

Full Length Research Paper

Business Agility and Competitive Advantage of Selected Commercial Banks in Anambra State, Nigeria

Hope N. Nzewi* and Patrick Moneme

Department of Business Administration, Nnamdi Azikiwe University, Awka, Nigeria.

Accepted 11th August, 2016

Abstract

The unpredictable and competitive business environment of today is forcing organizations not only to adapt to changes when they occur, but also to proactively predict the changes before they emerge in the marketplace. These changes have resulted in the evolution of the business agility concept which equips organizations with the capability to compete and thrive in an unstable business environment by quickly detecting, seizing opportunities, and tackling threats. Consequently, this study examined the relationship between business agility and competitive advantage of selected banks in Awka Metropolis. To achieve the objective of the study, a model was specified and business agility operationalized by Proactiveness, Responsiveness, Competence, Flexibility, and Speed. The descriptive research design was employed. Data was obtained from primary sources and analyzed using Principal Component and Multiple Regression Analysis. The result of the analysis revealed a significant relationship between business agility and competitive advantage of the selected banks. However, Flexibility and Competence were found not to be statistically significant, while Proactiveness, Responsiveness, and Speed were significant. From the finding, the study concluded that business agility is that unique capability that assures competitive advantage in a rapid and unpredictable business environment. It is recommended that managers should develop competitive strategies that hinge on business agility, sensing and responding capabilities aligned to swiftly uncover new market opportunities.

Keywords: Proactiveness, Responsiveness, Competence, Flexibility, Speed.

INTRODUCTION

Background of the Study

In an ever-changing global marketplace, companies are looking for every opportunity to gain competitive advantage. Advances in technology, increasingly informed customers, information overload, new regulatory requirements and liberalization of the world economy have created a common playing ground for all organizations making it more difficult for any organization

to gain sustainable competitive advantage (De Groot, 2011). Reacting to these changes, some studies (Ganguly, Nilchiani, & Farr, 2009; Overby, Haradwaj, & Sambammurthy, 2006) have suggested that an advanced competitive strategy that organizations should possess is their capability to sense any unanticipated change in the marketplace or customers' preferences and then readily respond to them. This capability is termed business agility, which is considered to be an important survival strategy for modern organizations in the current turbulent business environments. The concept business agility was introduced in 1991, by researchers of Yacoca Institute

owing to the need for organizations to cope with unpredictable, dynamic and constantly changing environments (Iacocca, 1991; CEST, 1996).

Business agility is driven by change, though change is not something new, the current changes are occurring at a speed beyond the control of many organizations, thereby leading to closure of organizations (Tseng & Lin, 2011). Business agility focuses not only on the ability to respond to changes, but also on the ability to sense and respond to unpredictable changes. The concept of the ability to sense and respond is further elaborated by Mathiyakalan, Ashrafi, Zhang, Waage, Kuilboer, and Heimann (2005) in which business agility is defined as an organization's ability to sense opportunities, threats, and changes embedded in its business environment and then provide a rapid response to them by reconfiguring its strategies and resources.

An agile organization embraces change by moving quickly, decisively and effectively to anticipate, initiate and take advantage of change, and yet remains strong enough to absorb any setbacks. Out of competitive necessity, it successfully exploits opportunities and sustains performance over time, as the environment changes by absorbing and reacting to major disruptions (Khosh, 2003).

Zhang and Sharifi (2007) define business agility as the ability of any organization to sense, perceive and predict changes in the working environment. Such organization must be able to detect changes in the environment, view them as agents of growth and prosperity. They see business agility as coping ability to deal with unexpected changes with unprecedented threats or opportunities from the business environment. Agile organizations, therefore, benefit from these changes since it serves as opportunities for growth and advancement. Maskell (2001) defines business agility as the ability to prosper in a continuously changing and unpredictable environment. For this, organizations should not be afraid of the changes in their working environment, or avoid them, but must see change as an opportunity to gain a competitive advantage in the marketplace (Zhang & Sharifi, 2007).

