CONCEPTUAL FRAMEWORK FOR AGILITY EVALUATION OF MANAGERIAL INNOVATIONS

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Abstract: *The main purpose of the paper is identifying: first the main shortages and mistake made by the companies in the agility evaluation of managerial innovations and second the key marketing and management competencies needed for evaluation of agility of managerial innovation. The research primary data are processed through content analysis of books, interviews and short articles in Internet sites for managerial innovations. Based on the analyzed texts conclusions and ideas for steps and changes are developed which have to be undertaken: first in the development of conceptual model for agile organization and in second place by the companies in Bulgaria in order to propose a conceptual framework for agility evaluation of managerial innovations.*

Key words: agility evaluation; managerial innovation; agile; agile drivers; agile enables; agile capabilities; competitiveness; customizations;

1. Introduction

Nowadays, in order to make your business competitive and prosperous, it is not enough to rely on one‘s bright mind, intuition or luck. Modern enterprises are a complex multicomponent system, which need managerial innovation. They are required to build a conceptual framework for assessment agility. Essential element necessary to build this framework RE Communication and Information Technologies (ITC).Although each enterprise is unique in its financial and economic activities; there are a number of problems common to all enterprises. These include the material and financial resources, procurement, marketing and much more. One possible solution to these problems is the implementation and use of Enterprises Information System which have been rapidly developing in recent years. These systems also provide managers with complete and timely information for management decisions and ensure effective data exchange with business partners.

The importance of innovation and increasing the competitiveness of SMEs for the next decade is followed by strategy Europe 2020 in that one of the main priorities is <Smart growth> based on knowledge and innovation. Namely the importance of the

problem of innovation, their relationship with the agility evaluation of organization and possible ways to promote innovation activity of Bulgarian companies through changes in behavior, as well as changes in the teaching of managerial innovations provoked interests of each in the subject.

Dramatic changes in the business environment are leading organizations to quickly adopt towards new agile manufacturing models. The business context focuses on manufacturing highly customized products demanded from the consumers. In order to thrive in this turbulent environment companies are increasingly focused on their core competences, building strategic coalition with corresponding partners to satisfy the overall needs of a personalized project. The agility is a main instrument to cope with the increasing uncertainty and competition in the market place. In this conceptual paper, we present an initial approach for contemporary agile organizations – essential for further case studies in Bulgarian organizational structures.

Changes in the market today are so fast that the partners of companies are already not applicable. Modern management companies are facing countless new business variables and circumstances often beyond his control. Business environment and competition will become increasingly unpredictable due to dynamic change and technological developments. No very reliable expertise on whether management practices from one sector to transform and implement easily into another sector. From this perspective, the importance of assessment of knowledge for agility evaluation innovation company policy becomes even greater. McKinsey Quarterly survey of a sample of top managers from around the world describe the three main factors, that lead to changes in the global business environment are: 1. Innovation in products, services and business models, 2. Easier and faster access to information and developing knowledge, 3. Increasing consumers awareness etc [10].

Many years ago Peter Drucker says that two of the main functions of business organizations are innovation and marketing and therefore the Harvard Business School is one of the first universities which introduce "Marketing and Innovation" [2].

Object of this study in this report are the managerial innovations of modern organizational structures, operating in a context characterized by continuous and unpredictable change. The study report have been evaluating and measuring the agility of management innovation to achieve agility of the organization.

Main aim in this report is to create a methodology for evaluation agility of managerial innovation of modern organizations. Based on "qualitative research" by Internet to analyze the main problem are as related to the assessment of agility in management innovation ate the firm level in developed countries the knowledge, competencies and marketing activities in different stages of innovation. The ultimate goal is to serve this information to formulate hypotheses for future research on these issues with Bulgarian companies in order to identify the necessary steps to be taken by companies on the Bulgarian market, especially small and medium-raising their innovation agility.

