Organisational life-cycle: The characteristics of developmental stages in Russian companies created from scratch*

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Although plenty of organizational life-cycle research in developed countries may be found in the literature, there is a remarkable lack of such research for transition economies like Russia. This article presents the results of 593 Russian entrepreneurial firms surveyed with a focus on organizational life-cycle issues. A model of the life-cycle was developed including three stages: start-up, growth and formalization. It is found that the development of Russian newly established companies is characterized by an unusually slow change of centralization and formalization level as the firm moves from one stage to another and by preserving the owner's control over the firm even after the transition to professional management.

Obwohl zahlreiche Arbeiten zu organisatorischen Lebenszyklen in den entwickelten Ländern existieren, gibt es einen bemerkenswerten Mangel an solcher Forschung für Transformationsländer wie Russland. Dieser Artikel enthält die Ergebnisse einer Befragung von 593 russischen Unternehmen mit dem Schwerpunkt auf Fragen zum organisatorischen Lebenszyklus. Ein Lebenszyklus-Modell mit drei Stufen wird entwickelt - Gründung, Wachstum und Formalisierung. Es wird festgestellt, dass die Entwicklung der neu gegründeten Unternehmen in Russland beim Übergang von einer Stufe zur nächsten durch eine ungewöhnlich langsame Veränderung bezüglich Zentralisierung und Formalisierungsniveau gekennzeichnet ist und durch das Aufrechterhalten der Kontrolle des Eigentümers über die Firma, selbst nach dem Wechsel zu einem professionellen Management.

Keywords: organisational life-cycle, entrepreneurship, developmental stages, Russia

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Introduction

The popularity of the organisational life-cycle (OLC) concept has grown among researchers studying various management aspects. Such research leads to a better understanding of the life-cycle concept and gives a comprehensive picture of an organisation's major characteristics at each life-cycle stage. Studying a variety of management aspects at different life-cycle stages also provides a powerful change management tool based on changes in management practice and the internal logic of organisational development.

Over the years much has been written about the life-cycle concept[1], yet there has been remarkably little attention given to life-cycle empiric models[2] (Smith et al. 1985; Hanks et al. 1993; Flynn 2001; Lester et al. 2003; Mulford 2004; Hoy 2006). Some Russian researchers have studied life-cycles (Yakovenko 1991), but companies started from scratch later than the 1990s have not been thoroughly studied in terms of their development dynamics within the life-cycle concept. That may be caused by both the relatively young age of Russian companies and a low interest in such issues. There have been a few papers by Russian researchers who have either interpreted existing models or tried to create a theoretical model on no empiric grounds (Semenkov 2001; Zheleznyak 2001; Filonovich2001; Konstantinov et al. 2002; Ivashkovskaya et al. 2004; Kushelevich/Filonovich 2004).

This research project of studying Russian companies' life-cycles aims at filling in the gap in Russian life-cycle research. The project includes two stages. *The first stage* was the pilot project carried out in 2005–2006 to test the methodology for a large-scale research effort (for the pilot project outcomes, see (Shirokova et al. 2006)). This project studied companies represented by the Graduate School of Management alumni. In the long run, this research showed that Russian companies' life-cycle models vary depending on how a company was set up — from scratch, privatized or with foreign investments. At *the second stage*, we have studied the developmental features of the organisations started from scratch in Russia within the life-cycle theory context. The empiric research has covered Russian companies established by entrepreneurs starting from 1992. This paper presents the results of the second stage of this research project.

This empiric research goal of second stage was to distinguish life-cycle stages of Russian companies started from scratch. The research objective was to develop the empiric direction of the life-cycle model based on vast empiric data and quantitative methods of information processing. The research has covered the

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1 For major research directions using the life-cycle concept (Gupta/Chin 1994).

2 The life-cycle concept has been developing in two directions — creating normative models and developing empiric ones. At present, the most popular normative models are those by L. Greiner (Greiner 1972) and I.Adizes (Adizes 1999).

factors that stipulate an organisation's transition from one life-cycle stage to another. Each life-cycle stage is supposed to consist of a unique configuration of variables related to the organisation's internal environmental characteristics. If an organisation develops through a sequence of stages, various life-cycle periods can be found to demonstrate certain behaviours and sets of characteristics related to the organisational context and structure. Those periods are identified by grouping companies into clusters using the cluster analysis. The methodology has been shown to be reliable (Hanks et al. 1993; Lester et al. 2003; Shirokova et al. 2006). It should be mentioned, that the research also checked a series of hypotheses formulated upon theoretical works and our pilot project outcomes, the hypotheses are aimed at finding common features with and differences from the existing empiric life-cycle models.

