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SYSTEMATIZATION OF FIRM LIFE CYCLE APPROACHES

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Abstract

Life cycle approaches describe and explain changes in organizational entities (e.g. firms) between their conception and termination. Life cycle theory assumes that development is governed or mediated by underlying natural, logic or institutional rules. Life cycle models do not deny that firm size and age vary, but they assert that prospective development is related to typical configurations (e.g. transition between stages, vulnerable spots). Knowing these configurations hypothetically can facilitate (pro-) active change and crisis management in favour of firm survival and growth.

More than 100 life cycle models have been published during the last 50 years. These models differ in many respects, in general they analyse the opposite forces of growth (success) and decline (crisis) or both. Some of these models are more conceptual and holistic (e.g. whole life cycle; range from small to large); others are more empirical and very specific (e.g. small number of selected firms; mainly cross sectional, few longitudinal). Due to this variety the predictive power of life cycle models tend to be rather specific than general.

This paper presents a conception to systemize life cycle models and to create a basis for comparing different approaches. Intended is a portfolio which relates life cycle approaches to firm characteristics and to configurations indicating (predict) requirements or recommendations for change and (pro-) active crisis management. This portfolio can aid further research and evaluations of relevance.

1. Introduction

Applying the metaphor 'organism' (living being; open system) to organizations [1, 2] implies that firms, understood as subset of organizations,

- are born, live and ultimately die;
- develop through their lifespan (progress through life cycle stages);
- depend on survival (primary orientation) to achieve further goals (satisfy needs);
- differ regarding characteristics and living environment;
- have to be aware that their existence can end any time (random shocks; failure).

Life cycle approaches describe and explain changes between firms' conception and termination. Life cycle theory assumes that, when firms progress through stages, development is governed or mediated by underlying natural, logic or institutional rules. [3, 4] Analogous to living beings firms differ in size (growth) and age (life expectancy). Consequently those firms who die young and stay small cannot experience stages (configurations) related to higher levels of development. But life cycle stages in general are characterized by determined or at least probable patterns (configurations), which hypothetically indicate even perilous developments.

Firms are more or less vulnerable throughout their entire lifetime. If they cannot manage to stay healthy, crises may turn into distress and failure. (Proactive) change and crisis management can aid to avoid or overcome firm crises by creating new growth (revitalization). The question which guides my research is whether life cycle approaches provide viable indications for necessary (advisable) change and effective crisis management. An answer requires a systematic comparison of relevant life cycle models (LCM).

LCMs appear in a large variety, with various variables and differently structured. [5] More than 100 approaches have been published since the mid-20th century. [6-10] In general they analyse the opposite forces of growth (success) and decline (crisis) or both. Some of these models are more conceptual and holistic (e.g. whole life cycle; range from small to large); others are more empirical and very specific (e.g. small number of selected firms; mainly cross sectional, few longitudinal).

- Conceptual approaches (e.g. Greiner, Glasl & Lievegoed, Adizes, Bleicher) [11-16] are based on experience and logical conclusions. Although they are lacking empirical evidence their face value is considered to be high, their descriptions and explanations have an intuitive appeal. [17, 18]
- Empirical approaches (e.g. Miller & Friesen, Hanks, Lester et al.) [19-21] relate to specific samples of firms (age, size, industry, country etc.); accordingly the space for generalizations is limited. Broadly discussed are questions about demarcation and notion of stages, sequence of stages and configurations characterizing stages. [22, 23] Issues related to growth still raise more attention than decline (negative growth, distress, failure). [24, 25]

All models have advantages and disadvantages. From a perspective of change and crisis management the limited coverage of single LCMs seems to be a material disadvantage. General indications, preferably based on empirical evidence, for necessary or advisable change or crisis management are missing because of the limited range of firm age, size, industry etc.

My intention is to extract such indications from various LCMs and to compile them in a portfolio which covers a wider range of firms. This paper presents the action plan to developing this approach. My plan is to compare and assess at least 50 life cycle approaches (see Figure 1) with regard to

- ***scope*** (model characteristics; what is looked at);
- ***method*** (study characteristics; how to achieve results);
- ***result*** (evidence, theory, recommendations).

