# Strategy, Structure and Systems: Sun Tzu's Thinking and the Holonic Network of the Toyota Dealer System (TDS)—A Romanian Case Study

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*Article*

# Strategy, Structure and Systems: Sun Tzu's Thinking and the Holonic Network of the Toyota Dealer System (TDS)—A Romanian Case Study

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**Abstract**

Globally, 93 million cars are currently produced, with Toyota accounting for about 10% of the global market. However, its position is more modest in the Electric Vehicle (EV) industry. The automotive industry in Romania began at Dacia Pitesti in the 1970s, based on a license obtained from Renault. This research explores how a profound strategic vision, inspired by Sun Tzu's philosophy, can influence a company's organizational structure over time. In Toyota's case, this vision resulted in a dealer network that functions not only as a logistics system but also as a holonic system. The study is based on 194 questionnaires administered by the authors, along with 40 interviews with managers and specialists from Toyota Dealers Romania. Its novelty lies in analyzing the Toyota Dealers System (TDS) through the concept of holonic networks. The study concludes that the success of keiretsu groups is explained by combining Sun Tzu's thinking with the principles of holonic networks. The findings are valuable both conceptually, for future research, and practically, as they offer clear directions for developing strategies and organizing a company's market relationships.

**Keywords:** Sun Tzu's thinking; systems; holonic networks; Toyota dealers system; Toyota Romania; automotive

## 1. Introduction

Starting in the 1960s, Toyota Motors Corporation (TMC) succeeded in building the first keiretsu group in the Japanese economy and applying new production strategies/practices in the automotive industry, such as Total Quality Management (TQM), lean production or the Toyota Production System (TPS), kaizen as an integrative philosophy, kanban, Just in Time, etc. Such innovations introduced by TMC were subsequently adopted very quickly and, where appropriate, adapted by companies such as Ford, General Motors, Renault, Volkswagen, Hyundai, etc.[1–3]. At the same time, the principles of production organization within TMC have become a frequent topic in important academic studies in most countries around the world [4]. Currently, there are over 20 volumes and over 100 articles published by various Western publishers on TMC management/performance. Most of these studies focus on integrative vision, as a general system applied by various Toyota CEOs, especially the relationship with suppliers/subcontractors and the organization of the production system. One of the novel elements brought by our study lies in the fact that we focus our analysis on

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the Toyota Dealers System (TDS) applied by TMC globally, with examples from the dealer network in Romania, based on quantitative and qualitative research.

The strategies and practices applied by Toyota and/or other Japanese companies, including some South Korean companies, are frequently found in international management literature and have been adopted by numerous Western companies in both the automotive industry and other sectors such as IT&C (under names such as "Toyota Way," "Nissan Way," "Samsung Way," etc.).At the same time, only a small part of the philosophy and strategic thinking of Asian companies has been adopted and explained in Western management literature. In this sense, there is a gap in studies on Toyota with regard to the organization/optimization of the distribution system developed by this company at a global level. There are a significant number of studies analyzing the connection between Holonic Network Theory and the entire production system organized by Toyota, including with reference to the relationship developed with suppliers. However, there is no study connecting Holonic Network Theory as part of General Theory of Systems (GTS) with Toyota Distribution Systems (TDS). Our proposed study aims precisely to fill this gap and bring new elements to any company wishing to draw inspiration from the strategies/practices applied by Asian companies. In addition, another new element brought by our study is that it directly and logically connects Michael Porter's thinking with Sun Tzu's philosophy and Holonic Network Theory as a fundamental explanation for Toyota's performance in the global automotive industry over the last seven decades. As we will argue in the study (especially in the Literature Review and Discussion sections), our study makes significant contributions to the understanding of the philosophy applied by Asian companies, both conceptually and pragmatically.

It is well known that the vision and/or strategic thinking applied by the top management of any company (not only in the automotive industry) is the main factor that leads the organization to performance or bankruptcy. Michael Porter's thinking on competitive advantage and the Global Value Chain (GVC) organization has become the most important source of inspiration for all successful MNCs, including Toyota, over the last four decades. As we will show in this study, in fact, a significant number of the principles of competition set out by Porter are found in Sun Tzu's concept, as interpreted for business [5].

In the 1940s, Bertalanfy laid the foundations for what we call the General Theory of Systems (GTS), understanding a system to be a set of n elements that are organized and relate to each other in order to achieve a common goal [6]. Subsequently, Koesler and other authors developed the concept of systems, among which the holonic conception of systems began to offer a new framework for evaluating and organizing socio-economic entities such as large companies (both in the automotive industry and in other economic sectors). In summary, a holon is a “whole derived from parts”[7]; Koestler was among the first authors to write about systems operating within other systems. Subsequently, Koestler's concept influenced GTS and the application of this theory in society, economics, and business administration, since the functioning of hierarchically ordered holons is equivalent to a type of complex and open system [8–11].

In 2024, approximately 93 million cars were manufactured globally, and Toyota held over 10% of the global market, with separate production plants in Europe, the US, and other regions of the world, and over 13,700 dealers integrated into its network (approximately: Asia 8,030 (4,330 in Japan), America 3,060 (2,045 in the US), 2,170 in Europe (Romania – 27), and the remaining approximately 700 in other regions/countries around the world). The basic idea of this study is to analyze the importance of Sun Tzu's thinking for the vision built by TMC in the organization, operation, and administration of the entire TDS based on the principles set forth by the holonic conception of systems. Simply put, Sun Tzu's thinking and the organization of TDS as a holonic network largely (but not entirely) explain the success and performance achieved by TMC globally. From a strictly theoretical point of view, our study suggests some additions to Holonic Network Theory, as shown in the Discussion section of the study, where we present the "New holonic networks features identified by the authors". Our study uses a mixed approach, with 194 survey responses and 40 interviews conducted with Toyota dealers in Romania.

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In the Literature Review section, we will develop and highlight more clearly the literature gaps and the novel elements that our study brings, both conceptually and pragmatically. Also in this regard, in the Research Methodology section, we will describe the steps taken, the assumptions made, the flow chart of the study, and other elements related to the empirical research on which the study is based.

## 2. Literature Review

As is well known, with the emergence of large corporations in the American economy (1850), the issue of strategic thinking at the conglomerate/group level became essential for innovation and long-term competitive advantage [12]. Starting in the 1950s, authors such as Mintzberg, Hamel, Prahalad, Drucker, etc. analyzed the role/importance of strategic thinking in business from various perspectives and suggested, where appropriate, courses of action for managers in large corporations [13–17]. At the same time, Sun Tzu's concept of strategic thinking has been widely interpreted with reference to competition between companies in different markets [5,18,19] . An assessment of the factors explaining Toyota's performance from the 1950s to the present day leads to the conclusion that the vision and/or strategic thinking of top management played an essential role in building Japan's first keiretsu group (novel elements such as TPS, TQM, etc., mentioned above). It is no coincidence that, especially with regard to the entire production system applied by Toyota, namely TPS, there are dozens of volumes [20,21] as well as dozens of articles/studies[3,22–26]. In our study, the analysis focuses almost exclusively on the distribution system as part of the GVC applied by Toyota. More recently, some studies have also applied the concept of holonic systems/networks and/or logistics as a frame for organizational culture to the principles and/or philosophy applied by Toyota within the TPS [8,9,27–29].

In 2024, Toyota had approximately 330,000 employees, manufactured approximately 9 million vehicles, generated approximately USD 20 billion in annual profit globally, and had an extremely positive cash flow, but it has a more modest position in the Electric Vehicle (EV) sector. In the EV sector, approximately 14 million units manufactured, of which 8 million were in China, and BYD manufactured approximately 4 million units, which was double that of Tesla (Statista, 2025). In other words, recent assessments of the EV industry show that some Chinese manufacturers are beginning to control this industry, particularly through lower costs per vehicle.

The automotive industry in Romania is more than 5 decades old, it started at Dacia Pitesti in the 1970s based on a license taken over from Renault. Currently Renault has taken over Dacia Pitesti (12000 employees) and the Renault-Nissan-Mitsubishi alliance uses the dealer network that was in the Dacia Pitesti enterprise. The Renault group has recently set up a consortium in Pitesti with Geely, China, which aims to manufacture 5 million cars a year and generate annual revenues of €15 billion. In 1976, under license from Ford, the Craiova car plant was set up, which is now part of the Ford group (Ford Ortson, Turkey); in 2025 investments of about 490 million EUR made for an EV production line.

In our study, based on the survey conducted for the Toyota dealer network in Romania (May 2023-September 2024) and on international literature, we aim to highlight the fact that strategic thinking and the organization of TDS as a holonic network are two of the main factors explaining the success of the entire TPS applied by Toyota. To achieve this scientific research goal, we briefly invoke some elements from the biography of Toyota's founder, Kiichiro Toyoda, as well as the biographies of two of the most important CEOs in the company's recent history, as shown in Tables A1, A2, and A3. For example, the founder of Toyota widely applied Sun Tzu's principles of thinking, which is why he analyzed in detail the main companies in the American automotive industry in the 1950s. Another CEO, Ohno, considered to be the founder of TPS, was directly influenced by Sun Tzu's thinking and Henry Ford's vision. Therefore, there are numerous historical elements that attest to the influence of both Sun Tzu and American management on the early stages of the entire Toyota group.

Those summarized by us in the three Appendix A clearly show the influence of Sun Tzu's thinking on the main managers who have held the position of CEO in Toyota's history. To achieve

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the same research objective, we present in summary the five essential factors stated by Sun Tzu for any type of competition between two or more hierarchically organized social groups, as shown in Table 1. In the same table, in the last column, we show how these five factors were reflected at the Toyota headquarters level.

**Table 1.** Five essential factors in competition: interpreting Sun Tzu's doctrine for business.

| **Sun Tzu's thinking** | | **Business doctrine** | | |
|---|---|---|---|---|
| **The five essential factors** | **Characteristics or specificities on each factor** | **The five essential factors** | **Characteristics or specificities on each factor** | **Reflection at Toyota HQ** |
| **1.Moral path/politics/Tao** | Harmony between leaders and led is based on values and Tao | **1.Moral path/ National culture/harmony** | Doctrines/ Organizational Culture | The founder and all those who followed applied the Tao |
| **2.Climate/Sky/Weather** | Climatic conditions, factors that cannot be controlled | **2. Climate/ Business environment** | The current environment is chaotic, after 2008 | The strategy adapts over time, |
| **3. The Land/ Earth/** | Other factors that cannot be controlled, etc.. | **3.The land/market** | Any company operates in a given market | The strategy adapts to each market |
| **4.The Commander/ General** | Sun Tzu associates wisdom, honesty, trust, discipline, etc. with the qualities of any leader. | **4. CEO/ President/ Chairman** | A good CEO can be described by the same five personal qualities; | Every CEO was a responsible manager |
| **5. Doctrine** | Norms and rules by which any social group functions. | **5. Doctrine/ Organizational Culture** | The values that owners, managers and employees believe in; | Values are periodically redefined within the culture |

Source: Author's design based on Sun Tzu – *The Art of War*, HarperCollins Publishers, London, 2011, translated by Lionel Giles; Hretcanu, Ciprian. 2016. The role of IT in the design and operation of holonic networks of business organizations in a post-crisis context. Doctoral thesis, "Ştefan cel Mare" University of Suceava;.

As can be seen from Table 1, each of the five essential factors in competition, as outlined by Sun Tzu, has a clear/visible counterpart in the strategic thinking applied by Toyota, as well as in competition between large corporations in general [19,30,31]. Obviously, 2,500 years ago, when Sun Tzu's work was written, TGS and/or other principles of strategic thinking that we currently encounter in management works were not stated. However, paradoxically, some elements regarding the vision and organization at the level of a large social group stated by Sun Tzu partially foreshadow concepts found today in the business world. For example, Sun Tzu's thinking shows that successfully leading "a few subordinates" requires decentralization of power across hierarchical levels, which means increasingly complex forms of organization in large corporations [19,31,32]. In the same vein, the SWOT analysis in modern marketing clearly originates from the "strengths and weaknesses" discussed by Sun Tzu (Tzu, 2019). The philosophy applied by Toyota's CEO at the top of TMC, as well as the working principles on which lean production, supplier relations, and other similar aspects are based, have a clear counterpart in Sun Tzu's thinking [10,20,21,34,35]. Some recent studies show that Michael Porter's entire concept is largely based on Sun Tzu's thinking [32]. The vast majority of post-war companies, not just keiretsu groups, adopted Porter's thinking as an essential framework for positioning themselves in GVCs for direct competition with other firms, etc. [36]. Therefore, there are sufficient arguments to briefly describe, on the one hand, the principles of working with holonic networks/systems and, on the other hand, the main ideas derived from Sun Tzu's work (The Art of War).

Bertalanfy's concept of GTS is a relatively new theory that proposes an integrative view for most fields of knowledge [6]. Subsequently, other theorists expanded on the principles formulated by GTS. Some other theorists later expanded on the principles set out by GTS [37], They proposed various classifications and demonstrated the usefulness of applying this theory in society, economics, and

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other fields. In other words, subsequent developments in GTS directly supported the functioning of socio-economic systems such as companies, industrial sectors, etc.

Regarding the organization of holons, Arthur Koestler proposes the concept of boundless holarchy as an architecture formed of holons, which is not limited in either direction[17,38]. Holarchy is a word formed by combining the words "holos" (from Greek), meaning whole and "hierarchy" (from English), meaning hierarchy. Both conceptually and pragmatically, the transition was subsequently made from holons to holarchy, i.e., a network and/or system of relatively autonomous holons, but whose functioning is connected/directed toward the fulfillment of a major goal for all participants.

Considering the content and/or internal nature of a holon (in the sense that Wilber describes the Universe as being made up of holons), Mella [39] argues that five fundamental characteristics of any holon can be stated [40]:

a) autonomy: each holon has its own organization and functions relatively independently from other holons.

b) self-preservation: the holon has characteristics that allow it to maintain its structure "as such"/model independent of the material of which it is composed.

c) self-adaptation: the holon is part of a larger whole and must be able to adapt and connect with other higher-order holons, reacting mechanically, biologically, or intentionally to stimuli received from other higher-order holons.

d) auto transcendence: the holon has its own new and emerging qualities that are not found in the holons it includes.

e) self-dissolution: holons can be divided along the same vertical lines.

Considering the model of a descending holarchy (Figure 1), the basic characteristics of any type of holarchical structure can be summarized, namely in relation to nature, society, economy, etc. From this perspective, Figure 1 present the rule of integrative properties for a general holarchical structure.

