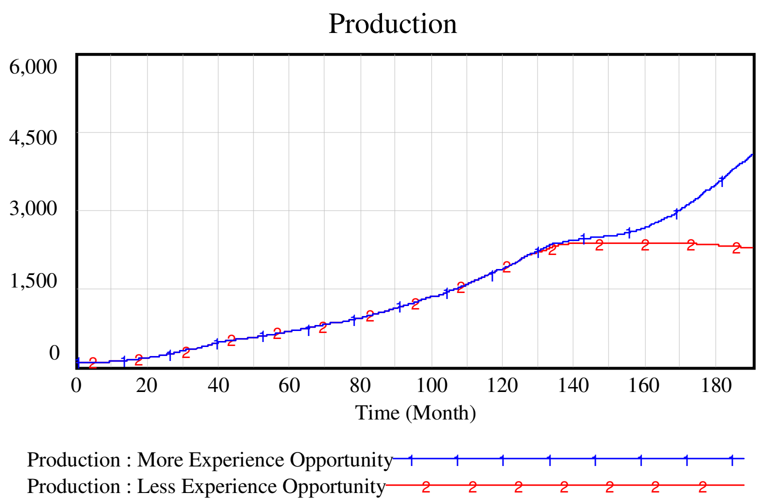

Figure 13- of Experience Opportunity on Production

Figure 14 adds this learning concept of the new managers to our casual model.

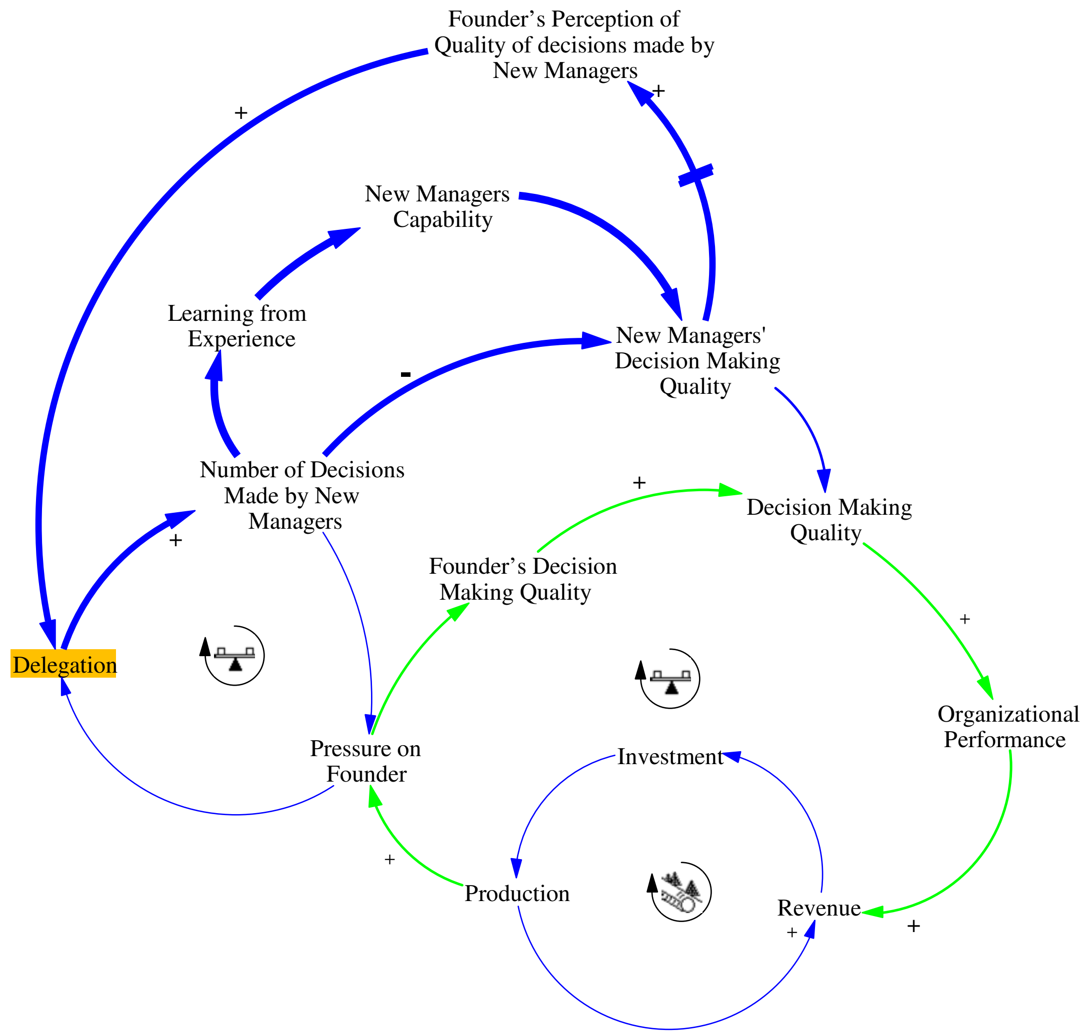

Figure 14- Decision Making Quality

- Crisis of Control

But, giving time to new managers to have more experience per se may not solve the delegation problem. Since the new managers want to be autonomous, they prefer to run their own shows without coordinating plans, money, technology, and manpower with the rest of the organization. So, they may still make decisions with which the founder would not agree. In other words, founder's control on organization may decrease and should be discussed. Here, founder's control is assumed to be to the degree to which decisions made in the organization accord with the founder’s opinion.

