Adaptation based on Value-Generating Decision Making

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Abstract: - This article aims to explain how economic processes have been developed through purely linear techniques, deeply affecting development at the business level. This is because economics is a normal science that has standardized and quantified growth, development, and value generation, evidencing a substantial gap. This has motivated the development of the present manuscript, whose value proposition lies in articulating the creation and development of the economy through the effective and positive adaptation of human capital through making optimal decisions in the complex environment, which allows generating tangible and intangible multidimensional value—recognizing a new approach based on tangible and intangible assets that allow knowledge to develop and transform it into value. Thus, the essence of this manuscript lies in the review of literature, which helps to articulate antecedents that evidence the linearity of the production function that sustains the classical economy, providing thus literature that allows deconstructing linear models and building value-generating systems (agents or organizations) emphasizing human capital as decision-makers which generate value through emotional intelligence and resilience.

Keywords: - Production function, Emotional intelligence, Resilience, Complexity, Linearity

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1 Introduction

Through time, economic science has favored nations' wealth by using the production function to improve the indicators of growth, competitiveness, and economic development, thus allowing them to reach economic equilibrium. Then the production function (PF) has become the essence of economic science and the materialization of growth, representing a linear model with perfectly established parameters that justify and promote production at scale, which translates as economies in

equilibrium and with sustainable development over time. From this approach, the classical (linear) economic theory aims to outline a mathematical, logical, and numerical explanation for the achievement of profit maximization, obtained by the greater production of certain goods and services, which, for many decades, has meant a milestone of vital importance for economic success over time.

This is explained from the conception that, given the positive slope of the supply function, greater production of goods will bring a higher income to a given company, allowing it even to decrease its production costs thanks to the returns to scale. Now, under the principle of classical economics, the statement that the revenue of a given firm grew in the same proportion as the quantity sold is correct. However, if it is carefully analyzed, the company's revenue increased considerably because its costs did not improve.

Thus, it can be summarized that the higher the production and the existence of fixed costs, the higher the profit margin of the companies. Therefore, in the industrial society, companies seek at all costs to increase their percentage of sales and their market share so that they can compete and have a higher profit margin. This has always been a crucial question for economists at the time of obtaining the optimal amount of production that maximizes the profit of entrepreneurs because there are constraints on both production and consumer demand.

To determine and answer this question, economists use the term Production Function (PF), which is the combination of resources (physical and monetary) that the company must have to produce a certain quantity of goods or services. The (PF) states:

$$Y = f(K, L) \quad (1)$$

Where: Y is the quantity to be produced, which will depend on the number of factors K (capital) and L (labor) available for the production process, L indicates the number of workers employed, and K the total capital invested in the acquisition of raw materials and other tools necessary for the production process.

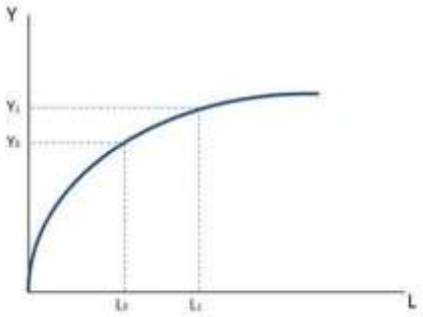

Fig. 1: Production function.

Where to cite an example, Y is indicated as follows: for the production of 100 pizzas (Y0), 3 workers (L0) are required, if I hire 1 more worker (L1), they will be able to produce a larger quantity than the initial one, and now they will produce 120 (Y1); imminently the fact that the company has 1 more worker has allowed the company to produce more (not necessarily to sell; this is determined by demand). But what happens if three more workers are hired?