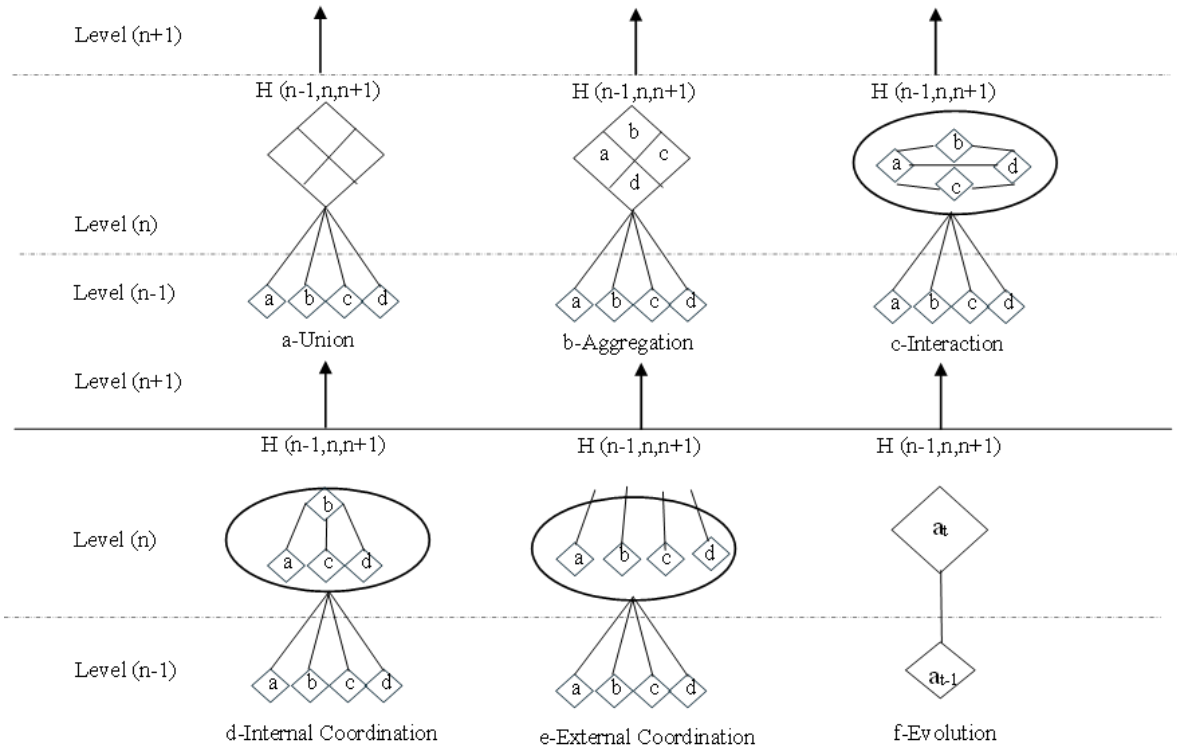


**Figure 1.** The rule of integrative properties in the functioning of holarchies. Source: Author's design based on Piero Mella – The Holonic Revolution, Editoria Scientifica, Pavia University Press, 2009, p.23.

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In international literature, there is no clear distinction between the characteristics/properties of a holon and the characteristics/properties of a holarchy. Taking into account the basic idea of our study, based on what is illustrated in Figure 1, according to international literature, we list below some characteristics and operating principles of a holarchy[39,40]:

A single holon of a holarchy is a final holon or a basic holon observed only at level (n).

Holarchies can be conceived/designed as tree structures consisting of connected branches, with a base composed of initial holons and a top (also called the final holon).

There may be holarchies with multiple layers (multi-layered) or multi-level holarchies (multi-level or multi-layer).

Holarchies are bidirectional but may have only vertical connections, both ascending and descending, along the branches formed by the constituent holons (this feature is restrictive regarding the company's organizational chart).

The relationships established between holons at two different hierarchical levels in the structure show that the properties of level (n) holons are evolving. Based on this mechanism of functioning between hierarchically ordered holons, six other characteristics can be identified that refer to holarchies, but are also associated with the functioning of holons in open socio-economic systems such as a company, a social group, etc.:

- *union:* holons of level (n-1) merge with those of level n, where they are no longer distinguishable (Figure 1 - a);
- *aggregation:* subordinate holons join together, thereby losing their individuality; they can still be monitored by the superordinate holon (Figure 1 - b);
- *interaction:* subordinate holons interact, but remain disaggregated and monitored/coordinated separately by the superordinate holon (Figure 1–c);
- *internal coordination:* subordinate holons are coordinated by the superordinate holon; one of the holons serves as coordinator (Figure 1 – d);
- *external coordination:* subordinate holons are coordinated on the basis of a stable model, through a superordinate holon (Figure 1 – e);
- *evolution:* the temporal reference of the holon of level (n) is the period (t); this holon results from the evolution of one or more holons from level (n-1) with reference to period (t-1); the levels correspond to successive time periods.

Based on international literature and 40 interviews with Toyota dealers in Romania, we subsequently associate the 5 and 6 characteristics of a holon/holarchy with characteristics identified by us in the organization and functioning of the dealer network studied.

Referring back to Sun Tzu's concept/thinking, alongside the five essential factors in competition (Table 1), it suffices to present the structure of the work as interpreted by Moon, an author who equates the two concepts (Porter vs. Sun Tzu) as in Figure 2 [32].

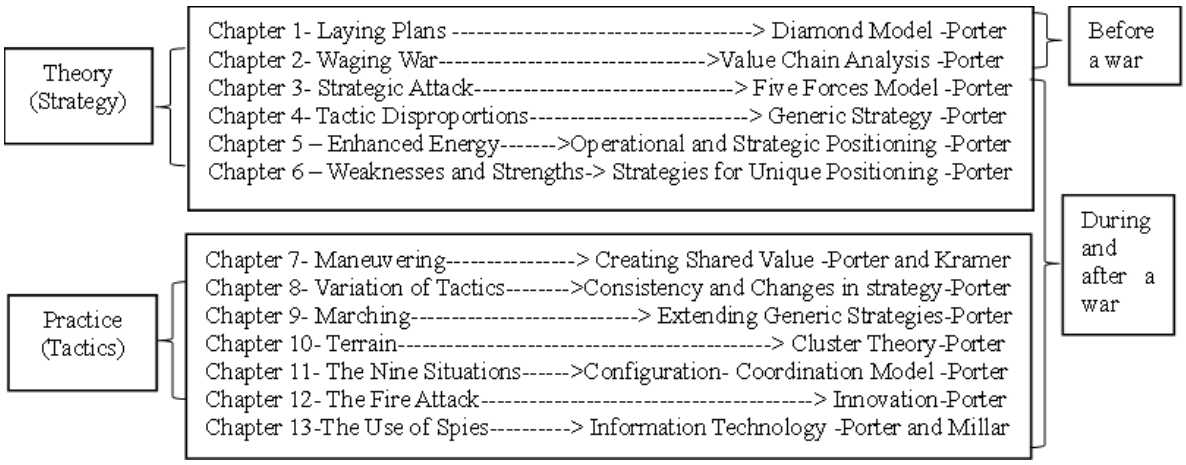

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**Figure 2.** The structure of Sun Tzu's work and interpretations used by Moon. Source: developed by the author, based on Moon, Hwy-Chang, *The Art of Strategy Sun Tzu, Michael Porter, and Beyond*, Cambridge University Press, University Printing House, United Kingdom, 2018, p. 3.

From the perspective of our study, we emphasize that we are reserved about some of Moon's interpretations, such as the equivalence between Porter and Sun Tzu's thinking, especially those referring to chapters 12 and 13. This is because competition between different companies and in different markets must be based on socially recognized ethical principles (for example, the use of spies is not acceptable). In connection with the vision applied by Toyota, starting with founder Kiichiro Toyoda and continuing to the present day, elements of Porter's thinking, Confucianism, and other branches of modern philosophy can easily be identified as essential elements in the construction of TDS as part of the entire TPS.

As is well known, Confucianism and Taoism have become, over the course of two and a half millennia, a type of "religion" or philosophy of life for the majority of the population in countries such as Japan, South Korea, China, and other Asian countries. More recent studies[41] suggest that systemic thinking has a very positive influence on improving the performance of social groups. Essentially, both Confucianism and Taoism recommend that individuals should strive to achieve the common good by respecting social norms and applying concepts such as tao-virtue, etc. [42]. Such principles or social norms must be respected by both leaders and those they lead in order to achieve social harmony. In fact, as shown earlier in Table 1, the first factor (tao) and the fifth factor (doctrine) are essentially based on Confucianism and/or Daoism. Our study also indirectly highlights a cross-cultural analogy in that it provides additional insights into the depth of philosophy and/or strategic thinking at Japanese corporations such as Toyota.

Such principles or social norms must be respected by both leaders and those they lead in order to achieve social harmony. In fact, as we have shown previously in Table 1, the first factor (tao) and the fifth factor (doctrine) are essentially based on Confucianism and/or Daoism. Our study also indirectly highlights a cross-cultural analogy in that it provides additional insights into the depth of philosophy and/or strategic thinking at Japanese corporations such as Toyota.

Drucker, in particular, argues very well that the category of "knowledge workers"[43] is becoming predominant in all developed economies worldwide. For this category of employees, he argues[44] that a different philosophy is needed for motivation and to achieve synergy at the group/team level. Other authors [45,46] (pp.231-250), [47,48] highlight in recent studies the integrative vision offered by holonic manufacturing systems to optimize the performance of firms/companies. The same principles offered by GTS and/or holonic network theory can provide sources of inspiration for optimizing the functioning of any entity in society. Employees in any company are, at the same time, members of other social groups. From this perspective, Confucianism and/or Daoism must be viewed/analyzed through the lens of the values promoted by Christianity for the entire Western world. However, there are differences in nuance and/or perception regarding what we call "morality" in Western management vs. Asian management. Such differences in the values to which Toyota relates compared to other companies in the automotive industry in Europe or the US clearly provide additional explanations for Toyota's performance.

Table 2 below presents eight relatively recent studies that suggest the use of holonic/complex systems in an attempt to optimize the functioning of any organization.

**Table 2.** Recent works on holonic/complex networks in management.

| Crt. no. | Author, Year, Title, Publisher/Journal | Main ideas | Implications for distribution systems at global level (GVC) |
|---|---|---|---|
| 1 | Martin Reynolds,2024, Systems Thinking Principles for Making Change, Systems | Applying systemic thinking to improve social behavior | - |

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| | | | |
|---|---|---|---|
| 2 | Miri Sitton, et al., 2025, Generic Architecture for Self-Organized Adaptive Platform System of Systems, Systems | Applying the systemic concept in designing software architecture | Source of inspiration for GVC optimization |
| 3 | Jie Zhou 1, et al., 2025, Synergistic Rewards for Proactive Behaviors: A Study on the Differentiated Incentive Mechanism for a New Generation of Knowledge Employees Using Mixed fsQCA and NCA Analysis, Systems | Based on a survey of approximately 300 people. | The inspiration source for HRM strategy |
| 4 | Patricio Torres-Palacio, 2019, The reduction of production lead time using holonic manufacturing: experiment and analysis, Journal of Manufacturing Technology Management | Analyzes holonic manufacturing systems based on virtual teams | The inspiration behind the organization of the entire production system in companies |
| 5 | John Soldatos, 2024- Editor, Artificial Intelligence in Manufacturing, Springer pp.231-250 | Analyzes various concepts regarding holonic, complex, intelligent systems, etc., with application to economics/society. | Sources of inspiration for Holonic Manufacturing Systems in any company |
| 6 | Zequn Zhang, et al.,, 2020, A practical approach for multiagent manufacturing system based on agent computing nodes, J Mechanical Engineering Science | Analyzes multi-agent manufacturing systems and holonic manufacturing systems | Suggests directions for organizing production in various types of companies |
| 7 | Alex Gorod et al.,, 2020, Integrating hierarchical and network centric management approaches in construction megaprojects using a holonic methodology, Engineering | Argues that holonic network theory can be successfully used in the implementation of mega-projects. | - |
| 8 | Kamar Zekhnini, et.al, 2021, A holonic architecture for the supply chain performance in industry 4.0 context, International Journal of Logistics Research and Applications | Analyzes the use of holonic networks for optimizing distribution networks in Industry 4.0 | Suggest guidelines/factors that companies should consider when designing their distribution systems. |

Source: Elaborated by the authors.

The network of 31 Toyota dealers in Romania, as well as the competition in this market between Ford, Renault, Mitsubishi, Nissan, and Toyota, justify the case study we propose to bring additional elements to the international literature on the performance/success of the Toyota group. To the same extent, such novel elements are of pragmatic interest not only to Toyota but also to other large corporations that have been inspired in recent decades by the Toyota Way and/or TPS [10,49].

Next, our study is structured around a section on Research Methodology (3), followed by the presentation of Main Results in sections 4 and section 5 for Discussions.

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## 3. Research Methodology

### *3.1. Research Stages and Flowchart*

The present study consisted of two closely related stages and was conducted over a period of almost two years, from May 2023 to the present:

Stage 1 (S1): In this first stage of the research, we identified, based on keywords in WOS, Scopus, and other documentation sources, a number of nearly 80 articles/studies that refer to the interpretation of Sun Tzu's thinking for business and the use of the principles of functioning of a holonic network (as part of GTS). As we will see, the strategic thinking applied by Toyota, both for TPS as a whole and for the management of the global distribution system is based on Sun TZU's thinking and network theory. From these approximately 80 articles, we selected about 50 that are directly related to the topic of our research, to which we added over 40 volumes/manuals studied by authors over the last two decades [50,51]. At the same time, we designed a research questionnaire with four distinct dimensions, tested the questionnaire, and then applied it to most Toyota dealers in Romania. Simultaneously with the application of the questionnaire, we also conducted 40 interviews with managers and/or specialists from Toyota dealerships in Romania's larger cities (Bucharest, Iasi, Cluj, Timisoara, etc.). At the end of this first stage, we were able to formulate the three research hypotheses H1, H2, and H3 (stated below).

Stage 2 (S2): In the second stage of our study, we considered the structure of the survey and the specialized literature and proceeded to apply specific statistical tests to argue, based on descriptive statistics, the simultaneous influence of Sun Tzu's thinking and the principles of TGS (holonic networks) on the cooperation/organization strategies applied by TMC and the company's dealers in Romania. The novelty of our study lies, on the one hand, in the analysis of TDS as part of TPS and, on the other hand, in explaining TMC's performance in managing the global distribution network as being largely influenced by Sun Tzu's thinking and the application of relatively more abstract concepts such as the principles of a holonic network. Also, at this stage of the research, we analyzed the joint performance achieved by TMC and dealers in Romania, particularly through negotiation/cooperation and long-term vision, concluding that the success of this type of partnership is positively influenced by the holonic network of TDS applied by Toyota.

Toyota organizes the dealer network according to the holonic network model, the basic idea being that new holons can be added and/or removed at any time (see the current situation of about 160 dealers in Russia- suspended from 2022 and the TDS in Ukraine without affecting the overall situation of the dealers system). In order to verify the basic idea of the study, the fact that keiretsu groups in the automotive use Sun Tzu thinking and holonic principles to build a global dealer's system (see the collaboration with Sumitomo in Ukraine). We applied a questionnaire to the Toyota dealers' network in Romania with 4 dimensions: the influence of Sun Tzu thinking at HQ level and the influence of Sun Tzu thinking at dealers' level, the performance and the EV sector. In this study, we used only dimensions 1, 2 and 4, excluding the EV sector given Toyota's modest position. In the same time, we formulated some of our own interpretations based on the literature and the 40 interviews conducted regarding the functioning of each dealer subnetwork in Europe and/or globally as a holonic system/network.