2. Nature of Managerial innovations

Innovation is a term with a complex content that can't be defined clearly and fully, so as to meet the requirements of various practical situations. However, there are several points of reference on which to build a comprehensive picture of the essence. Innovation includes the following based elements: innovation; real change; evaluation of dynamic adaptability of consumers (market); innovation as a process; establish tangible or intangible result of the introduction of a new. The first element of innovation is associated with a novelty: a new idea (invention) 1. In the second row element based on the novelty is carried purposeful activity induce real changes in what is available (products and service), and in the way it is produced, distributed and marketed. The third element is the actual positive assessment of novelty and containing the object by users (the market). According to the fourth element nature of innovation can't be understood unless it is seen as a process involving logically separate but related phases and operations (Benev B., 1996, p.6; Georgiev, I., Tzvetkov Tz., 199, p. 35. A further requirements is to allow the identification of tangible or intangible result of the development of a new idea (invention), (Benev B., 1996, p. 7). This requirement is fulfilled certain, when it comes to new global products (raw materials, machines, etc.) and processes. Although difficult, the novelty can be found in advanced products and processes and to describe in terms more reliable, safer, with better design with better legal protection, etc. The results of the implemented innovation can also be intangible when it comes organization management (new procedures for decision-making), the ways of providing services in the tertiary sector and others. In some case, the very novelty presents the results of innovation. For example, the use of less expensive, but more durable structural material (new) results in the production of a cheaper product with a longer duration of action (the results).In most cases, however, the description of the novelty and the outcome of its application using different approaches. To the essence of innovation is relevant and the question of the degree of novelty and the position from which it is estimated. In terms of the global economy innovation is only successfully developed and implemented major innovations (new products, services, processes and organization), that are unique in the world. From a practical point of view it is more important assessment of the new position of firm and markets. It is quite natural to consider the companies for each new their product, process, equipment, etc. innovation, although their underlying known worldwide novelty. In conclusion it can be said that it is impossible and practically useless to give a universally valid definition of innovation. This could happen for different types of innovations in pre-specified starting positions: analytic purposes; limitation and others. Sample definition of management innovation (the example of the new product) might be the following: managerial innovations are innovations in the form of changes in organizational structures, relationships, rights and responsibilities in the methods of business management in the individual-organization relationship.

Importance of managerial innovation should not be underestimated [1]. First, they increase the adaptability of the firm so to change and impact the environment: competitive pressure, societal demands and expectations and more. Secondly, they give rise to authorizing certain intercompany contradictions associated with relations between owners, managers and workers, construct-diction of an appropriate corporate culture featuring experts from lower levels in the strategic decision-making and others. Third, in many cases the success of the product and process innovation depends on the introduction of accompanying managerial innovations.

Conditions for management innovation: A management innovation must (Godowski, 2003 ; Mol and Birkinshaw, 2008) : 1.have impact on the way of working of managers; 2.represent a significant advance in the state of knowledge of managers; 3.be implemented and deployed operationally within the organization; 4.allow the achievement of business objectives.

Managerial innovations usually aimed at increasing the adaptability, flexibility and responsiveness of the firms to changes in the environment, creating a new company environment and culture of continuous improvement and others.

In terms of the degree of novelty and lags between invention and practical application innovation can be represented by follows: Main (radical) innovation;

Strategic management of innovation management supposed to, the following basic premises: managers know well these innovations in the firm and the characteristics of their management; company management to be aware of and comply with the factors and limitations in measuring the dynamic adaptability of management innovation; have developed an innovative concept of the company; have developed specific innovative strategies in product markets or strategic areas of action; Also all components have four dimension:

- Information
- Organization
- Business Process
- Technology

Managerial innovations translate into new or improved organizational governance structures (project structure), a new approach to strategic decision making (bottom-up), a new system of incentive schemes for managers (ownership interest as shareholders, compensations with the possible acquisition of the company, etc.)., new methods for building corporate culture (through appropriate official clothing and rituals), a new organization of supply (just in time) and others. To organizational and management innovation can be attributed and innovation with social and ecological aspects that enhance the company's image (Georgiev, 1998, p. 14). In the last decade, the industrial environment has undergone substantial changes characterized not only by their breadth and depth but also by their speed. In this context, firms in general, and those dedicated to manufacturing in particular, are finding it difficult to attain a sustainable competitive advantage or even to ensure their survival due to the high levels of complexity, dynamism and uncertainty they encounter (Va´ zquez-Bustelo

D. and Avella L.,, 2004). This critical situation has forced firms to review their competitive priorities, triggering a transition process in which they are abounding traditional manufacturing models in favors of new organizational forms, new management practices and new strategies at all levels (Bartezzaghi, 1999, p. 229–250).

A transformation has been observed in 'traditional' production models which are leading to a new production paradigm linked to agility. The movement towards a new agility-based paradigm, the term 'agile organization' has arisen and is increasingly utilized in literature on operations management and business administration to mean a model of flexible organization, capability of rapidly adapting to changes in the environment and setting a variety of products on the market to satisfy the requirements of increasing demand and well-informed customers (Kidd, 1994); (Goldman et al., 1995); (Gunasekaran, 1999, p. 1–6.); (Sharifi and Zhang, 1999, p.7–22); (Gunasekaran et al., 2002, p. 405–415). This emerging paradigm, the philosophy that considers a new strategic positioning in organization and requires a global view of the firm (Roth, 1996), breaks with the guidelines of the traditional mass production model and setting special emphasis on the proactive adaptation in order to change (Yusuf et al., 1999, p. , 33–43)

This emerging paradigm, the philosophy that considers a new strategic positioning in organization and requires a global view of the firm (Roth, 1996), breaks with the guidelines of the traditional mass production model and setting special emphasis on the proactive adaptation in order to change (Yusuf et al., 1999, p. 33–43). It highlights the development of dynamic capabilities, the strategic utilization of modern technologies, the integration of strategies and operations, customer satisfaction, through new forms of inter-firm cooperation and knowledge management (Gunasekaran and Yusuf, 2002, p. 1357–1385).

According to (Kidd, 1994), agile manufacturing is based on three basic resources: (a) an innovative management organization and structure, (b) a worker's base consisting of highly trained, motivated and empowered people and (c) advanced, flexible and intelligent technologies. Agility is obtained by integrating these three resources in an interdependent and coordinated system. For (Goldman et al., 1995), agility is a global response to changes imposed by a new business environment dominated by a set of forces that attempt to break with mass production systems and are characterized by change and uncertainty.

These authors have identified four dimensions or foundational elements of agile manufacturing: (a) enriching the customer, (b) co-operation in order to enhance competitiveness, (c) mastering change and uncertainty and (d) leveraging the impact of people and information. For each of these dimensions, they set a list of characteristics of the agile firm that have been considered by many authors as the starting point in their business on agility. Despite the fact that agility has been defined in different ways and from different perspectives and fields of knowledge, a common element to all the definitions is removing from mass production. (Sheridan, J.H., 1993, p. 30-46) argues that agility implies breaking with the modules of mass

production in order to manufacture more customized products at the time and location which are required by consumer's demand.

3. Construction of a conceptual model

The concept of agile manufacturing was first introduced in the report entitled 21st Century Manufacturing Enterprise Strategy and published by Iacocca Institute of Lehigh University (Goldman and Nagel, 1991) as an option for managing firms in a dynamic world.