Organizations that operate in a dynamic, turbulent and even hostile environment require greater agility to thrive than those that operate in less turbulent business environments (Tallon, 2008). Nigerian Commercial banks today are operating in an increasingly changing environment.

The consolidation reform with other environmental dynamism has heightened the competitive pace of Nigerian banks.

This has created new environmental conditions that have widespread changing effects on the way in which Banks are managed and organized (Soludo, 2008). The challenge is now on how Banks can develop agile capabilities that will enable them operate proactively and successfully respond to, and even thrive in an environment of changing expectations and requirements.

Statement of the Problem

Although environmental uncertainty prompted by increasing dynamism and complexity is not a new phenomenon, an organization's ability to quickly adapt and respond to such changing conditions is considered to be one of the most critical capabilities for achieving competitive advantage (Oosterhout, 2010)). The changing environment is very active today and in most cases unpredictable.

This volatile business environment can serve as either threat or opportunity for business organizations based on their responsiveness, adaptation and competitive capabilities. Thus, the competitive position of any organization in the market place is determined by its' ability to sense and respond to dynamic and emerging business opportunities and challenges (Overby *et al.*, 2006).

To sharpen organizational proactiveness, and responsiveness in this ever changing business environment, business agility was introduced as a critical success factor, where achieving sustained competitive advantage is elusive due to the hasty pace of globalization, continuously shifting customer demands, intensified competition and rapid technological advancements (Roberts & Grover, 2012, Tallon & Pinsonneault, 2011).

Nigerian Commercial banks are experiencing similar pace of change. The industry is now characterized by customers' sophistication, strict regulation and supervision, technology advancement, liberalization of banking license leading to rapid internationalization (Samson, 2005).

Within the context of current developments and with an increased breadth and depth of competition, the task of identifying the unique characteristics that will enable any bank outperform its peers is becoming more challenging. Consequently, measuring business agility has become imperative with the aim of identifying less agile functional areas in the organization that need improvement, and accordingly equip the organization with necessary agile capabilities to achieve competitive advantage (Nasr, Osman, & Soha, 2011; Yaghoubi, Kord & Azadikhah, 2011).

Objective of the Study

The broad objective of this study is to ascertain the relationship between business agility and competitive advantage of Commercial Banks in Anambra State, Nigeria. The specific objective is:

- To determine the type of relationship that exists between business agility capabilities and competitive advantage of the selected Commercial Banks in Anambra State, Nigeria.

Hypothesis

H₁: There is significant relationship that exists between business agility capability variables and competitive advantage of the selected Commercial Banks in Anambra State, Nigeria.

REVIEW OF RELATED LITERATURE

CONCEPTUAL REVIEW

Business Agility

Several definitions of agility have been offered in an effort to clarify its meaning. Sambamurthy, Bharadwaj, and Grover (2003) define agility as the ability of a firm to detect opportunities and threats, assemble needed assets and capabilities to launch an appropriate response, judge the benefits and risks of initiating an action, and execute actions with competitive speed and success. Van Oosterhout, Waarts, and Van Hillegersberg (2006) state that business agility is being able to swiftly change businesses and business processes beyond the normal level of flexibility to effectively manage unpredictable external and internal changes. Setia, Sambamurthy, and Closs (2008) identify agility as an organization's ability to:

- 1). Discover new opportunities for competitive advantage;
- 2). Harness the existing knowledge, assets, and relationships to seize these opportunities.
- 3). Adapt to sudden changes in business conditions. Organizational agility has been defined as a firm's ability to sense opportunities and threats and respond by assembling the needed organizational resources with rapidity (Overby *et al.*, 2006).

Gallagher and Worrell (2008) provide a similar definition where agility is regarded as the ability to sense and respond to changes in an organization's internal and external environment by quickly assembling resources, relationships and capabilities. In conclusion, agility can be defined as the result of awareness of changes, in a comprehensive manner. That is, recognizing opportunities and challenges both in internal and external environments with a qualified ability to exploit the changes and respond flexibly in a suitable time in such a way that the organization can afford (Braunscheidel & Suresh, 2009). From the various definitions, business agility indicates speed, flexibility, competence, proactiveness, and quick response as fundamental agile capabilities. Some researchers consider agility as a broad concept with two dimensions:

- 1). Detecting opportunities or threats that are not yet recognized in the market.