Greiner argues, “A serious problem eventually evolves as top executives sense that they are losing control over a highly diversified field operation.” [6] In fact if the founder feels that his control over the organization has decreased, he would cease delegation and so he would try to make most of the decisions himself. As Greiner mentions "Some top managements attempt a return to centralized management, which usually fails because of the vast scope of operations. Those companies that move ahead find a new solution in the use of special coordination techniques." [6]

In short, one of the factors which affect the number of delegated decisions is how much the founder confirms new managers' decisions.

In the previous models, we did not discuss the founder control over the organization. But when we include this concept in the model, another limitation to growth appears. Figure 15 shows how delegation and production change when we consider founder's control in the model. It is presented that the loss of control as a result of delegation, would limit the number of delegated decisions and the production quantity as a result.

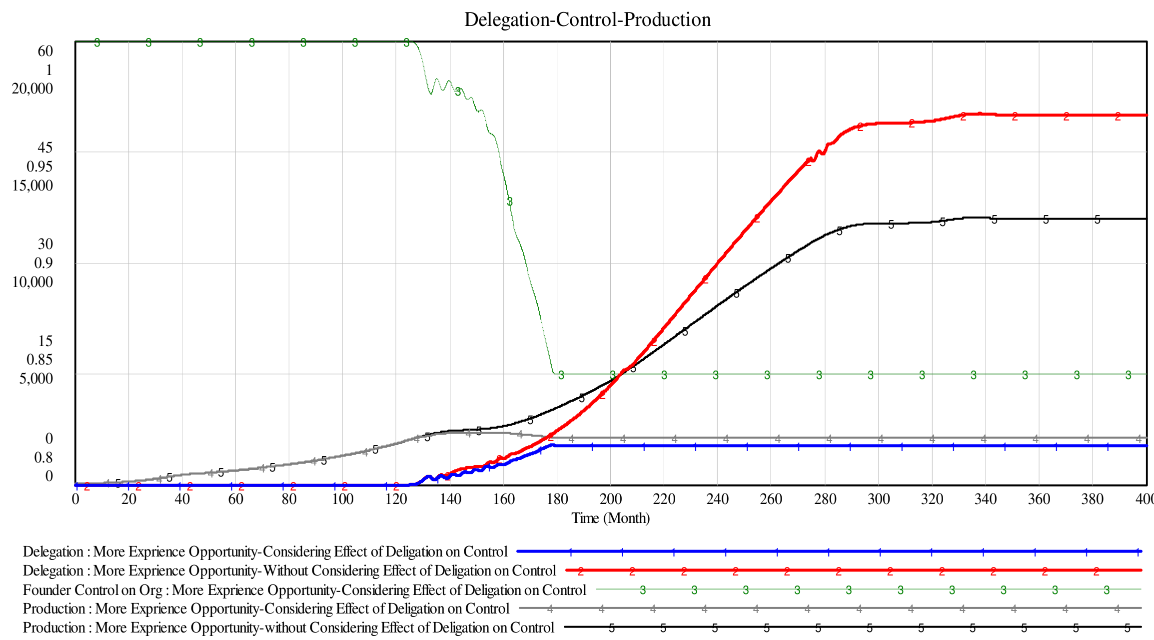

Figure 15- Effect of Considering Founder's Control over organization on Delegation and Production

One way to gain control over the organization while delegating, is to make rules and regulations. This way, the rule maker could be more certain that decisions are made his way. So, the number of rules and regulations which affect founder's control over the organization could facilitate delegation. Greiner suggests that this phase is characterized by the rise of formal systems for achieving greater coordination and by top executives taking responsibility for the initiation and administration of these new systems.

Figure 16 shows the effect of rules and regulations on production. As you see from figure 17, rules and regulations could increase production quantity by the effect they have on founder's control over organization and the number of decisions they could delegate.