If with three workers, the company produced 100 and with four workers 120, it means that the fourth worker contributed 20 pizzas, which represents the marginal productivity of labor PMGL; that is, the additional quantity in production by increasing the number of workers by one unit. Therefore, if I hire three workers, I should produce at least 60 or at most 100, a case that in real life does not occur due to the so-called Law of Diminishing Marginal Returns. Having seven workers in the pizzeria will decrease its productivity since now there will be idle times, or the workers will get in the way of production; all this because the physical resources (infrastructure, machinery, etc.) are limited and costs increase. Hence the shape of the positive but decreasing production function. The same is true for the invested capital K.

Over time, various authors have contributed to the generalization of the production function, including more factors, such as land, technology, natural resources, productivity, changing labor for human capital, etc. However, the (PF) most commonly used today is the Cobb-Douglas function of the neoclassical approach used to estimate the production function of a country and thus project its expected economic growth.

This PF function takes into account variations in capital (K) and labor (L). Technology (A) was added later on.

$$Y = A K^{\alpha} L^{\beta} \quad (2)$$

In the studies of [1], human capital was introduced as the main variable of the Cobb-Douglas production function, replacing the labor factor (L) with the human capital factor (H) and maintaining technology (A) and financial capital (k):

$$Y= A\ K^{\alpha}\ H^{\beta} \qquad (3)$$

However, despite the introduction of Human Capital, it was considered a linear and homogeneous factor, downplaying the importance of the multidimensionality of the individual and collective of this component, capable of generating tangible and intangible value. In this regard, thinkers have taken Human Capital as the starting point for the essence of the economy, providing the human factor with the ability to drive its actions (decisions) to grow and develop. It contradicts the functional structure of classical economic science, which has worked with specific parameters of a numerical and static character for decades. This fact has favored the homogenization of economic reality by taking or even excluding variables and components that present a multidimensional character. This fact has given access and support to concepts of demand projections, unsatisfied demand, etc., which have encompassed economics as an exact science based on static classical mathematics.

The linear character of PF has served to promote investment strategies based on sectoral analysis, giving importance to monetary value and assuming it as business success. Making projections based on the productive sector to which a given company belongs forcing them to depend on the industry in which it performs in the market, [2], misrepresenting the role of Human Capital as a unidimensional factor capable of carrying out production.

Human Capital currently has an active character in any company or organization because not only production depends on it but also innovation, uncertainty management, and, above all, the resolution and articulation of agile and optimal solutions. Then, the direction and articulation of human actions to generate value is called Decision-Making. Consequently, decision-making is the starting point of any form of value generation, involving interpersonal and intrapersonal factors that will lead to business productivity towards the generation of value of the different organizations or nations.

This reality is evident in today's organization, which is continually faced with diverse and uncertain situations, where decisions must be made under various factors that often act as barriers, negatively influencing; in the face of problems of high cognitive demand, significantly affecting the work and the results or goals of the organization. Therefore, agents must adapt to the global dynamics, emphasizing decision-making. However, to make decisions, they have to use mainly a trial-error system, often occurring in situations that generate stress within organizations, leading them to develop negative experiences in the management of uncertainty. This fact has created resistance to change, reducing the capacity to adapt due to the slow response and unfavorable decision-making.

Therefore, it is necessary to identify and enhance the capabilities of a given organization and align them towards effective adaptation that allows development. This, in such a way that they generate strategies with which they can compete at the edge, efficiently managing the reality-environment, emotionality, and information; factors embedded in the decision-making process.

2 The Knowledge Economy is the Key to Value Generation

From this perspective, which aims at effective adaptation based on optimal Human Capital decisions at the individual and collective level, it is essential to have a model that not only seeks economic growth in indicators but also aims at the transcendence of organizations not only as profit institutions but also as generators of tangible and intangible value. Thus, in 2002, a model emerged to give rise to knowledge-based development (KBD). This works with a system whose pillars are non-monetary capitals that will allow the operationalization and generation of value. Each of them being exogenous and endogenous forces that allow organizations to adapt and remain in the market. This is explained in a proposed framework of the capital system, [3].