- 2). Implementing changes quicker than competitors (Holsapple & Li, 2008; Lu & Ramamurthy, 2011; Yang & Liu, 2012).

Proactiveness/Sensing Capability

Sensing capability focuses on a firm's ability to anticipate or detect opportunities and threats in the business environment. The detection of opportunities or threats can either occur through a process of probing the environment or through a process of anticipating future trends. Sensing capability not only indicates the ability of an organization to detect current changes, but also to develop market foresight to anticipate changes in the future (Overby, *et al.*, 2006).

Responsiveness

Responsiveness refers to the variety of responsive actions that a firm can make with ease, speed, and skill upon sensing opportunity and threat in a business environment (Roberts & Grover, 2012). In other words, while sensing capability generates knowledge of the business environment, responsive capability mobilizes and transforms resources to react to the opportunities that it senses (Gattiker, Chen, & Goodhue, 2005).

Competence

Competence involves the ability of an organization to reach its goals efficiently and effectively. It means a wide set of abilities which support the productivity of the actions to obtain the organizational goals. In other words, competency is the ability of an organization to effectively utilize the available resources to its own advantage (Kettunen 2009; Sharifi, & Zhang, 2001).

Speed/ Quickness

Business agility places strong emphasis on speed because in order to operate in a dynamic environment, speed is an essential quality (Sherehiy, Karwowski, & Layer, 2007). Quickness refers to the rapidity of detecting and responding to threats or opportunities. This includes the rapidity to sense the events, the rapidity to interpret what is happening and assess the consequences to the organization, the rapidity to explore options and decide on which actions to take and the rapidity to implement appropriate responses.

Flexibility

Flexibility is the degree to which firm is able to adapt and adjust the components of the organization (processes, staff, and technology) to achieve different goals with the same resources. Flexibility is the ability to process different products and achieves different goals with the same facilities (Shahaei & Rajabzadeh, 2005).

Competitive Advantage

Thatte (2007) argues that competitive advantage comprises of distinctive competencies that sets an organization apart from competitors, thus giving them an edge in the marketplace. Competitive advantage is an advantage gained over competitors by offering customers greater value, either through lower prices or by providing additional benefits and services that justify similar or possibly higher prices. A competitive advantage is meaningful if it is related to attributes valued by the market. Customers need to perceive a consistent difference in important attributes between the producer's products or services and those of its competitors. These differences must relate to some product/service attributes which are among the key buying criteria for the market. Key buying criteria are those variables and criteria that customers use in making their purchase decisions. They are different for diverse industries and market segments. Some examples of such attributes are product quality, price and after-sales service. An organization is said to have a competitive advantage when it is implementing a value creating strategy not simultaneously being implemented by any other competitor (Clulow, Gerstman, & Barry, 2003). Competitive advantages can be created through first mover advantage, environmental adaptation, new ideas, operating efficiency, quality, and customer responsiveness.

Business Agility and Competitive Advantage

The changing conditions in which business enterprises operate today have created new challenges for contemporary organizations. One of the competitive strategies that firms possess is their capability to detect external unanticipated changes and opportunities or threats, and then reconfigure, assemble, and exploit its own resources, processes, knowledge, and relationships in order to respond quickly to external changes (Sambamurthy et al., 2003). This capability is known as business agility. Business agility is considered to be an important factor for organizational competitiveness in the current turbulent business environments (Overby et al., 2006). Swafford, Ghosh, and Murthy (2006) state that business agility provides capability for an organization to contain changes in the marketplace, and exploit market opportunities with speed and dexterity in order to gain competitive advantage.

