

## **Zombies in Civil Service: Why the conceptual edifice of public administration creates a motivational trap in Brazil**

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*Abstract. The paper presents a model that integrates Self-Determination Theory and Organizational Justice Theory with the goal of explaining the persistent low levels of motivation among Brazilian civil service workers. Starting from the exogenous influence of cultural dimensions that characterize Brazilian society – low levels of interpersonal trust and tolerance of ambiguity, and high levels of power distance –, the model represents their combination with the Weberian framework for public administration to explain how the drivers of intrinsic motivation cannot fully develop in public agencies in the country. Particularly, two loops explain the motivational trap that captures novice civil servants: the futility of control loop, by which the high level of control embedded in the Weberian framework saps workers' autonomy, and the erosion of human capital loop, that leads to insufficient development of managerial capabilities in public agencies. The paper presents also the test of policies aiming at overcoming the motivational trap.*

*Key words: Self-Determination Theory, Organizational Justice Theory, System Dynamics, motivation, public service.*

*Human beings can be proactive and engaged or, alternatively, passive and alienated, largely as a function of the social condition in which they develop and function* – Edward Deci and Richard Ryan.

## 1. Introduction

Everybody has his/her pet theory about what motivates people in life and at work. However, commonsensical approaches to motivation in business settings have not prevented a bleak picture to emerge over the last decades: most people are disengaged in their jobs. Typical results from traditional surveys conducted in private organizations, in several countries around the world, point to a percentage lower than 20% of people declaring themselves motivated at work. For instance, the Gallup Institute has been measuring engagement at work in 142 countries worldwide and the last global figure points to a level of 13% of workers declaring they are engaged in their jobs. In contrast, a staggering 24% feel actively disengaged while the bulk of workers (63%) are simply not engaged (Crabtree, 2013).

In civil service, there is a scarcity of data on work motivation. The very few that exist come from developed countries and show a different pattern from the private sector. One of the few countries that survey its civil service employees and publish the data is Canada, where a majority of respondents is satisfied with their jobs (Government of Canada, 2014). Similar results are found in the annual survey conducted by the Scottish government, who has also created an engagement index of its employees, with typical results showing figures over 60% (Scottish Government, 2015).

However, there are ample reasons to expect a different picture in developing countries, and especially in countries with a distinct cultural profile. This paper focuses on the Brazilian case, where a special combination of cultural determinants creates a *motivational trap* for civil service employees (Carvalho, 2014). There is no global job satisfaction survey or equivalent in Brazil. Scattered data suggest that the motivation in Brazilian civil service can be quite different from developed countries. For instance, Carvalho (2012) measured several aspects of job satisfaction and motivation in a tax agency, finding that only 33% of the employees were satisfied with their work. However, considering that tax auditors are well paid and have more resources to do their work than the average civil service employee, this estimate probably is an outlier on the positive side.

Press coverage (e.g. Dimenstein, 2009) and scientific evidence (e.g. Baard, 2002) suggest that the low levels of motivation translate into poor service. Any citizen that visits a Brazilian governmental office has a great probability of seeing a typical warning posted to the wall, like the one depicted in figure 1. It reminds citizens that treating civil servants in a rude manner can be framed as a crime of contempt, ensuing a possible penalty of incarceration. In practice, rarely anything more serious happens and the warning, in fact, communicates to citizens that they should not expect good service in that office.

**Figure 1. A typical “warning” in Brazilian governmental offices**



Source: Jornal de Santa Catarina<sup>1</sup>.

Pereira (2015), a tax auditor working for the national Brazilian tax agency, captured the perception of the motivational trap nicely as he poignantly wrote:

*(..) I bring another shocking realization. I was admitted in 2010 and in July I am going to complete five years working for the tax agency. As it was usual before and it has been happening with more frequency, my colleagues are very prepared and talented people: engineers from ITA<sup>2</sup>, former Unilever and Procter & Gamble trainees, people holding master degrees, MBAs... We came full of energy and motivation to contribute in the progress of an agency towards the goal of offering excellent services to society and promote tax fairness in Brazil. Less than two years later, it is sad to realize that all of that potential was wasted into an army of demotivated employees, counting down the days to weekend or to the next vacation period. What perverse mechanisms are there that are capable of depleting our energy, our hope and our dreams? It is for no reason that several colleagues leave the agency. What is the secret behind such failure?*

As a counterpoint, consider the common view of the service received in governmental agencies in the country provided by an anonymous person<sup>3</sup>:

*Have you ever had to go to a city administrative center, grab a number, sit in a hard chair – when there is one, wait for hours, while the secretary is surfing the Internet, there are 28 servants behind her doing small talk, another 22 servants looking idly at their computers, another 12 slowly calling the numbers and when yours is about to be called, six of the servants leave their desks for lunch, snacking, a smoke, the bathroom or*

<sup>1</sup> <http://wp.clicrbs.com.br/giovana/2013/06/28/camara-aprova-projeto-que-proibe-cartazes-que-fazem-referencia-a-desacato-ao-servidor-publico>

<sup>2</sup> Instituto Tecnológico da Aeronáutica, a very prestigious academic institution in Brazil.

<sup>3</sup> <http://vilclub.vilamulher.com.br/blog/outros/por-que-o-servico-publico-no-brasil-e-tao-ruim-9-3290536-88316-pfi-marcia119986.html>

*simply starting cleaning a useless drawer as there was no one there waiting to be served?*

What causes the lack of proper service in governmental branches in Brazil? Adopting a broader perspective, why the public sector does not create conditions for high levels of motivation as seen in at least some countries?

A tentative answer is the following. Civil service in Brazil suffers from low levels of managerial capabilities and an obsessive focus on control that is typical of the Weberian framework of public administration. Such focus is exacerbated, as the paper will discuss in a moment, by the high level of distrust, the strong distance of power and the low tolerance to ambiguity that characterize the Brazilian culture. Lacking capabilities to develop human capital, governments at all levels help to create a perfect storm for decreasing the motivation of civil servants. This in turn creates a vicious circle, in which poorly motivated and managed workers provide poor service to citizens, giving rise to the idea that government does not work because of inherently “lazy” people. It gives rise to a misleading *fundamental attribution error* (Ross, 1977) that ignores the decisive influence of systemic factors, perpetuating a culture of low performance in public service.

This paper thus addresses the problem of the systemic low levels of motivation of civil servants. What are the systemic drivers that create a *motivational trap* in Brazilian public service?

## **2. The structure of a self-fulfilling prophecy**

Work motivation (or motivation in general) is a complex concept. Common definitions explain that motivation is a multifaceted construct concerning energy, direction and persistence towards goals or activities (Reeve, 2009). Several theories have been advanced to explain how, when and why people feel energized to strive for their goals or cope with their activities in different contexts. In fact, explaining human behavior in any social context requires the integration of several theories and streams of research.

Virtually all theories consider that motivational factors can be extrinsic or intrinsic. In a work setting, extrinsic are factors such as pay, praises, criticism, deadlines and imposed goals. Intrinsic elements are the ones that spring from the individual and are especially related to his/her fundamental psychological and social needs, such as the need to belong and the need for controlling one’s own actions. Typically, intrinsic motivators are impulses for doing activities that are inherently rewarding for themselves.

### ***The central role of control***

However, understanding the permanent drop in civil servants’ motivation in Brazil requires initially the focus on a central element of management in any

organization: control. No organization can be successful without an adequate level of control. Control in any organization is like water to a plant – too little or too much and death is almost certain. By design and culture, there is too much control in Brazilian bureaucracy.