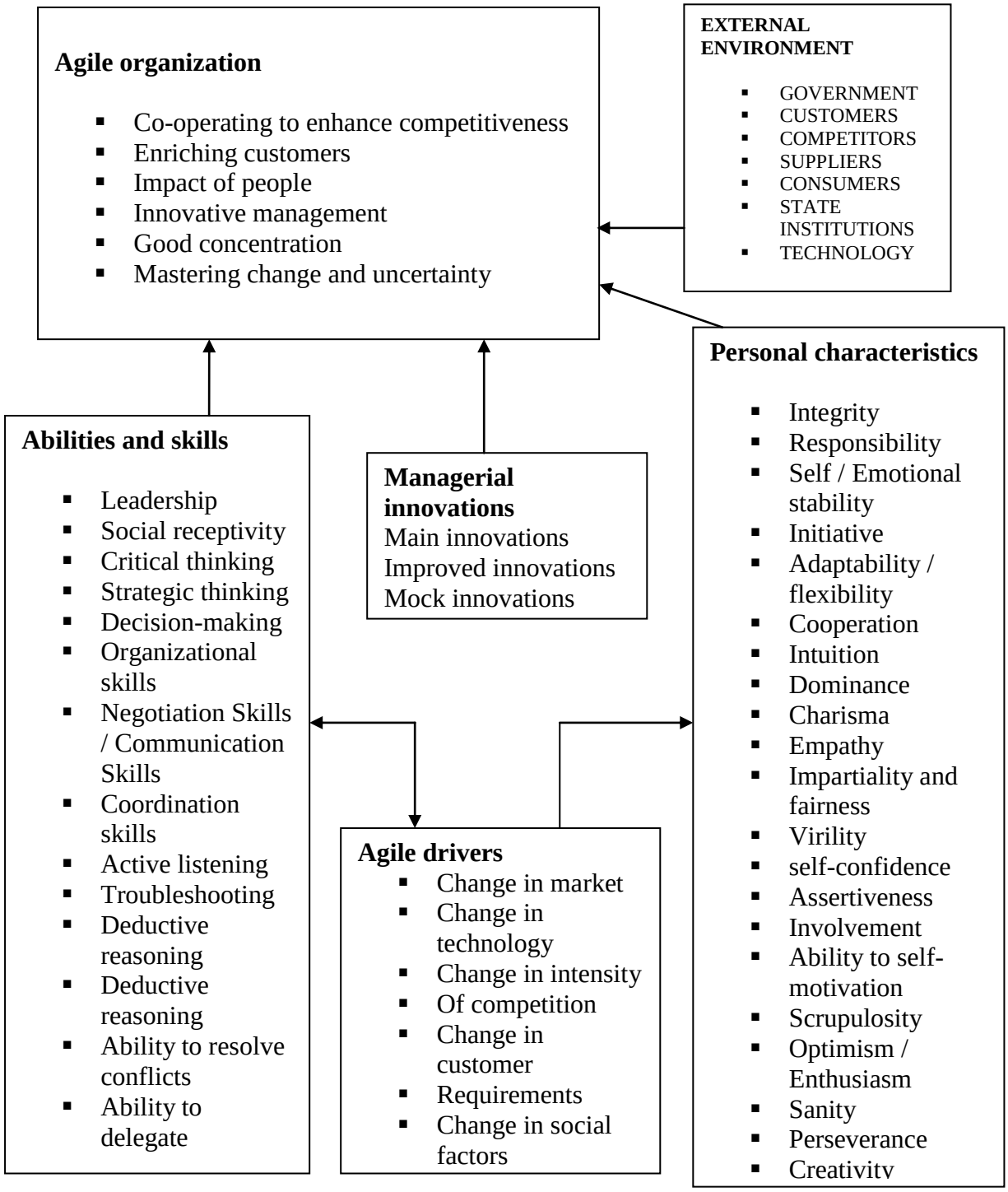

Figure 1 .Conceptual model

Henceforth, it has been adopted by researchers, managers and consultants as the last stage in the evolution of organizational models or systems.
By reviewing the literature of agile organization, effective factors on organization agility were clarified in a conceptual model. This part of the report clarifies instruction of factors together and their effect on organization agility.