This paper consists of three parts. The first part makes comparative analysis of 15 life-cycle models in order to study contextual and structural variables of different life-cycle stages and provides hypotheses. The second part introduces the method for the empiric research of Russian companies' life-cycles. The third part provides research outcomes and discusses directions for further studies of Russian companies' life-cycles.

Literature review and hypotheses development

Organisation and management research uses the life-cycle concept to explain changes eventually happening in organisations. Most of these changes are caused by company growth and management practices becoming more complex. For dozens of years, management theorists have been trying hard to explain the organisational life process (Chandler 1962; Greiner 1972; Torbert 1974; Galbraith 1982; Churchil/Lewis 1983; Quinn/Cameron 1983; Miller/Friesen 1984; Smith et al. 1985; Scott/Bruce 1987; Kazanijan 1988; Hanks 1990; Dodge/Robbins 1992; Hanks et al. 1993; Adizes 1999; Flynn 2001; Lester et al. 2003; Mulford 2004; Hoy 2006). The most comprehensive reviews of works on the life-cycle theory are given by (Quinn/Cameron 1983; Smith et al. 1985; Hanks 1990; Lester et al. 2003).

While researchers seriously differ in their opinions on the number of stages and characteristics to describe them, some authors offer generalized models which help to describe and make comparative analysis of different approaches. For instance, (Hanks et al. 1993) offer a 5-stage life-cycle model including foundation, expansion, maturity, diversification and decline; others may contain four stages— establishment, growth, maturity and decline (Gupta/Chin 1994) or even three— start-up, rapid growth and maturity (Smith et al. 1985).

Table 1 represents the comparative characteristics of the 15 Life-cycle models and shows that the authors of the models use various variables as time-dependent indices to define and describe life-cycle stages (see Table 1).

Table 1. Comparative Description of Life-cycle Models

Authors	Variables	Stages
Lippitt and Schmidt (Lippitt/Schmidt 1967)	Age, management focus, different interest groups' priorities, crises and presence of confrontation, Structure, Management formalization	Birth, Adolescence, Maturity
Greiner (Greiner 1972)	Age, size, industry growth rate, evolution stages, revolution stages, Organisation structure, formalization, top management style, control system, management remuneration emphasis	Creativity, Direction, Delegation, Coordination, Collaboration
Torbert (Torbert 1974)	Age, size (staff), structure, Decision-making methods, management principles, formalization level, members of the organisation's individual mentalities	Fantasies, Investments, Definitions, Experiments, Predetermining efficiency, Free choice of structure, Basic integrity, Stage Liberal order
Galbraith (Galbraith 1982)	Age, size, growth rate, objectives, Structure form, staff (specialization), remuneration system, processes (formalization), centralization, leadership style	Proof of Principle/Prototype, Model Shop, Start-Up/Volume Production, Natural Growth, Strategic Maneuvering
Quinn and Cameron (Quinn/Cameron 1983)	Age, size, organisation efficiency criteria, Structure form, formalization, centralization, leadership, culture	Entrepreneurial, Collectivity, Formalization, Elaboration of Structure
Miller and Friesen (Miller/Friesen 1984)	Age, number of employees, sales growth, size, property concentration, stakeholders' influence, environment dynamics, strategy, Formal control, internal communications, power centralization, resource capacity, differentiation, decision-making style (13 dimensions total)	Birth, Growth, Maturity, Revival, Decline
Schein (Schein 1985)	Culture function, management generation, complexity, size, Management style, top management composition	Birth or early growth, Middle of life, Organisation maturity
Smith, Mitchell and Summer (Smith/Mitchell/ Summer 1985)	Age, size (sales), size (staff), growth rate, top managers' priorities, Structure form, remuneration system, centralization, top managers' interaction	Inception, High Growth, Maturity
Flamholtz (Flamholtz 1986)	Age, size, growth rate, critical development objectives, Organisation, formalization of planning, control, budgeting, operational and management systems, leadership, decision-making	New Venture, Expansion, Professionalization, Consolidation, Diversification, Integration, Decline