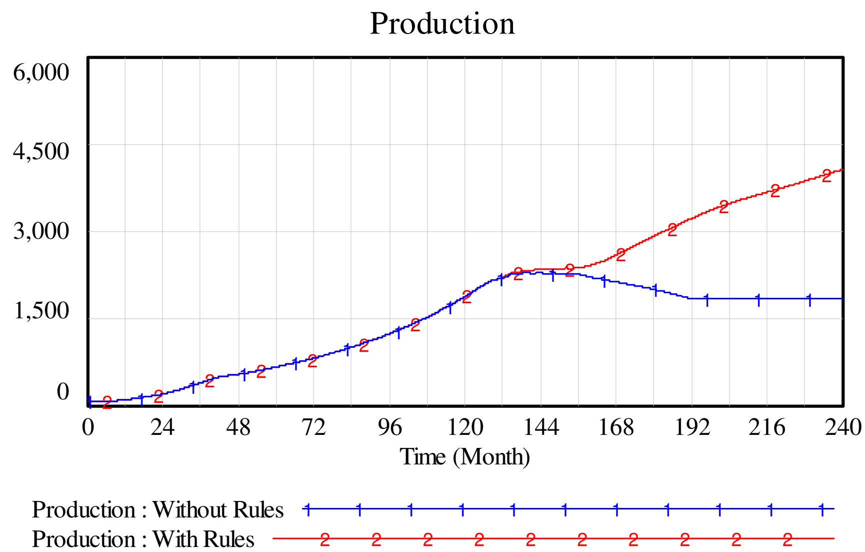

Figure 16- Effect of Rules on Production

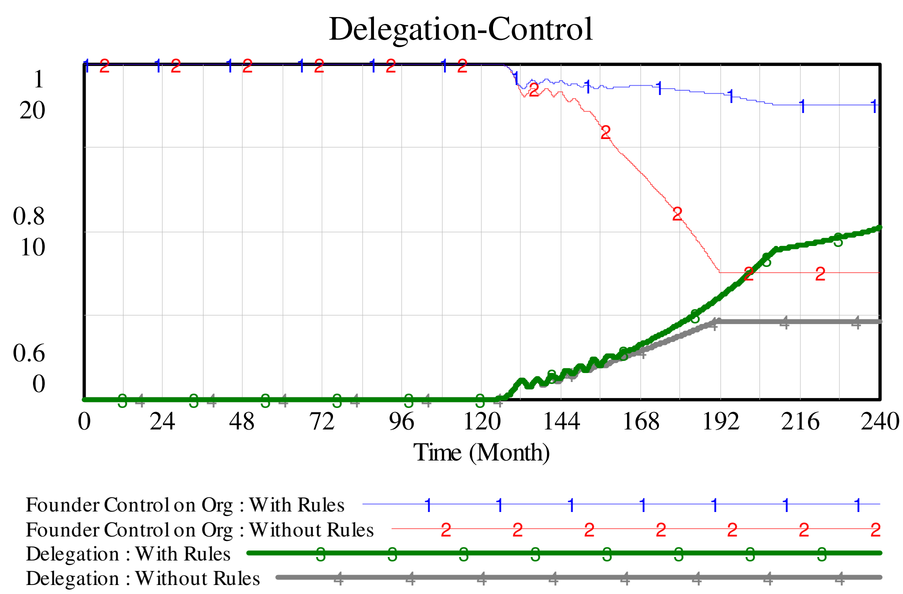

Figure 17- Effect of Rules on Delegation and Control

But, some generic problems arise when the founder tries to establish rules and regulations. The most important is that frequently the founder subverts the rules he himself established. In the "infancy" and "Go-Go" stages, founder used to make decisions himself and there were no rules except his own word. He usually has the tendency to have this situation continued in the adolescence stage. By result, sometimes he would disobey the rules he had developed himself. While he is trying to establish rules, subverting rules decreases the rule acceptance by other employees. As it is shown in figure 18, this dynamic exacerbate the perception of founder about lack of control in organization and so he would do anything to gain control while not following the rules himself.

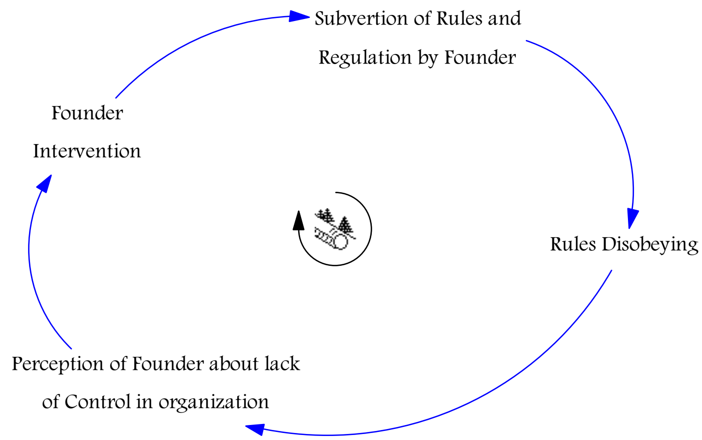

Figure 18- Subversion of Rules by Founder

If the founder overcomes the tendency of subverting rules and regulations, he could increase the alignment of new managers' decision making with his ideas by formalization. Figure 19 shows this.