First, design. Despite initiatives aiming at modernizing public administration, the conceptual infrastructure of Brazilian state is based entirely on the so-called Weberian framework. In the literature of public administration, it has been long recognized that this framework leads to a weak focus on results and it is detrimental to the creation of a managerial culture within public agencies (Secchi, 2009). Among the features that characterize, four are more relevant to the issue at hand:

- Formality: Presence of written rules, standardization of tasks and routines, and lack of discretion;
- Impersonality: Relationships based on roles occupied by individuals;
- Professionalism: Efficiency achieved by a Taylorian division of work, equality, impartiality;
- Distrust: a strong focus in control, inspired by the prototypical *Theory X* (McGregor, 1960): people cannot be trusted and work is assumed to be aversive. This leads to focus on means, lack of autonomy and the promotion of red tape to control procedures.

Control then permeates every level of bureaucracy. The implicit assumption is that people cannot be trusted. Demands for impersonality, equality and formality make every important decision-making process a marathon. Management of human resources suffers, as no hiring can be made through conventional methods (interviews, analysis of curriculum vitae etc.) because the law states that the process must be absolutely impersonal. New personnel are hired only through extensive tests of knowledge. No “soft” ability is tested or required. There is almost no flexibility to fire (or even evaluate) weak performers. Progression typically occurs by seniority or acquisition of knowledge (for instance, doing courses), but not by actual contribution to results.

There is evidence, nonetheless, that some versions of the Weberian framework can be successful in specific cultural contexts. Singapore is known as an exemplary Weberian bureaucracy. According to the Global Centre for Public Service Excellence, “The Singapore model of public management is premised on meritocratic principles in recruitment and promotion, a strict bureaucratic hierarchy and administrative impartiality” (GCPSE, 2015). However, its model is highly non-replicable due to specific political, cultural and geographic characteristics of Singapore, as GCPSE recognizes.

In the Brazilian case, the Weberian framework seems to be dysfunctional due to the presence of three particular cultural signatures that characterize the country: high distance of power, high uncertainty avoidance and low levels of trust.

Drawing from the work of anthropologist Geert Hofstede and colleagues (Hofstede, Hofstede and Minkov, 2010) we initially tackle the first two cultural dimensions.

Uncertainty avoidance reflects the degree to which members of a society are comfortable with uncertainty and ambiguity. When a society has a low level of tolerance for ambiguity, as in the Brazilian case, it tries to regulate every aspect of social life, creating rigid codes of belief and behavior, often leading to excessive control and failure. No society can control every aspect of social behavior.

Another relevant cultural dimension, power distance reflects the degree to which the less powerful individuals in a society expect and accept that power is unequally distributed. Societies with high power distance have rigid hierarchies and everyone should know his/her place in such settings. It is expected that people abide by the rules springing from the social configuration of power. There is famous dictum in Brazil – repeated *ad nauseam* in public service – that goes as “if you have normal mental faculties you should not question the orders from the powerful”<sup>4</sup>.

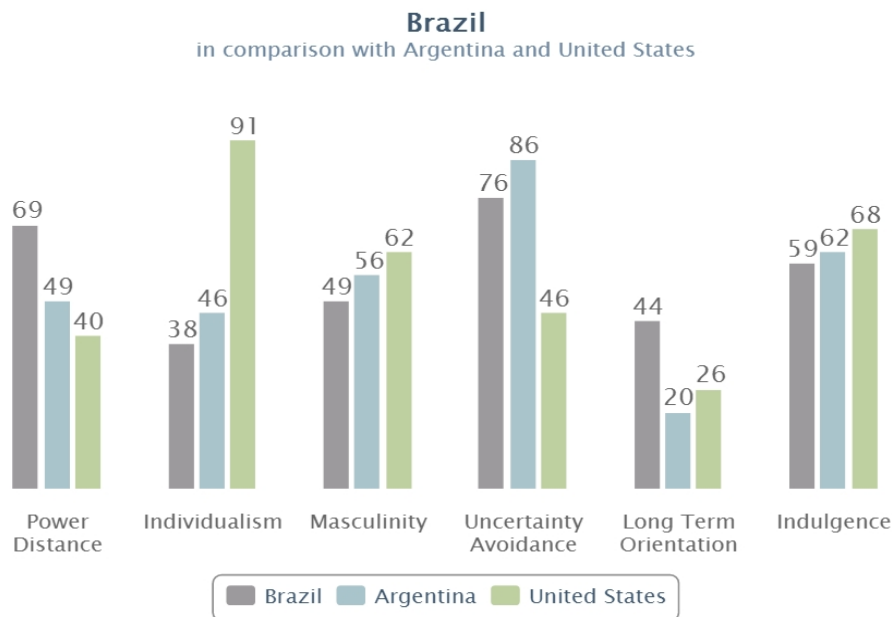
Excessive control and rigid hierarchies lead to low levels of autonomy, hindering motivation, while also sapping the focus on results that is essential to achieving the government’s mission.

Figure 2 presents the comparison between Brazil and selected countries (Argentina and USA) on the cultural dimensions researched by Hofstede. The other four dimensions will not be discussed in this paper since they seem to have less explanatory power in the case of low motivation in public service. It is worthy noticing that Latin America countries have similar cultural backgrounds. Thus, it is no source of surprise to find that Brazil and Argentina have close scores in this and other cultural inventories.

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<sup>4</sup> In Portuguese: “Manda quem pode, obedece quem tem juízo”.

**Figure 2. Uncertainty avoidance and power distance: selected countries**



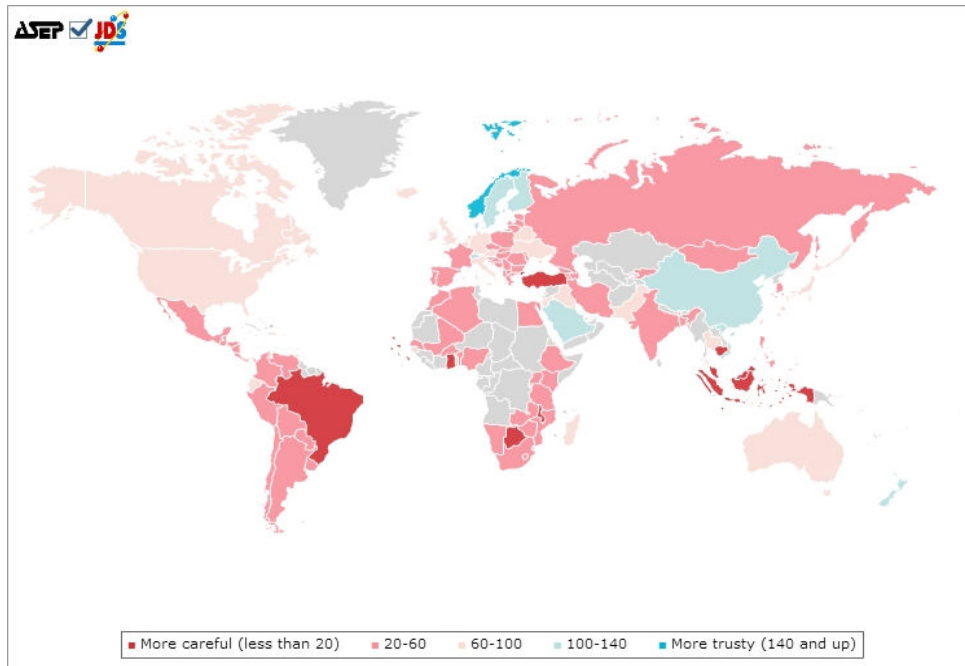
Source: <http://geert-hofstede.com>.

Another cultural inventory deals with interpersonal trust in society. Societies that have a low level of interpersonal trust (again the Brazilian and Latino America cases) typically appeal to controls that are more stringent in an attempt to regulate social life. There is a deep-rooted widespread belief that nobody can be trusted. Nevertheless, trust is essential to a well-functioning society. Trust has been linked to economic development through the creation of efficient institutions (Knack and Zap, 2002).

Figure 3 presents the results of a worldwide survey on trust, using data from the Latinobarometro database<sup>5</sup>. The data show that Latin America, Portugal, Spain, France, African countries, Russia, India, Turkey, East Europe are countries or regions where there is less interpersonal trust. Brazil, in particular, is a country where trust is persistently low, according to several rounds of the same survey.