Authors	Variables	Stages
Scott and Bruce (Scott/Bruce 1987)	Age, size, growth rate, industry development stage, key challenges, Structure form, control system formalization, top management style	Inception, Survival, Growth, Expansion, Maturity
Kazanjian (Kazanjian 1988)	Age, size, growth rate, dominating management challenges. Structure form, formalization, centralization	Conception and Development, Commercialization, Growth Stability
Hanks et al. (Hanks et al. 1993)	Age, size, growth rate, structure, formalization and centralization degree, specialization	Creation, commercialization, growth, maturity
Adizes (Adizes 1999)	Age, size, normal and transition challenges, Structure form, formalization of policies and procedures, leadership qualities needed, diversity, complexity	Courtship, Infancy, Go-go, Adolescence, Prime, Stability, Aristocracy, Salem City, Bureaucracy, Death
Lester, Parnell and Carraher (Lester/Parnell/ Carraher 2003)	Age, size, power, information processing, type of organisation structure	Existence, Survival, Success, Revival, Decline
Hoy (Hoy 2006)	Age, size, founding leader's personality	Birth, Growth, Maturity, Decline/renewal, Death

The table is based on (Hanks et al. 1993), which analyzes 10 life-cycle models.

Summing up different approaches to modelling life-cycle, we can make the following observations. First of all, in each life-cycle model reviewed, authors described stages in terms of their internal characteristics. Although there is considerable variability among models, all included some dimensions related to the organisation context and organisation structure. Common dimensions included organisation age, size, growth rate, and focal tasks or challenges the firm faced. Some authors also included structural form, formalization, centralization, vertical differentiation, and the number of organisational levels as dimensions. Within models itself, stages are distinguished one from another by differences in the pattern and the magnitude of these dimensions. Furthermore, it is the organisational characteristics that undergo changes rather than the number of development stages where the major differences in the models lie. Thus, Torbert's model is based on changing individual mentalities of organisation members; Greiner describes organisation development in terms of crises; Adizes — in terms of overcoming normal and abnormal problems. In general, as Kiriri (2002) states, the authors of the models have no unanimity about the *ideal* determinants of life-cycle stages. In other words, each of them offers a different set of criteria with their advantages and disadvantages.

Therefore, it appears that life-cycle stages can be better characterized in terms of what Miller and Friesen (Miller/Friesen 1984) call configurations. Using this

approach, Hanks et al. have chosen to define a life-cycle stage as a "unique configuration of variables related to organisation context and structure" (Hanks et al. 1993:7). In the present research, this definition was used for developing the research methodology and measurement scale in order to identify a life-cycle stage.

Generally, previous research shows significant support to OLC model existence and to the fact that those organizations at various stages of the life cycle face different managerial problems. So, the first hypothesis may be proposed:

Hypothesis 1: In their development Russian entrepreneurial companies pass several stages, each having certain distinguishing characteristics.

As mentioned earlier, there is no agreement among researchers on the exact number of life-cycle stages. As regarding Russian entrepreneurial firms, which are the main focus of our research, the oldest company age does not exceed 15 years giving the ground for theorizing that OLC model consists of, at minimum, three stages.

At the same time, the pilot project (first stage of research) studied 152 companies divided into three groups depending on their creation history. Most companies (68%) were started from scratch by Russian entrepreneurs, 20% were created by privatizing Soviet enterprises, and 12% were established with foreign investments. The pilot project showed that Russian companies' life-cycles depended on their creation history (Shirokova et al. 2006). The companies started from scratch had a low formalization level and were relatively small. The project found only two stages of the kind corresponding to the establishment and accumulation stages of the 5-stage life-cycle model (Hanks et al. 1993). As the pilot project studied few companies younger than 5 years old, the large-scale research supposes that Russian companies started from scratch later than 1991 have already passed three stages - start-up, growth and formalization. Therefore, we may theorize that:

Hypothesis 2: Companies started from scratch later than 1991 have passed three life-cycle stages— start-up, growth and formalization.

The problem of the transition from entrepreneurship to professional management and questions of the necessity to replace the founder with a hired manager have been widely discussed in the literature on management. For example, Rubenson and Gupta (1996) identified three fundamental succession perspectives, namely, succession as an inconsequential event, succession as a disruptive event, and succession as a rational organizational adaptation. However, a large proportion of research devoted to OLC theory gives consideration to the importance of the entrepreneur at the time of transition from the stage of birth to the stage of formalization or growth. Many researchers raise the question of the entrepreneur's role in relation to the future fate of the organization, seeing the forthcoming and inevitable retirement of the entrepreneur as a major influence

on the future success of the organization (Willard et al. 1992). One of the most essential questions connected with a company's transition from entrepreneurship to professional management is the problem of rising efficiency of company performance as a result of a change in CEO from the founder to a professional manager. The available research on this problem is mainly focused on a comparative analysis of the entrepreneur-founder-run or manager-run company performance indices. It should be pointed out that little evidence has emerged to reveal any significant differences between the performance of entrepreneur-founder-run and manager-run companies (Willard et al. 1992).