Then it is no longer intended to talk about value without first talking about knowledge, pre-presenting an asset capable of generating intangible and tangible value leading an organization and city to develop. Thus, knowledge management consists of a process organized integrally.

To achieve knowledge-based development and

uncertainty management at the business level, it is necessary to recognize the capabilities and intelligence of the agents so that they can make effective and positive decisions that are not limited. However, this will only be achieved if the limitations at the decision-making time can be overcome. These are the lack of information, emotionality, and biases that the human being presents when making decisions that require greater cognitive demand. In these situations, the trial-and-error method will not be positive due to the magnitude of the decisions, which depend heavily on perceptions and emotions that are manageable by experts and are often led to negative impacts due to the different psychosocial limitations of the human being, [4].

3 Obstacles-Limitations in the Decision-Making Process

These limitations generate a negative conflict, often acting as barriers to any situation of high cognitive demand in choices. That is why individuals must develop not only systems that allow them to have immediate and accurate world information to be able to make decisions but it is necessary to build emotional intelligence that will allow them to project themselves with self-confidence and build business ties that boost labor productivity and value generation, [5].

Different researches show positive relationships between emotional intelligence and business productivity, increasing profit and developing organizational welfare under a positive work environment. Even being able to allocate and manage resources efficiently, [6].

Likewise, there is a real relationship between the emotional aspect and decision-making processes. Indeed, emotions are a key human aspect in decision-making, specifically those requiring greater cognitive demand and especially in managing human groups such as governance. Thus, a person's emotional effectiveness will be tested in decision-making by considering the effectiveness of mechanisms, emotional intelligence, and biases due to different situations and experiences throughout an individual's life.

Therefore, it is necessary to refocus the way of looking at decision-making to improve and give validity to instruments and methods that contribute to optimal decision-making impacting emotional intelligence, [7].

4 Emotional Intelligence as the Milestone of the Organization's being - Bar On's ECI - Intelligent Networks

It is explained then that, in organizations and in some governments that work not only with the selection of people with general intelligence or average IQ but that promote emotional stability with a positive work climate of the different areas of management, they develop social intelligence, welfare between collaborators and environment [8].

Consequently, it is vital to develop emotional intelligence as a leadership engine that will provide excellence in decision management. Because individuals who present certain deficiencies in the emotional construction tend to seek personal and not organizational well-being, which leads to failing to reach the purposes embedded in the organization or, perhaps, making wrong decisions. Therefore, the construction of emotional intelligence is essential since it will contribute as a vector that will increase intrapersonal and interpersonal abilities and skills, promoting teamwork as a communicative, structural, and adaptive network. But to achieve this organizational purpose of positive adaptation in decision-making, it is essential to have an instrument that allows measuring the degree of emotional construction of the collaborators of a particular organization [9].

In this regard, there are validated international metrics of emotional intelligence (EQ), understood as the capacity of feelings and emotions embedded in oneself and the projection of this towards the environment. This implies a mental aptitude of affection, intrapersonal and interpersonal emotional security that help the cognitive processing of affection to interrelate information and attach an experience or sensation according to the reality or established environment. With this, perceptions and ways of guiding thought and actions are implied through subjunctive intelligence and not only as data processing, [10].

Emotional intelligence is translated as the ability to perceive, access, and generate emotions and not only create an emotion for each personal experience; it also allows the reflection of emotional and intellectual thinking, which leads to personal growth. That is to say that through self-knowledge and understanding of the capacity of emotional intelligence, it will be possible to improve the behavior of individuals by reducing the primary defense mechanisms, achieving reactions and choices, and decisions that externalize empathic emotions in which the information has a real and

significant dynamic, [11].

It is then necessary to measure this emotional capacity and strengthen it to achieve organizational development. To measure emotional intelligence, two models were developed, one, through the Bar On ICE test, with a psychometric measure where five components of emotions are described; these are intrapersonal intelligence, interpersonal, stress management, adaptability, and general mood. This test reflects social skills, comprehension abilities, self-evaluation, awareness, and relationships with others. This test is applied from 16 years of age. It measures a person's success with the demands of society and pressures in their work environment. The emotional intelligence quotient (CEQ) is measured in a score from 1 to 100. It differentiates which people are successful and those who are not successful in coping with social pressure and demand [12].