<sup>5</sup> <http://www.latinobarometro.org/>

**Figure 3. Societal trust around the world**



Source: Latinobarometer (2008).

Before advancing, it is worthy discussing the link between control, on the one side, and autonomy and motivation, on the other.

Among the most influential theories that seek to explain motivation, Self-Determination Theory (SDT), which has a strong empirical support, posits that optimal behavior depends on the fulfilling of intrinsic (innate) needs for autonomy, competence and social relatedness (Deci and Ryan, 2000; Ryan and Deci, 2000). When contextual conditions facilitate the expression of these needs, self-motivation, well-being and a healthy psychological development ensue. On the other hand, when these needs are thwarted, ill-being and non-optimal functioning are the sure consequences. In the context of work, SDT Theory has a very important assertion: when certain contextual conditions are present, people are inherently motivated to internalize the striving towards important but uninteresting activities. This is especially relevant in contexts such as public bureaucracies.

Autonomy means that individuals feel they are the source of their behavior. They do not feel compelled to act because of social or group pressure. The perceived locus of causality for one's behavior is thus internal. Competence is a need that develops from the inborn *need for effectance*, a need for developing skills that lead to a proper functioning in one's environment. It requires adequate levels of feedback to signal one's progress towards mastery. In turn, the need for relatedness leads individuals to look for social integration and attachment to groups. SDT Theory posits that intrinsic motivation is likely to develop in contexts marked by a secure sense of relatedness.



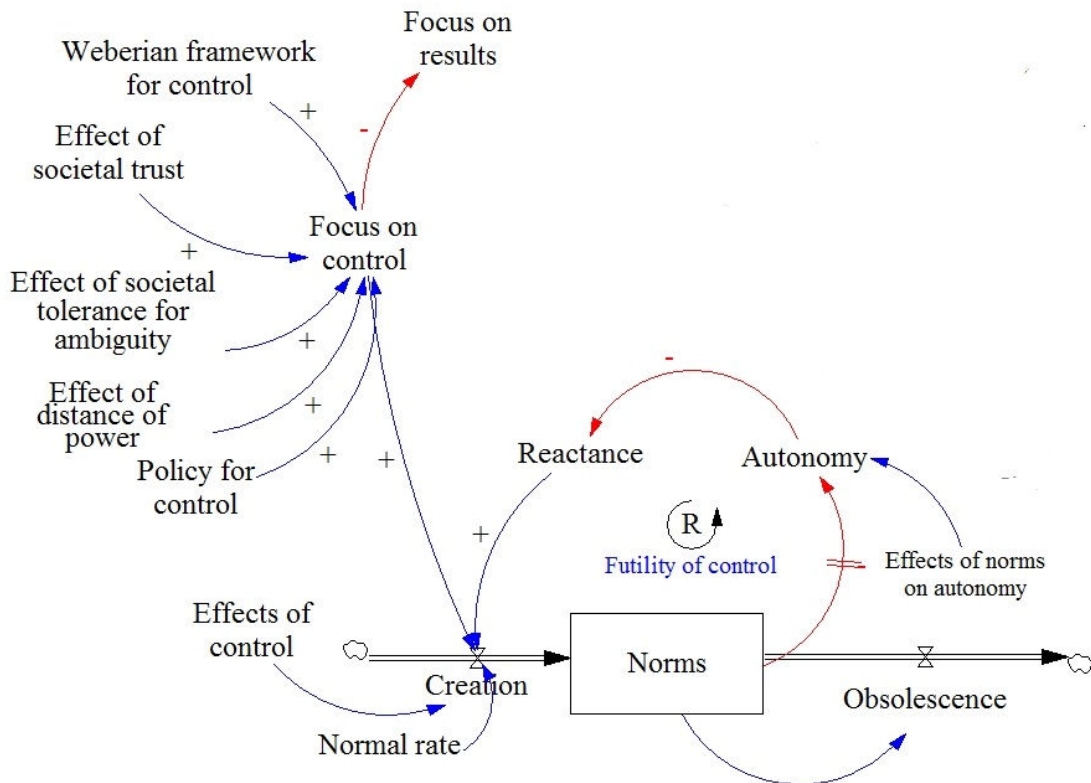
## Control and the threat to autonomy

SDT Theory posits that threats to intrinsic needs result in incomplete development of human potential. Thus, it is unsurprising from this perspective why an excessive focus on control will be highly detrimental to work motivation. Figure 4 presents this effect in the model. The joint effects of cultural dimensions determining a high degree of hierarchy (power distance), a low tolerance for ambiguity (uncertainty avoidance) and a low level of trust are, in the configuration of public administration modelled after the Weberian framework, an acute need for controlling people. The greater focus on control that ensues leads to the over production of norms trying to regulate every conceivable aspect of behavior and work procedures. This, in turn, leads to a sharp decrease in autonomy, giving rise to the phenomenon known as psychological reactance (Brehm, 1966), a natural reaction of individuals to perceived restrictions to their freedom. Reactance theory asserts that when people perceive threats to their freedom, they tend to search ways to restore it, often by resorting to the very behavior that the norm intended to curb or by finding breaches in the regulation. A vicious circle ensues, as depicted in the figure (the futility of control loop). Excessive control creates a self-fulfilling prophecy. Cialdini (1996) reviews evidence showing that practices implying expectation of undesirable conducts may produce self-fulfilling prophecies, when it comes to honest workers, and self-sustaining prophecies among already dishonest workers. Moreover, he states (p.57) that

*(...) when people perceive themselves performing the desirable monitored behavior, they tend to attribute the behavior not to their own natural preference for it but to the coercive presence of the controls. As a consequence, they come to view themselves as less interested in the desirable conduct for its own sake (...) and they are more likely to engage in the undesirable action whenever the controls cannot register the conduct.*

Considering the impossibility to control or regulate any conceivable behavior, the creation of norms to control employee's behavior is thus a policy doomed to failure.

**Figure 4. The futility of control loop**



According to figure 4, a greater focus on control leads to a neglect of the focus on results. Every organization must balance an ideal combination of both elements. The management literature stresses that overcontrol, occurring when too many controls are in place, can lead employees to resist. Energy, attention of top management, structure, resources and processes are all finite resources. The more an organization focuses on control above a desirable level, the less it will have capabilities (such as dynamic capabilities) to dedicate to achieve superior results. As Bozeman and Feeney (2011, p. 58) state:

*Generally, managerial control objectives result in internal rules, and managerial overcontrol results in internally derived red tape. Few question the need for management control. Manager's responsibility for obtaining organizationally sanctioned objectives necessitate developing tasks and rules ensuring that subordinates will take coordinated actions to achieve the objectives. Even in the organizations with limited hierarchy and strong participation norms, some degree of managerial control remains vital. The issue, again, is one of balance. **Too much managerial control is no less stultifying than too little.** (emphasis added).*

### ***The neglect of results***

Energy, time and attention from top and middle management are scarce material. The more one devotes energy to meet the myriad of requirements embedded in norms aiming at control, the less one has available resources to dedicate to effective management towards results. This in turn leads to a subpar development of managerial capabilities in the organization, as depicted in figure 5.