We formulated the following three hypotheses as the basis for our study:

*H1: In the case of automotive corporations (traditional and EV), holonic network working principles enable more efficient management of supply chains across different countries/regions.*

*H2: There are a significant number of principles in Sun Tzu's thinking that are found in the strategies applied by Toyota and other keiretsu groups.*

*H3: Elements of Sun Tzu's thinking can be found both at the TMC (Toyota Motor Corporation) level and at the level of each dealer operating in a given geographical area.*

Based on the literature, considering the structure of the questionnaire and the three research hypotheses, the statistical analysis performed, and the main results we arrived at, Figure 3 presents the flowchart of the study:

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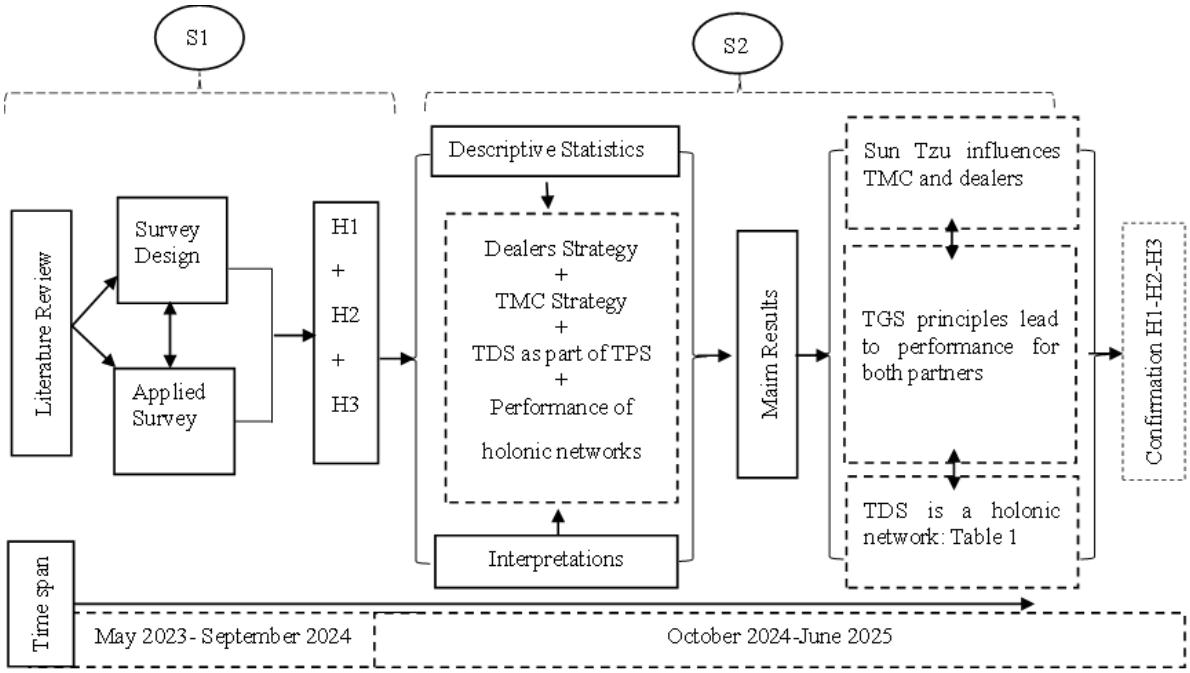


**Figure 3.** Flowchart of the study. Source: authors' design

From Figure 3, one can easily deduce the basic idea of this study, the authors' argumentation, the new elements introduced, and the results we have achieved.

*3.2. Research Design and Sampling*

During the research design and questionnaire testing stage, we aimed to identify how the Toyota dealer network in Romania is structured, their geographical location by region/county, as well as their current working relationships with both TMC headquarters and factories and other dealer networks in Europe. Our initial assessments of the two areas of analysis mentioned above led us to conclude that TMC's top management does indeed use its own philosophy to optimize its TDS in the main regions of the world, namely the US, Europe, Japan, other Asian countries, and other regions/countries around the world. Furthermore, even in the preliminary stage of the research, it became clear that the strategic thinking applied jointly by TMC and the dealer networks in the main European countries, including Romania, explains much of this company's success in the traditional automotive industry. In this study, we statistically modeled the relationships observed based only on information resulting from three dimensions of the study (1, 2, and 4). Cautious evaluation of all generations that have succeeded each other in Toyota's leadership since the 1940s shows us that all these personalities were educated over time under the influence of Confucius and Sun Tzu's thinking (s). Also in this regard, it became clear from the very first stage of the research that Toyota's top managers were educated in the US and/or had extensive experience with the American market and culture.

The study is a quantitative cross-sectional, using primary data collected by administering a one-time survey in a stratified sample of firms. The conclusions drawn from the quantitative research (194 questionnaires) were interpreted based on the results obtained from the qualitative research (40 interviews).

Given the data's characteristics and volume, we used the principal component analysis (PCA) with the Promax rotation method to extract the variables, using JASP and SPSS 20. Subsequently, we computed the scores of the factors (variables) resulting from the PCA and employed hierarchical regression analysis to estimate the model that describes the nature of the interaction between variables and to identify the most important predictors.

The following criteria were successively applied to include the Toyota dealers in the sample:

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a) The firms selected must be in operation, i.e., have their accounts filed and operate in the year the research starts.

b) The selected companies must have at least 10 employees.

c) The sample of companies selected by us covers all development regions of Romania, and the distribution of questionnaires in Appendix B, Table A7 and the synthesis of interviews in Table A6, shows national representativeness. Almost all Toyota dealers in Romania were included in the sample, except for six companies that started operations relatively recently and whose managers did not have the necessary experience to answer the questionnaire items. In addition, only five companies that had been in business for approximately three years at the time of the study (September 2024) were removed from the sample in order to avoid distortions in the statistical processing of the results (as of August 2025, there were 36 Toyota representatives in Romania, some of which were established after the end of the study).

To obtain the 194 valid responses to the questionnaire and 40 interviews, we resorted to face-to-face and online applications between May 2023 and September 2024. Overall, the success rate in applying the questionnaire was over 92%, (four interviews were eliminated as being outliners for the study).

The way Toyota's dealer network has developed over nearly three decades leads to the conclusion that decision-makers at headquarters were inspired, at least intuitively, by Sun Tzu's thinking and the principles of Holonic Network Theory. A thorough evaluation of the results based on questionnaires and interview responses shows that the global TDS network includes a number of hubs in key regions around the world (Europe, North America, etc.). The functioning of these hubs, with their autonomy and vertical and horizontal relationships with headquarters and dealers, clearly shows that Toyota's top decision-makers were inspired, at least intuitively, by network theory and the principles of holonic networks.

We investigate the perception of managers in the Toyota Romania dealer network regarding the influence of strategic thinking in military doctrine on the strategies developed by Japanese keiretsu groups in the post-war period, the role and importance of strategic thinking in the evolution/performance of the organization through quantitative cross-sectional research, using a one-time questionnaire as a tool.

### *3.3. Data Collections and Description*

The proposed quantitative study is based on the analysis of how the principles of strategic thinking are perceived in any type of competition, as enunciated by Sun Tzu, and how they are interpreted/applied in business doctrine, as appropriate, at the level of each keiretsu group in Japan (in the case studied by us, Toyota), as well as at the level of each dealer of the parent company operating in Romania. Under the given conditions, our approach focused on a specific group of subjects configured in accordance with the COR Code Nomenclature (Classification of Occupations in Romania) of management and execution functions. Thus, the group included members of the executive board, specialists in automotive technology and sales, and technicians and other specialists in the technical field.

The questionnaire, viewed as a quantitative research tool, was structured on 4 dimensions, of which only 3 dimensions are statistically analyzed*:*

Dimension 1, Strategic Thinking at Dealer Level, is built on 21 items that investigate elements of Sun Tzu's thinking at the level of each dealer in the Toyota network, by virtue of the relative autonomy that the company has in its relationship with Toyota Motors Company. In essence, we aimed to assess to what extent Sun Tzu's conception is found simultaneously at the TMC and each dealer level, as well as the extent to which the functioning of the entire dealer network in Romania can be compared with the principles of functioning of a holonic network.

Dimension 2, Strategic Thinking at TMC Level, is built on 22 items that evaluate managers' perception of the strategic thinking existing at the level of the entire Toyota group, on the contractual and working relationship with all the company's dealers in Romania. And within this dimension, it

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is aimed to observe whether and to what extent Sun Tzu's thinking was actually found in the strategies applied by TMC in the general strategic orientation from 2010 to the present. This dimension provides information about TMC's top management, the development of strategies at the parent company level, the reflection of Sun Tzu's concept in the strategies formulated by different CEOs of Toyota, the way in which the company has adapted to the various recent global challenges, etc. To complete the picture of Dimension 2, we added 4 more items to the study and, initially, we made the clarification, which is very well known within Toyota, that during the period 2009-2023 Akio Toyoda was CEO of TMC; Between 2013 and 2023, Takeshi Uchiyamada was chairman of Toyota; starting in April 2023, Koji Sato is the CEO and Akio Toyoda, the former CEO, became chairman.

Dimension 4, with reference to TPS and the horizontal network of the Toyota keiretsu group, included main factors such as: the vision and/or strategic thinking of top management; the TPS system; the horizontal network of the keiretsu group; the global economic situation with responses ranked according to 3 variables/effect factors, by a score from 1 to 5, where 1 represents an insignificant influence; 2 represents a minimal influence; 3 represents an average influence on the variable; 4 represents a significant influence; 5 the greatest influence of the factor on the effect variable.

Regarding dimension 3 of the questionnaire, it referred to Electric Vehicles, as production and distribution within TMC, was not taken into the statistical analysis of the present study because the global competition in the EV sector has recorded trends in recent years that reveal a disruptive character (EV vs. traditional automobile). The sector has become difficult to predict regarding Toyota's position vs. other competitors in the EV industry (in 2024 Geely obtained about 4 million EV units, which means a surprising advance of Chinese companies in this industry; Tesla achieved under 2 million EV units, but Toyota and other traditional manufacturers in the automotive industry have a very modest position regarding the EV sector).

We were particularly interested in identifying the following aspects, which were transposed into the three variables/effect factors: the company's profitability in the last five years; the factors that determined TMC's key competencies and the factors that determined successful cash flow management for the entire Toyota group.

Through the research undertaken, we aim to study and understand the practices used by business organizations within the TMC group in the implementation of elements from Sun Tzu's strategic thinking as well as some elements from TGS. This contributes to the evolution and increase of the organization's performance, as well as the significant improvement of the annual performance of the companies subject to the study, analyzing in particular the companies in the Toyota Romania dealer network.

## 4. Main Results

### *4.1. Introductory Analysis*

In the first stage, we resort to principal components analysis, applied to the three dimensions. Subsequently, since the scales used in the questionnaire are qualitative, we will apply techniques to identify the degree of association between factors, namely correlation analysis at the level of scores obtained for the resulting factors.

Principal component analysis allows the identification of patterns in terms of how respondents perceive the role and importance of strategic thinking in the evolution/performance of the organization and whether this strategic thinking contributes to increasing the number of innovations and, implicitly, to improving the performance of companies. We argue that the factorial method we opted for, principal component analysis, is suitable/useful for our statistical analysis, at least from two inherently interdependent statistical analysis plans. The first refers to data redundancy, resulting from the complexity of the questionnaire and, implicitly, from the number of items used in the description of each dimension. Therefore, we considered it necessary to reduce the volume of

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data/information. An objective derived from this operation was to sediment the so-called latent variables, which in practice are found under the name of factors or components, in order to reduce the number of variables. Redundancy is seen as a necessary characteristic of the process of creating new knowledge in organizations for its implications in limiting the surplus of information and in creating order in the chaos of creativity (ideas, visions, emotions, intuitions being of a tacit and very personal nature, do not come in a systematized, organized way, but chaotic). The second refers to the establishment and illustration of the individualized pattern following the correlations between the variables.

Also to bring some pertinent arguments in the context of the option regarding the statistical processing towards which we have oriented ourselves. We mention that, initially, we carried out a correlation test/simulation between the items/variables related to the dimensions (D1 and D2, etc.; D2 and D4, etc.), which led to a multitude of results, and, implicitly, meant a certain chaos (through the abundance of information) created at the level of interpretation. The associations between the variables indicated, in most cases, over 25 significant links at each correlation test between the items of the dimensions that were the object of testing.

### *4.2. Rotated Component Matrix: Dimension 1 and 2*

In this stage of statistical evaluation of the 194 questionnaires, we evaluated the extent to which elements of Sun Tzu's thinking are found simultaneously at the level of Romanian dealers and TMC Headquarters, the result being positive for both dimensions. In this sense, we conducted quantitative cross-sectional research, using the questionnaire that was administered only once.

Dimension I assessed the strategic thinking existing at the level of each dealer in the Toyota network, by virtue of the relative autonomy that the company has in its relationship with TMC. Within the items included in this dimension, we sought to identify whether and to what extent elements of Sun Tzu's conception are found in the annual and longer-term strategies applied by the top management of the companies analyzed. By applying the Varimax rotation method, three components/factors resulted, which implicitly indicates the existence of three categories/patterns that group the answers to the questions targeting dimension Iamely the application of strategic thinking at the dealer level and which retained a variation of the answers of approximately 60%.

Dimension II evaluated the strategic thinking existing at the level of the entire Toyota group, on the contractual and working relationship with all the company's dealers in Romania. And in this dimension, we aimed to identify whether and to what extent landmarks from Sun Tzu's thinking were found in the strategies applied by TMC, in the general strategic orientation from 2010 to the present. The component matrix resulting from the application of the Varimax rotation method is structured on two components/factors, which implicitly indicates the existence of two categories/patterns that group the answers to the questions targeting dimension II, namely the application of strategic thinking at the level of TMC (Toyota Motor Corporation), and which retained a variation of the answers of approximately 59%. Through the items in dimension IV, we evaluated a series of main factors that contribute to the annual performance of the organization. The component matrix resulting from the application of the Varimax rotation method illustrates a single component/factor, which implicitly indicates the existence of a single category/pattern targeting dimension IV, namely the main factors that contribute to the annual performance of the organization. This comes down to the idea of similar respondents, such as experience at the level of a Toyota dealer, whose answers reflect similar opinions. The results from dimension 4 regarding profitability and culture at the level of the entire Toyota group were used as a tool for interpreting/understanding the correlations given by dimensions I and II.

For the two dimensions regarding the influence of Sun Tzu and/or the strategic thinking applied at the TDS level, we present in detail in Table 3 the Rotated Component Matrix.