Most important factors of organization agility: planning and evaluating performance (efficiency, integration); virtual organizations (process, co-operation); Organizational culture (participation, risk acceptance); leadership (transactional/transformational, future/goal centered). Progressive design technology (simulation, engineering analysis); progressive manufacturing technology (flexible facility, rapid prototyping); team working (efficiency, trust being group); empowerment and improvement (enrichment, accept job change); motivation system (job satisfaction, organizational commitment); organizational structure (formality, complexity, centrality); supply chain (co-operation with supplier/customer); Information technology (employment, integration).

Consequently, this figure 2 attempts to analyze the drivers, enablers and capabilities of organizational agility in order to propose an initial approach to agile organization

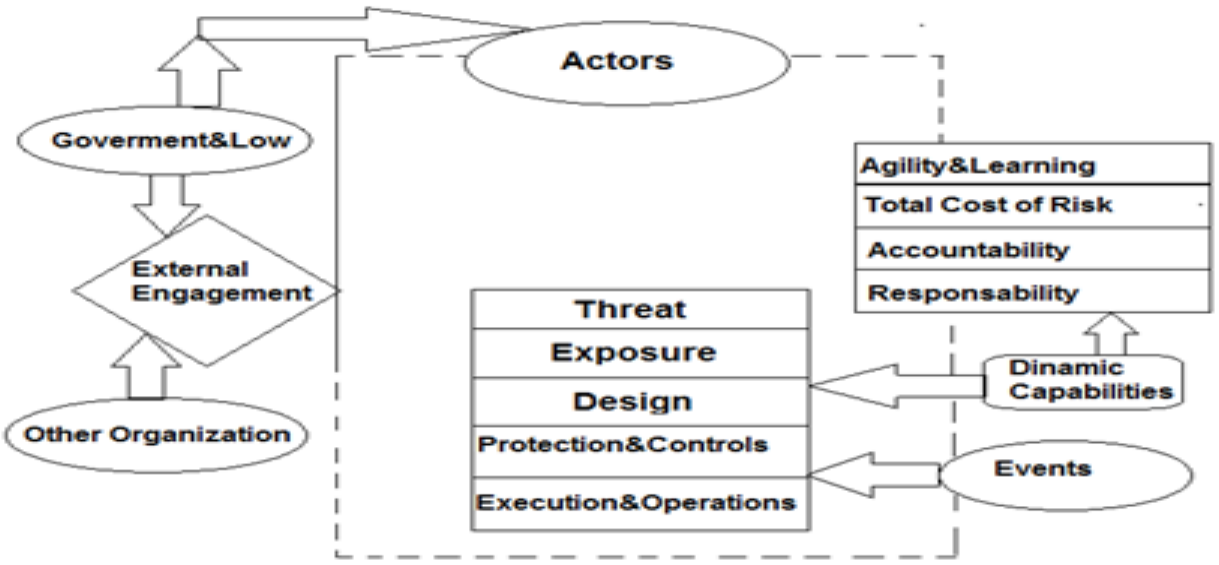

Figure 2 . Drivers, enablers and capabilities of organizational agility

4. Conceptual Framework for Organizational Agility

That figure will show consistently steps of agile organization which are different then the models in front of then. Dynamic capabilities are connected with sustainable competitive advantage. They involve complementary resource and capabilities: Opportunities and risk related to co-operation strategies. But important is to hold up problem; other is renewal capabilities of organization – core capabilities (VRIN

attributes) and knowledge capital from tacit to codified knowledge. To have sustainable competitive advantage is spoken about demand and supply conditions of the industry: critical mass; economies of scale and scope; first-mover advantage; to have competitive advantage is needed to involve tacit knowledge and legal means (patents ate).