**Figure 5. Insufficient development of managerial capabilities**

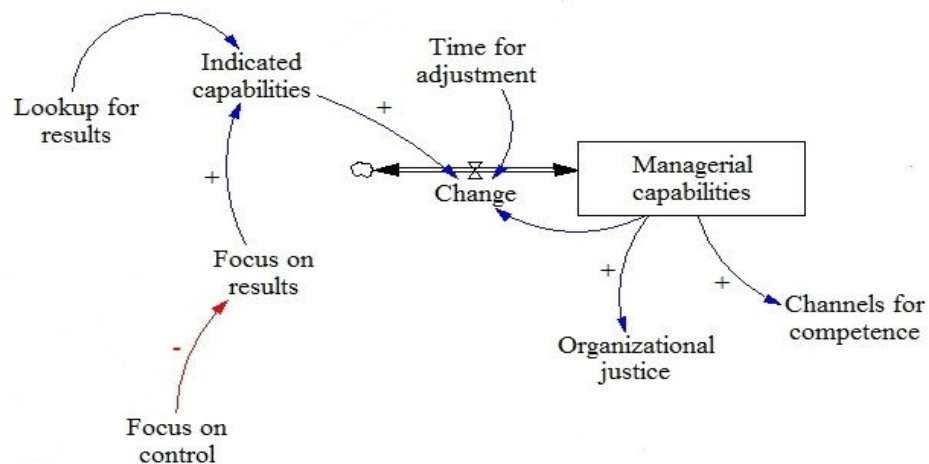


Figure 5 shows that the more managerial capabilities an organization has, the more it will have channels for developing its employees' competence and the more it will embed organizational justice in its procedures (more on that below).

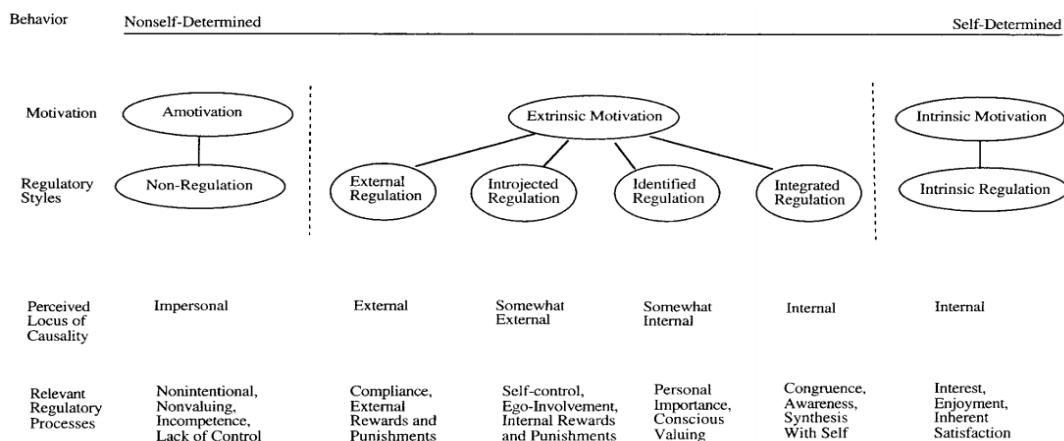
### ***The path to true motivation***

As seen before, autonomy and competence are part of the triad of needs behind Self-Determination Theory. An organization with a balanced degree of control will have more resources to focus on its managerial technology to accomplish the expected results. Key to that goal is the existence of a motivated workforce.

According to SDT theory, motivation for any activity depends on the degree occupied in a scale of different types of motivation, ensuing different behavioral and cognitive effects. A common mistake is to consider that people are either motivated by extrinsic factors or by intrinsic factors. In fact, SDT Theory claims

that people occupy a continuum, varying from total *amotivation* to intrinsic motivation, with different stages of extrinsic motivation between (Figure 6). The closer to the intrinsic motivation pole the better, inasmuch as people progressively perceive the locus of causality as internal. Socialization and its interaction with individual values and regulation processes are the main drivers behind the evolution depicted in the figure. In work settings, people typically occupy one of the four stages of extrinsic motivation. Nevertheless, the most common situation seems to be the stage of external regulation, characterized by behavior done for the mere satisfaction of an external demand, such as the search for rewards or the avoidance of punishment (Deci and Ryan, 2002). According to Baard (2002, p. 257), “the employee characterized by external motivation is sometimes identified as a ‘You get what you pay for with him’ –type of person”.

**Figure 6. Levels of motivation according to SDT Theory**



Source: Ryan and Deci (2000).

Other theories and concepts are useful in complementing SDT Theory’s approach. However, they overall present elements closely associated with the main SDT tenets.

Flow theory (Csikszentmihalyi, 1991) concerns the phenomenon of total absorption into some activity. Someone is in flow when he/she is fully immersed in a behavior, which is performed for intrinsic motives. Flow occurs when perceived challenges in the environment stretch one’s existing skills in an optimal degree. It also requires the existence of proximal goals and immediate feedback between one’s action and its consequences or, in other words, feedback about progress. Channels of flow – when there is an optimal match between skills and challenges – are essential for the development of competence. Job environments that are dull and lack meaningful challenges, or that are too stressful and demanding, difficult the occurrence of flow and thwart the fulfilment of the need of competence inherent in all human beings.

Amabile and Kramer (2011) stress the role of progress in a meaningful work as a central driver of human motivation, especially in the case of knowledge workers. They developed a list of four factors that either facilitate or hinder motivation. Catalyst are factors such as autonomy and the existence of resources. Nourishers include respect and a sense of affiliation to the team. Inhibitors are factors such as confusing goals and lack of opportunity to discuss properly the ideas that come from the team. Finally, toxins include factors such as disrespect and neglecting a team's member because of his/her personal or professional problems. Most of the factors are particularized SDT elements. Nevertheless, some of them (respect, voice within the team) tap into another human need that is outside STD theory: the intrinsic need for fairness or justice.

Thus, a concept that is absent from SDT Theory but that has been proved to be essential for the good functioning of any social group is related to justice or fairness. Organizational justice (Greenberg, 1991) refers to the channels by which an organization can fulfill or block the need for fairness. Its classical concept branches into three subconcepts: procedural justice, distributive justice and interactional justice. Procedural justice encompasses the process to deal with decision-making, including adequate treatment for conflicts and different opinions. It is not a consensus mechanism; instead, what is important is using consistent principles in every opportunity, giving people the opportunity to voice their point of views and using objective criteria to reach decisions. Distributive justice is a paramount concern in every social group. It concerns the fair distribution of resources (pay, promotion, social rewards, status) in proportion to one's efforts and contribution. Interactional justice, in turn, deals with interpersonal aspects of relationships (respect, courtesy) and with informational needs, by making relevant information available to everyone, avoiding the existence of cliques.

Other related concepts and theories could be employed to provide a more detailed portrait of job motivation. For instance, the behavioral "ecosystem" where work occurs involves a relationship between workers and organizations, in which drivers of long-term positive relationships are present, especially (job) satisfaction and trust (Kramer & Levicki, 2010). The adequate balance between positive and negative emotions, and the emotional tone set by a leader in a work group (Pescosolido, 2002) are also recognized in the literature as important causes of group motivation. Nonetheless, the model in this paper assumes that the dynamics behind strong demotivation in Brazilian civil service is caused by the frustration of intrinsic human needs related to autonomy, competence and fairness<sup>6</sup>.

In summary, we posit the sufficiency of the channels for development of competence, for organizational justice and for autonomy as determinants of a functional state of motivation within a public agency in Brazil.

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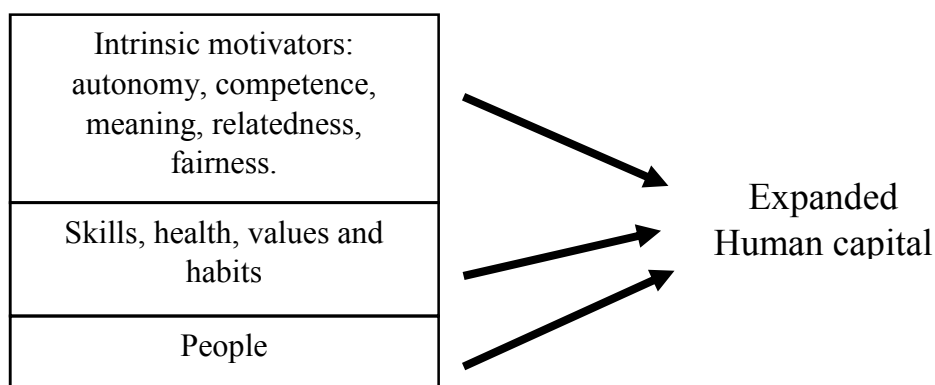
<sup>6</sup> The need for relatedness, which is part of the triad of needs in SDT Theory, is assumed to be fulfilled in this particular case, considering the low score in Brazil for the cultural trait of individualism (Hofstede, Hofstede and Minkov, 2010), which usually translates into the existence of groups with high degree of sociability.