Goleman's model also works with four concepts; these are self-awareness, which develops the ability to know one's own emotions and understand risk; using intuition for decision-making and self-management, which implies social awareness that includes emotions of the environment; also communication networks; and finally, relationship management involves the ability to inspire, influence and direct conflict management where this management of conflicts, emotions, and decisions allows adapting in a changing environment, [13].

Through these psychometric tests, the concepts of emotional intelligence can be measured, and the emotional capacity of individuals can also be nurtured since this emotional concept will allow handling certain external and internal stressors that will lead to adaptation, which would translate into better decisions and cement social intelligence. This focuses on the interrelation of individuals in different groups.

Emotional intelligence has proven to be an essential factor in the productive development of workers in organizations, increasing performance and allowing human resources to develop their potential through the need for information and effective control. It is possible to develop bonds of trust among the organizational collaborators, which will lead them to develop positive adaptation in the operative part of the company. If the dynamics allow the management of strategies towards a common horizon, it will be possible to increase the company's profitability, making it competitive, [14].

The literature reviewed is tangible in a study conducted in different companies with a self-report scale of emotional intelligence developed for respondents in Chinese companies where they sought to find a relationship between emotional intelligence and business performance, so the results referenced a positive relationship being emotional intelligence a significant predictor of job performance beyond the effect of mental capacity on performance. Driving a collective intelligence as a powerful conceptualization that will enhance collaboration, competitiveness, and decision-making processes in complex and adaptive systems converging on a desirable end that directs the organization to create value in different forms and contexts, [15].

A study was also conducted on forty-seven businesspeople in Rajasthan. Psychometric scores were obtained from the Bar-On test applied in this study, which sought to obtain the relationship between the concept of emotional intelligence and the leadership of entrepreneurs. This test yielded scores for a medium transformational leadership degree, a leader effectiveness score, and other non-transformational leadership styles. The existence of a positive relationship between effectiveness, emotional intelligence, and transformational leadership was demonstrated. That is, there is a relationship between emotional intelligence and leadership styles. Based on these results, it is outlined that when entrepreneurs better develop leadership skills and with the proper construction of emotional intelligence, they can manage their weaknesses and strengths to guide their behavior toward optimal leadership for business effectiveness and productivity, [16].

There is also a direct relationship between business intelligence and strategic decision-making. To this end, a study was conducted to explore the impact between business intelligence and strategic decision-making; tests were applied that yielded statistical results that demonstrate the business intelligence impact on strategic decision-making, thus improving the efficiency and effectiveness of the processes embedded in the company and obtaining optimal results for it. Therefore, the business organization must manage certain instruments and mechanisms that ensure the efficiency and effectiveness of business strategies, which is why it is necessary to use flexible and innovative business intelligence infrastructures that contribute significantly to organizations' decision-making, [17].

Suppose organizations opt for the implementation of these instruments. In that case, they will be able to better manage the uncertainty and reality they face and generate competitive intelligence, which is

necessary for the different economic sectors. In this regard, studies were conducted in the manufacturing industry; in one of them, surveys and interviews were conducted with employees in three manufacturing companies in Nigeria. The results indicate that competitive intelligence is necessary to increase production quality, strategic planning, and market knowledge. The costs of competitive intelligence consist of time, money, and intellectual skills of the organization internally and externally managing competitive intelligence and strategic advantage in a changing and competitive marketplace because the company that can be smart will be able to make proactive decisions that lead to business success so companies must adopt best practices which consequently significantly improve their business life, [18].