Competitive advantage can be established through the attributes of agility, which enable an organization to skilfully, rapidly, and efficiently respond and exploit environmental changes. For many organizations, their competitive advantage may depend on their ability to react to frequent unexpected changes. Success in this respect can be achieved through adopting agile practices and competencies. In turbulent times, the power of an organization depends on its proactive attitude, adaptability,

flexibility, quick responses, competence, and the capability to ensure strategic and effective actions (Meredith, & Francis, 2000). An agile organization, therefore, can gain competitive advantage by providing lower operating costs, satisfy customer requirements, rapid introduction of new products, and eliminating non-value added activities.

Theoretical Framework

This study is anchored on dynamic capabilities theory by Teece (1994). This theory explains how firms achieve and sustain competitive advantage in an ever changing environment by appropriately adapting, integrating, and reconfiguring internal and external organizational skills, resources, and functional competencies toward perceived changes in environment (Helfat & Peteraf, 2003; Helfat, Finkelstein, Mitchell, Peteraf, Singh, Teece, & Winter, 2007). Business agility capabilities are essential to address changing market situations where each firm's competitive advantage lies in its' ability to respond promptly and innovatively by effectively coordinating and deploying internal and external competencies.

Dynamic capability theory shows how business agility establishes competitive advantage by equipping the organization with the necessary capabilities to detect external unanticipated changes, and opportunities or threats, and then reconfigure, assemble, and exploit its own resources, processes, knowledge, and relationships in order to respond quickly to the changes. The theory, specifically demonstrates how the two components of business agility enhance competitive advantage. Dynamic capability theory views sensing capability and responding capability as the two main capabilities that generate competitive advantage in a changing business environment. Sensing capability refers to an organizational ability to quickly detect, interpret, and capture organizational opportunities (Van Oosterhout et al., 2006; Seo & Paz 2008). Responding capability represents an organizational ability to quickly mobilize and transform resources to react to the opportunities that the organization senses (Gattiker et al., 2005; Van Oosterhout et al., 2006).

Empirical Review

Studies have been done on business agility. Ambrose and Morella (2004) considered designing of the agile organization as contribution to balance between order and change in the business environment. Data for the study were generated from different industries, manufacturing companies, service, distributor companies, financial service companies, and so forth. They identify 7 factors as general principles of designing agile organization such as, gathering resource allocation strategies, resource management, establishment and enforcement of competence, training and recognition of

Table 1. Banks Staff Number

| S/N | Bank | Rank/Position | Total Population |
|-----|------------|-----------------------|------------------|
| 1 | First Bank | Managers/Branch Heads | 25 |
| 2 | UBA | Managers/Branch Heads | 26 |
| 3 | GTB | Managers/Branch Heads | 6 |
| | | | 57 |

Source: Field Survey, 2016

Table 2. Results of Regression Model, Dependent Variable; Competitive Advantage

| Variable | Coefficient | Std. Error | t-Statistic | Prob. |
|----------------|-------------|------------|-------------|-------|
| C | -1.002E-013 | .093 | .000 | 1.000 |
| Flexibility | .230 | .126 | 1.815 | .077 |
| Competence | .116 | .105 | 1.104 | .276 |
| Proctiveness | .377 | .108 | 3.511 | .001 |
| Responsiveness | -.462 | .127 | -3.639 | .001 |
| Speed | .683 | .110 | 6.190 | .000 |

Sources: Extract from SPSS Ver. 21

Durbin-Watson = 0.707

Adjusted R² = 0.614

F-Statistics = 15.014, Prob (F-Statistics) = 0.0000

leaders, central process, structure establishment based on the information system, coherence and order in readiness for change.

Jassbi (2010) developed an approach for evaluating agility in the supply chain based on Adaptive Neuro Fuzzy Inference System (ANFIS) in the leading car manufacturing company in Iran. The study identified five agility capabilities in the analysis, such as Flexibility, Competency, Cost, Responsiveness and Quickness. The finding revealed that the evaluation help managers to perform gap analysis between existent agility level and the desired one and also provided more informative and reliable information for decision making.