When it comes to digital transformation, we are trying to hit a fast-moving target with poorly aging models for service delivery and IT governance become fast. The Reality usually takes several years for a large organization to achieve large scale change. By this I mean three to five years, and often more. In today is operating environment highly disruptive enterprise technologies and products, that is just too long. The organization must also show us how to increase our technology metabolism. This model should include the broad strategic outlines as well as specific adaptations to the latest powerful new digital capabilities such as big data analytics, the internet of things, social business, and so on [7]. These subjects are all highly strategic to the future of our organization, yet they are also interrelated and must fit together relatively well in this model somehow. To achieve of this objective with overview of the conclusions in references examine is accomplished consistently analyze of executed models for evaluation agility of managerial innovations of world enterprises. Very important in this analyze is to develope easier model, which framework is for better used.

For better and easier understanding is necessary to offer easier model in figure 3.

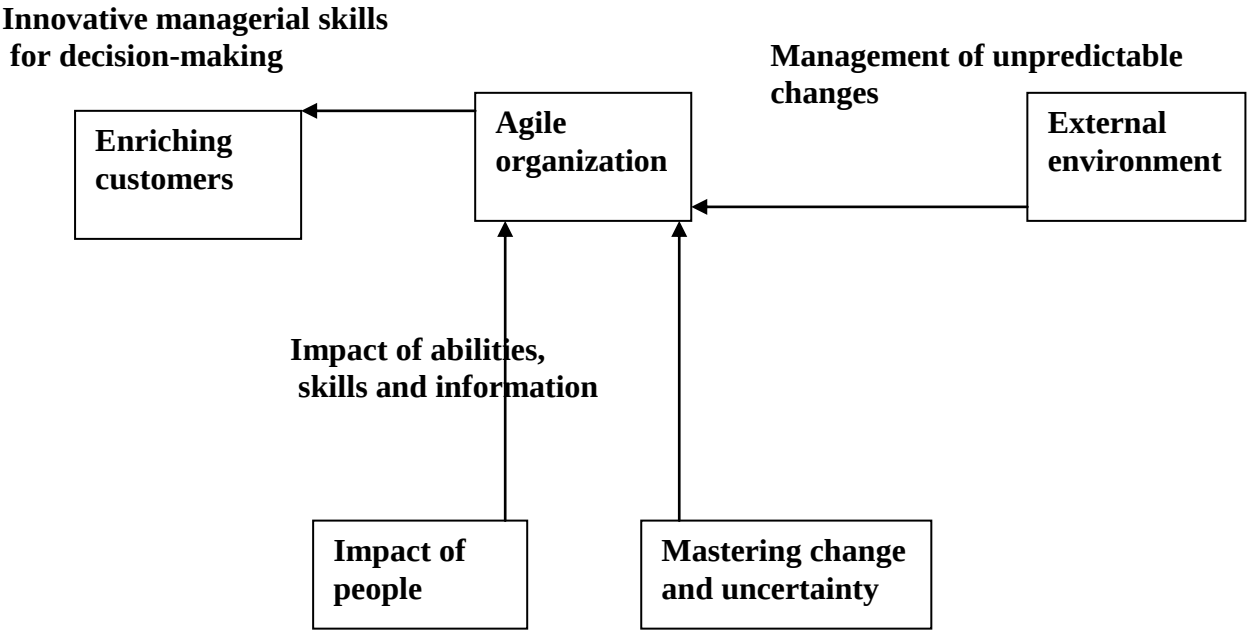

Figure 3.Easier conceptual model

The importance and priority of achieved model factors in organization agility are as:

- Team working,
- Improvement and empowerment,
- Supply chain,
- Organizational structure-formality and complexity,
- Progressive manufacturing technology,
- Manufacturing technology,
- Leadership,
- Motivation system,
- Information progressive design,
- Planning and evaluating performance,
- Job satisfaction,
- Organization commitment system

5. Methodological approach for agility evaluation of managerial innovations

The main objective of this part of the report is to organizing consistently structural and presentation of study of „dynamic capabilities" for evaluate agility of managerial innovations of Bulgarian modern organizations. This will help obtain an accurate estimate of competitive capabilities and potential for good relationships with other industrial enterprises in Europe Union. This is giving good information, that shows how to use the limited resources and abilities, such as to achieve agile organization development. The study of agile abilities is represented on figure 4.