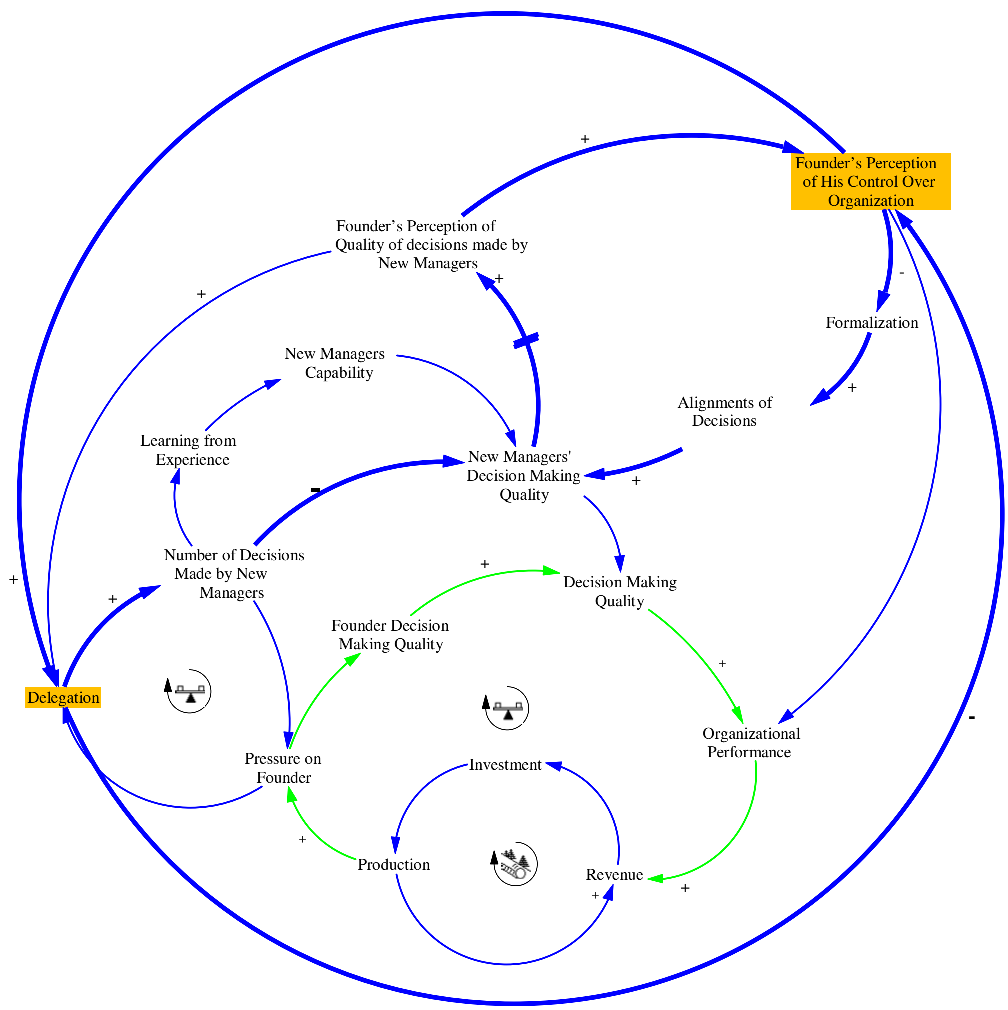

Figure 19- Founder's Control on Organization

2.5. Prime

- **Creativity crisis (crisis of red tape)**

Growing organizations need to decentralize more in order to develop capability of continuous growth. However, this is along with more formalization to maintain required harmony in the organization. This reinforcing loop which is shown in figure 20[2], results in an ever-increasing formality in the organization. Less flexibility sequels to formalization increase.