**Table 3.** Rotated component matrix.

| DIMENSION 1 | Component | DIMENSION 2 | Component |
|---|---|---|---|

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| | 1 | 2 | 3 | | 1 | 2 |
|---|---|---|---|---|---|---|
| 01. The growth/development of the company over the years has been based on the opportunities offered by the market | | | ,732 | 01. TMC's top management has always had (CEO and/or chairman) a clear/coherent vision of consolidating the entire Toyota group | ,647 | |
| 02. Improving customer and market relations is based on the qualification and continuous training of the company's employees | | | ,826 | 02. To what extent does the development of the parent company's (TMC) business strategies influence current decisions and/or strategies at the dealer level? | ,564 | |
| 03. The company's top management has always had a clear/coherent vision to consolidate the dealer's position and the Toyota brand in Romania | | | ,685 | 03. Based on your daily working relationship with TMC, please make some assessments: | | ,566 |
| 04. The company's management has had a clear/coherent vision over time to consolidate the innovative activity within the organization | | | ,434 | To what extent was Sun Tzu's concept reflected in the essential strategies formulated by Akio Toyoda, up to April 2023? | | |
| 05. The clear/coherent vision of the top management is partly based on Sun Tzu's concept | | | ,605 | 04. Based on your daily working relationship with TMC, please make some assessments: | | ,501 |
| 06. The company knows and applies the competitive principle "know your opponent" (Sun Tzu) | | ,599 | | To what extent was Sun Tzu's concept reflected in the essential strategies formulated by Takeshi Uchiyamada, up to April 2023? | | |
| 07. The company knows and applies the competitive principle "know yourself" (Sun Tzu) | | ,628 | | 05. Based on your daily working relationship with TMC, please make some assessments: | | ,574 |
| 08. Improving customer and market relations is based on employees, but also on the introduction of digital technology in the activity daily business of the company | | ,706 | | To what extent was Sun Tzu's conception reflected in the essential strategies formulated by Koji Sato, starting with April 2023 until now? | | |
| 09. The company's top management allocates separate funds annually for employee qualification/training and for the acquisition of new knowledge | ,585 | | | 06. Were there situations (for example, the years 2020-2021, determined by Covid-19) in which the parent company, TMC, financially supported its dealers in Romania to overcome such crisis situations together? | | ,591 |
| 10. The company's top management allocates funds annually for the acquisition of digital technologies | ,577 | | | 07. TMC periodically provides dealers with some software and digital equipment to improve communication between dealers and headquarters | | ,641 |
| 11. In the last 5 years, the innovative activity in the company has targeted new ways | | ,596 | | 08. TMC periodically provides dealers with some software and digital equipment to improve | | ,666 |

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| | | | |
|---|---|---|---|
| of distribution and relationship with customers/consumers | | communication between dealers and customers | |
| 12. In the last 5 years, the social innovation in the company has also targeted the design of new organizational structures, such as hierarchical levels, departments, etc. | ,577 | 09. TMC's key competencies are determined by the TPS (Toyota Production System – Lean Production) system | ,703 |
| 13. Employees within the organization are motivated (through financial and non-financial instruments provided by the company) to continuously learn how to manage new technologies | ,691 | 10. TMC's key competencies are determined by the TQM (Total Quality Management) system | ,769 |
| 14. Innovations (process, marketing and organizational) are based on the acquisition and processing of new knowledge | ,699 | 11. TMC's key competencies are determined by the dealer network for distribution and service that has been built over time in various countries | ,763 |
| 15. Innovations (process, marketing and organizational) are influenced by similar innovations made by competitors | ,712 | 12. TMC's key competencies are determined by the conservative strategy at HQ level regarding cash-flow management | ,745 |
| 16 The organization in which you work currently constitutes various project teams, task forces and other teams for market relations | ,769 | 13. TMC's key competencies are determined by the group's keiretsu structure, namely the horizontal network consisting of several thousand companies globally | ,810 |
| 17. Annual investments in employee qualification were gradually reflected in the improvement of the company's market position | ,740 | 14. TMC's key competencies are determined by the KM (Knowledge Management) strategy and continuous innovation | ,724 |
| 18. Annual investments in the acquisition of new technologies/digital equipment were gradually reflected in the improvement of the company's market position | ,577 | 15. TMC usually adopts medium and long-term strategies | ,697 |
| 19. The company managed to manage the social crisis generated by Covid-19 quite well (2020-2022) | ,733 | 16. Toyota avoids engaging in direct competition/disputes with other manufacturers in the automotive industry and prefers a "step-by-step" strategic line through which to successively improve its strategic position (Sun Tzu) | ,739 |
| 20. The influences generated by the war in Ukraine were professionally managed by dealers | ,751 | 17. TMC currently collaborates with research institutes, universities and other entities to develop new innovations (product, process, marketing and organizational) | ,510 |

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| | | | |
|---|---|---|---|
| 21. The vision at the top of the organizational chart imposed several key values around which an organizational culture was built over time that supports the achievement of top performances | ,684 | 18. TCM managed to manage well the "trade war" that occurred between the USA and China starting in 2017 | ,589 |
| | | 19. TCM adapted quickly to the social context imposed by Covid-19 (2020-2022) and managed to manage this period with minimal losses | ,623 |
| | | 20. Toyota had minimal exposure (about 3%) to the Russian market, managing to adapt quickly to this international crisis | ,672 |
| | | 21. After the war in Ukraine began, the company Toyota was among the Western MNCs that decided to voluntarily withdraw from the Russian market | ,559 |
| | | 22. To what extent do CEO-level values and vision determine the building/strengthening of the Toyota Group's organizational culture? | ,701 |

Source: Author's design.

In summary, the results in the relationship Dimension I vs. Dimension II show us the following:

- both dealers and TMC are constantly reporting to the market and customers' wishes;
- the existing vision at the TMC and dealers level is partly based on Sun Tzu's thinking;
- innovation within TDS and the optimization of processes start from customers and the information provided periodically by each dealer;
- in the context of periods of crisis, TMC also financially supports dealers within its networking;
- innovations, digital technologies and employees are at the heart of the optimization of the entire TDS network;
- "de facto", the entire TDS networking functions as a holonic system/network.

To verify the internal consistency of the scales and the rigor of reporting the research results, we used the Cronbach alpha coefficient, the result being shown in Table 4.

**Table 4.** Total Variance Explained.

| Dimension | Component | Rotation Sums of Squared Loadings | | |
|---|---|---|---|---|
| | | Total | % of Variance | Cumulative % |
| 1 | 1 | 4,170 | 24,531 | 24,531 |
| | 2 | 3,153 | 18,545 | 43,076 |
| | 3 | 2,872 | 16,891 | 59,967 |
| 2 | 1 | 5,044 | 33,626 | 33,626 |
| | 2 | 3,780 | 25,199 | 58,824 |

Source: Author's design.

As is Table 5, for both dimensions, the Cronbach alpha coefficient values indicate a good level of internal consistency.

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**Table 5.** Reliability statistics.

| Cronbach`s Alpha | Cronbach`s Alpha Based on Standardized Items | N of items |
|---|---|---|
| Dimension 1 | | |
| ,830 | ,822 | 21 |
| Dimension 2 | | |
| ,71 | ,707 | 22 |

Source: Author's design.

Following what has been shown in sections 4.2 and 4.3, we consider hypothesis H1 confirmed, in the sense that, de facto, the entire TDS networking, with an example for the dealer network in Romania, functions as a holonic network system. In other words, the principles of operation/optimization of a holonic network (briefly described by us in the Literature Review section) directly support the CEO and his team at the top of the Toyota Group to optimize the operation of the entire TDS as part of its own GVC. As we will see, the confirmation of H1 is also supported by the preliminary conclusion formulated by us in the study (see section 5).

*4.3. KMO and Bartlett's Test*

Since we performed a factor analysis, in Table 6 we report the results of the Kaiser-Meyer-Olkin (KMO) and Bartlett tests, used to compare the values of the observed correlation coefficients with the values of the partial correlation coefficients, for each dimension.

**Table 6.** KMO and Bartlett`s Test.

| | | Dimension 1 | Dimension 2 |
|---|---|---|---|
| Kaiser-Meyer-Olkin Measure and Sampling Adequacy. | | .800 | .800 |
| Bartlett`s Test of Sphericity | Approx. Chi-Square | 2074.915 | 2055.820 |
| | Df | 28 | 26 |
| | Sig. | .000 | .000 |

Source: Authors design.

For each dimension, the value of Bartlett's Test of Sphericity is small enough to reject the hypothesis that the variables are uncorrelated, therefore there is a strong relationship between the data.

*4.4. Principal Component Analysis*

In Table 7 we report the results of the principal components analysis on the two analyzed dimensions (dimension I, dimension II of the questionnaire), along with which we selectively present the factors that were included in dimension IV of the questionnaire, and which explain/show the basic factors that lead to the performance and culture of the entire TDS group.

**Table 7.** Principal component analysis on the four dimensions.

| **Dimension I - Applying strategic thinking at the dealer level** | |
|---|---|
| **F1**<br>**(the variation of the answers is approximately 24%)**<br>(09,10,16,17,18,19,20) | The first factor illustrates how the top management of companies in the Toyota Romania dealer network annually allocates distinct funds for employee qualification/training and for the acquisition of new knowledge, for the acquisition of digital technologies, the establishment of various project teams, task forces, etc. It also shows us how the companies managed to manage the social crisis generated by Covid-19 (2020-2022) and how the dealers managed the influences generated by the war in Ukraine. |
| **F2**<br>**(the variation of the answers is approximately 19%)** | The second factor essentially refers to the ways in which companies in the Toyota Romania dealer network know and apply Sun Tzu's maxims (for example: "know your opponent" and "know yourself", etc.), the way in which |

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| | |
|---|---|
| (06,07,08,11,12,13,14,15) | improving customer and market relations is based on employees, but also on the introduction of digital technology in the company's daily activity. We also tried to analyze whether employees within the organization are motivated (through financial and non-financial instruments provided by the company) to continuously learn how to manage new technologies and whether innovations are based on the acquisition and processing of new knowledge. |
| **F3**<br>**(the variation of the answers is approximately 17%)**<br>(01,02,03,04,05,21) | Finally, the third factor refers to the way in which the companies in the Toyota Romania dealer network have developed over the years, based on the opportunities offered by the market, the continuous qualification and training of the company's employees that lead to improved customer relations, the clear/coherent vision of the company's top management to consolidate the dealer's position and the Toyota brand in Romania, the clear/coherent vision of the company's leadership to consolidate the innovative activity within the organization. It can be deduced that Sun Tzu's thinking imposed several key values at the TMC and TDS levels around which an organizational culture was built over time that supports the achievement of top performances. |
| **Dimension II - Applying strategic thinking at the TMC level** | |
| **F1**<br>**(the variation of the answers is approximately 34%)**<br>(01,02,09,10,11,12,13,14,15,16,22) | The first factor refers to the way in which TMC's top management (CEO and/or chairman) has always had a clear/coherent vision of consolidating the entire Toyota group and to what extent the development of the parent company's (TMC) business strategies influences current decisions and/or strategies at the dealer level. We also wanted to analyze whether and how TMC's key competencies are determined by: the TPS system, the TQM system, the dealer network for distribution and service that has been built over time in various countries, the conservative strategy at HQ level regarding cash-flow management, the group's keiretsu structure, respectively the horizontal network consisting of several thousand companies globally. TMC usually adopts medium and long-term strategies and avoids, from our studies, engaging in direct competitions/disputes with other manufacturers in the automotive industry, preferring a "step-by-step" strategic line through which to successively improve its strategic position (Sun Tzu). We also wanted to analyze to what extent the values and vision at the CEO level determine the building/strengthening of the organizational culture of the Toyota group (see Annex 1 and 2). |
| **F2**<br>**(the variation of the answers is approximately 25%)**<br>(03,04,05,06,07,08,17,18,19,20,21) | The second factor essentially refers to how employees (especially managers) of companies in the Toyota Romania dealer network perceive, based on their daily working relationship with TMC, some assessments regarding the extent to which Sun Tzu's conception was reflected in the strategies applied by TMC under the leadership of Akio Toyoda, Takeshi Uchiyamadae, Koji Sato, starting with April 2023 to the present. We also analyzed the situations in which the parent company, TMC, financially supported its dealers in Romania to overcome crisis situations together (for example, the years 2020-2021, caused by Covid-19). Also in this regard, we wanted to highlight whether TMC is currently collaborating with research institutes, universities and other entities to develop innovations, how TCM managed to manage the "trade war" that occurred between the US and China starting in 2017, how TCM adapted to the social context imposed by Covid-19 (2020-2022) and how it managed the situation caused by the war in Ukraine (voluntary withdrawal from the Russian market). |
| **Dimension IV - The main factors contributing to the organization's annual performance** | |
| **F1**<br>**(the variation of the answers is 100%)** | Given the only component indicated by dimension IV and the similar/similar answers formulated by the respondents, we deduce the individualization of a single category of companies, namely those in which performance depends on the way in which the skills, distinct knowledge, experience, qualification of employees, as well as the sharing of experiences and visions, are transformed into goods with market value, implicitly with social utility. In this sense, we took into account 5 main factors (items), as follows: The vision and/or strategic thinking of top management; The TPS system; The horizontal network of the keiretsu group; The global economic situation (the 2008 financial crisis, the |

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| | |
|---|---|
| | Covid-19 crisis, the war launched by Russia in Ukraine). The main factors were quantified on a scale from 1 to 5, and the effect variables/factors are: Company profitability, TMC key competencies determined by Cash-flow management, etc. |

Source: Authors design.

The results reported for dimensions 1 and 2 allow us to conclude that there is interest on the part of managers in applying strategic thinking at the level of each dealer in the Toyota Romania network, based on the relative autonomy that the company has in its relationship with TMC.

Among other conclusions, it results that Sun Tzu's thinking is a source of inspiration in building the annual and long-term strategies applied by both TDS partners. In other words, it can be considered that theoretically, the basic strategies formulated by the new CEO of TMC, Koji Sato (see also Appendix A regarding the biographies of some Toyota CEOs), will also be based in the future on Sun Tzu's thinking and will lead to an organizational culture that supports top performance at the level of the entire group.

*4.5. Correlation analysis by dimensions and main factors*

To highlight which factors from dimensions I and II have a predominant influence, as well as which factors from dimension IV explain the performance of the entire networking, we performed a correlation analysis in the following 2 tables. In Table 8 we report the results of the correlation analysis based on Pearson Correlation.

**Table 8.** Results of correlation analysis.

| | | **Dimension 1 – Factor 1** | **Dimension 1 - Factor 2** | **Dimension 1 - Factor 3** | **Dimension 2 - Factor 1** | **Dimension 2 – Factor 2** | **Dimension 4 - Factor 1** |
|---|---|---|---|---|---|---|---|
| Dimension 1 (D1) Factor 1(F1) | Pearson Correlation | 1 | | | | | |
| | Sig. (2-tailed) | | | | | | |
| | N | 180 | | | | | |
| Dimension 1 (D1) Factor 2 (F2) | Pearson Correlation | ,000 | 1 | | | | |
| | Sig. (2-tailed) | 1,000 | | | | | |
| | N | 180 | 180 | | | | |
| Dimension 1 - Factor 3 | Pearson Correlation | ,000 | ,000 | 1 | | | |
| | Sig. (2-tailed) | 1,000 | 1,000 | | | | |
| | N | 180 | 180 | 180 | | | |
| Dimension 2 – Factor 1 | Pearson Correlation | **,551** | ,281 | ,325 | 1 | | |
| | Sig. (2-tailed) | ,000 | ,000 | ,000 | | | |
| | N | 180 | 180 | 180 | 180 | | |
| Dimension 2 - Factor 2 | Pearson Correlation | ,353 | ,366 | ,236 | ,000 | 1 | |
| | Sig. (2-tailed) | ,000 | ,000 | ,001 | 1,000 | | |
| | N | 180 | 180 | 180 | 180 | 180 | |

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| | | | | | | | |
|---|---|---|---|---|---|---|---|
| Dimension 4 - Factor 1 | Pearson Correlation | **,554** | **,405** | **,501** | **,724** | **,463** | 1 |
| | Sig. (2-tailed) | ,000 | ,000 | ,000 | ,000 | ,000 | |
| | N | 180 | 180 | 180 | 180 | 180 | 180 |

Source: Author's design.

Key findings are discussed below:

Companies focused on optimizing innovative activity (against the background of information and knowledge input from outside and inside), as well as on establishing benchmarks in quantifying expert performance, are those for which knowledge constitutes distinct/selective goods/assets (correlation between F1/D1 AND F2/D2).

In companies focused on implementing strategic thinking, there was an upward trend in opening new alternatives towards the future of mobility, with an emphasis on quality and permanent innovation (correlation between F1/D1 and F1/D4).

Organizations that optimize innovation activity, resort to teamwork, collaborative thinking, building ad-hoc teams, etc., are those whose performance was based on constantly exceeding customer expectations (correlation between D1-F2 and D4-F1).

Those companies that are oriented towards implementing new strategies such as increasing profitability, through automation, labor savings and the implementation of artificial intelligence, have improved their performance against the backdrop of an upward trend in the production process (correlation between D2-F1 and D4-F1).

In companies focused on maintaining financial stability and developing new strategies for the next phase of growth, they develop new products that competitors would like to imitate, and performance derives from sustained work, the training of human experts, talent and chance (correlation between D2-F2 and D4-F1).

In Table 8 we have synthesized the explanation of the links between the variables starting from the hypotheses of this study, but also from realities regarding strategies/practices taken over by other companies in the automotive industry, IT and other sectors (TPS, TQM, lean production, JIT, etc.) from the USA, Europe and other countries of the world.