In one perspective, Boekker and Karichalil, (2002) present a detailed analysis of the entrepreneur's succession process. As far as strategy choice is concerned, the authors reveal the conditions of strategy choice implementation and factors impeding successful choice (replacing a non-qualified entrepreneur with a qualified manager). The authors suggest that the organization needs the entrepreneur until issues of growth replace issues of profitability; complexity of internal coordination requires vast delegation of powers as the number of employees increases. The authors argue that it may be probably accounted for by the fact that the owner faces the conflict of his own interests with those of the Board of Directors, thus creating contradictions between his own aims and the aims of influential stakeholders.

In another perspective, Rubenson and Gupta (1990) developed a theoretical model based on the proposition that managerial styles should change depending on the stage of OLC (Rubenson/Gupta 1990). Rubenson and Gupta's argument as to the need to change the style of management is that, over time, the organization grows bigger and becomes more complex to control, which leads to the increase in the number of managerial transactions and the impossibility of strongly centralized management when making all decisions is controlled by the company founder (Rubenson/Gupta 1990).

The role of the entrepreneur in Russia is subject to some influence by the institutional environment of national business. Among these, weakness of shareholders' position, development of entrepreneurship as an institution, high external risks, lack of legal protection of ownership rights and the weakness of legal system in general. These distinctive features of Russian business formation gave birth to a tendency of a strong wish to keep control over the business in one's hands (Shekshnia 1994). For example, as 6 Russian case studies show, owners of Russian companies continue to hold managerial control over their enterprises (Shekshnia 2007). So we propose the next hypothesis:

Hypothesis 3: At early development stages, the founding owner would strive to continue managing the organisation personally when transitioning from entrepreneurship to professional management.

Russian newly established companies have a very short development history - the oldest firms from that sample appeared only 15 years ago - however, the national business reality tells us that there are some specific trends in the organizational growth and development of Russian firms, established in the transition period.

When we consider the special features of transition economies, that is economies moving from non-ownership of business in the Communist period to liberal full-ownership of business in the Capitalist era (Yalchin/Kapu 2008), creating, development and surviving of entrepreneurial firms (especially in post-socialist countries and in Russia as the best example) turns to be rather a complicated problem. We need to take into consideration the need to learn rules of conducting business, difficulties of competition with foreign companies and huge problems with starting and running a business in an environment with weak state and institutional support.

Though a lot of OLC research has been conducted recently, few of them deal with organizational life-cycle issues in transition economies. These few, devoted to China and Taiwan (Chen/Kuo 2004; Liao 2006), bring readers to the conclusion that there are not any essential differences between OLC models in terms of organizational characteristic changes. So, we build the next proposition:

Hypothesis 4: Changing characteristics of organisation variables— structure, formalization, centralization— will generally correspond to the regularities found in the countries that have a longer history of companies which have started from scratch.

Method

Data Collection

Data were collected through a survey conducted from December 2006 - March 2007. 606 managers were interviewed for 40 minutes each.

The questionnaire was structured in several blocks to distribute organisations depending on their values within contextual variables:

- block A: age, industry, incorporation, size (full-time staff), shareholders, current market position;
- block B: general situation in the industry;
- block C: industry structure and features of industry competition;
- block D: degree and character of external environment's influencing the company (rate of change, predictability and aggressiveness of major players);
- block E: organisation structure;

- block F: decision-making (formalization, data processing, CEO's area of responsibility);
- block G: power distribution (real management power, key decision making);
- block H: company's current major objectives;
- block I: organisation dynamics and changes going on and planned;
- block J: strategic behaviour type incidental to the company.

The questionnaire was concluded by the interviewee's personal information.

The survey was complemented with statistics and document analyses. Statistics of industrial dynamics were taken from Russian official sources - on both Russia as a whole and its certain regions in particular. The documents were publications on the subject matter in management science periodicals, including foreign ones. In this research, Russia was divided into six regions - Moscow and St. Petersburg; Centre and Northwest; South; Volga; Urals; Siberia and Far East. Table 2 represents the sampling distributed according the regions (see Table 2).

Table 2. Regional Distribution of the Sampling

Region	Number of interviewees	%
Moscow and St. Petersburg	103	17.0
Center and Northwest	100	16.5
South	101	16.7
Volga	101	16.7
Urals	100	16.5
Siberia and Far East	101	16.7
Total	606	100.0

The survey covered the organisations that:

- are for-profit commercial companies,
- were created later than 1992,
- have Russian capital,
- have no fewer than three full-time employees.