Yaghoubi, Kord, and Azadikhah (2011) focused on the concept, importance and necessity of accessing agility and associated reasons with the SaipaYadak car Company, Iran. The study assessed agility with the Goldman methodology based on fuzzy approach. After the analysis, sub- criteria were recognized based on the fuzzy approach and the possible obstacles to reaching the agility level and different recommendations were suggested. Garbie (2011) proposed a conceptual model to measure the agility level of the petroleum companies in Oman based on existing technologies, level of qualifying human resources, production strategies, and organization management systems. Several case studies were presented to demonstrate the proposed issues and technique through an agility questionnaire which was used for assessing the agility level of these companies. Fartash and Davoudi (2012) carried out a study titled

“The important role of the strategic agility in firms’ capability and performance”. This study explored the elements of strategic agility and the implication of having strategic agility under different levels of environmental change using a competence - capability - framework with the theoretical perspective of dynamic capability. The study concluded that the most effective ways to achieve strategic agility in an organization relate to the willingness to change, the internal readiness to adopt changes in environment, the presence of both physical and virtual knowledge exchange channels and the ability to sense changes in the market place. Vinodh, Kumar, and Girubha (2012) conducted an extensive research towards assessing agility of the manufacturing organization using a scoring approach. This paper presented a thirty criteria agility assessment model to measure agility degree and to identify the agile characteristics of the organization. Thus, weak factors were identified and future proposals were suggested so as to enhance organizational agility extent. The authors presented a case study in an Indian pump manufacturing organization.

While there has been much work and discussions of what business agility is and how firms can become agile, there has not been a consensus on standard dimensions for measuring this highly conceptual research construct. Business agility measurement is necessary for determining how much agility an organization currently possesses, how much is needed, and subsequently formulating a strategy to close any perceived weaknesses (Arteta & Giachetti, 2004).

METHODS

Research Design

This study employed descriptive research design since it enhances the observation of existing data and analysis of the relationship among the variables of the specified model Ezeani (1998).

Population of the Study

The study population involved all the operational staff and managers of the selected banks (First Bank of Nigeria (FBN) Plc, United Bank for Africa (UBA) Plc and Guaranty Trust Bank (GTB) Plc) in Anambra State. A complete enumeration-based survey was adopted to cover the operational staff and managers of the selected banks in Anambra State.

Method of Data Collection

The primary data used for this study were gathered through questionnaires. A structured questionnaire was used in gathering relevant data with options provided for participants on a five point Likert scale. Response to the items ranges from (5- Strongly agree (SA)) (4- Agree (A)) (3- Neutral (N)) (2- Disagree (D)) (1- Strongly Disagree (SD)). A total of 57 copies of the questionnaire were administered to participants with 45 returned, representing approximately 80% of the administered questionnaire.

Variables of the study

Variables in this study are competitive advantage and business agility. Business agility was proxied by agile capability factors. The competitive advantage (Y) variable is the dependent variable, while business agility capability factors serve as independent variables, which include: Proactiveness (X1), Responsiveness (X2), Competence (X3), Flexibility (X4) and Speed (X5). All the independent variables are expected to be positively related to the dependent variable.

Model Specification

This model denotes the relationship between business agile capabilities and competitive advantage of selected banks:

$$Y = b_0 + b_1X_1 + b_2X_2 + b_3X_3 + b_4X_4 + b_5X_5 + U$$

Where:

b_0 = the intercept

$b_1 - b_5$ = the coefficient of independent variables and
X1 = Proactiveness
X2 = Responsiveness
X3 = Competence
X4 = Flexibility
X5 = Speed
U = the error term

Analysis of data

The statistical package SPSS (version 21) was used for data analysis. The analysis of data involved two steps. First, data dimensionality was examined through principle component analysis where original set of items were reduced and represented by a concise number of latent variables. At the second step, multiple regression analysis was performed to explore the relationship between the identified business agility capability variables and competitive advantage.

Validity of the Study

To test the validity of the instrument, content and construct validity was analyzed. Before data collection, the content validity was established by expert reviews of the questionnaire to make sure that the instrument measures correctly what it sets out to measure. Exploratory factor analysis was used to evaluate the construct validity of the instrument. The results of the factor analysis revealed six constructs with eigenvalues greater than one. The KMO measure of sampling adequacy is 0.745, and Bartlett test of sphericity which indicates sufficient correlation between the variables was significant ($p=0.000$). The factor loadings for the items range from 0.529 to 0.920. Hence, all the mentioned results of factor analysis are in an acceptable range.