A generic life cycle model (GLMC) constitutes the frame for comparing different LCMs (chapter 2). The analytics for research methods are presented in chapter 3 and the frame for the LCM-portfolio in 4. A test of the suggested approach is presented in chapter 5. The paper concludes with a tentative result (chapter 6).

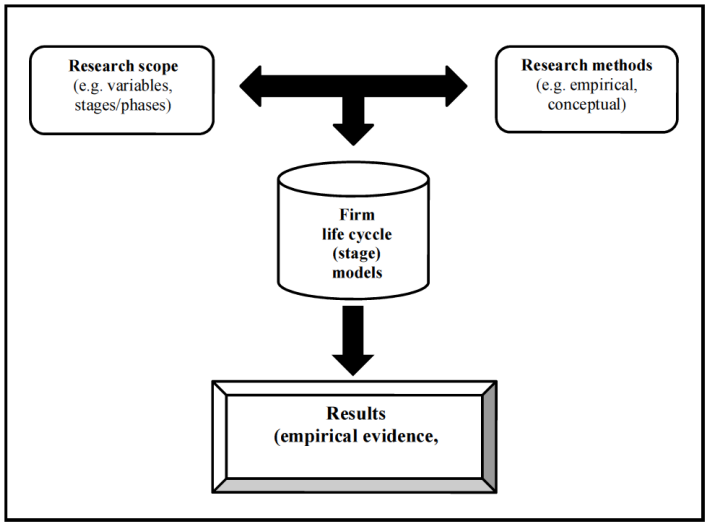

Figure 1. Approach to systematization of firm life cycle models

Source: own design

2. Generic Life Cycle Model

The **research scope** of life cycle approaches varies in particular regarding

- the ***cycles*** they discuss:
  - Is it the entire life time between birth and death, subdivided in stages (phases), or is it a segment of firm life, only a sequence of sub stages (e.g. decline)?
  - How many stages characterize a life cycle and how to name them?
- the ***variables*** ensuring survival, growth and further need satisfaction:
  - Which and how many variables are appropriate?
  - Are endogenous or exogenous factors crucial, or a combination of both?

Survival is the ultimate orientation of any life cycle approach, because only living firms can develop. In the GLCM **growth** is understood synonymous with the combination of abilities and means to keep firms alive, to meet their needs: positive growth implies success; negative growth (decline) implies failure. Which variables are considered to have impact on growth depends on the respective LCMs.

The GLCM, presented here (see Figure 2), covers the entire lifespan of a firm. It divides firm life into 5 main **stages**, regardless the number of stages in the LCM:

(1) **inception** (includes conception as basis): the initial business model with its resources have to be sustainable to effectuate expansion *(=> no average growth in this stage)*
(2) **expansion**: business grows (qualitative, quantitative) through *(=> growth rate > 0)*
(3) **maturity**: keeping growth potential to avoid decline *(=> growth rate ≈ 0)*
(4) **renewal**: change or adapt business models to (re-)gain growth *(=> crisis management)*
(5) **decline**: inflows do not cover costs of living (needs), reserves and resilience are necessary to overcome crises and stay alive *(=> growth rate < 0)*

Life cycle models from literature will be assessed and described in comparison to this GLCM. Although random shocks (yellow flash in Figure 2) are part of real business life they hardly can be considered as part of determined processes of LCMs. But if random shocks cause distress and crisis the decline stage may follow a determined process.