### **Expanded Human Capital**

In defining the main stock in the model and instead of using an operational definition of intrinsic motivation, we decided to employ the concept of human capital to encompass the influence of the drivers of intrinsic motivators. Nobel Prize winner Gary Becker was a pioneer in studying human capital. Under influence of his work, economists typically define human capital as the collective resultant of societal and family investments in education, training, health, values and habits (Becker, 2009). The more human capital, the more income and development in a society. In a system dynamics language, human capital is a stock (or set of stocks) that accumulates the flow of such investments.

In a work environment, we could conceive human capital as the stock that accumulates not only the increase in competence (especially when there are channels for it) but also the joint effect of other drivers of intrinsic motivation. Every organization has a pool of individuals working for it. The aggregate contribution depends, of course, not only on the sheer number of people, but also on their potential productivity (which depends on skills and other classical drivers of human capital) and on their morale or motivation. In other words, treating human capital as a single (although fundamentally relevant) layer over a physical stock of people misses the definitive role of intrinsic motivators in bringing out the best of people. Thus, we expand the concept and conceive human capital as the combination of two additional stocks that can be managed in an organization: the first encompassing the classic human capital concept (training, health etc.) and the second an intangible stock dealing with the influence of intrinsic motivators. Figure 7 presents the conceptual approach adopted in this paper.

**Figure 7. Concept of expanded human capital**



As the full development of competence is a precondition for a meaningful work (Amabile and Kramer, 2011), the model uses “meaning” both as a fundamental driver for human capital and as a proxy for competence (figure 8). The model also

accounts for a minimum investment in competence, as it usual in Brazilian agencies the existence of an annual target for spending on training.

**Figure 8. The erosion of human capital loop**

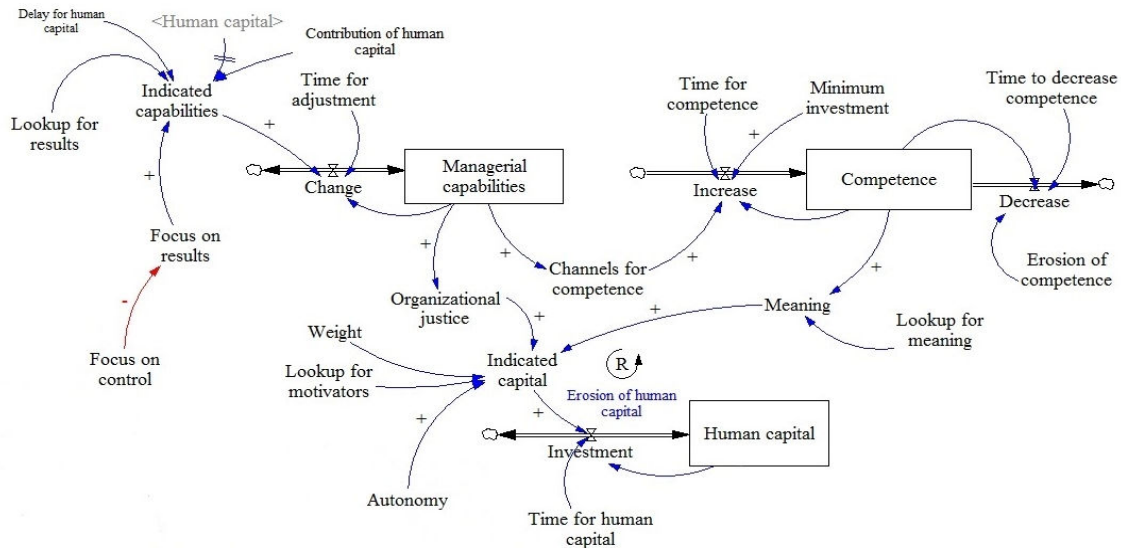


Figure 8 illustrates the erosion of human capital loop. The excessive focus on control leads to a low degree of autonomy. The consequent weak focus on results leads to poor managerial capabilities, which, in turn, lead to insufficient development of competence, organizational justice and meaning. The more managerial capabilities an organization has, the more it can develop processes, structures and dedicate resources to organizational justice and channels for development of competence (e.g. leadership programs, training etc.). The more solid the latter channels, the more meaning the employees can perceive in their works since there exists the opportunity to apply the skills into structured activities (i.e. with proximal goals and feedback). All the positive consequences of the development of managerial capabilities lead to more human capital. On the other hand, when the managerial capabilities are lacking, a low level of human capital ensues, creating a vicious cycle. This creates a *perfect storm* for the motivation of junior civil servants, who rapidly adjusts their energy to prevailing levels. The entrance of new servants only creates a small wave of human capital, but it quickly dissipates in a few years. Deci and Ryan (2002) remark that a person's motivation in a particular situation is a function of both the immediate social context and of the person's previous inner resources. When a pool of demotivated profession defines the social context, adaptation is likely to ensue.

Figure 8 allows us to summarize the dynamic hypothesis as follows. In societies with low levels of trust, high uncertainty avoidance and high distance of power, the Weberian model of public administration, characterized by weak managerial capabilities and strong focus on control, will lead to low levels of distributed power through the excessive control of human resources. It will also lead to low levels

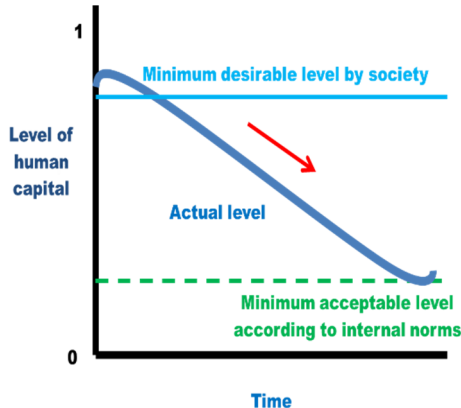
of competence development, meaning and organizational justice, thus decreasing the drivers of intrinsic motivation of novice employees to the same minimum levels experienced by seasoned employees. This process results in insufficient levels of human capital, creating a *motivational trap* that leads employees to respond only to extrinsic motivators. Given the low levels of organizational justice, even the extrinsic motivators lead to more demotivation, since there is no meritocracy and one's efforts are bound to go unrecognized. Moreover, managers tend to rely on control to "motivate" employees. The latter, in turn, tend to adopt a prevention mindset (Higgins, 1997), focusing on playing by the rules (and nothing else) and avoiding negative outcomes (such as bureaucratic processes of conduct investigation). In turn, the resulting low levels of human capital prevent the organization to achieve a superior development of its managerial capabilities, in a true vicious circle. The end result is subpar performance in public service.

### 3. Reference Mode

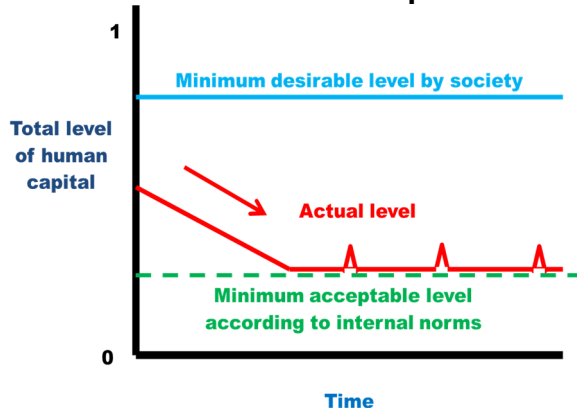
Two reference models are suggested: one for novice public servants (figure 9a) and another for the average or total level of human capital in the system (figure 9b), assuming that a governmental agency is created and then staffed with moderately motivated personnel. In both cases, there is a minimum level of acceptable performance, according to informal norms that develop over time in public agencies. In addition, the decrease in human capital is expected to happen over a short period from 2 to 5 years, to account for different personality and dispositional profiles.