Methodological approach of study of agile abilities is established of development in part four conceptual models of agile manufacturing organization and methods for agility evaluation of managerial innovations of technology industrial enterprises in Bulgaria [10]. In both discussed methods for evaluating the dynamic adaptability of different approaches have been adopted:

Some models: (Jackson M., Johansson C, 2003, p. 482-488), (Sherehiy, B. et al., 2007, p. 445-460), (van Hoek RI, 2001, p. 161-184) offers a framework in which to calculate the dynamic adaptability. While they are simple in their approaches have been developed more extensive and accurate models.

- ❖ Models using AHP, (Ren J. et al., 2000, p. 304-316), covering multilevel fuzzy approach. (Yang Shui-li et all., 2002, p. 166) and, (Jain V. et all., 2008) approach used in a broader spectrum. (Tsourveloudis NC et al., 2002, p.329-342), (Yang Shui-li et all. 2002, p. 166) apply fuzzy logic, previously developed methods to reduce the uncertainty in the rating, which provides more accurate result. Others use Petri nets and more.
- ❖ Method (Yauch CA, 2011, p. 384-404), measure the behavior as a measure of dynamic adaptability. Some indirect methods such as measuring the complexity offered by (Arteta BM et all., 2004, p. 495-503).

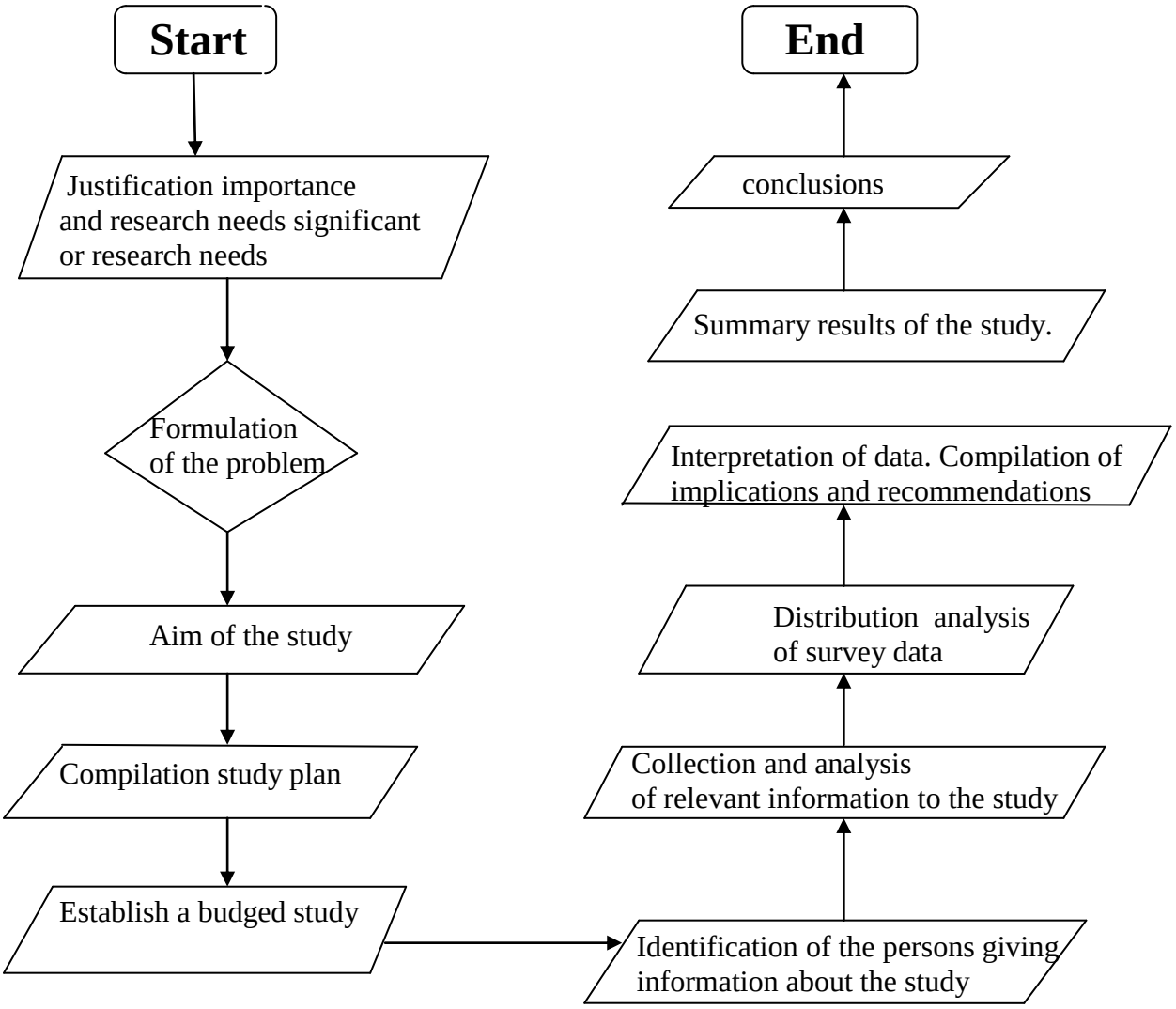

Figure 4.Successive stages of the methodological approach for agility evaluation of managerial innovations

❖ Not very common but effective technique is used in structural modeling of systems of equations (SEM) or etc. path analysis (Eshlaghy, A. et all., 2010, p. 1765-1786). The author sympathizes especially on this methodology. According Goranson, in studying the existing literature the numerous overlaps of the different dimensions of the dynamics and the lack of universal indicators (Goranson, T., 1999). In [5] Ilieva, R., 2014 proposes a structural approach for organizational agility Path Analysis. Moreover, there is no indication that defines the specific parameters for the level of dynamics, though there are attempts in this direction (Dimkov, S., 1999). (Goldman SL Goldman et all., 1996) provide some guidance for developing a system for assessing the dynamics along with such a difficult task. Regardless of the