Given the statistical option we used in processing the data obtained from the subjects, from the correlations regarding the individualized factors at the level of dimension 4 in relation to the factors of the other 2 dimensions. It clearly results that there are statistical arguments necessary to be able to confirm the hypotheses H2 and H3 of the study. Thus, in summary, we show that the most significant correlation indicated by the test is the one related to D3-F1 and D4-F1 (Pearson = 0.766; Sig = 0.000; N = 180) and this shows us a direct relationship between strategic thinking and company performance. In the same sense, the correlations established between D2-F1 and D4-F1(Pearson = 0.724; Sig = 0.000; N = 180); D1-F1 and D4-F1 (Pearson = 0.554; Sig = 0.000; N = 180) show us that there are the necessary arguments to confirm hypotheses H2, H3.

**Table 9.** Explanation of the links between the analyzed variables.

| ADDITIONAL HYPOTHESES | EXPLANATION OF CONNECTIONS | STATUS C | STATUS I |
|---|---|---|---|
| **I1.** Successful American, European and other world-class companies have been "de facto" inspired by Sun Tzu's thinking. | The realities that emerged in the global economy after 1850, especially after 1920 when Ford imposed the mass production model, show that American companies were the most innovative in terms of strategic thinking and organization. | ✓ | |
| **I2.** The principles of strategic thinking enunciated by Sun Tzu are still a source of inspiration for investors and managers today. | As companies succeed in the market without engaging in competition with other competitors, an action based on Sun Tzu's thinking, their strategic position in the market will successively improve, based on a coherent vision of the company's top management. **D1-F1 and D2-F1 (Pearson = 0,551; Sig = 0,000; N = 180)** | ✓ | |

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| | | |
|---|---|---|
| **I3.** Toyota's performance is based on strategic thinking at the TPS level | The overall performance of the Japanese economy during the period in question derived exclusively from the performance recorded by 9 large keiretsu groups, in a limited number of sectors of activity. | ✓ |
| **I4.** There are a significant number of elements/principles that can be identified in Sun Tzu's thinking and that are found in the strategies applied by Toyota. | Elements such as Lean Production, TQM, cash-flow management strategy, KM strategy, but also the vision of the company's founder, Akio Toyoda, represent the cornerstone of establishing the key competencies of the Toyota Motor Corporation group. | ✓ |
| **I5.** Starting with the 1980s, large American, European and other MNCs resorted to taking over strategies applied by Toyota. | Starting with the 1980s, large American, European and other MNCs resorted to taking over strategies applied by Toyota. **D1-F1 and D4-F1 (Pearson = 0,554; Sig = 0,000; N = 180)** | ✓ |
| **I6.** The performance of a Toyota dealer in Romania is based, to varying degrees, on the strategic thinking and support provided by HQ, but also on the company's own strategic thinking. | The Toyota dealer network in Romania contains a number of 25 companies that are usually organized as distinct companies or businesses and are relatively evenly distributed across the 8 development regions of Romania. The general strategic line applied by Toyota (HQ) in the relationship with dealers in the USA and other European countries is also maintained in the relationship with dealers in Romania. **D1-F1 and D4-F1 (Pearson = 0,554; Sig = 0,000; N = 180)** | ✓ |

Source: Author's design.

Based on the results of the analysis of the Cronbach alpha coefficient, on which the interpretations were made, some conclusions can be drawn regarding the usefulness of the questionnaire in the activity of the personnel in the Toyota dealer network. Testing with the validated instrument can provide a series of indications related to the knowledge, attitudes and practices of managers and specialists regarding the perception of the role and importance of strategic thinking in the evolution/performance of the organization. The results obtained have some practical implications for future studies and suggest new directions for building strategies for any company in its relationship with dealers from different regions/countries.

## 5. Discussions

As a result of what we have shown based on descriptive statistics, along with the interpretation of the results obtained following the 40 interviews with Toyota Romania dealers, taking into account some theoretical developments regarding the use of holonic networks throughout the TPS (Toyota Production System), several characteristics of the TDS can be identified.

These characteristics of TDS are directly related to a number of characteristics regarding the functioning of holons and/or the functioning of holarchies.

To argue the relationships that have been identified between TDS and holonic networks, we briefly return to the GTS principles developed by Bertalanfy[6]. One of the most important classifications regarding systems in general is the differentiation between open systems and closed systems[50] (pp. 70-71). Socio-human systems such as a firm/company are by definition open systems; optimizing their functioning depends essentially on the way decision-makers think. The same is obviously true for the global distribution system developed by Toyota. The holonic concept of systems represented a step forward in the use of GTS in an attempt to optimize the functioning of socio-economic systems. In addition, Network Theory developed by various authors[52], [53],[54] brought new elements that are directly related to the functioning of holonic systems. Among such new elements brought by Network Theory, it suffices to highlight the idea argued by Koesler[7], in the sense that the holonic system consists of subsystems that are relatively independent, have autonomy in their functioning, and participate in the achievement of a common goal. Moreover, in the notes included in Appendix B, Table A4, we emphasized the idea that the entire Toyota dealer network in Romania developed over almost three decades (a wait-and-see strategy in line with Sun Tzu). At the same time, the relationships developed by Toyota's central and/or European management lead to the idea that, at least intuitively, various CEOs who have succeeded (Appendix A, Table A1) at the top of Toyota (the biographies of some of them are summarized by us in Appendix

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A, Tables A2 and A3) were significantly inspired by network theory and/or the principles of holonic networks.

Some studies on Sun Tzu's thinking argue that this concept and/or philosophy regarding any type of competition is extremely useful for designing/applying any management strategy, as well as in marketing, distribution, etc. policies applied by companies[55,56]. Other relatively recent studies[29,48] provide additional evidence to argue that, theoretically, any distribution system of any major manufacturer, including various mega projects, can adopt some principles from the philosophy of holonic networks and/or GTS. The significant novelty proposed by our study refers in particular to the connection between Sun Tzu's philosophy and the use of holonic networks as a framework for integrating "n" relatively autonomous units.

Previously, when we discussed the importance of the holonic concept in the organization/functioning of socio-economic systems such as firms/companies, we invoked a number of 5 characteristics regarding holons and 6 characteristics regarding holarchies. Since, as we have previously shown, the distinction between holons and holarchies is not clear in international literature, other characteristics of holonic networks can also be identified, characteristics that are partially associated with holons and, where appropriate, with holarchies.

In a study regarding the structure of Toyota Supply Network [26] the authors show that, given the complexity of the networking built by Toyota on this component of the GVC, this networking must be analyzed from the perspective of network science, as principles of operation. In other words, the cited study shows that there are more than 3 tiers for the main suppliers, different degrees of connectivity and/or proximity between hundreds of companies in the USA, Europe, Japan and other regions and can be identified under relatively autonomous networks in the functioning of the entire networking. In part, Toyota's TDS system, also as part of the GVC, is at least as complex compared to the one created in the relationship with suppliers. The emphasis placed in our study on TDS justifies a distinct assessment of TDS as part of the value chain from the perspective of the principles of operation of the holonic network [27] and Sun Tzu's thinking, since the entire conception existing at Toyota headquarters is essentially based on what customers in the main regions/countries of the world want regarding the reliability of cars made by this manufacturer. In Table 10, we present a clear synthesis, as a comparative analysis between the characteristics of holonic networking vs. TDS.

**Table 10.** Comparative analysis: Toyota Distribution System vs. holonic network features.

| Nr. crt | Feature | HN- Holonic Network | TDS- Toyota Distribution System | Interpretations and implications for the common strategic vision TDS-dealers | Implications for other car manufacturers |
|---|---|---|---|---|---|
| | | | **Holons features and similarities with TDS** | | |
| 1 | **Autonomy** | Each holon has significant autonomy | A single vision applies, but each TDS actor has autonomy | The common long-term goal and negotiation condition the strategies applied | Principles of cooperation and competition |
| 2 | **Self-preservation** | Each holon maintains its identity | Most dealers have legal and organizational autonomy | TMC supports, including financially, dealers in crisis situations | - |
| 3 | **Self-adaptive** | A holon is part of a larger network and adapts its functioning to the requirements of the whole. | Dealers from different countries/regions collaborate with each other | Both network partners adapt their strategies over time | The TDS network is dynamic |
| 4 | **Self-transcendence** | The holon network is dynamic, new superordinate | The Romanian dealer network has evolved | The Romanian dealer network collaborates with | Cooperation |

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| | | | | | |
|---|---|---|---|---|---|
| | | holons are formed from existing ones. | significantly in the last 2 decades | similar networks in other countries | |
| 5 | **Self-dissolution** | Primary holons can be divided and/or cumulated on the same line | Relatively rarely do dealers from different regions/counties form a new structure | The establishment of new representatives is being negotiated. | - |
| | | **Holarchy features and similarities with TDS** | | | |
| 1 | **Union** | Holons on level n-1 combine with holons on level n (see figure) | Coordination for Romania is provided by the Toyota representative office in Bucharest. | TDS sometimes also establishes new coordination centers such as Iasi or Cluj. | Minimal hierarchies and decentralization |
| 2 | **Aggregation** | Subordinate holons cooperate directly under the supervision of the superordinate holon | Dealers from each development region of Romania cooperate | The vision and joint negotiation between dealers and TDS puts all networks in Europe in competition | The vision and joint negotiation between dealers and TDS puts all networks in Europe in competition |
| 3 | **Interaction** | Subordinate holons may be in competition but there is internal coordination at the higher level | The performance of each dealer in Romania is evaluated/awarded annually | For Europe, the Ichiban award is given to all dealer networks in about 30 countries | Mutual support between partners |
| 4 | **Internal coordination** | In a network of n holons, only one has the role of coordinator, and the others are subordinates. | There is only one coordinating Toyota representative in a region or geographical area (Bucharest) | There is only one coordinating Toyota representative in a region or geographical area (Bucharest) | Final responsibility lies at the master holon level |
| 5 | **External coordination** | Subordinate holons apply the same relationship model to other subordinate holons. | The philosophy applied by TMS at the top of the company can be found down to the last dealer entering the network. | Negotiations are held between the center and the base of the network regarding organization, potential income, etc. | In the context of political/social crises, some decisions are approved by the TDS headquarters. |
| 6 | **Evolution** | Each holon on level n evolves in time over a period t | Most dealers in Romania have been around for over a decade | TDS has given up its dealer network in Russia starting in 2022 | In the context of political/social crises, some decisions are approved by the TDS headquarters. |
| | | **New holonic network features identified by the authors** | | | |
| 1 | **Establishing the structure** | The common social purpose determines the establishment of partnerships between top holons and other categories of holons | TDS applies numerous criteria to accept a company as a new dealer; it is negotiated jointly | The entire TDS network is flexible and dynamic | Elements of TDS have been taken over by other MNCs |
| 2 | **Hierarchy and decentralization** | Minimal hierarchy and non-hierarchical structures | TDS only coordinates the dealer network | Each dealer respects the vision at the top, but applies their own strategy | Minimal hierarchies and decentralization |
| 3 | **Degree of control** | Partial control of the top holon (the | Relatively low | Control only on 2-3 key indicators | The standard is being negotiated. |

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| | | | | | |
|---|---|---|---|---|---|
| | | center of the network) | | | |
| 4 | **Flexibility** | Each holon and/or holarchy adapts its functioning to the requirements of the entire system | Each holon and/or holarchy adapts its functioning to the requirements of the entire system | The information obtained from dealers is essential for TPS | Joint negotiation |
| 5 | **New entries into the system** | New holons can be admitted into the system at any time, if they meet a set of criteria. | The criteria applied by TDS for new holons are being negotiated | TDS and dealers are network partners, with long-term interests | - |
| 6 | **System exits** | The departure of some holons does not affect the functioning of the entire system | A dealer in a region can be replaced by another dealer | TDS and dealers are network partners, with long-term interests | - |

Source: Author's design.

The aspects shown by us in Table 10 clearly bring additional arguments to confirm hypothesis H1, in the sense that each dealer network in the main countries of the world functions as a sub-networking fully comparable to a holonic system/network. The previous statement is based on descriptive statistics for the survey of 27 Toyota dealers in Romania, as well as on various studies regarding Toyota and the science of networks existing internationally[8,9,21,28,57,58]. In the same sense, the results of subsections 4.2-4.5, as well as section 5 including the preliminary conclusion, entitle us to state that hypotheses H2 and H3 are fully confirmed. This means that there are a significant number of elements from Sun Tzu's thinking that are found in the vision/strategic thinking applied simultaneously at the TMC level and at the level of each dealer operating within the network. At the same time, based on the feedback obtained following the 40 interviews with different Toyota dealers in Romania, it is found that de facto, the entire TDS organized by Toyota at a global level is composed of relatively flexible, autonomous holonic networks/systems, which include minimal hierarchies and formal coordination at the Toyota headquarters level. In addition, in the context of periods of crisis, Toyota assumes the provision of direct support, including financial, as it did in 2009 in relation to all dealers in the USA [21]. Therefore, it follows that some more abstract principles from holonic systems/networks can be interpreted and used in organizing any sequence of GVC that a company designs in its own industry. Not coincidentally, some authors argue that in the practices applied by Toyota in the USA and in other regions of the world we find widely principles that derive from "outbound" logistics and "inbound logistics" at the origin of which was Porter's thinking[20] (pp. 108–114).

Even conceptually, Wickert [59] points out that “non-Western contexts” have begun to appear more frequently in studies/journals published in the Western world over the last two decades.

## 6. Conclusions

As a result of the study proposed by our research, the following conclusions can be formulated that are of interest both conceptual and pragmatically.

First, it is necessary to conclude that some relatively "old" studies such as Sun Tzu's thinking can have immediate applicability, especially when the principles derived from such studies are combined with philosophies or schools of thought such as Confucianism, Daoism, etc. There is no recipe that has valid applicability regarding the conception and application of an effective strategy at the level of a large organization. The strategic vision at the level of top decision-makers (those who in network theory are primary holons) is built through direct experience, which is based, however, on sources of inspiration offered by some valid theories.

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Secondly, our study argues quite well the idea that a large part of the success of the entire Toyota keiretsu group was based in the post-war period on the strategic thinking suggested by Sun Tzu, taken up by Porter, but interpreted in its own way as a philosophy or principles of governance transmitted from one generation to another by the CEO. In the same sense, our study concludes that principles from the theory of networks/holonic systems are found at the level of the entire HMS (Holonic Manufacturing Systems) applied by Toyota, therefore including within its working relationship with the over 13,000 dealers worldwide. The case study on the dealer network in Romania conducted by us brings statistical arguments that underlie the argumentation and results reached by the authors. It is true that Toyota adapts, as appropriate, its marketing policy and relations with various categories of consumers depending on the country/region and culture encountered on the various markets in which the company operates. This means that various conclusions resulting from our study cannot be automatically generalized regarding the functioning and performance of Toyota dealer networks in other regions of the world. However, this study offers inspiration not only for Toyota managers but also for managers in other industries/sectors that have been inspired over time by the practices applied by Toyota since the 80s until today.

Thirdly, the study clearly shows that the Toyota dealer network is not a simple operational structure, but a concrete expression/practical transposition of an oriental strategic vision, rooted in Sun Tzu's thinking, combined with philosophical principles from Network Theory, respectively a major sequence from TGS.

## Study Limits

In the case of the present study, some limitations inevitably arose in the conduct/performance of the research, both with regard to the documentation sources and the field research. Thus, selecting the most valuable/appropriate studies on the history of Toyota and/or concepts such as TPS, lean production, and TQM proved to be quite difficult given the large number of studies on this topic and, at times, significantly different perspectives on the holonic production system of this company. Also, doing field research turned out to be pretty tough to "cover" all 8 development regions in Romania. Finally, we managed to include in the study almost all Toyota representatives with more than two years of experience (a total of 25 out of 36 representatives) and with a balanced distribution at the national level. Finally, our research led us to conclude that the philosophy and functioning of hierarchical groups in Japanese management (along with other Asian countries) are not yet fully understood in Western management.