Reliability of the Instrument

An instrument is reliable if measurement of the same phenomena at different times and places yields the same result. The Cronbach's alpha coefficient is widely used as a measure of reliability. The alpha level of 0.60 or above is considered acceptable as suggested by (Sekaran, 2003). The result of the Cronbach's alpha coefficient was 0.713, implying that the instrument was reliable.

PRESENTATION AND ANALYSIS OF RESULT

This section is devoted to the presentation and analysis of results using appropriate statistical tools. It also involves the interpretation of statistical results as a basis for rejecting or not rejecting the hypothesis of the study.

REGRESSION RESULT

Analysis of Result

The model specified in this study determines the relationship between business agility and competitive advantage of selected commercial banks in Anambra State, Nigeria. The result of the regression analysis revealed positive relationships between the independent variables and a dependent variable. While, Proactiveness, Responsiveness, and Speed are statistically significant, Flexibility and Competence were found not to be statistically significant. The Adjusted R-squared (R^2) value of 0.614 shows that 61% changes in the dependent variable was explained by the independent variables. The Durbin-Watson (DW) result 0.707 indicates a presence of autocorrelation. The f-statistic was found to be statistically significant, with a result of 115.602, and p-value of 0.000 percent. This implies that the independent variables (Business Agile capabilities) put together has a statistically significant relationship with dependent variable (Competitive Advantage). Therefore, we do not accept the null hypothesis that there is no significant relationship between Business Agile capabilities and competitive advantage of selected Banks.

FINDINGS

Discussion of Findings

The result of the analysis indicates a significant positive relationship between business agility and competitive advantage of the selected banks. In the model, competitive advantage was used as dependent variable while Proactiveness, Responsiveness, Competence, Flexibility, and Speed were used to proxy business agility as independent variable. The result further showed that all the independent variables assume a positive sign and statistical significant except Competence and Flexibility that are positive but statistically not significant.

Coefficient of Speed has a positive sign and statistically significant. This is consistent with the work of Sherehiy et al. (2007) who placed strong emphasis on rapidity. To operate in a dynamic environment, speed is an essential quality for early detection and rapid response to threats and opportunities to gain competitive advantage.

The coefficient of Proactiveness is positive and statistically significant. This corroborates with the finding of Tan and Sia (2006) that proactively sensing through systematically scanning the environment to identify early indications of new ideas or trends, and forecasting market movements enables organizations to adjust to changes quickly, thereby achieving competitive edge.

The coefficient of Responsiveness assumes a positive sign and is statistically significant. This result coincides

with the work of Dove (2005) who argued that an organization cannot achieve agility only by being proactive but also being able to redeploy necessary resources to respond and adapt to detected changes quickly and efficiently.

These findings are supported by Overbyet *al.*, (2006) who stated that strong sensing, response and speed capabilities are critical to organizational success and competitive advantage in turbulent environments.

CONCLUSION

Sequel to data analysis, findings and recommendations, it is concluded that business agility is that unique capability that assures competitive advantage in a continuously changing and unpredictable environment. Therefore, organizations can gain competitive advantage by leveraging on agility capabilities to sense and swiftly react to unpredictable changes, synergize all detected information to understand rivals' competitive strategies and changing customers' preferences and requirements.

RECOMMENDATIONS

Based on the findings from this study, the following recommendations are made:

- 1). For Nigerian banks to survive, grow and compete effectively both locally and globally, their managers should develop agile capabilities to identify emerging needs quickly, keep up with trends, anticipate challenges, and rapidly respond to them with needed products and services in order to exploit opportunities and manage threats in the environment.
- 2). To achieve a higher level business agility, organization's sensing and responding capabilities must be aligned, so as to swiftly uncover new market opportunities and quickly respond to them efficiently and effectively.
- 3). To gain competitive advantage in today's rapid and continuous changing business environment, managers should develop competitive strategies that hinge on business agile capabilities.