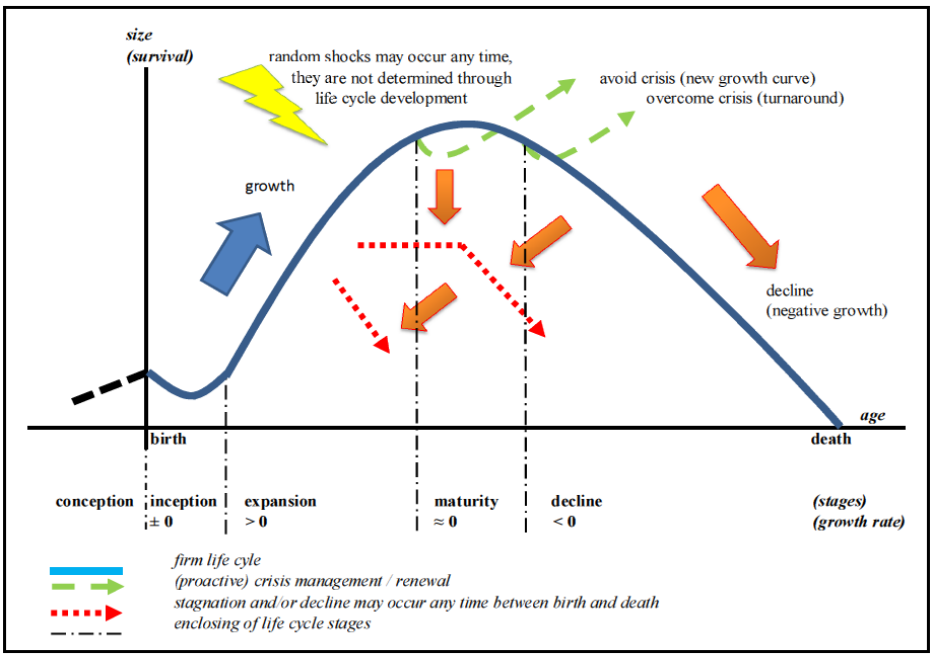

Figure 2. Generic life cycle model

Source: own design

3. Research Method Characteristics

LCMs are based on empirical research as well as experience and its interpretation. My characterization to the spectrum of **research method** approaches focuses on

- ***firms*** analysed and observed
  - number;
  - size;
  - age;
  - industry (manufacturing, high-tech, services, etc.);
  - location (country, region, etc.);
- ***firm life cycles*** analysed and observed
  - longitudinal studies;
  - historical analysis;
  - questionnaires;
  - cross-sectional studies;
  - conceptions (experience).

A strict separation of scope and method characteristics is not feasible in all cases, overlapping occurs as well. Stages for instance have implications of age (e.g. start-ups are young); multi-national firms tend to be big, hence their size has been impacted already by variables causing growth.

4. Shaping the Life Cycle Portfolio

Firm age is measured in years or month from birth. Several measures can indicate size or growth (e.g. revenues, profit, assets, equity). Most common and here used is the number of employees, because it is the easiest to access globally.

Following OECD and EU demographics, due to size and age limitations firms do not necessarily progress through all life cycle stages. [26, 27] Only 50 percent of start-ups survive the first five years. In average firms perish between ages of 10-20 years, large multinational corporations (FORTUNE 500) have an average life expectancy of 40-50 years. [28] 95% of firms have less than 20 employees; they hardly face organizational challenges which may be typical for growing, large, diversified corporations.