Most surveyed companies (94.4%) were started from scratch by their founder(s), while the rest emerged after 1992 as a result of a split-off or partition.The sampling was stratified according to the following parameters (see Table 3):

number of full-time employees:

- small organisations (3–20 employees)-49%
- medium-size (21–100)-35.8%
- large (over 100)-15.1%

The interviewees were top managers or shareholders who participate in strategic development and decision-making (see Table 5).

Table 3. Company Type Distribution of the Sampling

Company type	Number of companies	%
small	297	49.0
medium-size	217	35.8
large	92	15.2
Total	606	100.0

Table 4. Industry Distribution of the Sampling

Industry	Number of companies	%
Manufacturing	80	13.5
Construction. transportation. communications	108	18.2
Retail	108	18.2
Wholesale	87	14.7
B2C services	111	18.7
B2B services	99	16.7
Total	593	100.0

Table 5. Interviewees' Positions

Position	Number of interviewees	%
General Director	296	48.8
Deputy General Director	79	13.0
Executive Director	41	6.8
Finance Director	33	5.4
Commercial/Marketing and Sales Director	53	8.7
Business Development Director	22	3.6
Shareholder without a position	25	4.1
Other top managers	57	9.4
Total	606	100.0

Indices

The analysis uses two sets of indices. The first one comprises cluster variables: age, organisation structure type, formalization level, number of managerial hierarchy levels. The second set includes the rest of the variables - the

descriptive variables used to interpret the clusters identified. Each index has been found essential to describe life-cycle stages.

Cluster variables. The cluster variables - age, type of organisation structure, formalization level, number of managerial hierarchy levels - have been chosen based on the works by (Hanks et al. 1993; Lester et al. 2003) who presented empiric research outcomes and proved the significance of this set of indices to measure life-cycle stages. The age has been counted by subtracting the organisation's foundation year from the year when it has been surveyed (2007). A few companies were interviewed in December 2006, but they represent an insignificant fraction of the sampling. Consequently, it has been decided to consider them surveyed in January 2007.

The survey suggests that when developing through life-cycle stages, organisation structure is becoming more complex - from a simple structure without functional subdivisions to functional and divisional and then to a matrix structure. The structural variables were given to interviewees with a brief description of each structure type, coded as follows: simple structure - 1, functional - 2, divisional - 3, matrix - 4, mixed - 5.

Formalization is the degree to which the organisation's communications and procedures are reflected in written form (Pugh et al. 1963; Daft 1985). According to (Pugh et al. 1963; Hanks/Chandler 1995), formalization has a number of aspects. It may include: 1) formulated procedures, rules, job descriptions (incl. contracts, agreements, etc.); 2) procedures that make decision-making and information processing routine. Our survey measured the formalization level by using a questionnaire adapted from (Hanks/Chandler 1995). The interviewees were offered a list of statements about the company's documented policies, procedures, divisions' regulations and organisation chart. The responses were scaled in 5 grades from "completely disagree" to "completely agree".

The number of managerial hierarchy levels was defined as the number of links in the longest chain between the organisation's leader and actual doers. The hierarchy variable was given by the interviewees depending on the number of levels between 1 and 7 (7 levels or more), 8 - "difficult to say".

Descriptive variables. To analyze the characteristics of life-cycle stages, additional variables were used to get a more detailed picture of Russian companies' evolution through life-cycle stages.

Centralization of a company's management was measured with five statements reflecting to what extent the general director was involved in every decision-making process - from participating in making only strategic decisions to involvement in everyday operational management. The index of centralization was calculated by summing up all five responses. The larger the sum, the higher was the degree of centralization. Moreover, the number of managerial hierarchy

levels was also found as a structural variable characterizing the company's centralization and size level.

The specialization scale comprised 14 functional areas - departments or divisions of a company. The interviewees were asked to mark those that their company actually had at that time. The result was calculated as the number of functions used.

If a company had no functional divisions yet, but developed positions for functional specialists, the technocratization scale was used. The result was calculated in the same way as for the specialization scale.

The questions on the organisation's major objectives were aimed at finding critical tasks or issues that the organisation faced at different life-cycle stages. Interviewees were given a list of 11 issues using Likert's 5-grade scale from "totally irrelevant" to "very relevant".