REFERENCES

- Ambrose, c., & morella, d. (2004). Designing an agile organization. Available at: www.gartner.com/display document.
- Arteta, b. & giachetti, r. (2004). A measure of agility as the complexity of the enterprise system. *Robotics and computer-integrated manufacturing*, 20(6) pp. 495-503.
- Barney, b. (2002). *Gaining and sustaining competitive advantage*, 2nd ed. Reading, mass.: addison-wesley
- Bharadwaj, a., & sambamurthy, v. (2005). *Enterprise agility and information technology management: the cio's manifesto*, sim advanced practices council publication.

- Braunscheidel, m., & suresh, n. (2009). The organizational antecedents of a firm's supply chain agility for risk mitigation & response. *Journal of operations management*, 27, pp. 119–140.
- Clulow, v., gerstman, j., & barry, c. (2003). The resource-based view and sustainable competitive advantage: the case of a financial services firm. *Journal of european industrial training*, 27(5), pp. 220-232.
- De groote, s. (2011). An empirical investigation of the impact of information technology on supply chain agility and firm performance among u.s. Manufacturers. Ph.d. Thesis, lawrence technological university, college of management, usa.
- Dove, r. (2005). Agile enterprise cornerstones: knowledge, values, and response ability in business agility and information technology diffusion. *Icip tc8 wg 8.6 international working conference (baskerville r, mathiassen l, pries-heje j and degrossjieds)*, pp 313-333, springer, boston, ma
- Ezeani, s. (1998). *Research methods: a realistic approach*. Ibadan: elohim publishers.
- Fartash, k., & davoudi, s. (2012). The important role of strategic agility in firms' capability and performance. *International journal of engineering and management research*, 2 (3) pp. 6-12
- Gallagher, k., & worrell, j. (2008). Organizing it to promote agility. *Information technology management*, 9, pp. 71–88.
- Ganguly, a., nilchiani, r., & farr, j. (2009). Evaluating agility in corporate enterprises. *International journal of production economics*, 118 (2) pp. 410-23.
- Garbie, i. (2011). Implementation of agility concepts into oil industry. *Journal of service science and management*, 4, 203-214.
- Gattiker, t., chen, d., & goodhue, d. (2005). Agility through standardization: a crm/erp application'. Bendoly&frjacobs (eds.), *strategic erp extension and use*, stanford business books, stanford, ca, pp. 87–96.
- Helfat, c., finkelstein, s., mitchell, w., peteraf, m., singh, h., teece, d., & winter, s. (2007). *Dynamic capabilities; understanding strategic change in organizations*. Blackwell publishing
- Helfat, c., & peteraf, m. (2003). The dynamic resource-based view: capability lifecycles. *Strategic management journal*, 24, pp. 997–1010.
- Holsapple, c., & li, x. (2008). Understanding organizational agility: a work-design perspective. University of kentucky, lexington, ky.
- Iacocca institute, (1991). *21st century manufacturing enterprise strategy*, lehigh university, usa
- Jassbi, j., seyedhosseini, s., & pilevari, n. (2010). An adaptive neuro fuzzy inference system for supply chain agility evaluation. *International journal of industrial engineering and production research*, 20(4) pp. 187-196.
- Kettunen, p. (2009). Adopting key lessons from agile manufacturing to agile software product development-a comparative study. *Tecnovation*, 29(6) pp. 408-421.
- Khosh, h. (2003). An introduction to organizational agility. *Journal of tadbir*, 134, p. 58.
- Lin, t., chiu, h., & chu, p. (2006). Agility index in the supply chain. *International journal of production economics*, 100(2) pp. 285-99.
- Maskell, b. (2001). The age of agile manufacturing. *Supply chain management. An international journal*, 6(1) p.5.
- Mathiyakalan, s., ashrafi, n., zhang, w., waage, f., kuilboer, j.p., & heimann, d. (2005). Defining business agility: an exploratory study. *Proceedings of the 16th information resources management conference*, sandiego, ca.
- Meredith, s., & francis, d. (2000). Journey toward agility: the agile wheel explored. *The tqm. Magazine*, 12 (2) pp. 137-143.