**Figure 9. Levels of human capital: novice civil servants (9a) and total level in the system (9b)**

**9.a Novice civil servants**



**9.b Total level of human capital**





#### 4. Subsystem diagram and full model

In the model, exogenous variable are the levels of societal trust, societal tolerance for ambiguity, power distance and the Weberian framework for public administration. Considering the data available for Brazil, they are all set into their maximum values (in a scale from 0 to 1), except for the control in the Weberian framework (set to 0.9, to accommodate the very small flexibility afforded to public managers in a limited set of cases). Of course, policies can soften the impact of these variables (see the section on results). Table 1 summarizes the variables used in the model.

**Table 1. Variables used in the model.**

Exogenous	Endogenous	Excluded
Societal trust	Focus on control	Productivity
Societal uncertainty	Focus on results	Organizational citizenship
Societal distance from	Managerial capabilities	Results
Weberian framework for public administration	Channels for competence	Identity
	Competence	Positive emotions
	Organizational justice	Job satisfaction
	Meaning	Trust
	Norms for control	Individual moderators (e.g. personality traits)
	Autonomy	
	Reactance	
	Human capital	
	Novices	
	Senior professionals	

Figure 10 presents the model boundary and subsystem diagram, condensing the causal relations presented in the model

**Figure 10. Subsystem diagram**

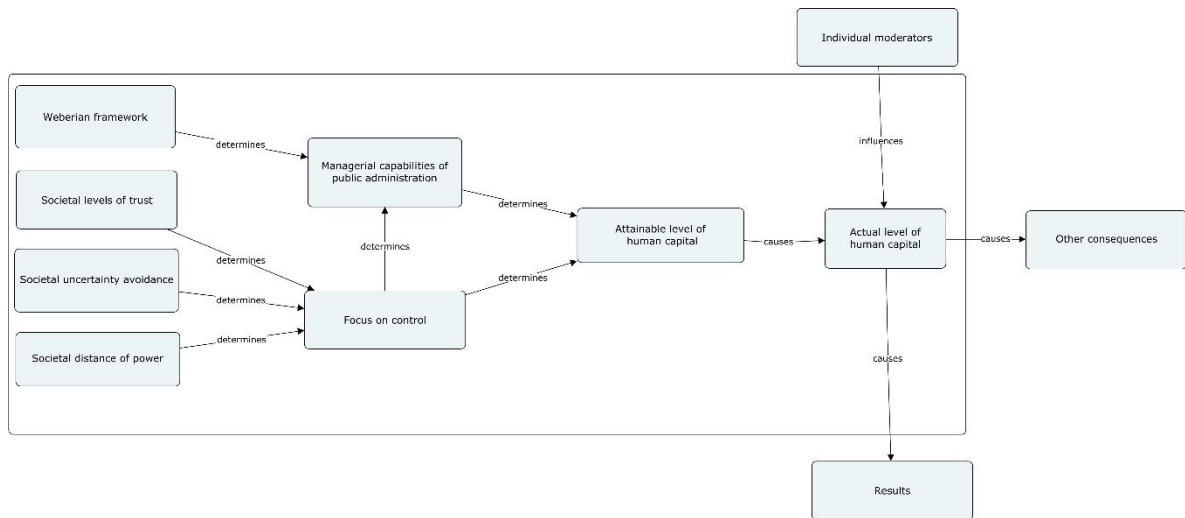
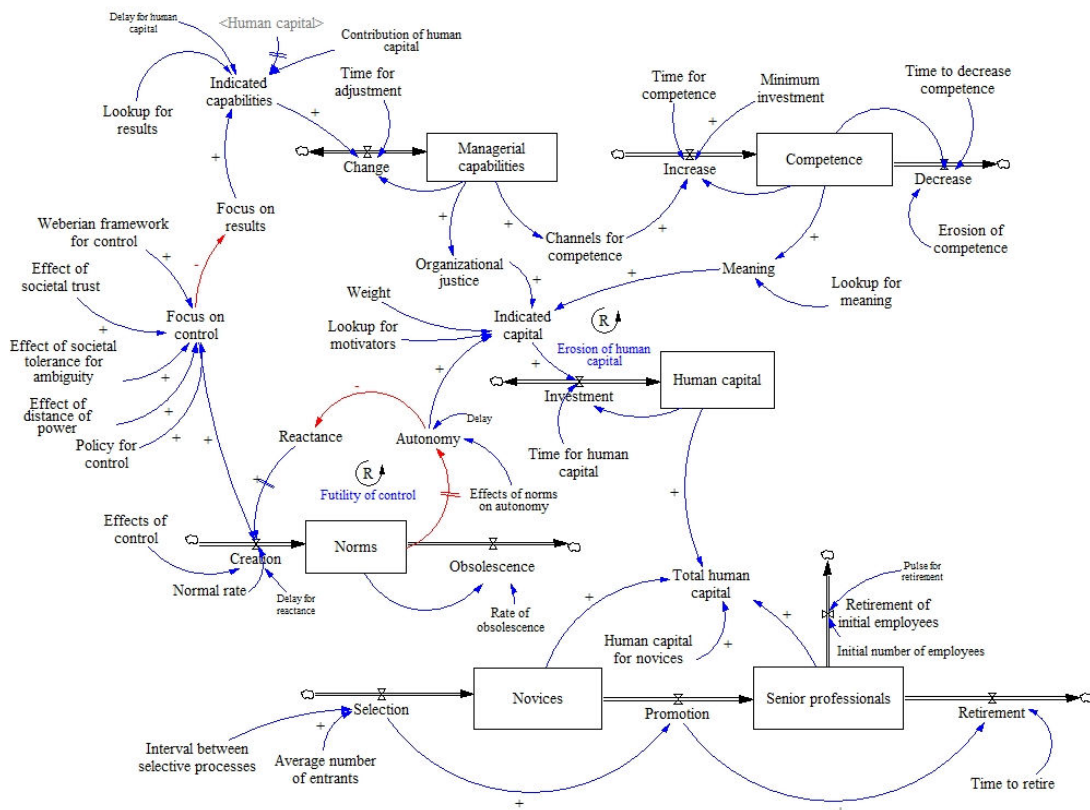


Figure 11 presents the full model, including the stocks of novice and experienced civil servants, which are essential to the simulations reported in the next section.

**Figure 11. Full model**



## 5. Results and policy testing

The time horizon spans 30 years, a period sufficient to test alternative scenarios and policies.

Figure 12 presents the initial results, considering a governmental agency with 150 experienced employees and a flow of 50 novice employees being admitted following a 48-month interval. Novices join the organization with an average level of human capital of 0.7 (scale ranging from 0 to 1), to reflect anecdotal information that most people are highly motivated and competent in their initial phases of career in public service. Experienced employees, in turn, have the same level of human capital indicated in the system. Human capital, competence and managerial capabilities all start with a value of 0.5. Considering that there is only a residual focus on results in the system (by structural definition of parameters), the levels of the three stocks gradually decline over time. Competence reaches a plateau determined by the mandatory investments.