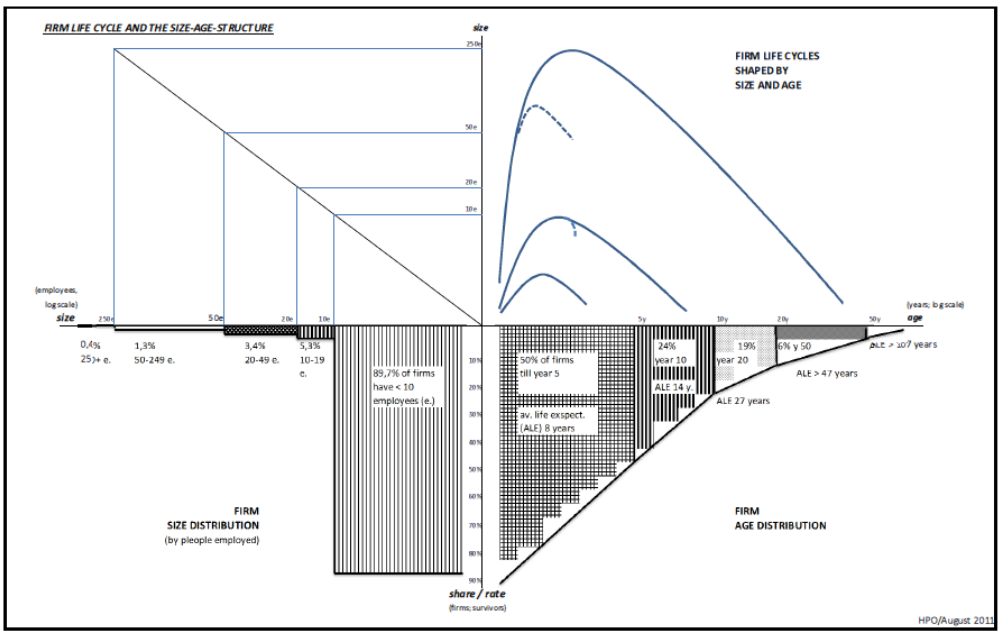

Figure 3. Life cycles shaped by firm size and age

Source: Oehl, 2011

Life cycles are variable in size and age. Most firms are small and medium-sized enterprises (SMEs) with up to 249 employees (EU-definition), less than 1% is large with 250 and more employees. Many problems discussed in LCMs have no chance to develop in the majority of firms. Nevertheless large firms are economically important: they employ roughly 1/3 of the working population and their failures raises enormous public attention because of its impact on the whole economy.

Figure 1 [29] offers a synopsis of these shaping factors. Age shapes the length of life cycles, size its height. Large firms tend to be older, mortality of smaller firms tend to be higher.

LCMs relate explicitly or implicitly to samples of firm populations (number of firms). The sample determines the relevance of a LCM by firm size and age. A portfolio (see Figure 2) can explain these constraints. The scaling of the portfolio differs from that of Figure 1. This is to allow a better illustration of the relatively high proportion of LCMs related to large and mature firms.

	Firm age in years			
	0 up to 5	5 up to 20	20 up to 40	40 and above	
					1000+
					250 - 999
					20 - 249
					1 - 19

Number of firm employees

Figure 4. LCM portfolio

Source: own design

5. Testing the Suggested Approach

Figure 5 summarizes the characteristics for research scope, method and result. A test-sample of 3 LCMs is appraised based on this schema (Figure 6):

- Greiner [11]
- Miller / Friesen [19]
- Hill et al. [30]

RESEARCH SCOPE		**RESEARCH METHOD**	
Stages	***Variables***	***Firms***	***Life cycles***
(1) inception (& conception) (2) expansion (3) maturity (4) renewal (5) decline number of stages	growth measure (= dependent variable) independent variable(s) ■ quantitative ■ qualitative ■ hybrid	number of firms size age industry location	longitudial studies historical analysis questionaries cross-sectual studies conceptions (experience)
RESEARCH RESULTS ■ sequence of stages ■ duration of stages ■ developent through certain stages ■ kind of vulnerabilities ■ indication (diagnosis, prognosis) for vulnerabilities ■ therapy and prevention for vulnerabilities ■ resilience ■ relevance in relation to size and age ■			