To achieve this, companies can obtain competitive advantages by influencing behavior, i.e., emotionality that allows them to exchange information and generate knowledge of their employees to work from an internal perspective and externalize it in the competitive and strategic advantages capable of providing the generation of value in the management of knowledge. Due to the importance of knowledge in today's competitive world, generating it at the enterprise level is essential since this exchange is the only one capable of guaranteeing permanence in the market. To have good development in the knowledge organization, it is necessary to incur the positive relationship that this exchange presents with emotional intelligence. In this regard, studies on 230 employees of a lubricant company Corri showed the positive relationship between knowledge exchange and emotional intelligence, making the generation of value possible, [5].

5 Resilience: The Second Milestone for Decision Making

However, value generation that is reflected in effective and positive decision-making is not only achieved by developing and managing emotional intelligence but also resilience is important as a component that will enable the organization as a whole to survive positively. Resilience implies the positive adaptation of individuals or organizations, despite experiences of significant adversity, specifically negative situations. This connotation is operationalized as the ability to resist risks, instability, and adverse conditions they have faced, so a resilient person or organization can bounce back from the most adverse difficulties they may face, [19].

Therefore, the construction and measurement of both components are necessary to achieve optimal decision-making, so like the Bar-On ECI, resilience also presents validated metrics such as the scale called the Resilience Scale for Adults (RSA), which was compared with measures of personality (Big Five / 5PF), cognitive skills (Raven's advanced matrices, vocabulary, numerical series) and social intelligence (TSIS). These measures were taken with students from a military college.

The results of this five-factor model were: measuring "personal strength," "social competence," "structured style," "family cohesion," and "social resources." Results were obtained where RSA-personal strength was most associated with 5PFs-emotional stability, RSA-social competence with 5PFs-extroversion and 5PFs-agreeableness, and TSIS-social skills, RSA-structured style with 5PFs-conscientiousness, RSA-family cohesion measures and RSA-social resources were also related to personality. In addition, RSA was not associated with cognitive abilities. This meant that emotional skills enable individuals to be healthy, better adapted, and thus more resilient to various adversities, [20].

Likewise, other measures, such as the Connor-Davidson Resilience Scale, the Adult Resilience Scale, and the Brief Resilience Scale, received top psychometric ratings. So did different scales conducted by an international team of researchers in 11 countries who worked collaboratively to develop a culturally and contextually relevant measure of youth resilience, the Child and Youth Resilience Measure (CYRM-28). The team used a mixed methods design that facilitated an understanding of the common and unique aspects of resilience across cultures. In this regard, cross-comparison analyses were obtained in which mixed resilience outcomes were observed in eighty-nine youths, [21], [22].

However, it is important to point out that, although there is a diversity of validated scales, the most widely used one is the RSA-personal since it presents a psychometric scale measurement in adults; this allows its application in organizations to measure the resilience capacity of individuals and organizations.

It is in this way that, through these two components such as emotional intelligence and resilience, organizations and agents can carry out a real emotional control by working in networks that allow making decisions without limitations, addressing not only accurate and fast information

but also reflective emotions in cognitive thinking, achieving effectiveness in stress management. Organizational networks must manage the internal and external stressors they are exposed to, despite the emotional and resilient construction, [23].

6 Stress Management

Stress must be managed positively and effectively at the individual level and in the teamwork of intelligent networks; if positive management is achieved, it is called eustress, which transforms the stressful limitations or weaknesses into strategic opportunities or strengths for the organization, thus achieving permanence and organizational success. That is why studies explain the need for stressors for good organizational development. Stressors should not be avoided, but rather, more and more stressors should drive the business life to an adaptive organizational change and not resist change. Resistance to change will only lead to the pursuit of scattered interests, which will negatively affect the company and eventually lead to business distress, leading to the closing of the business cycle. Finally, stress management through the concepts previously reviewed - emotional intelligence and resilience - will allow closing the gaps of limitations when making decisions since they will positively influence recognizing the agents and making optimal decisions. Therefore, the articulated development of these concepts is relevant because they are the ones that will mark the change or business transformation in optimal decision-making or resist and then succumb to stress as an organizational breaking point, [24], [25].