structure of each indicator, it is important to identify the main principles that should satisfy any indicator of dynamism.

The different methods about agility evaluation of managerial innovations get follow successful approaches. Some models provide a framework in which to calculate the dynamic adaptability. While they are simple in their approaches have been developed more extensive and accurate models.

9. Conclusions

From an overview can be seen that none of the authors has treated the problem of managerial innovations, here comes the objective of creating a methodological approach for evaluation agility of managerial innovations.

From an overview shall be understood that the methods differ in their approach to evaluate the dynamic adaptability of the management innovations. For this it is necessary to make a comparison of all the methods. Each method was analyzed separately. Shall be prepared are their advantages and disadvantages.

The aim of the paper is to propose a conceptual framework for agility evaluation of managerial innovations. We claim that the technological transfer is extremely important for intensifying the agility, competitiveness and business results for innovation management of modern organizational structures. The necessities for high level of agility set correspondingly elevated requirements for the adaptability of the separate units in the value chain. Thus an agile organization conceptual model has been drawn up. It evaluates the capacity of the enterprises to absorb new technologies and to respond to the rapidly changes in customer demands. A model of a performance measurement for evaluation of the agile elasticity of the managerial in the enterprises is proposed as a meaningful quantitative metric system for the measurement of agility at the project or departmental level. The measurement framework comprises of tree groups of metrics: agility of the products design, agility of the business system of the organization, agility of the business processes in the organization. An algorithm for conducting the evaluation has been developed.

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