Figure 5. Characteristic of firm life cycle approaches

Source: own design

RESEARCH SCOPE & METHOD & RESULTS	Greiner 1998 (1972)	Miller & Friesen 1984	Hill et al. 2002
Stages			
(1) inception (& conception)	(1) & (2) with substages (phases)	(1) birth	(1) inception
(2) expansion	i. creativity	(2) growth	(2) expansion
(3) maturity	ii. direction	(3) maturity	
(4) decline	iii. delegation	(4) decline	(4) decline
(5) renewal	iv. coordination	(5)revival	(5) renewal
	v. collaboration		
number of stages	2 (divided by 5)	5	
Variables			
growth measure (= dependent variable)	critical growth (size) configurations (evolution vs. revolution)	changes in growth direction (transitions)	negative growth (crisis)
independent variable(s)	age	54 varables for 4 categories	■ sales
■ quantitative	size	■ situation (context)	■ marketing
■ qualitative	growth rate of industry	■ strategy	■ financing
■ hybrid	management focus	■ decision making	■ general mangement
		■ structure	
Firms			
number of firms	general observation	36	8
size	SME to Fortune's 500	large (Fortune's 500)	entrepreneur-owned SMEs
age	general observation	> 20 years	6-20 years
industry	manufactoring	all	manufactoring & servives
location	preferably America & Europe	America & Europe	USA & UK
Life cycles			
longitudial studies (L)	(H)&(E)=> intention to create a model of the overall process of firm development (growth)	(H)=> 161 stages & 125 transitions	(Q)=> selecting qualitative data from interviews
historical analysis (H)	what empirican research did not deliver by then	(Q)=> exectives verified data	(C)=> comparison of data 1990-2000
questionaries (Q)		(C)=> multivariant analysis	
cross-sectual studies (C)		(E)=> for tentative stage structure and hypothese formulation	
conception (experience) (E)			
Results	■ management problems & principles (attitude, practise, solutions) depend are rooted in age and size ■ the right practise in one stage will cuse problems in the following stage ■ transitions from one evolutionary stage to the next goes through phases of revolution for adaption ■ stage length (3-15 years) depend on growth rate and right decisions ■ most firms fail in early phases ■ poorly managed firm in prosperous markets often perform better than well managed firms in poor markets	■ nature & differences among stages is in line with conceptual literature, confirmed (predictable by by special variable configurations ■ stages are not connected in deter-ministic sequences, strategic choice has impact on sequence ■ with growth firms get more complex, and have to adapt ■ stages (1), (2) & (5) identified as innovative, (3) & (4) as conservative marked by lower efficiency	■ all firm went at least through one crisis, five went to two ■ 1st crisis mainly due to sales ■ 2nd crisis, after grwth, mainly due to general management ■ high resistence to external advice (marketing, general management) ■ external aid is accepted regarding finances

Figure 6. Test-sample of LCMs systematically analysed

Source: own design

The positions of the tested LCMs in the portfolio (Figure 7) illustrate that applicability of single models is limited regarding firm size and age. But the more LCMs are included in the analysis the more comprehensive the portfolio coverage will be. Further research has to concentrate on

- comparisons of LCMs with the same or overlapping portfolio coverage (see Figure 7, overlapping of the models of Greiner and Miller & Friesen);
- testing the predictive power of identified configuration on the basis of empirical data from other sources (e.g. turnaround and failure statistics).