The questionnaire also included a block of questions on organisation dynamics that comprised the variables characterizing type and the structure of organisational changes. Personnel dynamics had been calculated from the responses on changes in the numbers of full-time staff from December 2004 till December 2006. That index characterized the level of personnel turnover and changes in full-time staff compositions. Sales volume dynamics was studied with an interval scale from "grown 10% or less" to "over 200%". That index characterized the company's results at different life-cycle stages. In addition, the interviewees were offered a list of organisation changes within the last two years characterizing the dynamics of the company's structure and contextual variables. To find reasons for and drivers of the changes, the interviewees were given questions listing functional areas and the company's opportunities and challenges that had caused these changes. As a whole, the questions about the organisation's dynamics were aimed at proving the hypotheses on sources of the company's dynamic capabilities and major organisation changes directions at different life-cycle stages.

Data analysis

The data received was processed with SPSS software. The data analysis methods used were cluster and comparative ones. Cluster analysis was used to identify life-cycle stages. Cluster division quality was evaluated by certain criteria: inter- and intraclass variation, pseudo F-criterion and pseudo t-criterion.

To cluster the organisations, the k-means cluster analysis was used[3] as building clusters best comparable in size. The classification was based on the characteristics discussed above-age, formalization level, number of hierarchy levels and type of organisation structure.

The pilot project had demonstrated that the companies started from scratch were undergoing first stages of their life-cycles. Extrapolating that to the larger sampling suggested that the sampling should be distributed into three clusters, or life-cycle stages.

Thus, the cluster analysis resulted in distinguishing three groups of companies differing in values of the four major variables: age, organisation structure type, number of managerial hierarchy levels and formalization level. Cross-tabular analysis was then performed on each cluster in order to find its characteristics with the above-listed descriptive variables. The cluster analysis outcome is represented in Table 6. Clustering had omitted 13 companies that were excluded from the final processing.

Table 6. Cluster Distribution of the Companies

Cluster	Number of companies	Percentage
1	200	33.7%
2	226	38.1%
3	167	28.2 %
Total	593	100%

Each cluster variable's significance was weighted by one-way ANOVA test that showed that all indices had a high significance (see Table 7).

Table 7. ANOVA Test Results

Cluster variables	Coefficient of determination	Adjusted coefficient of determination	F-ratio test	Significance
Type of organisation structure	9.841	1.203	8.179	.000
Ages	5224.149	2.110	2475.452	.000
Formalization level	4.028	.768	5.244	.006
Hierarchy levels	10.405	1.201	8.663	.000

Results

The result is a life-cycle model for Russian companies started by their founding entrepreneurs between 1992 and 2006. The model comprises 3 life-cycle stages

[3] The pilot project used hierarchy clustering, as the sampling to analyze included 152 companies. Our survey dealt with a larger sampling— 606 companies, which allowed using k-means clustering (Bühl/Zöfel 2005).

which characteristics allow naming them as follows: start-up, growth and formalization. Each stage characteristics are considered in detail below.

The first cluster contains young companies (average age 3 years, 53% of the companies started in 2003–4, 46% - in 2005–6, 2% - 4 companies out of 200 - in 2001 - 2). According to the size classification adopted in this research, the cluster mostly covers small companies (63.5%) with staff of 3 to 20; 30.5% of the companies are medium-size (21 - 100 employees); 6% are big (over 100 employees) companies.

The first cluster companies feature simple organisation structures with an owner/manager leading the company helped by employees with various responsibilities, without any divisions or functional departments. The companies that have a functional organisation structure go next, the rest use other types of structure. Formalization level is quite low; most companies have no documented organisation structure or other hierarchy descriptions and power distribution.

The number of hierarchy levels in the first cluster companies varies from 1 to 3, most companies (48%) have two levels. An overwhelming majority of the first cluster companies (79%) are managed by their founding owners who, in the most cases, are general directors. The number of owners varies from 1 to 3, half of the companies are owned by one person. Centralization level is quite high, as most decisions are made by the owner(s).

85% of the first cluster interviewees defined the company's market reputation and staffing as the most important challenges. As to the market share dynamics over the last two years, 53% said it had grown a little, 16.5% - significantly grown. 2006 sales volume of 30.5% of the companies did not exceed $50,000, 14% of the companies - $51,000–100,000, having grown in most companies by 10 to 30%. Full-time staff also grew in over 70% of the companies. 72.5% of the companies are limited liability companies, 14.5% - unincorporated individual entrepreneurs. An overwhelming majority of the first cluster companies (85%) operate within their home region, with only 6.5% internationally.

The second cluster includes older companies (4 to 10 years old.). 39.8% of them were created in 1999 - 2000, 36.3% - in 2001–2, 23.0% - in 1995 - 8. The average age of the second cluster companies is 7 years. The size varies from small (48.7%) through medium-size (38.1%) to large (13.3%).