**Figure 12. Levels of total managerial capabilities, competence and human capital**

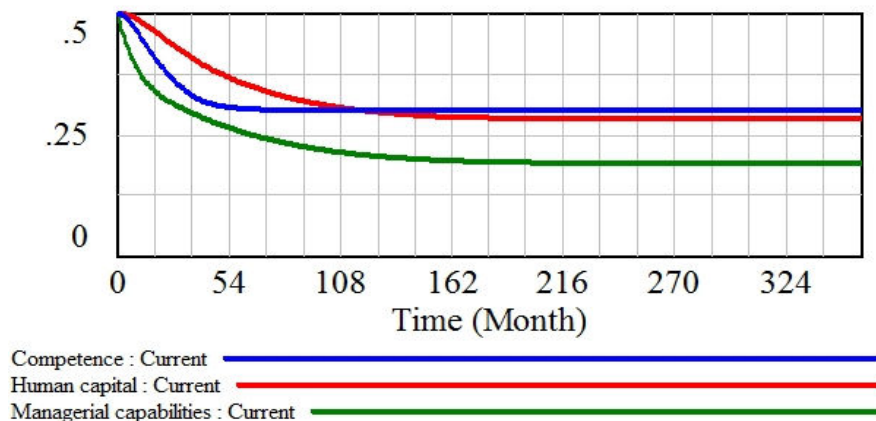
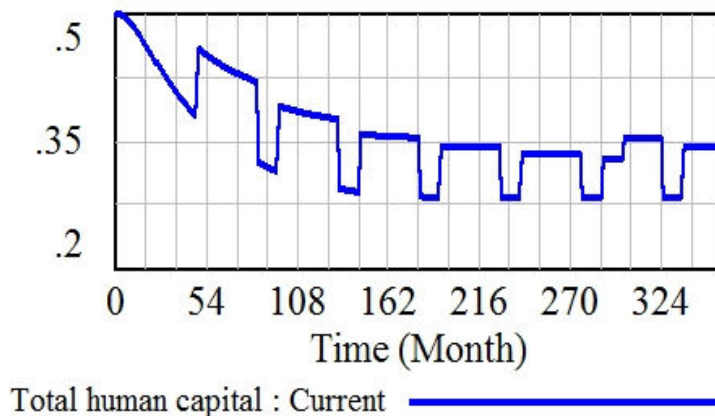


Figure 13 presents the average level of human capital in the system, pondered by the number of the two different stocks of personnel. Human capital increases after the first wave of new employees and then follows a pattern towards ever decreasing levels, which are disrupted only by the entrance of novices after a given interval (assumed to be 48 months). Novices are promoted to the status of “senior professionals” after three years, following the determination of a Brazilian law. The model assumes that this is a sufficient time to adapt to prevailing levels of the intangible aspects of human capital. The simulation indicates that after a period of 10 years, the stock of human capital acquires a steady pattern of oscillation, between the values of 0.28 and 0.35. This reflects the balance between motivated people entering the system and demotivated people leaving it due to retirement. In practical terms, one can expect cycles of new projects

conducted by energized novice employees followed by their abandonment after a few years. Moreover, the longer the interval between hiring processes the longer the system stays at its attractor levels (0.28 in figure 13) – or the minimum acceptable level of human capital depicted in figure 9.

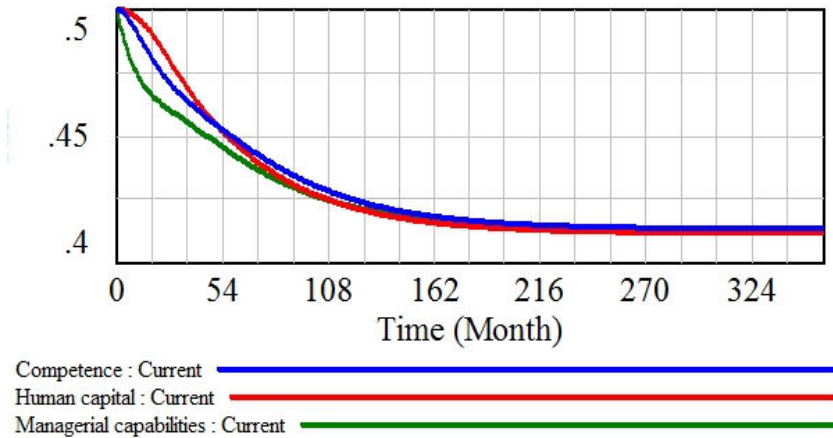
**Figure 13. Average human capital**



The introduction of a new organizational structure with two different implied levels of control is tested as a policy to change the behavior of the system.

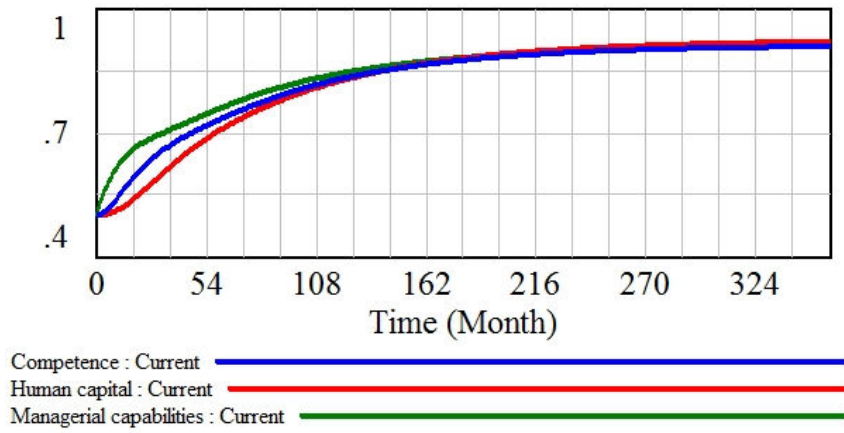
The first policy decreases the level of control by a small degree (from 1.0 to 0.8). This is what one may find in the case of small agencies (or agencies in small cities), where control can be exerted through informal means. The simulation shows a different pattern of decrease in human capital (figure 14), one that stabilizes at a higher value. After 10 years, human capital stabilizes in a value slightly superior to the base case (0.41 against 0.28). In short, the simulation suggests that a mere relaxation of control is sufficient to curb the strong trend implied by the dynamics of the model but it still leads to a stabilization around a low value for human capital.

**Figure 14. Levels of total managerial capabilities, competence and human capital for a policy of less control**



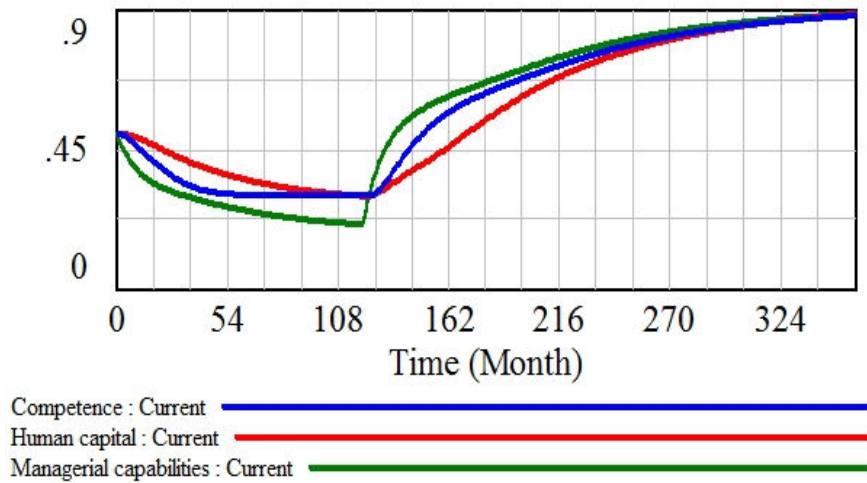
The second policy concerns the adoption of a new design for organizational structure. One of leading examples of efficacy in an area close to public sector in Brazil comes from the Institute of Pure and Applied Mathematics (IMPA), a research institute that adopted a flexible model for its organization (Pivetta, 2015). The model, known as social organization, allows greater freedom to manage people (including a true career plan) and contracts, ditching most of the constraints of the Weberian model. To test the effects of the adoption of a new management model for public agencies, we set the level of control to 0.5, considering an agency that begins its existence within the new framework. Figure 15 presents the results. It is worth adding that after 20 years, the simulation shows a stabilization around the value of 0.91. This is consistent with the idea that an organizational culture takes a longer time horizon to create roots and replicate itself as new generations start replacing the individuals leaving due to retirement.