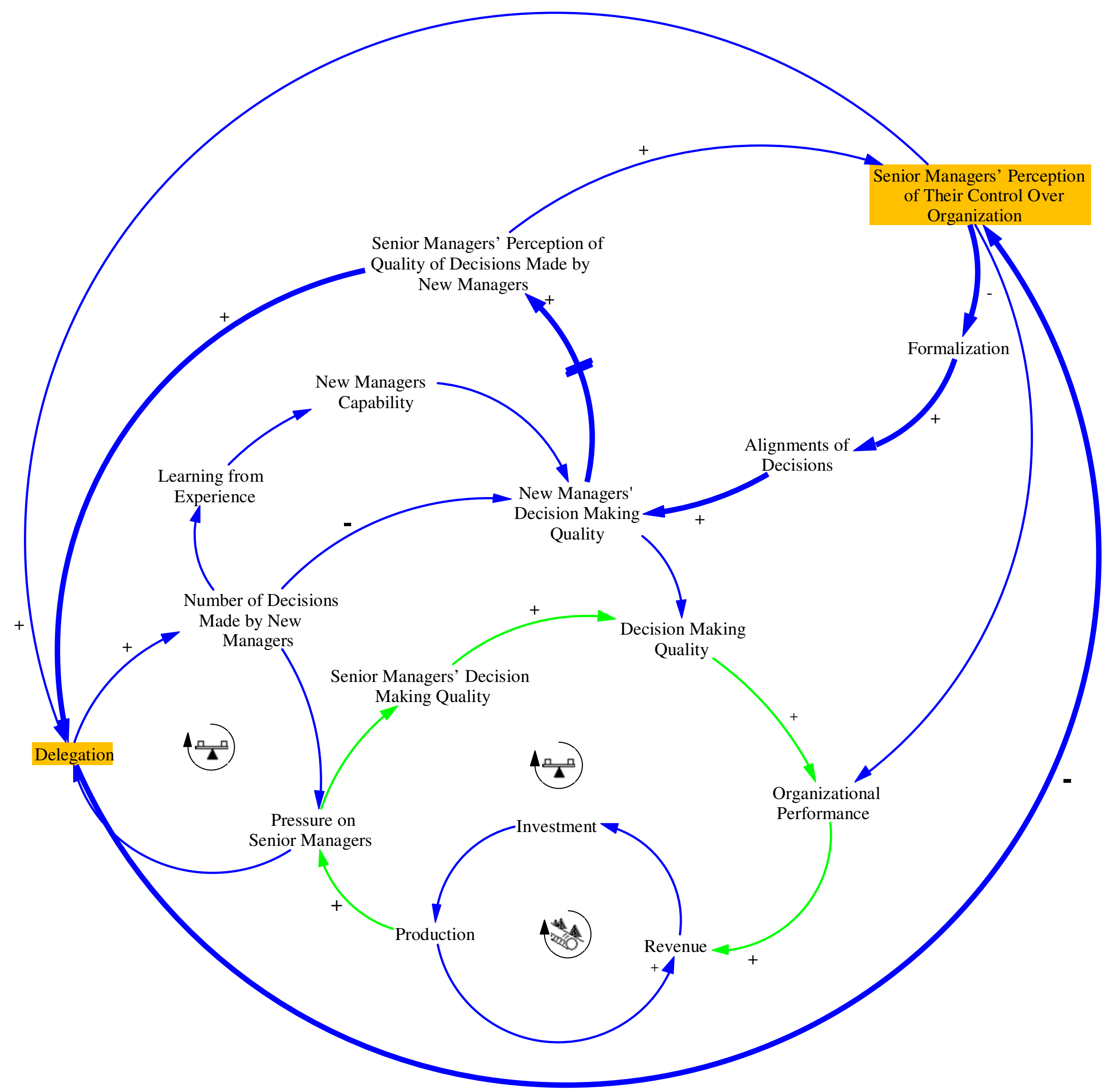

Figure 20- Formalization Reinforcing Loop

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[2] Usually, from the Adolescence stage, a need for professional managers starts and in Prime stage, professionals manage instead of founders. [7] So, from now on, we would replace "Founder" with "Senior Managers" in our models.

A formalized organization would have problems in dealing with complicated issues. This would decrease organizational performance and lessens revenue. In figure 21 the flexibility concept has been added. Senior managers of companies in Prime, engage in a continuous struggle to maintain the delicate balance between flexibility and control. If procedures take precedence over problem solving and innovation dampens, organization falls into decline phases: Stable, Adhocracy, Early Bureaucracy, Bureaucracy and finally Death. (Figure 1) As Greiner mentions, "… the organization has become too large and complex to be managed through formal programs and rigid systems."[6] Greiner suggests strong interpersonal collaboration for solving this crisis. In other words, a more flexible and behavioral approach to management should be replaced in this period. As it is shown in figure 21, replacement of formal system by social control and self-discipline helps the alignment of decisions in organization while having a positive effect on flexibility.