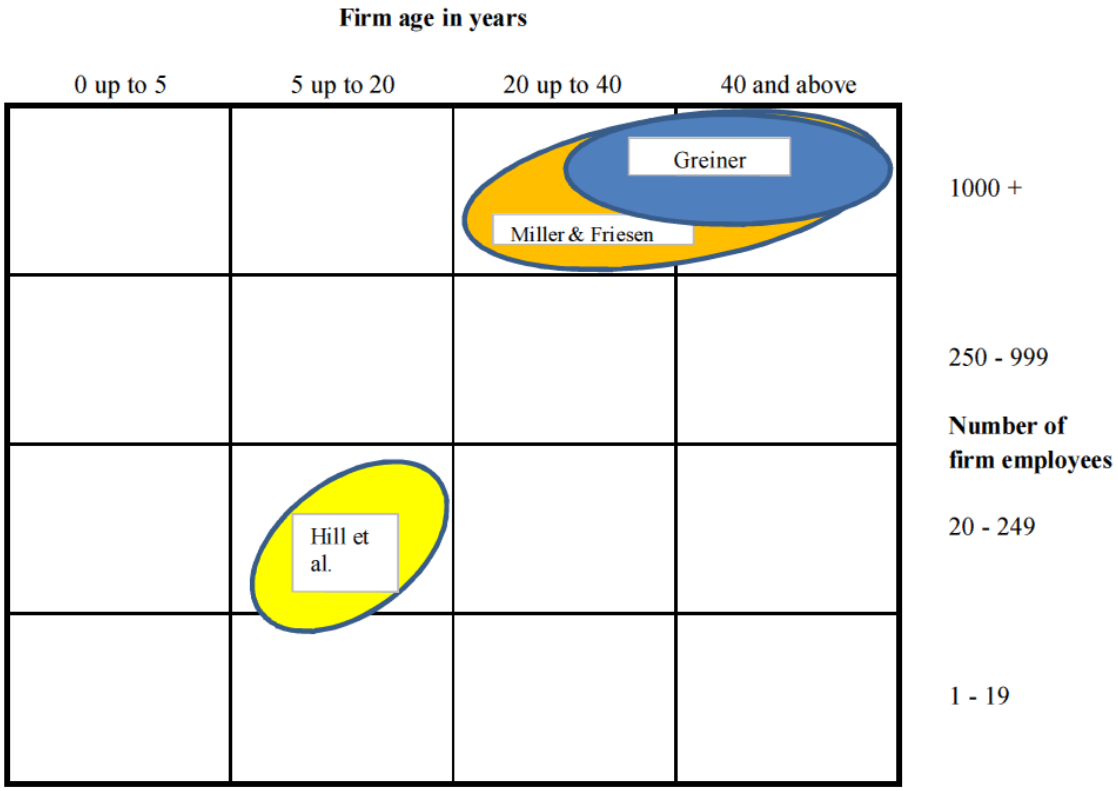

Figure 7. LCM-portfolio with test results

Source: own design

6. Conclusion

My research is guided by the question whether firm LCMs can facilitate (proactive) change and crisis management. Life cycle theory assumes that firm development is mediated by underlying natural, logic or institutional rules. Configurations (patters) related to life stages may indicate determined or at least probable vulnerabilities (potential crises) or indicate reasons for advisable changes.

Life cycle models (LCM) appear in a large variety and differently structured. An appraisal of their bundled predictive power requires systematization. The presented framework structures the LCMs by characteristics of research scope and method, and by their presented results.

A tentative evaluation of my suggested approach is based on a test-sample and its related positions in the LCM-portfolio. The test results illustrate that there is a good chance to identify LCMs for the most relevant firm sizes and ages. This is the basis for further research which has to show whether there is empirical evidence for the prognostic potential of identified configurations.