The second cluster companies use simple as well as functional and mixed organisation structures. Formalization level is a little higher than in the first cluster, in certain cases there are documented procedures, rules, job descriptions, etc.

The number of hierarchy levels varies in the same range as in the first cluster - within 1 to 3, with about the same number of companies using 2 and 3 levels and only 10% - 1 level. Most second cluster companies are also headed by their owners, with only 6% having a hired top manager.

An overwhelming majority of the second cluster companies distinguished stability and market reputation as their major challenges. Within the past two years, the market share of 54% of the companies had grown significantly, 13.7% - fell a little. 2006 sales volumes vary from $50,000 to $2 mln with responses distributing uniformly without any specific level prevailing. Sales volumes grew in most cases 30 to 50%. Full-time staff grew in over 84% of the companies for the last two years. 67.7% of the companies are limited liability companies, 19.5% - unincorporated individual entrepreneurs - almost the same as in the first cluster. Like the first cluster, an overwhelming majority of the companies (87.6%) operate within their home region only, 22.1% - nationally and as few as 3.1% - internationally.

The third cluster companies are the oldest. 65.9% of them were launched in 1992–4, the rest 34.1%-in 1995–8, with the average age of 12.5 years. The third cluster gathered nearly all the large companies from the sampling, although 37.7% of the cluster companies are medium-size and small.

The third cluster companies use almost all types of organisation structure. Whereas the portion of division and matrix structures is considerably large—over 12%, yet the overwhelming majority (43.7%) prefer the functional type. Formalization level is quite high; most companies (60%) have documented hierarchy and power distribution.

The number of hierarchy levels in the third cluster companies varies from 2 to 3, the most frequent (44.3%) being 3 levels, which demonstrates both company growth and formalization level. In the third cluster, there are more companies headed by a hired top manager, although the majority (about 60%) are still managed by their owners. 6% of the companies have boards of directors that are in charge of managing the company operations. As a whole, the third cluster shows a lower centralization level than the first two.

The overwhelming majority defined stability and market uniqueness as the key challenges their companies were facing. Market share grew a little from 2004 by 38.3% of the companies, fell a little by 12.7% and significantly fell by 3.6%. It should be emphasized that we found a significant fall in market share in the third cluster only, which indicates that those companies operate in more mature markets and industries. 2006 sales volumes also vary greatly, although many companies had sales volume from $500,000 to $1 mln, with average volume growth of 11 to 30%.

Table 8. Major Company Characteristics in Clusters

Average indices	Cluster 1 Start-up	Cluster 2 Growth	Cluster 3 Formalization
Age	1–4	4–10	10–15
Size	Small (3–100 employees)	Small to medium-size (3–200)	Small to large (3–500)
Formalization level	Low	Low, first documents appear	High
Number of hierarchy levels	1–2	1–3	2–3
Most frequent organisation structure	Simple, functional	Simple, functional, mixed	Functional, division, matrix
Company head	Owner(s)	Owner(s)	Owner(s), hired manager
Centralization level	High	Medium	Low
Key development objectives	To build reputation, to resolve staffing issues	To ensure stability, to build reputation	To ensure stability, to create uniqueness
Market share dynamics	Little increase	Significant increase	Little increase to decrease
Sales volume	Less than $50,000 – $100,000	$50,000–2 mln	$500,000 –3 mln
Sales volume growth	10–30%	30–50%	10–30%
Form of incorporation	LLC, unincorporated individual entrepreneur	LLC, unincorporated individual entrepreneur	LLC, CJSC
Markets	Local, regional	Local, regional, national	Regional, national, international

In most companies, staff did not change within the past two years, in 16.8% it decreased. While the most popular form of incorporation remained the limited liability company (59.9%), the third cluster also features closed joint stock companies (16.8%, the highest portion among the three clusters). Most companies still operate in their home regions (79.6%), 23.4%-nationally and about 7%-internationally.

Major indices of all the three clusters are given in Table 8. As to the industries, they are distributed among the three clusters nearly uniformly with a little exception of B2C and B2B services that are represented mostly in the first and second clusters, and only about 20%-in the third one.

Discussion and Conclusions

This research has attempted to derive empirically a life-cycle model for newly established Russian companies. The author made an attempt to fill the gap in OLC literature devoted to transition economies and, particularly, Russia. The survey covered six of Russia's regions. The sampling of 593 Russian companies started from scratch by their founding entrepreneurs was divided into three clusters differing in organisation variables, which suggested that the companies which started from scratch passed through three stages according to the life-cycle theory. The first cluster-the start-up stage-features small, young (no older than 4 years) companies with a high centralization level and no formalization. The second cluster-the growth stage-comprises older and larger companies (up to 10 years old) with the first signs of formalization and more hierarchy levels. The third cluster-the formalization stage-includes still larger companies 10 to 15 years old with a high formalization level and lower centralization level due to larger size and more hierarchy levels. The first hypothesis that companies which pass certain development stages differ significantly in characteristics has thus been supported. This conclusion is also another proof of the life-cycle concept's appropriateness and reliability.