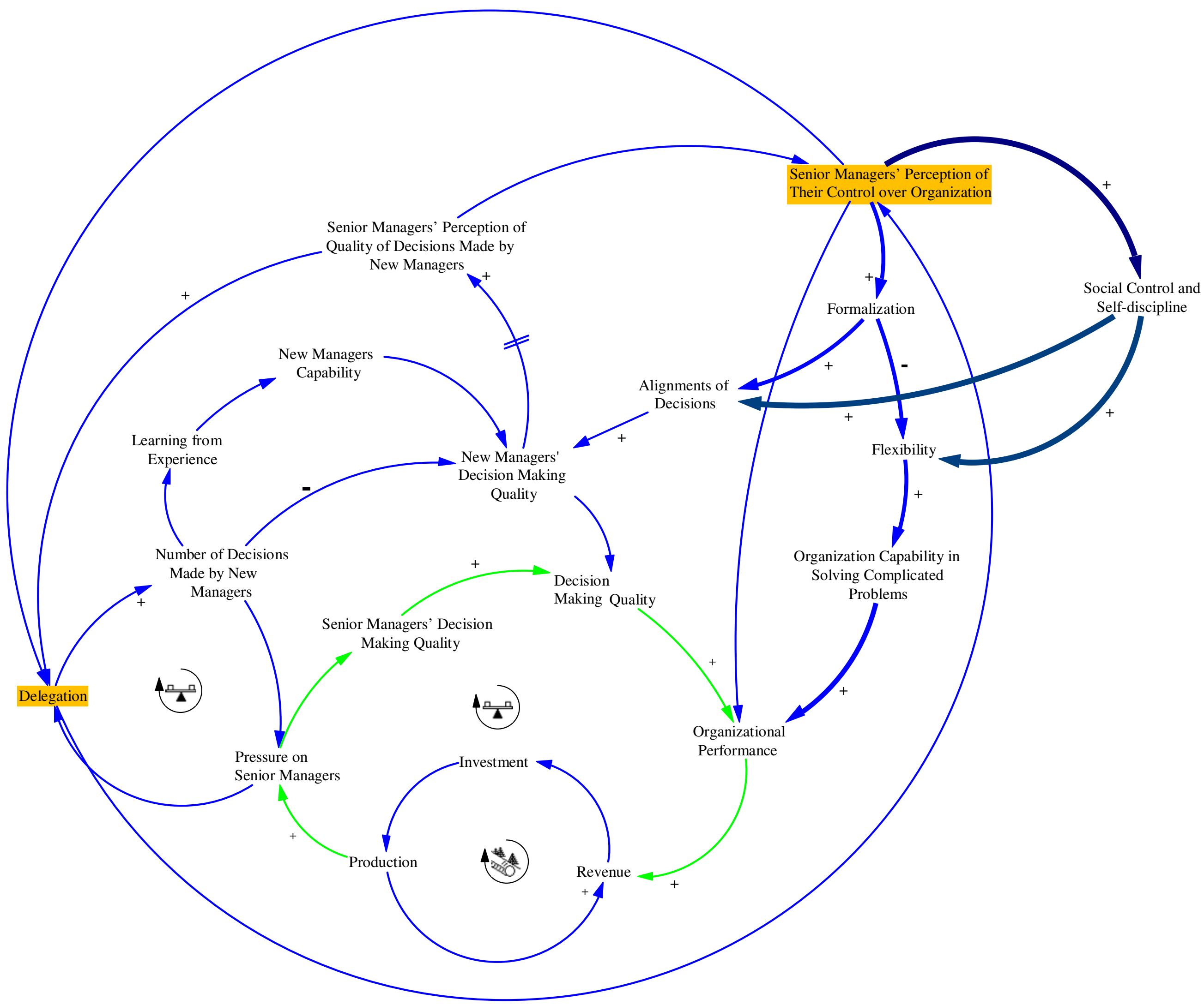

Figure 21- Organization's Flexibility

As a general conclusion one can say that for achieving a sustainable growth in prime organizations, a balance between different organizational characteristic should be maintained. The two most important balances that our dynamic model suggests are:

- Balance between delegation and formalization
- Balance between control and flexibility (by means of social control and self-discipline)

2.6. The Complete Model

As J. Forrester says in World Dynamics "Quantities that grow by a fixed percentage per year are exhibiting "exponential" growth. But exponential growth cannot continue indefinitely." Organizations encounter various growth limits through their lifecycle that we have mentioned some of them, extracting form organizational life cycle theory. These limits to growth are not imposed from external environment, but arise from the growth and success of the organization in the previous stages. As Greiner suggests "Managers often fail to realize that organizational solutions create problems for the future."

Theses crisis or "limits to growth" that emerge through time were entered to our model step by step in Figures 6, 9, 14, 19 and 21:

- Growing sales which increase founder ambitiousness
- A founder who used to solve the issues individually causes crisis of delegation
- A decision to delegate eventually causes a problem of control
- Formalization which ruins creativity

The result is shown in figure 22.

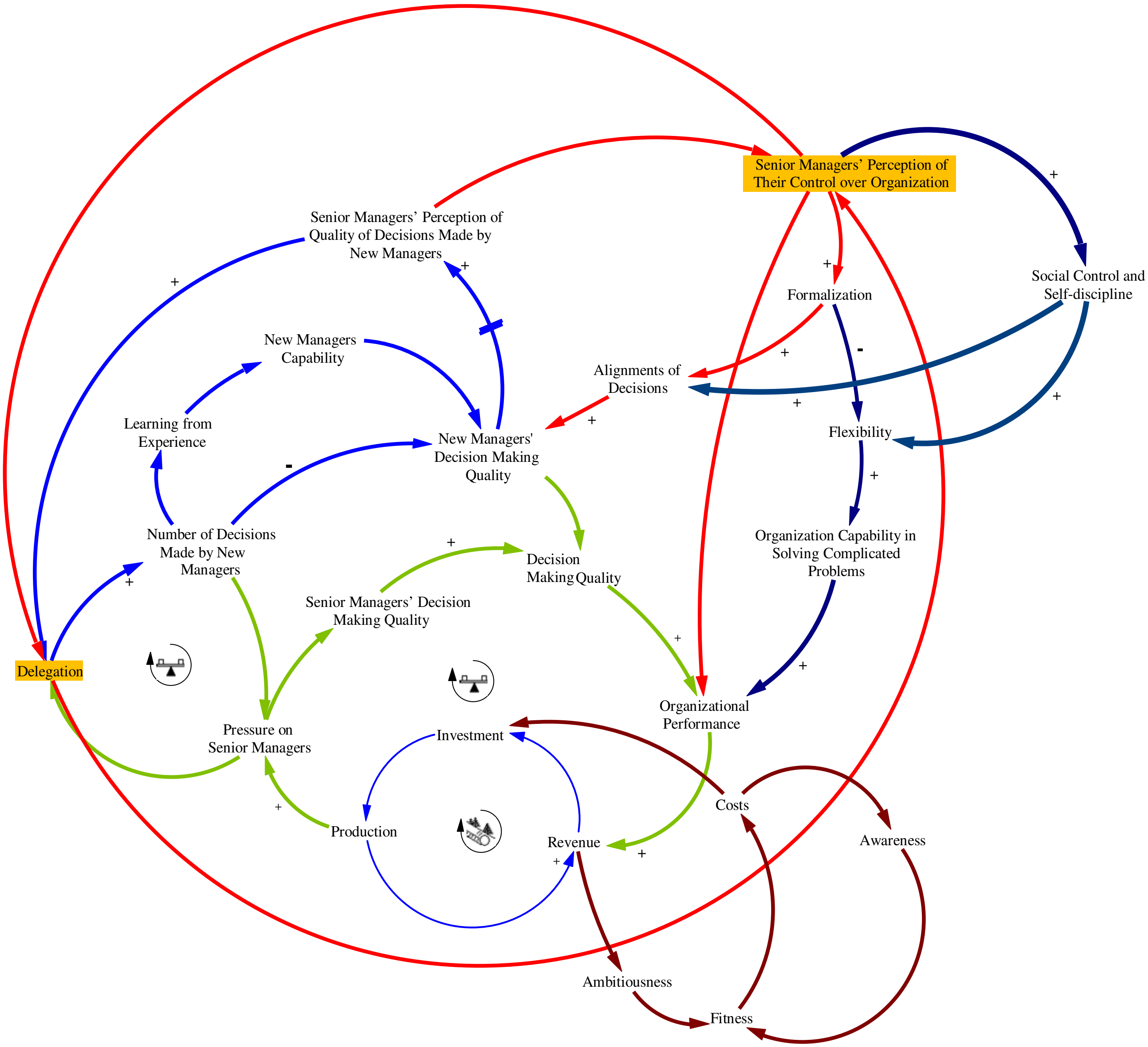

Figure 22- Complete Model

3. Conclusion

The developed casual model (Figure 22) has all the crises from the four stages of Infancy, Go-Go, Adolescence and Prime. (Except for the delay in gaining income which is discussed in our stock and flow models)