References

1. G. Morgan, "Nature intervenes: Organizations as organisms" in *Organization change: A comprehensive reader*, W. W. Burke, D. G. Lake, and J. W. Paine, Eds. 1st ed, San Francisco, Calif: Jossey-Bass, 2009.
2. K. E. Boulding, *A reconstruction of economics*. New York: Wiley & Sons, 1950, 37 p.
3. A. H. van de Ven and M. S. Poole, "Explaining development and change in organization", *Academy of Management Review*, vol. 20, no. 3, 1995, pp. 510-540.
4. M. S. Poole, "Central issues in the study of change and innovation" in *Handbook of organizational change and innovation*, M. S. Poole and Andrew H Van de Ven, Eds, Oxford: Oxford Univ. Press, 2004, pp. 3-31.
5. R. Drazin, M. A. Glynn, and R. K. Kazanjian, "Dynamics of structural change" in *Handbook of organizational change and innovation*, M. S. Poole and Andrew H Van de Ven, Eds, Oxford: Oxford Univ. Press, 2004, pp. 161-189.
6. J. Levie and B. B. Lichtenstein, "A terminal assessment of stages theory: Introducing a dynamic states approach to entrepreneurship", *Entrepreneurship Theory and Practice*, Vol. 34, No. 2, 2010, pp. 317-350.
7. ____, "A final assessment of stages theory: Introducing a dynamic states approach to entrepreneurship". Revised and resubmitted to "Entrepreneurship Theory and Practice", Boston, 2009.
8. F. A. Ernst, *Die Integration von unternehmens- und personenbezogenen Lebenszyklen: Eine Konzeptualisierung unter besonderer Berücksichtigung des Unternehmenslebenszyklus*. Dissertation. St. Gallen, 1997.
9. U. Höft, *Lebenszykluskonzepte: Grundlagen für das strategische Marketing- und Technologiemanagement*. Dissertation. Berlin: Erich Schmidt, 1992.
10. J. R. Kimberly, "The life cycle analogy and the study of organizations" in *The organizational life cycle: Issues in the creation, transformation, and decline of organizations*, J. R. Kimberly, Ed, San Francisco: Jossey-Bass, 1981, pp. 1-14.
11. L. E. Greiner, "Evolution and revolution as organizations grow", *Harvard Business Review*, No. 05, 1998, pp. 55-67.
12. Greiner. Larry, "Patterns of organizational change", *Harvard Business Review*, No. 05, 1967, pp. 119-130.
13. F. Glasl, *The enterprise of the future: How companies develop through the pioneer, differentiated, integrated and associative phases: moral intuition in leadership and the organisation development / Friedrich Glasl; translated by Christian von Arnim; foreword by Daniel T. Jones*. Stroud: Hawthorn, 1997.
14. F. Glasl and B. Lievegoed, *Dynamische Unternehmensentwicklung: Grundlagen für nachhaltiges Change Management,* 3rd ed. Bern: Haupt, 2004.
15. I. Adizes, *Corporate lifecycles: How and why corporations grow and die and what to do about it*. Englewood Cliffs NJ: Prentice-Hall, 1988.
16. K. Bleicher, *Das Konzept integriertes Management,* 4th ed. Frankfurt/Main: Campus-Verlag, 1996.
17. A. Bhide, *The origin and evolution of new businesses*. Oxford, New York: Oxford University Press, 2000, p. 264.
18. J. H. Eggers, K. T. Leahy, and N. C. Churchill, "Stages of small business growth revisited: Insights into growth path and needed leadership/management skills in low and high growth companies" in *Frontiers of entrepreneurship research 1994: Proceedings of the Fourteenth Annual Entrepreneurship Research Conference*, W. Bygrave and N. Churchill, Eds, Babson Park, MA: Babson College, 1994.
19. D. Miller and P. H. Friesen, "A longitudinal study of the corporate life cycle", *Management Science*, Vol. 30, No. 10, 1984, pp. 1161-1183.
20. S. H. Hanks, *An empirical examination of the organization life cycle in high technology organizations*. Dissertation. Salt Lake City: University of Utah, 1990.

21. D. L. Lester, J. A. Parnell, and S. Carraher, "Organizational life cycle: A five stage empirical scale", *International Journal of Organizational Analysis*, Vol. 11, No. 4, 2003, pp. 339-354.
22. S. H. Hanks, C. J. Watson, E. Jansen, and G. N. Chandler, "Tightening the Life-Cycle Construct: A Taxonomic Study of Growth Stage Configurations in High-Technology Organizations", *Entrepreneurship: Theory & Practice*, Vol. 18, No. 2, 1993, pp. 5-30.
23. J. Levie and B. B. Lichtenstein, "From "stages" of business growth to a dynamic states model of entrepreneurial growth and change". University of Strathclyde, Working Paper WP08-02, 2008, 68 p.
24. D. A. Whetten, "Organizational decline: A Neglected topic in organizational science", *Academy of Management Review*, Vol. 5, No. 4, 1980, pp. 577-588.
25. ____, "Organizational growth and decline process", *Annual Review of Sociology*, Vol. 13, No. 1, 1987, p. 335.
26. OECD (2011), *Entrepreneurship at a glance 2011*. Paris: OECD Publishing, 2011.
27. H. Schrör, "Business demography: employment and survival", Eurostat, Brussels, Statistics in Focus 70, 2009.
28. A. d. Geus, *The living company: [habits for survival in a turbulent business environment]*. Boston Mass.: Harvard Business School Press, 2002, 1 p.
29. H.-P. Oehl, "Firm vulnerability during different life cycle stages", in *Conference Proceedings, Current issues in economic and management science: International conference for doctoral students*, Faculty of Economics and Management, Ed, Riga: University of Latvia, 2011, pp. 442-452.
30. J. Hill, C. Nancarrow, and L. T. Wright, "Lifecycles and crisis points in SMEs: a case approach", *Marketing Intelligence & Planning*, Vol. 20, No. 6, 2002, pp. 361-369.