## Future Research Direction

With regard to other possible topics for future research, based on the present study, the authors aim to conduct a separate study to analyze whether and to what extent a connection between Sun Tzu's thinking, holonic networks, and Chaos Theory is possible (based on Annual Reports for Toyota, but also other major car companies such as Ford, Renault, etc.). Another possible direction for research is suggested by several questions such as: "How can Tesla's market capitalization of over $1 trillion (only about two decades old and with about a quarter of Toyota's employees) be explained compared to the same indicators for Toyota, which is about $0.6 trillion USD (Toyota is over 8 decades old and has over 300,000 employees)?", "What is the impact of disruptive industries on the performance of comparable companies in the automotive industry?", "How can we explain the almost exponential rise of BYD, which became the leading EV manufacturer within a decade?"

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**Data Availability Statement:** The full database, including questionnaires, correspondence with dealers, and seven annexes detailing the biographies of other CEOs in Toyota's history, can be made available in electronic format upon request by the editors or reviewers.

**Conflicts of Interest:** The authors declare no conflicts of interest regarding the publication of this article.

## Abbreviations

The following abbreviations are used in this manuscript:

| | |
|---|---|
| COR | Classification of Occupation of Romania |
| D | Dimension (survey) |
| EV | Electric Vehicle |
| GTS | General Theory of Systems |
| GVC | Global Chain |
| HN | Holonic Network |
| HQ | Headquarter |
| PCA | Principal Component Analysis |
| TDS | Toyota Distribution Systems |
| TMC | Toyota Motor Corporation |
| TPS | Toyota Production System |
| TQM | Total Quality Management |

## Appendix A

**Table A1.** The succession of CEO in the history of Toyota Motor Company.

| Nr. crt. | Period | Name, Status | Strategies | Implications |
|---|---|---|---|---|
| 1. | 1941–1950 | Kiichiro Toyoda - CEO | Founder of Toyota Motor Corporation | First CEO |
| 2. | 1950–1961 | Taizo Ishida – CEO | After a series of unfortunate events and suspicions of manufacturing defects, Toyota was on the verge of bankruptcy in 1950<br>Starting in the 1950s, Toyota avoided being dependent on commercial banks | Second chairman |
| 3. | 1954-1980 | Taiichi Ohno, CEO | Implemented TPS | - |
| 4. | 1961–1967 | Fukio Nakagawa - CEO | - | - |
| 5. | 1967–1982 | Eiji Toyoda - CEO | Cousin of Kiichiro Toyoda, the company's founder | Currently, honorary director and honorary advisor |
| 6. | 1982–1992 | Shoichiro Toyoda - CEO | Son of Kiichiro Toyoda, the company's founder | Currently, honorary advisor |
| 7. | 1992-1995 | Tatsuro Toyoda - CEO | Son of Kiichiro Toyoda, the company's founder | Former Deputy Chairman |
| 8. | 1995-1999 | Hiroshi Okuda - CEO | | |
| 9. | 1999–2005 | Fujio Cho - CEO | | Former Deputy Chairman |
| 10. | 2005-2009 | Katsuaki Watanabe – CEO | During the 2008 fuel crisis, Toyota sought and found solutions to balance the types of vehicles produced, based | Fost chairman adjunct |

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| | | | | |
|---|---|---|---|---|
| | | | on supply and demand, and continued to implement the production of small, fuel-efficient vehicles. | |
| 11. | 2009 – 1 April 2023 | Akio Toyoda - CEO | In 2020, according to UNCTAD, the Top 100 Non-Financial Multinational Companies in the World, Toyota Motor Corporation is in first place. | On April 1, 2023, he resigned from the position of CEO. |
| 12. | 1 April 2023 –present | Koji Sato, CEO | President and CEO | Since 2020, president of the Toyota Lexus division and the GAZOO Racing Company |
| 13. | 2013 – 1 April 2023 | Takeshi Uchiyamada - Chairman | Chairman of the Board of Directors | |
| 14. | 1 April 2023-present | Takeshi Uchiyamada - Chairman | Chairman of the Board of Directors | |
| 15. | 1 April 2023 - present | Akio Toyoda - Chairman | Chairman of the Board of Directors | |

Source: Authors design.

**Table A2.** The career of Kiichiro Toyoda – the founder of Toyota vs. Sun Tzu's thinking

| Period | Education, career path. | Education, career path, etc. | Implications |
|---|---|---|---|
| 1920 | He graduated from the Faculty of Engineering at Tokyo Imperial University, Department of Mechanical Engineering. He was an excellent student. | | During 1920-1921 he worked at the Tokyo Imperial University, at the Faculty of Law, for approximately seven months. |
| July 1921-February 1922 | | Kiichirō visited San Francisco, London, Manchester, etc. to learn about the spinning and weaving industry and then returned from Marseille via Shanghai. | Kiichiro Toyoda was a follower of Sun Tzu's teachings on detailed knowledge of competition and the market |
| 1926 | He founded Toyota Industries Corporation and became its director. | | |
| September 1929 - April 1930 | Established an automobile manufacturing department (later the automobile department) in Toyota Industries Corporation | He traveled to Europe and America and observed that the automobile industry, which was in its infancy at the time, would develop in the future. | |
| 1933 | Established an automobile manufacturing department (later the automobile | | |

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| | | | |
|---|---|---|---|
| | department) in Toyota Industries Corporation | | |
| 1936 | The firm has been designated as a licensed company under the Automobile Manufacturing Act | | |
| 1937 | The company became independent as Toyota Motor Corporation, with Kiichirō becoming vice president (the president was Rizaburo Toyoda). | | |
| 1941 | Kiichiro took over as president | | He represents an iconic figure in paving the way for the Japanese automotive industry. |
| 1941–1950 | CEO OF Toyota | He simplified operations for mass production of cars and implemented prompt measures for domestic production of automobile parts.<br>As part of the occupation policy of Japan, Toyota received contracts to repair US military vehicles in Japan. This was a good opportunity for Toyota employees, including Kiichiro, to learn about American car technology. They absorbed this knowledge, then used it to develop their own cars.<br>Kiichiro carefully studied the Ford management and production system, and these studies led him to the idea of Just-in-Time.<br>These studies led to Taiichi Ohno's later establishment of the Toyota production system based on the kanban system that we know today. | Kiichiro Toyoda had a Confucian upbringing. The "Five Principles of Toyoda" are a written statement of Kiichiro Toyoda's teachings, first released on October 30, 1935, the fifth anniversary of the death of his predecessor, Sakichi.<br>Since then, these five principles have served as a guide to conduct for all employees. |

Source: Authors design.

**Table A3.** Career and contributions of Taiichi Ohno on TPS vs. Sun Tzu's thinking

| Period | Education, career path. | Education, career path, etc. | Implications |
|---|---|---|---|
| 1920 | He graduated from the Faculty of Engineering at Tokyo Imperial University, Department of | | During 1920-1921 he worked at the Tokyo Imperial University, at the Faculty of Law, for |

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| | | | |
|---|---|---|---|
| | Mechanical Engineering. He was an excellent student. | | approximately seven months. |
| July 1921-February 1922 | | Kiichirō visited San Francisco, London, Manchester, etc. to learn about the spinning and weaving industry and then returned from Marseille via Shanghai. | Kiichiro Toyoda was a follower of Sun Tzu's teachings on detailed knowledge of competition and the market |
| 1926 | He founded Toyota Industries Corporation and became its director. | | |
| September 1929 - April 1930 | Established an automobile manufacturing department (later the automobile department) in Toyota Industries Corporation | He traveled to Europe and America and observed that the automobile industry, which was in its infancy at the time, would develop in the future. | |
| 1933 | Established an automobile manufacturing department (later the automobile department) in Toyota Industries Corporation | | |
| 1936 | The firm has been designated as a licensed company under the Automobile Manufacturing Act | | |
| 1937 | The company became independent as Toyota Motor Corporation, with Kiichirō becoming vice president (the president was Rizaburo Toyoda). | | |
| 1941 | Kiichiro took over as president | | He represents an iconic figure in paving the way for the Japanese automotive industry. |
| 1941–1950 | CEO OF Toyota | He simplified operations for mass production of cars and implemented prompt measures for domestic production of automobile parts.<br>As part of the occupation policy of Japan, Toyota received contracts to repair US military vehicles in Japan. This was a good opportunity for Toyota employees, including Kiichiro, to learn about American car technology. They absorbed this knowledge, then used it to develop their own cars.<br>Kiichiro carefully studied the Ford management and production system, and these studies led him to the idea of Just-in-Time.<br>These studies led to Taiichi Ohno's later establishment of the Toyota production | Kiichiro Toyoda had a Confucian upbringing. The "Five Principles of Toyoda" are a written statement of Kiichiro Toyoda's teachings, first released on October 30, 1935, the fifth anniversary of the death of his predecessor, Sakichi. Since then, these five principles have served as a guide to conduct for all employees. |

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| | |
|---|---|
| | system based on the kanban system that we know today. |

Source: Authors design.

## Appendix B

**Table A4.** Distribution of Questionnaires for Toyota Dealers Romania: national representativeness.

| | Toyota Dealers | Questionnaires number applied to: | |
|---|---|---|---|
| | | **Managers** | **Specialists** |
| 1 | BACAU | **1** | **6** |
| 2 | IASI | **2** | **6** |
| 3 | PIATRA NEAMT | **1** | **5** |
| | **Total North-East development region** | **4** | **17** |
| 4 | BRAILA | **1** | **6** |
| 5 | BUZAU | **1** | **6** |
| 6 | CONSTANTA | **2** | **6** |
| 7 | FOCSANI | **2** | **5** |
| | **Total South-East development region** | **6** | **23** |
| 8 | PITESTI | **2** | **6** |
| 9 | PLOIESTI | **2** | **5** |
| | **Total South-Muntenia development region** | **4** | **11** |
| 10 | CRAIOVA | **2** | **6** |
| 11 | VALCEA | **1** | **5** |
| | **Total development region South-West Oltenia** | **3** | **11** |
| 12 | TIMISOARA | **2** | **7** |
| 13 | ORADEA | **2** | **6** |
| | **Total West development region** | **4** | **13** |
| 14 | BISTRITA | **2** | **6** |
| 15 | CLUJ NAPOCA | **2** | **7** |
| 16 | BAIA MARE | **2** | **6** |
| | **Total North-West development region** | **6** | **19** |
| 17 | ALBA IULIA | **2** | **6** |
| 18 | BRASOV | **2** | **7** |
| 19 | ODORHEI | **1** | **6** |
| 20 | SIBIU | **2** | **7** |
| 21 | TARGU MURES | **2** | **6** |
| | **Total development region Center** | **9** | **32** |
| 22 | BUCHAREST EAST | **2** | **6** |
| 23 | BUCHAREST NORTH | **2** | **6** |
| 24 | BUCHAREST SOUTH | **2** | **6** |
| 25 | BUCHAREST WEST | **2** | **6** |
| | **Total development region Bucharest – Ilfov** | **8** | **24** |

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| | | |
|---|---|---|
| **GENERAL TOTAL:** | **44** | **150** |

NOTES: * The way Toyota's dealer network has developed over nearly three decades leads to the conclusion that decision-makers at headquarters were inspired, at least intuitively, by Sun Tzu's thinking and the principles of Holonic Network Theory. ** The study included 25 Toyota dealers with more than two years of experience, so that the sample of companies would be evenly distributed across Romania's eight development regions. Source: Author's design

**Table A5.** Questionnaire administered to managers/specialists in the Toyota Romania dealer network.

We would like to make the following clarifications/comments (following a careful study of Toyota's working strategy in the US, Europe, and other regions of the world regarding working relationships with dealers and other types of representatives of the keiretsu group):

a) Toyota enters into contractual relationships for distribution and service with independent companies (dealers), both on behalf of the parent company, Toyota Motors Co. (TMC), and on behalf of the distribution company, Toyota Parts Center Europe (TPCE);
b) Each Toyota dealer in Romania has certain obligations to represent the Toyota brand, as well as a certain degree of managerial and financial autonomy (in terms of annual results);
c) The most famous work on strategic thinking in business and/or military thinking remains Sun Tzu's *The Art of War*, published around the 5th century BC.
d) The principles of strategic thinking in any type of competition, as set out by Sun Tzu, are interpreted/applied in business doctrine, as appropriate, at the level of each keiretsu group in Japan (in the case we studied, Toyota), as well as at the level of each dealer of *the parent company* (by parent company we mean TMC, Toyota European Parts Center (TPCE) and any other company within the group).

The questionnaire structure includes three distinct dimensions, as follows:

**Dimension 1**: *Application of strategic thinking at dealer level.*

This dimension aims to assess the existing strategic thinking at the level of each dealer in the Toyota network, based on the relative autonomy that the company has in its relationship with TMC. Within the items included in this dimension, we aim to identify whether and to what extent elements of Sun Tzu's concept are reflected in the annual and longer-term strategies applied by your company's top management.

**Dimension 2**: *Application of strategic thinking at TMC level.*

This dimension aims to assess the existing strategic thinking at the level of the entire Toyota group, in relation to the contractual and working relationship with all the company's dealers in Romania. Within this dimension, we also aim to identify (based on statistical correlations between different items) whether and to what extent Sun Tzu's thinking has been reflected in the strategies applied by TMC in its overall strategic direction from 2010 to the present.

**Dimension 3**: *Strategic thinking on Electric Vehicle (EV)* development—this dimension was removed from the study because in 2025 Toyota had a very modest position in the EV industry.

Thank you for your support!

**Part I: General information about the firm/company (as a Toyota group dealer for a specific region/county in Romania)**

1. Field of activity of the company:

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a. Production of auto parts/components;

b. Car sales;

c. Warranty and post-warranty service.

2. Category of enterprise, by size:
   a. Microenterprise (fewer than 9 employees);
   b. Small (10-49 employees);
   c. Medium (50-249 employees).
3. Does your company have an innovation and market relations department to improve the Toyota brand image and customer satisfaction?
   a. Yes;
   b. No
   c. I don't know.
4. Through your company's contractual and representation relationship with TMC, does top management aim to achieve social/technical innovations (designs, symbols, directions for the application of digital technology in market relations, etc.) that can be protected, at least partially (registration with OSIM), through instruments such as:
   a. License;
   b. Copyright;
   c. Factory/trade names;
   d. Designations of origin;
   e. Others
5. With regard to the *annual turnover* indicator (according to public data available from the Ministry of Finance), please specify the share of the two sources of income specific to each dealer:
   a) Based on the number of cars sold annually ..... (%);
   b) Based on after-sales service, repair, and maintenance activities ..... (%);
   c) Other sources ..... (%).