7 Beyond Decisions, Complexity, and Uncertainty

Consequently, according to the literature presented, the generation of value translates into decision-making that will achieve effectiveness to the extent that barriers can be broken and significant gaps such as lack of information and optimal management of the emotional factor (emotional intelligence and resilience, biases) can be reduced. Likewise, it will be possible to develop individuals or organizations emotionally to adapt to the changing and uncertain environment. In this way, distress is not generated but eustress, strengthening strategies, boosting the installed capacity of organizations, achieving a push that allows both individually and collectively to be resilient, and thus managing intelligent, flexible, and dynamic networks; also, incorporating not only effective management of the company but also strengthening decision making. Therefore, organizational transformations can be achieved, being an adaptation of a structural and articulating strategy capable of enabling knowledge management above all.

Uncertainty will only be managed to the extent that decision-making can be converted into soft skills of the organizations, causing an organic transformation in the decision-making process, working under strategies that anticipate the crucial development of black swans (chaotic events that negatively impact the economic system); that is to say, that they give pushes at the level of behavioral behavior of the agents who through strategies optimally manage complexity and above all develop gray swans which allow them to face significant breaches.

This will only be achieved to the extent of building emotional intelligence and resilience by optimally managing the internal and main part of the organizations, which are the intelligent work networks. In this way, innovation ecosystems are promoted under the development of knowledge and value for the different organizations.

Thus, the individuals that make up the human capital play an important role in any sector in which they work, whether it is the commercial, productive, or educational sector - specifically when we talk about economics where the essence is the human being since they are the ones that make up an economic society and drive development.

It is necessary to work in anticipation of relevant events, foreseeing as far as possible the non-linearity in the economic field. This is not represented by a function but acts in fluctuations of small and large causes, which give way to fractal theory. We operate in a world of fluctuations and chaos in which humans are multidimensional. Therefore, decision-making cannot be unidirectional but must be multidirectional and, above all, nonlinear. The development of these aspects is currently tangible in the ability to recognize the capabilities that will lead to the success of an organization or society, especially in the dynamics of uncertainty and complexity in which organizations around the world are interrelated.

The constant evolution of the world, especially in new information systems, fluctuates, making the continuous realization of facts constantly improbable; so, companies must manage complexity by focusing on solving the different

problems of diverse realities and working with the time of business realities, [26].

In this way, uncertainty and complexity must be worked on within companies since the success or failure of the organization will depend on this management and the handling of decision-making in the face of the so-called black swans or uncertain phenomena, [27]. This is how decisions will be successful or otherwise will drive the organizational breakdown; everything will depend on the skills of decision makers or materializing the emotions in the form of production to obtain. As a result, the generation of not only material value. However, this is very difficult due to the linearity in the structural way of seeing production only as a function or an impersonal process.

Despite what has been shown in the related literature, the way of looking at decision-making is not linear. In the meantime, however, it is necessary for many decision-makers to quantify, i.e., they are concerned only with seeing how their company grows. This represents the respective linearity of the unified reality they intend to develop.

Similar doubts often arise in the economic field and everyday life, and the question of how much is always present. If it is seen in perspective, the form of human learning is by repetition and intensity, which leads to linearity, expressly seeking a how much by associating it to a production problem. Perhaps many businesspeople and economists have not seen reality as such since they live 90% of human life on autopilot, making automatic decisions with a heuristic system of quick response and without interpretation. This often leads to systemic errors in life. In the face of this, we suggest that it is propitious to turn to non-linear structures. It seems that the conception of linearity in our corpus callosum is dominant; we bring quick and agile responses to events of high cognitive demand. On the other hand, we are tricked by our brains with an automatic system of biased perceptions, passions, and emotions with continuously learned and structured failures.