- Nasr, a., osman, i., & soha, e. (2011). Measuring agility index using system flexibility and response. *Poms 22nd annual conference*, reno, nevada, u.s.a.
- Oosterhout, m. (2010). *Business agility and information technology in service organizations*. Ph.d. Thesis, erasmus university rotterdam
- Overby, e., bharadwaj, a., & sambamurthy, v. (2006). Enterprise agility and the enabling role of information technology. *European journal of information systems*, 15, pp. 120-31.
- Roberts, n., & grover, v. (2012). Investigating firm's customer agility and firm performance: the importance of aligning sense and respond capabilities. *Journal of business research*, 65(5) pp. 579-585.
- Sambamurthy, v., bharadwaj, a., & grover, v. (2003). Shaping agility through digital options: reconceptualizing the role of information technology in contemporary firms. *Mis quarterly*, 27(2), 237-63.
- Sampson, e. (2005). Technological developments and global banking innovation. *Zenith economic quarterly*, 1(4) pp. 21-28.
- Sekaran, u. (2003). *Researcher methods for business*. U.s.a. John wiley & sons.
- Seo, d., & paz, a. (2008). Exploring the dark side of is in achieving organizational agility. *Communications of the acm*, 51(11) pp. 136–139.
- Setia, p., sambamurthy, v., & closs, d. (2008). Realizing business value of agile it applications: antecedents in the supply chain networks. *Inform. Technol. Manage*, 9(1) pp. 5-19.
- Shahaei, b., & rajabzadeh, a. (2005). Exploring aspects of organizational agility in government agencies with information technology approach. *Second international conference on communications and information technology management*, march, iran.
- Sharifi, h., & zhang, z. (2001). Agile manufacturing in practice, application of a methodology. *International journal of operations & production management*, 21(5) pp. 772-794.
- Sherehiy, b., karwowski, w., & laye, j. (2007). A review of enterprise agility: concepts, frameworks, and attributes. *International journal of industrial ergonomics*, 37(5) pp. 445-60.
- Soludo, c. (2008). *Makin finance work for the poor*. A convocation paper. Retrieved from <http://www.cenbank.org/documents/speeches>
- Swafford, p., ghosh, n., & murthy, n. (2006). A framework for assessing value chain agility. *International journal of operations & production management*, 26(2).
- Tallon, p., & pinsonneault, a. (2011). Competing perspectives on the link between strategic information technology alignment and organizational agility: insights from a mediation model. *Mis quarterly*, 35(2), 463-486.
- Tallon, p. (2008). Inside the adaptive enterprise: an information technology capabilities perspective on business process agility. *Information technology and management*, 9 (1) pp. 21-36.
- Tan, c., & sia, k. (2006). Managing flexibility in outsourcing. *Journal of the association for information systems*, 7(4) pp. 179–206.
- Thatte, a. (2007). Competitive advantage of a firm through supply chain responsiveness and scm practices. *The university of toledo*.
- Tseng, y., & lin, c. (2011). Enhancing enterprise agility by deploying agile drivers, capabilities & providers. *Information sciences*, 181(17) pp. 3693-3708.
- Van oosterhout, m., waarts, e., & van hillegersberg, j. (2006). Change factors requiring agility and implications for it. *European journal of information systems*, 15, pp. 132-145.
- Vinodh, s., kumar, v., & girubha, r. (2012). Thirty-criteria-based agility assessment: a case study in an indian pump manufacturing organization. *International journal of advanced manufacturing technology*.
- Yaghoubi, m., kord, b., & azadikhah, o. (2011). Assessing organizational agility via fuzzy logic, *international business research*, 4(3) pp. 135-144.
- Yang, c., & liu, h. (2012). Boosting firm performance via enterprise agility and network structure. *Management decision*, 50(6) pp. 1022–1044
- Zhang, z., & sharifi, h. (2007). Towards theory building in agile manufacturing strategy - a taxonomical approach. *IEEE transactions on engineering management*, 54(2) pp. 351–370.