**Figure 15. Levels of total managerial capabilities, competence and human capital for a new model of management in public agencies**



Finally, figure 16 shows the simulation for the introduction of the more flexible model in an agency after a period of 10 years running under the traditional Weberian model. While managerial competences take an immediate bump, human capital takes longer to respond, owing to the time required to shift perceptions and to assimilate all the rules associated with the new paradigm. A simulation for a longer period shows that human capital stabilizes at 0.88 after 20 years. As human capital recuperates its higher levels faster than what was initially lost, one can expect that this change can create momentum, helping the new model rapidly to create roots.

**Figure 16. Introduction of a new model of management in public agencies in a traditional agency**



A Monte Carlo simulation for the policy of control (i.e. the degree to which the designers of the system can mitigate the joint effects of the discussed cultural factors) show that, for 1.000 simulations, the final values of human capital are highly sensitive to the parameters of control (Figure 17). The simulation considered a multivariate distribution (random distribution) for the variable “policy for control”, with minimum value of 0.3 and maximum of 1.0 (the value that integrates the base scenario).

**Figure 17. Monte Carlo simulation for policy of control**

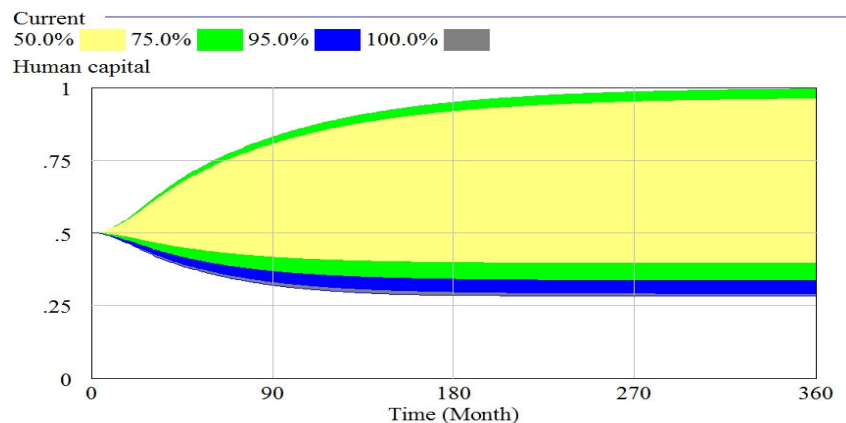


Figure 17 shows that the average human capital in the system will never reach extremely low values. This is explained both by the mandatory training of workers in many agencies as well as by any residual levels of motivation that are expected under the motivational trap discussed in this paper. It is not expected that civil service employees turn to the state of amotivation depicted in figure 6. What is expected is the prevalence of the state of external regulation most of the time. On the other hand, figure 17 also shows that the levels of human capital can be extremely high, depending on the relaxation of the fundamental premise of the Weberian framework. In fact, most of the runs led to levels of human capital above its medium point (0.5).

## 6. Conclusion

Previous attempts to model work motivation in the system dynamics literature looked at different conceptual sources, such as ability, motivation and opportunity theory (Block & Pickl, 2014). Other papers presented only the sketch of a model (Karsky, Copin & Pitarch, 1996), or were based on the (somewhat) outdated Maslow pyramid of needs (Sabegh & Sharma, 1991) or lacked a proper conceptual integration, mixing elements from different levels of abstraction (Amin & Wahba, 2003).

The model presented in this paper represented the structure and dynamics of the motivation of employees in Brazilian civil service using Self-Determination Theory as a central conceptual basis. It demonstrated that the pure replication of the Weberian framework for public administration in a cultural milieu characterized by distrust, uncertainty avoidance and high power distance is a sure recipe for demotivation and consequently poor service to citizens.

In the Brazilian civil service culture, control and adherence to strict rules occupy the top layer of the hierarchy of values. Excessive control prevents the development of managerial solutions that could tap into intrinsic needs to generate superior performance from workers. The focus of management is set to optimize possible punishments and egalitarian levels of compensation (extrinsic motivations) – since individuals are almost irrelevant in the system, there is no perceived need to assess and reward good performance in a meaningful way. Usually, intrinsic drivers of motivation are ignored.

The model thus represents a self-fulfilling prophecy: The excessive control and impersonality signals to new workers, in a short period of time, that outstanding performance, creativity and innovation are not rewarded (not even symbolically), decreasing the levels of motivation especially for more intrinsic-oriented workers. What follows is a decrease of motivation that leads to a state of “zombification”. People give up and start playing by the rules. As the rules emphasize bureaucratic procedures and people apply only the minimum energy to accomplish their job goals, a constant pressure for more control is maintained, closing the “futility of control” loop (loop R1 in figure 9) that could also be named

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<sup>7</sup> We thank one of the reviewers for calling our attention to modern applications of Maslow’s theory.



a “zombification” loop. Of course, the *motivational trap* that saps intrinsic motivation of public servants in Brazil, creating a culture of extreme control, low performance and weak results, is not exclusive of Brazilian civil service. As Deci and Ryan (2002, p. 4) note,

*“The concept of endogenous tendencies toward psychological growth and unity in development seems to fly in the face of everyday behavioral observations. Ambient evidence could readily support the view that people are no more characterized by tendencies toward growth and integrity than by propensities to be controlled, fragmented, and stagnated in development.”*

The challenge to create conditions for full human development is present in private and public organizations throughout the World. What makes the Brazilian case particular is how cultural traits can exacerbate the intrinsic flaws in a management framework, leading in the end to poor service to needy citizens.

Regarding validation, in the absence of a historical dataset on motivation of public servants in Brazil, we employed a nomological lens: the presentation of the theoretical basis for the possible causes and consequences of the observed behavior as well as its clear placement into a web of related antecedents and consequents. For instance, the feature of self-fulfilling prophecy in social systems (especially in organizational settings) that is a principal element in the model has a sound basis on the literature of organizational culture. Schein (2010, p. 367), in discussing the ideal characteristics of an organization, says

*Learning leaders must have faith in people and must believe that ultimately human nature is basically good and, in any case, malleable. The learning leader must believe that humans can and will learn if they are provided the resources and the necessary psychological safety. Learning implies some desire for survival and improvement. If leaders start with assumptions that people are basically lazy and passive, that people have no concerns for organizations or causes above and beyond themselves, **they will inevitably create organizations that will become self-fulfilling prophecies**. Such leaders will train their employees to be lazy, self-protective, and self-seeking, and then they will cite those characteristics as proof of their original assumptions about human nature. **The resulting control-oriented organizations may survive and even thrive in certain kinds of stable environments (...).** (emphasis added).*

It is expected thus that the model can show how expectations (for control) lead to the manifestation of the same behavior that the designer of the system tried to curb.

Some limitations should be noted. First, the model assumes the premise that the focus on results is intrinsically linked to the focus on control. It does not

accommodate the plausible situation of low levels of control and low focus on results. Future work may consider this point relevant, depending on the context of research. Second, the model is the first attempt in system dynamics literature to integrate Self-Determination Theory and related concepts. As such, it must incorporate suggestions for further improvement. Nonetheless, it presents a parsimonious small model that accounts for the main predictions of the theory and can provide useful insights for policy makers (Gaffarzadegan, Lyneis & Richardson, 2011).

Moreover, it is not clear at this point whether the elements from SDT Theory should be considered with equal weights in their influence on human capital. Perhaps violations to autonomy are more severe than lower levels of competence development. Other limitations concern practical issues and the creation of managerial policies to stimulate intrinsic drivers of motivation. Do they resist over time? Do they change the levels of motivation for good? Does the copy of managerial solutions from the private sector produce counterintuitive results? At this point it is unfeasible to predict how (and if) the policies will interact and the existence of synergies or compensatory responses. However, considering that is a system governing the behavior of human beings in a social setting, it is wise to remain alert for such possibilities. Economist W. Brian Arthur advises that all systems will be gamed (Arthur, 2014). There is always room for exploitation and unintended consequences in any policy. Future work could determine the limits of such potential policies as well as their points of leverage and exploitation.

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