In truth, the functioning of our brain is non-linear, but a linear structure has been imposed due to cultural factors. This has led to avoiding reaching a more complex vision, that is, a more organic vision, in this case, of the value processes in companies and the economy.

Linearity has become part of our cultural DNA. However, measures must be taken to explore certain brain fields and intrapersonal forms in the measure of changes and perspectives of realities approaching us, not to try to explain but to have the ability to anticipate trying in a certain way to be nonlinear, [28]. Because if human beings were nonlinear, there would be no uncertainty, and we could think in possibilities rather than simply in reality. This is perhaps the greatest paradox of human understanding. We are non-linear, but through the standardized, repetitive, unified learning system, we have been structured and automated, or are we linear and have glimpses of non-linearity.

Manifestly, linearity should not prevail. Instead, as an organization or society, we must establish strategies based on fluctuations, taking advantage of the chaos and working on certain skills that will allow us to develop emotionality, resilience, and stress management. This will lead the decisions to effective and intelligent fields enabling the organization to reach business success and generate both tangible and intangible value. Such an organization is appropriately called an intelligent organization, [29].

8 Results Discussion

Humanity has sought since the beginning of time to improve the quality of life of human beings through the application of the economy as a way of extending or boosting life towards progress and development. It is then that productivist and structured models have been deployed and adopted, directed towards undirected economic development. The fact has implied the deficient and non-existent understanding of the environment and reading of this; so they have led the social agents (companies, institutions, cities, regions, countries, etc.) to certain involuntary points, [30], reflected in the resistance to change of social and economic agents, a barrier that prevents optimal decision-making. This has led to evidence that decision-makers are not prepared to deal effectively with major phenomena and significant events of fluctuations, turbulence, and instabilities. This is due to the linearity in decision-making, so it is currently tangible that organizations are not agents that develop value because they have failed to lead and respond optimally to the demands of global dynamics. This represents the limits of economic science due to linear and structured models, in which the world is presented in hierarchical, sequential, causal, and essentially deterministic terms, [31].

Consequently, it is fundamental and a priority to bring the economy closer to complexity, that is, to the interdisciplinary interaction that develops in networks and power nodes through processes, flows, and non-linear dynamics, [32], integrating

the economy towards modern sciences, providing it with a holistic and integral knowledge of the adaptation of agents as a priority point for the generation of value.

9 Conclusion

Today's classical, productivist economy has been relegated because it constitutes a one-directional linear model, which seeks a single goal of growth and development through means. The fact has revealed that the economy does not know of complexity and interdisciplinarity. Analysis evidenced by the present study; currently, the social sciences must have a complex and holistic strategic character integrating tangible and intangible factors that allows effective and positive adaptation achieving the

Value Generation Guided and sustained decision-makers in classical economic science have left aside the behavioral and complex factors that make it possible to generate value. On the contrary, they have engaged in the search for economic growth, productive strategies, competitiveness, etc. Models and linear structures have turned the decision-making process into an impersonal technique that has fragmented development as a society.

The decisions to be made must seek to adapt the organization to continuously changing environments. They must be articulated and integrated into a system where knowledge is the dominant asset working under multidirectional, interdisciplinary, and non-linear strategies, opting not for automatic responses but by responses with a view to cross-disciplinary problem solutions so that problems generate eustress. Undoubtedly, this will allow organizations to grow in smart innovation networks making a dynamic and flexible intelligent network with the ability to manage or anticipate uncertain phenomena obtaining from them academic and governmental business strengths achieving thus the development of a city, a region, a country, all of it, in a globalized, non-zero-sum world.

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Contribution of Individual Authors to the Creation of a Scientific Article (Ghostwriting Policy)

-Carlos Maldonado, was the main author and did the writing of the original project and the formal analysis.
-Angela Portugal, carried out the methodology and visualization
-Glenn Arce, performed data conservation
-Wendy Ugarte, did the conceptualization
-Harold Angulo, wrote and edited.

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