**Part II: Dimension 1**: *Application of strategic thinking at dealer level.*

Please rate on a scale of 1 to 5, where 1 means "**to a very small extent**" and 5 means "**to a very large extent**."

| No. | ITEM | To a very small extent (1) | To a small extent (2) | To some extent (3) | To a large extent (4) | To a very large extent (5) | I don't know |
|---|---|---|---|---|---|---|---|
| **1.** | The growth/development of the company over the years has been based on market opportunities | | | | | | |
| **2.** | Improving customer and market relations is based on the qualification and continuous training of the company's employees | | | | | | |
| **3.** | The company's top management has always had a clear/coherent vision for strengthening the dealer's position and the Toyota brand in Romania | | | | | | |
| **4.** | Over time, the company's management has had a clear/coherent vision for strengthening innovative activity within the organization | | | | | | |

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| | |
|---|---|
| **5.** | The clear/coherent vision of top management is partly based on Sun Tzu's concept |
| **6.** | The company knows and applies the competitive principle of "know your enemy" (Sun Tzu) |
| **7.** | The company knows and applies the competitive principle of "know yourself" (Sun Tzu) |
| **8.** | Improving customer and market relations is based on employees, but also on the introduction of digital technology into the company's daily activities |
| **9.** | The company's top management allocates separate funds each year for employee training and the acquisition of new knowledge |
| **10.** | The company's top management allocates annual funds for the acquisition of digital technologies |
| **11.** | Over the last 5 years, the company's innovative activity has focused on new ways of distribution and customer/consumer relations |
| **12.** | In the last 5 years, social innovation in the company has also focused on designing new organizational structures, such as hierarchical levels, departments, etc. |
| **13.** | Employees within the organization are motivated (through financial and non-financial instruments provided by the company) to continuously learn how to manage new technologies |
| **14.** | Innovations (process, marketing, and organizational) are based on the acquisition and processing of new knowledge |
| **15.** | Innovations (process, marketing, and organizational) are influenced by similar innovations made by competitors. |
| **16.** | The organization you work for regularly sets up various project teams, task forces, and other teams to interact with the market |
| **17.** | Annual investments in employee training have gradually improved the company's market position |
| **18.** | Annual investments in the acquisition of new digital technologies/equipment have gradually been reflected in the improvement of the company's market position |
| **19.** | The company managed the social crisis caused by Covid-19 (2020-2022) fairly well |
| **20.** | The influences generated by the war in Ukraine were well managed by dealers |
| **21.** | The vision at the top of the organization chart has imposed a few key values around which an organizational culture has been built over time that supports the achievement of top performance |

**Dimension 2:** *Application of strategic thinking at the TMC level.*

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Please rate on a scale of 1 to 5, where 1 means "**to a very small extent**" and 5 means "**to a very large extent**."

As is well known, Akio Toyoda was CEO of TMC from 2009 to 2023; Takeshi Uchiyamada was chairman of Toyota from 2013 to 2023; since April 2023, Koji Sato has been CEO and the former CEO, Akio Toyoda, has become chairman.

| No. No. | ITEM | To a very small extent (1) | To a small extent (2) | To some extent (3) | To a large extent (4) | To a very large extent (5) | I don't know |
|---|---|---|---|---|---|---|---|
| **1.** | TMC's top management (CEO and/or chairman) has always had a clear/coherent vision for strengthening the entire Toyota group | | | | | | |
| **2.** | To what extent does the development of the parent company's (TMC) business strategies influence current decisions and/or strategies at the dealer level? | | | | | | |
| **3.** | Based on your daily working relationship with TMC, please provide some comments: *To what extent has Sun Tzu's thinking been reflected in the key strategies formulated by Akio Toyoda up to April 2023?* | | | | | | |
| **4.** | Based on your daily working relationship with TMC, please provide some comments: *To what extent has Sun Tzu's concept been reflected in the key strategies formulated by Takeshi Uchiyamada up to April 2023?* | | | | | | |
| **5.** | Based on your daily work relationship with TMC, please provide some comments: *To what extent has Sun Tzu's concept been reflected in the key strategies formulated by Koji Sato from April 2023 to the present?* | | | | | | |
| **6.** | Have there been situations (e.g., 2020-2021, caused by Covid-19) in which the parent company, TMC, provided financial support to its dealers in Romania to help them overcome such crisis situations? | | | | | | |
| **7.** | Does TMC regularly provide dealers with software and digital equipment to improve communication between dealers and headquarters? | | | | | | |
| **8.** | TMC regularly provides dealers with software and digital equipment to improve communication between dealers and customers | | | | | | |
| **9.** | TMC's key competencies are determined primarily by the TPS (Toyota Production System – Lean Production) | | | | | | |
| **10.** | TMC's key competencies are determined primarily by the TQM (Total Quality Management) system | | | | | | |
| **11.** | TMC's key competencies are determined primarily by the distribution and service dealer network that has been built up over time in various countries | | | | | | |
| **12.** | TMC's key competencies are determined primarily by the conservative strategy at HQ level with regard to cash flow management | | | | | | |

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| | | |
|---|---|---|
| **13.** | TMC's key competencies are determined primarily by the keiretsu structure of the group, i.e. the horizontal network consisting of several thousand companies worldwide | |
| **14.** | TMC's key competencies are determined primarily by its KM (Knowledge Management) strategy and continuous innovation | |
| **15.** | TMC generally adopts medium- and long-term strategies | |
| **16.** | Toyota avoids direct competition/disputes with other manufacturers in the automotive industry and prefers a "step-by-step" strategic approach to successively improve its strategic position ( ) (Sun Tzu) | |
| **17.** | TMC currently collaborates with research institutes, universities, and other entities to develop new innovations (in products, processes, marketing, and organization) | |
| **18.** | TCM has managed the trade war between the US and China that began in 2017 well. | |
| **19.** | TCM adapted relatively quickly to the social context imposed by Covid-19 (2020-2022) and managed to get through this period with minimal losses | |
| **20.** | Toyota had minimal exposure (around 3%) to the Russian market and managed to adapt quickly to this international crisis | |
| **21.** | After the start of the war in Ukraine, Toyota was among the Western MNCs that decided to voluntarily withdraw from the Russian market | |
| **22.** | To what extent do the values and vision at the CEO level determine the building/consolidation of the Toyota Group's organizational culture? | |

Comments to complete dimension no. 2:

a) In a comparative assessment, which of the two TMC CEOs do you think had a more profound/beneficial strategic thinking for the Toyota group?

☐ Akio Toyoda

☐ Koji Sato

b) In a comparative assessment, TMC's strategic decisions are more influenced by:

☐ CEO

☐ Chairman

c) A competitive principle that can be deduced from Sun Tzu's thinking is stated as follows: *"the most difficult battle is the battle/knowledge with yourself"* and not with other competitors. This principle is found de facto in the dealer's strategic thinking with the following remark:

☐ The battle with yourself is more difficult;

☐ It is considered more difficult to overcome established competitors in the market;

☐ Both components of competition are equally difficult.

d) The same competitive principle in Sun Tzu's thinking is stated as shown in point c). This principle is found in the strategic thinking of TMC in its relationship with other global car manufacturers and applies as follows:

☐ It is more difficult to fight against yourself;

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☐ It is considered more difficult to overcome established competitors in the market;

☐ Both components of competition are equally difficult.

Additional note D1 + D2 + D3:

Rank the following 5 factors (1. Vision and/or strategic thinking of top management; 2. TPS system; 3. Horizontal network of the keiretsu group; 4. Global economic conditions (the 2008 financial crisis, the Covid-19 crisis, the war started by Russia in Ukraine); 5. Human resource management (continuous training for employees)) that determine the annual performance and/or competitive position of your organization.

| No. | Variable \ Factor | Item (5 main factors) (please rank from 1 to 5, where 1 represents no influence; 2 represents minimal influence; 3 represents moderate influence on the variable; 4 represents significant influence; 5 represents the greatest influence of the factor on the variable) | | | | |
|---|---|---|---|---|---|---|
| **1.** | **The company's profitability over the last five years has been determined by:** | The vision and/or strategic thinking of top management | The TPS system | The horizontal network of the keiretsu group | The global economic situation (the 2008 financial crisis, the Covid-19 crisis, the war started by Russia in Ukraine) | Human resources management (continuous training for employees) |
| **2.** | **TMC's key competencies were determined by:** | | | | | |
| **3** | **Successful cash flow management for the entire Toyota group was determined by:** | | | | | |

Your position within the business organization:

☐ Administrative: - Top management: *Board of Directors*

- Chief Executive Officer
- CEO *(General Manager; Managing Director; President)*

☐ Executive: - Middle management: *Departmental Heads (Finance Manager; Purchase Manager);*

- Branch Managers *(Head of Branch; Local Unit);*
- Junior Executive *(Assistant Finance Manager; Assistant Purchase Manager)*

☐ Supervisory: Lower Management (*Foremen/ Supervisors)*

Length of service within the organization:

☐ between 0-3 years;

☐ between 3-10 years;

☐ between 10-20 years;

☐ more than 20 years;

***

Thank you for participating in this study conducted under the auspices of the *"Ștefan cel Mare"* University of Suceava!

**Table A6.** Interview questions with managers from the Toyota Romania dealer network.

| Interview Script |
|---|

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In order to clarify the basic idea around which this study is structured, we would like to make the following clarifications/comments (following a careful study of Toyota's working strategy in the US, Europe, and other regions of the world regarding its working relationship with dealers and other types of representatives of the keiretsu group):

e) Toyota enters into contractual distribution and service relationships with independent companies (dealers), both on behalf of the parent company, Toyota Motors Co. (TMC), and on behalf of the distribution company, Toyota European Parts Center (TPCE);

f) Each Toyota dealer in Romania has certain obligations to represent the Toyota brand, as well as a certain degree of managerial and financial autonomy (in terms of annual results);

g) The most famous work on strategic thinking in business and/or military thinking remains Sun Tzu's *The Art of War*, published around the 5th century BC.

h) The principles of strategic thinking in any type of competition, as set out by Sun Tzu, are interpreted/applied in business doctrine, as appropriate, at the level of each keiretsu group in Japan (in the case we studied, Toyota), as well as at the level of each dealer of *the parent company* (by parent company we mean TMC, *the Toyota European Parts Center (TPCE)* and any other company within the group).

The 10 open-ended questions are:

1. As a Toyota group dealer, how much relative autonomy did your company enjoy in its relationship with TMC and the Toyota European Parts Center (TPCE)? To what extent does the representation contract allow your company to develop its own strategies for promoting the Toyota brand?
   Free response:
   .....
   .....
2. To what extent does your company motivate its employees to continuously learn, acquire new knowledge in relation to the market/customers, and make the most effective use of digital technologies? What are the two main motivational tools you use?
   Free answer:
   .....
   .
3. To what extent is the coherent vision of your company's top management based on Sun Tzu's thinking, especially the principle of "winning" a long-term competition solely through successive improvements in strategic position, without engaging in a decisive "battle" with other competitors?
   Free response:
   .....
   .....
4. To what extent do you, as a manager, take into account the competitive principles of "know your enemy" and "know yourself" when formulating/thinking about long-term strategies?
   Free answer:
   .....
   .

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5. How do you assess the basic strategic line applied by Akio Toyoda, as CEO between 2009 and 2023, to strengthen the Toyota Group's position internationally? Do you think that this CEO's strategic thinking was also based on the principles set out by Sun Tzu?
   Free response: .....
   .
6. What are the main elements and/or factors that determine the key competencies of the Toyota group (Lean Production, TQM, cash flow management strategy, KM strategy, etc.)?
   Free answer: .....
   .....
7. Did the parent company, TMC, provide financial support to its dealers in Romania to overcome the 2008 crisis, the Covid-19 crisis, etc.?
   Free answer: .....
   .
8. How do you assess TMC's current strategy to establish itself in the EV industry in the coming years?
   Free response: .....
   .....
9. Do you consider the strategic decision taken in 2015 to grant approximately 23,000 EV patents to thousands of other companies, including competitors, without requiring annual royalty payments, to be beneficial for the Toyota Group?
   Free response: .....
   .....
10. Do you consider that there is a unified strategy and a single vision for EV innovation, production, and distribution (what Sun Tzu calls unified coordination) at TMC HQ?
    Free answer: .....
    .

***

Thank you for participating in this study under the auspices of the "Ștefan cel Mare" University of Suceava!

**Table A7.** Synthesis of 40 interviews for Toyota dealers- Romania.

| Nr. interview | Interview questions | | | | | | | | | | Conclusion |
|---|---|---|---|---|---|---|---|---|---|---|---|
| | 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 | 10 | |
| **1.** | - Local autonomy, coordinated by TMC and TPCE | - Salary bonuses<br>- Bonuses | To a large extent | To a large extent | Very good strategy, | Lean Production (LP)<br>TQM<br>KM | Yes, very much | Very good strategy | Yes | Yes | Strategy based on Sun Tzu thinking |

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| | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|
| **2.** | - Representation has its own autonomy<br>- Cooperates and collaborates with TMC and TPCE<br>- Promotion strategies are received from TMC | - Salary increases<br>- Trainings<br>- Promotion in the hierarchy | Very much | Very much | A solid strategic line based on Sun Tzu's thinking | Lean Production TQM KM | Yes | Very good with the accelerated EV evolution | Yes | Yes | Strategy based on Sun Tzu principles and thinking |
| **3.** | - Representation has its own autonomy but cooperates with TMC and TPCE<br>- Promotion strategies are set at TMC level | - Salary bonuses<br>- Salary increases<br>- Training courses | Very much | Very much | A very good strategic line based on Sun Tzu principles and thinking | LP TQM KM | Yes | Very timely in the current car market conditions | Yes | Yes | Strategic line based on Sun Tzu principles |
| **4.** | - Representation has relational autonomy in relation to TMC and TPCE<br>- Promotion strategies are jointly discussed and agreed with TMC Europe | - Salary increases<br>- Bonuses<br>- Trainings<br>- Other benefits | Very much | Very much | The right strategic line based on Sun Tzu principles | LP TQM KM | Yes | Very Good | Yes | Yes | Strategy based on Sun Tzu thinking |
| **5.** | - Total autonomy<br>- Representation as specified by Toyota | - Paid training<br>- Bonuses<br>- Teambuilding | We always have to win | These are the principles we keep in mind | Very good<br>It was based on, but did not keep up with the pace of technological development | Lean Production TQM Sales strategies | Yes | Positive trend, | Yes | Yes | Strategy based on Sun Tzu principles and thinking |
| **6.** | - Total independence, in collaboration and under the coordination of TMC and TPCE<br>- Promotion strategies established and enforced | - Salary increases<br>- Continuous improvement | Very much | Very much | A very good strategy based on Sun TZU's principles | LM TQM KM | Yes, very much | Very good, on trend | Yes | Yes | Strategic line based on Sun Tzu principles |
| **7.** | - Total autonomy<br>- Cooperation with other Toyota dealerships in Romania and Europe | - Salary incentives<br>- Training<br>- Promotion in the hierarchy | To a very great extent | To a very great extent | Excellent strategy, also based on Sun Tzu principles | TPS Lean Production TQM KM | Yes | Very Good | Yes | Yes | Strategy based on Sun Tzu thinking |
| **8.** | - (Almost) total autonomy<br>- Close collaboration | - Courses<br>- Salary bonuses | To a very large extent | To a very great extent | Very good strategy based on | Lean Production TQM | Yes, supported financia | Very good | Yes, no question | There is a unified vision | Strategy based on Sun Tzu principles |

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| | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|
| | with TMC and TPCE | - New positions in the hierarchical structure | | | long experience and Sun Tzu principles | KM | lly but also logistically | | | | and thinking |
| **9.** | - Total autonomy<br>- Collaboration with TMC and TPCE<br>- Promotion is coordinated by TMC EU | - Salary increases<br>- Permanent training<br>- Performance bonuses | Very much | Basic | Good strategy Yes | Lean Production TQM KM | Yes | Very beneficial | Yes | Yes | Strategic line based on Sun Tzu principles |
| **10.** | - Full authority in collaboration with TMC and TPCE<br>- Promotion strategies directed by TMC | - Salary/sales bonuses<br>- Salary increases<br>- Promotion to higher positions | Very much | These principles are basic | A very good strategic line Yes, based on Sun Tzu principles | LP TQM KM | Yes | Very good, profit generating | Yes, definitely | Yes | Strategy based on Sun Tzu thinking |
| **11.** | - Representation has autonomy, coordinated by TMC EU and TPCE<br>- Promotion strategies are done by TMC EU | - Continuous training to company standards | To a large extent | To a large extent | Good | LP KM TQM TPS | Yes | Hi | Yes | Yes | Strategy based on the principles and thinking of Sun Tzu |
| **12.** | - Representation is autonomous but coordinated by TMC EU and TPCE<br>- Brand - through TMC EU | - Very Much<br>- Motivating salaries<br>- Continuous training and development | To a large extent | Largely | Very good | Lean Production TQM KM TPS | Yes | Very Good | Yes | Yes | Strategic line based on Sun Tzu principles |
| **13.** | - Representation has autonomy in relation to TMC and TPCE<br>- Development strategies are imposed by the TMC | - Salary increases<br>- Bonuses<br>- Courses | To a large extent | To a great extent | It's a good strategic line which is based on Sun Tzu's thinking | Lean Production TQM KM | Yes | Very good and necessary | Yes | Yes | Strategy based on Sun Tzu thinking |
| **14.** | - Good autonomy in relation to TMC<br>- Build own-promotion strategies with TMC imposition | - To a large extent.<br>- Motivating salaries<br>- Innovative working atmosphere<br>- Other bonuses | To a large extent | To a great extent | Very good | LP KM TQM TPS | Yes | Hi | Yes | Yes | Strategy based on Sun Tzu principles and thinking |
| **15.** | - Representation has autonomy in relation to TMC and TPCE<br>- Promotion strategies are imposed by the TMC | - Salary increases<br>- Bonuses<br>- Courses | To a large extent | To a great extent | It's a good strategic line which is based on Sun Tzu's thinking | Lean Production TQM KM | Yes | Very good and necessary | Yes | Yes | Strategic line based on Sun Tzu principles |