The second hypothesis that Russian companies started from scratch go through three life-cycle stages has also been supported. The analysis has provided three clusters whose characteristics have suggested that each cluster corresponds to a certain life-cycle stage-start-up, growth or formalization. We suppose that the next stage will be maturity featuring IPO and further expansion.

The third hypothesis on management transfer trends when transitioning from entrepreneurial to professional management has also been supported. The transition happens at the formalization stage and the analysis has shown that founding owners tend to keep the reins by staying in the position of general director, when their organisation enters this stage. As few as 7.8% of the companies at the formalization stage are headed by hired managers. This result is opposite to the findings of such research abroad that show how the companies started from scratch outgrow their founders and their abilities to manage the growing businesses, which makes the owners leave and hire a professional manager (Rubenson/Gupta 1996; Boeker/Karichalil 2002; Boeker/Wiltbank 2005).

The fourth hypothesis on similarities in variables dynamics at life-cycle stages has found no solid ground. Comparative analysis of research in countries with a longer history of companies started from scratch shows that formalization and centralization levels there change much more than in our research (Hanks et al. 1993; Lester et al. 2003). This fact may be explained by the lack of professional management knowledge among Russian entrepreneurs, from one side, and impossibility or reluctance to hire specialists with this knowledge thereby

increasing the level of formalization and decreasing the level of centralisation in the company.

Another significant difference is avoiding transferring power to a hired manager, which is a common practice in the West. This finding was rather expected, because delegation of management control is conditioned by the institutional environment of business in the country. The legal environment is still very uncertain in Russia and provides rather weak protection to the owners of businesses. Also, given the heavy tax pressure in Russia, the majority of small and medium enterprises use some sort of "grey" accounting and reporting schemes and hide the real financial performance from the public and the state. Obviously, the managerial control transfer to a hired manager gives to the latter a good opportunity to appropriate cash flows and possibly the whole business. These reasons lead to the situation when owners of Russian enterprises keep managerial control over growing companies and pretend to became professional managers.

It seems that these results may be useful to business practitioners and researchers of OLC. An attempt was made to remove the gap in literature exploring OLC in transition economies. The research of Russian entrepreneurial firms revealed specific attributes of developmental stages of these firms. The business practitioners may find it useful to build the agenda of key tasks and problems to be solved at each stage of life cycle instead of dealing with the unstructured flow of current problems using just intuition and common sense but not sound academic research results. The educators may use this research for better understanding the needs of business education among entrepreneurs and business owners and for appropriately improving their programs and syllabi. Particularly, the research findings may be of high use in teaching courses of change management, organisational theory and organizational behaviour which may be enriched with relevant and valid information on OLC and firms behaviours in Russia.

Limitations and implications for future research

Some words should be given on the limitations of our research. At first, the cross-sectional nature of the data restricts in certain ways our conclusions because of the dynamic character of the investigated object. Namely, there is no evidence that organisations at later stages of OLC experienced the earlier stages and had proper characteristics. A longitudinal test of our general model and each stage characteristics would be very useful in this sense.

Second, cluster analysis has, at least, two weak features:

1. The inability to identify the number of clusters present in the data in an a priori manner, and

2. The manner in which observations are assigned to mutually exclusive clusters (Rutherford et al. 2003).

To resolve these and other issues some researchers use such methods of data analysis as a self-organizing map (SOM), developed by Kohonen (1990) which is based on a special type of artificial neural network. The SOM method is similar to cluster analysis but operates with a more exact procedure of grouping through "learning" iterations (Rutherford et al. 2003).

Without any doubts we need further research in this direction to remove the limitations described above. One of the fruitful research vector points is to the problems of power distribution between owners and hired managers at different stages of OLC and revealing factors influencing this process.

Also, our research left untouched the influence of the cyclical development of the Russian economy and the role of economic crises (such as the famous "default" crisis of 1998) in the OLC formation.

As a whole, the model that has been created can be used as a tool to research nearly any type of organisation change. The life-cycle stages characteristics can also be used by Russian companies' founders and/or managers when designing development programmes and transitioning to another life-cycle stage.

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