By this approach, instead of considering discrete stages for organizational change, we are able to look at it as a continuous process which occurs with the activation of different loops in the model. This holistic and dynamic approach to organizational growth would help in better understanding of how organizations change through their lifecycle.

Of course, as lifecycle theories look only inside the organizations, our model does not consider external factors that affect the organization either. Nor does it take account of large organizations which their different sections may have different attributes. Also, to surmount complexity, we have only considered one growth engine (Which is shown in figure 2) in our models.

As a further study, crises of other stages of lifecycle could be added to our model, we did not consider them because we intended to build our model on the general lifecycle model which is pointed in literature. Also the model could be examined by using it to study an organization's growth. Further more, a model could be developed to study which parts of organization would reach prime stage sooner and what is the effect of this imbalances on organizational growth.

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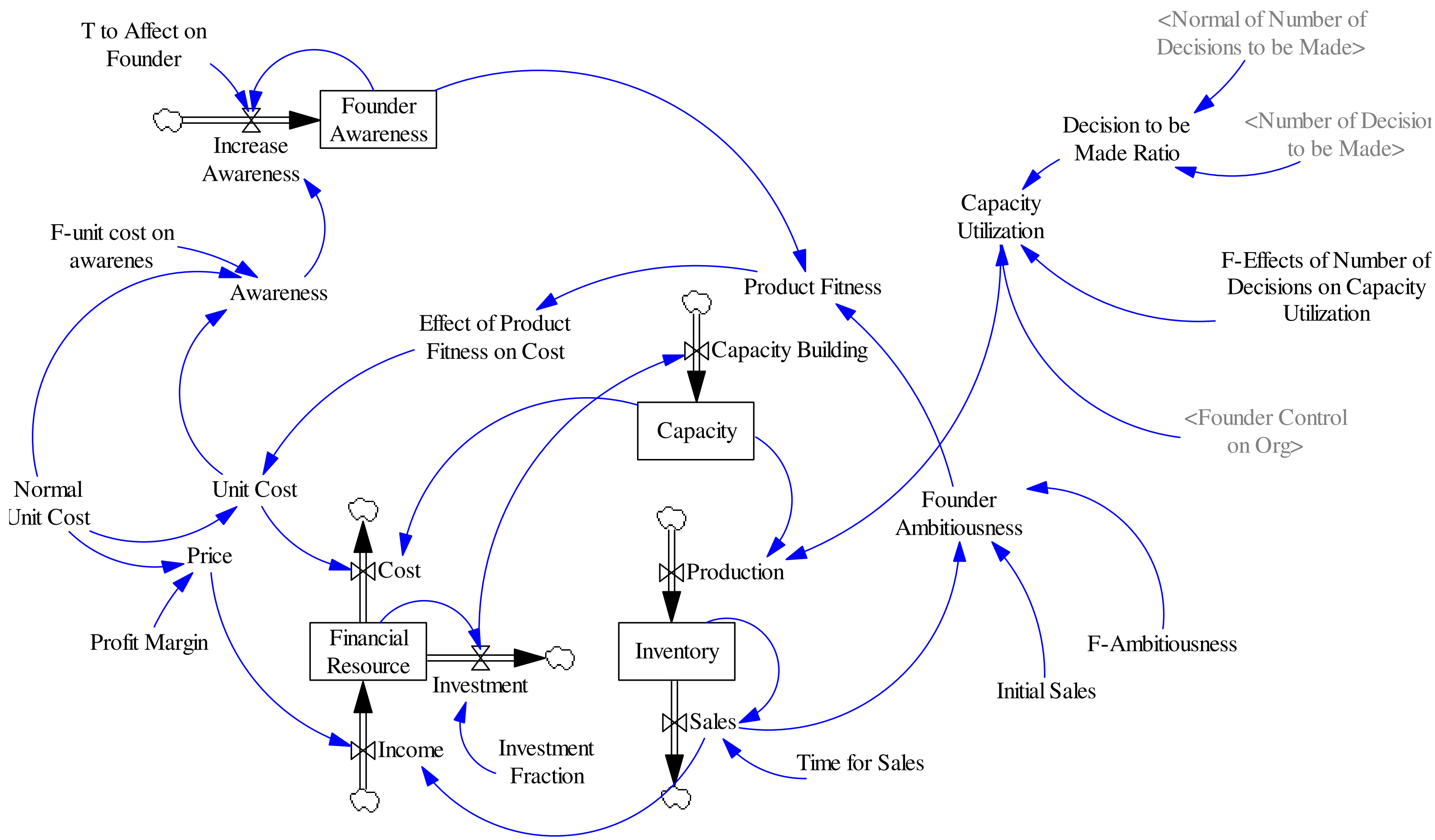
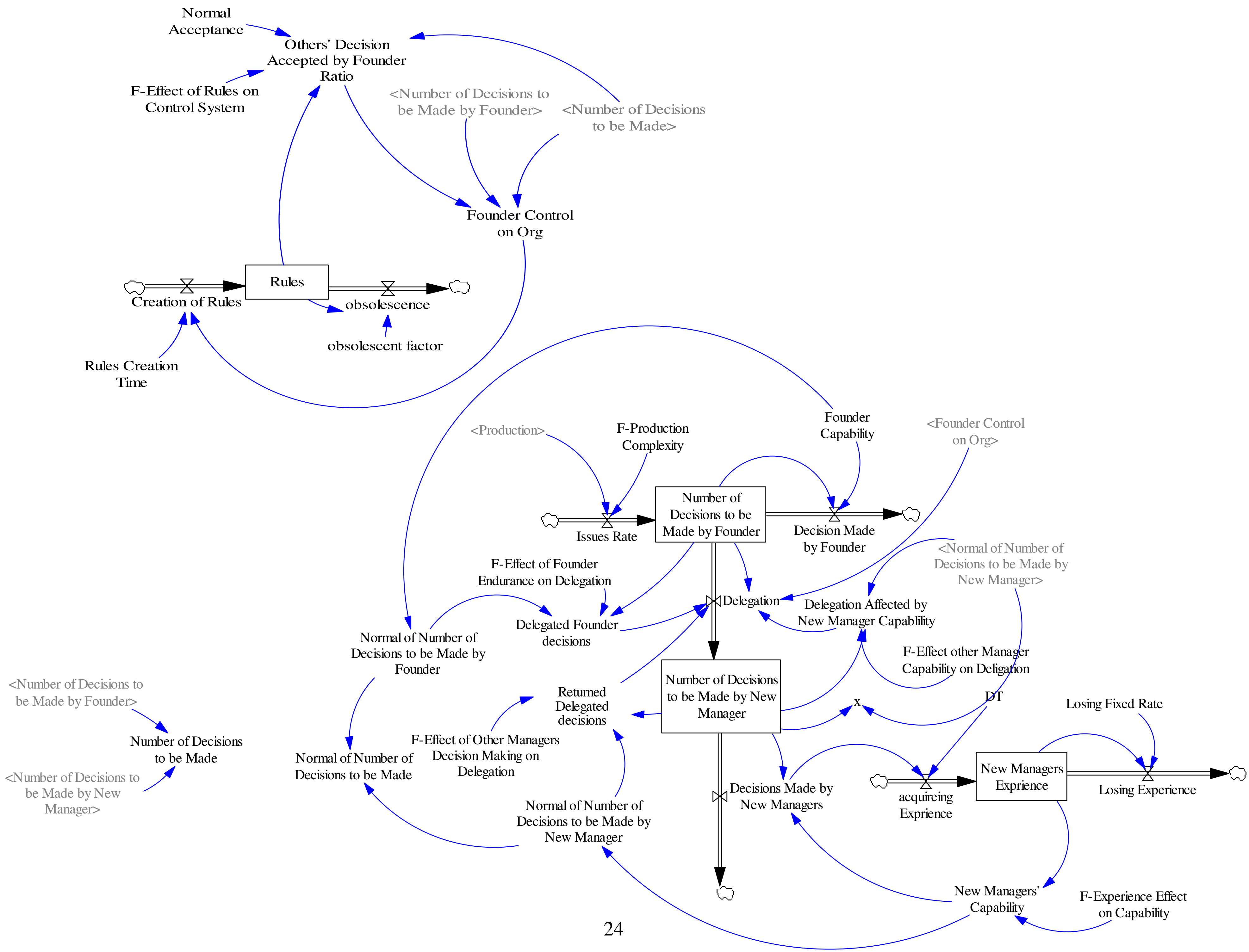
Appendix: Stock and Flow Model




Normal Acceptance
Others' Decision Accepted by Founder Ratio
F-Effect of Rules on Control System
<Number of Decisions to be Made by Founder>
<Number of Decisions to be Made>
Founder Control on Org
Rules
Creation of Rules
obsolescence
obsolescent factor
Rules Creation Time
<Production>
F-Production Complexity
Founder Capability
<Founder Control on Org>
Issues Rate
Number of Decisions to be Made by Founder
Decision Made by Founder
<Normal of Number of Decisions to be Made by New Manager>
F-Effect of Founder Endurance on Delegation
Delegation
Delegation Affected by New Manager Capability
Delegated Founder decisions
Normal of Number of Decisions to be Made by Founder
F-Effect other Manager Capability on Deligation
Returned Delegated decisions
Number of Decisions to be Made by New Manager
x
DT
Losing Fixed Rate
<Number of Decisions to be Made by Founder>
Number of Decisions to be Made
<Number of Decisions to be Made by New Manager>
Normal of Number of Decisions to be Made
F-Effect of Other Managers Decision Making on Delegation
Normal of Number of Decisions to be Made by New Manager
Decisions Made by New Managers
acquireing Exprience
New Managers Exprience
Losing Experience
New Managers' Capability
F-Experience Effect on Capability