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| | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|
| **16.** | - We enjoy a high degree of autonomy. We cooperate and work closely with TMC and TPCE<br>- Promotion strategies are set by TMC Europe, tailored to Romania's specificities | - Training courses<br>- Regular training on new technologies | To a large extent | To a large extent | It is a very good strategic line | Lean Production TPS TQM KM | Yes, very much | Very good | Yes | Yes | Strategy based on Sun Tzu thinking |
| **17.** | - Total independence, in collaboration and under the coordination of TMC and TPCE<br>- Promotion strategies established and enforced | - Salary increases<br>- Continuous development | Very much | Very much | A very good strategy based on Sun Tzu principles | LM TQM KM | Yes, very much | Very good, on trend | Yes | Yes | Strategy based on Sun Tzu principles and thinking |
| **18.** | - High relative autonomy<br>- Promotion - in cooperation with TMC | - To a large extent<br>- Salary bonuses<br>- Training | To a large extent | Largely | Yes, it was based on the principles of Sun Tzu | Lean Production KM TQM | Yes | Hi | Yes | Yes | Strategic line based on Sun Tzu principles |
| **19.** | - The Representation has relational autonomy in relation with TMC and TPCE<br>- Promotion strategies are jointly discussed and agreed with TMC Europe | - Salary increases<br>- Bonuses<br>- Trainings<br>- Other benefits | Very much | Very much | The right strategic line based on Sun Tzu principles | LP TQM KM | Yes | Very Good | Yes | Yes | Strategy based on Sun Tzu thinking |
| **20.** | - High level of autonomy, being able to develop your own strategies | - Sales bonuses<br>- Participation in team-building | To a large extent | To a great extent | Very good strategy based on Sun Tzu principles | LP TQM KM | Yes | Very good | Yes | Yes | Strategy based on Sun Tzu principles and thinking |
| **21.** | - Local autonomy, coordinated by TMC and TPCE<br>- Promotion strategies directed by TMC | - Salary bonuses<br>- Bonuses<br>- Free training | To a large extent | Largely | A very good strategy in line with the current trend | Lean Production TQM KM | Yes, very much | Very good strategy | Yes | Yes | Strategic line based on Sun Tzu principles |
| **22.** | - Representation has its own autonomy but cooperates with TMC and TPCE<br>- Promotion strategies are set at TMC level | - Salary bonuses<br>- Salary increases<br>- Training courses | Very much | Very much | A very good strategic line, based on Sun Tzu principles and thinking | LP TQM KM | Yes | Very timely in the current car market conditions | Yes | Yes | Strategy based on Sun Tzu thinking |
| **23.** | - Total autonomy | - Salary increases<br>- Ongoing training | Very much | Basic | Good strategy / Yes | L P TQM | Yes | Very beneficial | Yes | Yes | Strategy based on Sun Tzu principles |

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| | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|
| | - Collaboration with TMC and TPCE<br>- Promotion - coordinated by TMC EU | - Progress up the hierarchy | | | | Cash-flow well managed KM | | | | | and thinking |
| **24.** | - Representation enjoys autonomy and can develop its own marketing strategies, adapted to the area of development | - To a large extent.<br>- Focus on continuous professional development | To a large extent | To a great extent | Very good | Lean Production TQM KM | Yes | Very Good | Yes | Yes | Strategic line based on Sun Tzu principles |
| **25.** | - Total autonomy<br>- Cooperation with other Toyota dealerships in Romania and Europe | - Salary incentives<br>- Training<br>- Promotion in the hierarchy | To a very great extent | To a very great extent | Excellent strategy, also based on Sun Tzu principles | TPS Lean Production TQM KM | Yes | Very Good | Yes | Yes | Strategy based on Sun Tzu thinking |
| **26.** | - Full regional autonomy<br>- Promotion - in cooperation with TMC | - Salary bonuses<br>- Training | To a large extent | To a large extent | Very good and up-to-date, grounded in reality | LP TQM KM | Yes | Very good | Yes | Yes | Strategy based on Sun Tzu principles and thinking |
| **27.** | - Good autonomy in relation to TMC<br>- We build our own promotion strategies, with TMC imposition | - To a large extent.<br>- Motivating salaries<br>- Innovative working atmosphere<br>- Other bonuses | To a large extent | To a great extent | Very good | LP KM TQM TPS | Yes | Hi | Yes | Yes | Strategic line based on Sun Tzu principles |
| **28.** | - Full regional autonomy<br>- Promotion - in coordination with TMC | - Salary increases<br>- Free trainings<br>- Bonuses | To a large extent | To a great extent | A very good strategy based on experience and Sun Tzu principles | Lean Production TQM KM | Yes | Very good | Yes | Yes | Strategy based on Sun Tzu thinking |
| **29.** | - Own autonomy.<br>- Cooperates and collaborates with TMC and TPCE<br>- Promotion strategies - received from TMC | - Salary increases<br>- Trainings<br>- Promotion up the hierarchy | Very much | Very much | A solid strategic line based on Sun Tzu's thinking | Lean Production TQM KM | Yes | Very Good | Yes | Yes | Strategy based on Sun Tzu principles and thinking |
| **30.** | - High autonomy.<br>- Cooperation with TMC and TPCE<br>- Promotion strategies imposed | - To a large extent.<br>- Salary bonuses<br>- Free training courses | Mostly | Mostly | Very good | Lean Production TQM TPS | Yes | Very Good | Yes | Yes | Strategic line based on Sun Tzu principles |

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| | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|
| **31.** | - (Almost) total autonomy<br>- Close collaboration with TMC and TPCE | - Courses<br>- Salary bonuses<br>- New positions in the hierarchical structure | To a very large extent | To a very great extent | Very good strategy based on long experience and Sun Tzu principles | Lean Production TQM KM | Yes, supported financially but also logistically | Very good | Yes | Yes | Strategy based on Sun Tzu thinking |
| **32.** | - Representation is autonomous but coordinated by TMC EU and TPCE<br>- Brand - through TMC EU | - Very much<br>- Motivating salaries<br>- Continuous training and development | To a large extent | To a great extent | Very good | Lean Production TQM KM TPS | Yes | Very Good | Yes | Yes | Strategy based on Sun Tzu principles and thinking |
| **33.** | - Full authority in collaboration with TMC and TPCE<br>- Promotion strategies directed by TMC | - Salary/sales bonuses<br>- Salary increases<br>- Promotion to higher positions | Very much | These principles are basic | A very good strategic line Yes, based on Sun Tzu principles | LP TQM KM | Yes | Very good, profit generating | Yes, definitely | Yes | Strategic line based on Sun Tzu principles |
| **34.** | - Total autonomy<br>- Representation as specified by Toyota | - Paid training<br>- Bonuses<br>- Teambuilding | - | These are the principles we consider | Very good It was based on, but did not maintain the pace imposed by technological development | Lean Production TQM Sales strategies | Yes | On a positive trend | Yes | Yes | Strategy based on Sun Tzu thinking |
| **35.** | - Autonomous in relation to TMC<br>- Promotion strategies - developed and implemented in cooperation with TMC and TPCE | - To a large extent.<br>- Salary increases in relation to sales / service<br>- Refresher courses | To a large extent | To a large extent | Very good, applied to market economy and based on Sun Tzu thinking | Lean Production TQM KM | Yes, to a large extent | Very good | Yes | Yes | Strategy based on Sun Tzu principles and thinking |
| **36.** | - Representation has relational autonomy in relation to TMC and TPCE<br>- Promotion strategies are jointly discussed and agreed with TMC Europe | - Salary increases<br>- Bonuses<br>- Trainings<br>- Other benefits | Very much | Very much | The right strategic line based on the principles of Sun Tzu | LP TQM KM | Yes | Very Good | Yes | Yes | Strategic line based on the principles of Sun Tzu |
| **37.** | - We enjoy a high degree of autonomy. We cooperate and work closely with TMC and TPCE | - Training courses<br>- Regular training on new technologies | To a large extent | To a large extent | It is a very good strategic line | Lean Production TPS TQM KM | Yes, very much | Very good | Yes | Yes | Strategy based on Sun Tzu thinking |

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| | - Promotion strategies are set by TMC Europe, tailored to Romania's specificities | | | | | | | | | |
| **38.** | - High autonomy.<br>- Cooperation with TMC and TPCE<br>- Promotion strategies imposed | - To a large extent.<br>- Salary bonuses<br>- Free training | To a large extent | Mostly | Very good | Lean Production TQM TPS | Yes | Very Good | Yes | Yes | Strategy based on the principles and thinking of Sun Tzu |
| **39.** | - Full regional autonomy.<br>- Promotion - in coordination with TMC | - Salary increases<br>- Free trainings<br>- Bonuses | To a large extent | To a great extent | A very good strategy based on experience and Sun Tzu principles | Lean Production TQM KM | Yes | Very good | Yes | Yes | Strategic line based on Sun Tzu principles |
| **40.** | - Full regional autonomy.<br>- Promotion - in coordination with TMC | - Salary bonuses<br>- Trainings | To a large extent | To a great extent | Very good and up-to-date, grounded in reality and based on Sun Tzu principles | Lean Production TQM KM | Yes | Very Good | Yes | Yes | Strategy based on Sun Tzu thinking |
| **41.** | - High level- of autonomy, being able to develop your own strategies | - Sales bonuses<br>- Participation in team-building | To a large extent | To a great extent | Very good strategy based on Sun Tzu principles | LP TQM KM | Yes | Very good | Yes | Yes | Strategy based on the principles and thinking of Sun Tzu |
| **42.** | - Autonomy<br>- Can develop own strategies, adapted to area of development | - Continuous professional development<br>- Team-building<br>- Sales bonuses | Largely | Largely extent | Very good | Lean Production TQM KM | Yes | Very good | Yes | Yes | Strategic line based on Sun Tzu principles |
| **43.** | - Representation is autonomous in relation to TMC<br>- Promotion strategies are made and implemented in cooperation with TMC and TPCE | - To a large extent.<br>- Salary increases in relation to sales/service<br>- Refresher courses | To a large extent | To a large extent | Very good, applied to market economy and based on Sun Tzu thinking | Lean Production TQM KM | Yes, to a large extent | Very good | Yes | Yes | Strategy based on Sun Tzu thinking |
| - | - High relative autonomy<br>- Promotion - in cooperation with TMC | - To a large extent.<br>- Salary bonuses<br>- Trainings- | - o a large extent | ]<br>- o a large extent | ]<br>- Yes, it was based on Sun Tzu principles | - Lean Production<br>- K<br>- M<br>- QM<br>T | - es | Y- i | H- es | Y- es | Y<br>- Strategy based on the principles and thinking of Sun Tzu |

NOTES: * The way Toyota's dealer network has developed over nearly three decades leads to the conclusion that decision-makers at headquarters were inspired, at least intuitively, by Sun Tzu's thinking and the principles

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of Holonic Network Theory. ** The study included 25 Toyota dealers with more than two years of experience, so that the sample of companies would be evenly distributed across Romania's eight development regions. Source: author's design

## References


1. M. Kennly and R. Florida, "The Transfer of Japanese Management Styles in Two Us Transplant Industries: Autos and Electronics," *Journal of Management Studies*, vol. 32, no. 6, pp. 789–802, 1995, doi: 10.1111/j.1467-6486.1995.tb00152.x.
2. B.-H. Lee and H.-J. and Jo, "The mutation of the Toyota Production System: adapting the TPS at Hyundai Motor Company," *International Journal of Production Research*, vol. 45, no. 16, pp. 3665–3679, Aug. 2007, doi: 10.1080/00207540701223493.
3. D. E. Westney and R. Piekkari, "Reversing the Translation Flow: Moving Organizational Practices from Japan to the U.S.," *Journal of Management Studies*, vol. 57, no. 1, pp. 57–86, 2020, doi: 10.1111/joms.12435.
4. W. M. Fruin, *The Japanese Enterprise System: Competitive Strategies and Cooperative Structures*. Oxford University Press, 1992.
5. T. Cleary, "The Lost Art of War. Sun Tzu II," *Manuscrisul ascuns, Editura Incitatus, Piteşti*, 1996.
6. L. V. Bertalanffy, "An outline of general system theory," *The British Journal for the Philosophy of Science*, vol. 1, no. 2, pp. 134–165, Aug. 1950, doi: 10.1093/bjps/I.2.134.
7. A. Koestler, *The ghost in the machine*. London: Hutchinson, 1976.
8. R. F. Babiceanu and F. F. Chen, "Development and Applications of Holonic Manufacturing Systems: A Survey," *J Intell Manuf*, vol. 17, no. 1, pp. 111–131, Feb. 2006, doi: 10.1007/s10845-005-5516-y.
9. J. Leuvennink, K. Kruger, and A. Basson, "Architectures for Human Worker Integration in Holonic Manufacturing Systems," in *Service Orientation in Holonic and Multi-Agent Manufacturing*, vol. 803, T. Borangiu, D. Trentesaux, A. Thomas, and S. Cavalieri, Eds., in Studies in Computational Intelligence, vol. 803. , Cham: Springer International Publishing, 2019, pp. 133–144. doi: 10.1007/978-3-030-03003-2_10.
10. J. K. Liker, W. M. Fruin, and P. S. Adler, Eds., *Remade in America: transplanting and transforming Japanese management systems*. in Japan business and economics series. New York: Oxford University Press, 1999.
11. P. McHugh, G. Merli, W. A. Wheeler, and P. McHugh, *Beyond business process reengineering: towards the holonic enterprise*. Chichester: Wiley, 1995.
12. A. D. Chandler, *The visible hand: the managerial revolution in American business*, 16. print. Cambridge, Mass.: Belknap Press of Harvard Univ. Press, 2002.
13. P. F. Drucker, *Managing in turbulent times*, First issued in hardback. London: Routledge, 2015.
14. G. Hamel and C. K. Prahalad, *The Core Competence of the Corporation*, First edition. London: Taylor and Francis, 2017.
15. H. Mintzberg, *The rise and fall of strategic planning*. Harlow: Pearson, 2000.
16. C. K. Prahalad and G. Hamel, *The core competence of corporation*. Canada: Harvard Business School Reprint, 1990.
17. H. Tsoukas, "REFINING COMMON SENSE: TYPES OF KNOWLEDGE IN MANAGEMENT STUDIES*," *J Management Studies*, vol. 31, no. 6, pp. 761–780, Nov. 1994, doi: 10.1111/j.1467-6486.1994.tb00638.x.
18. G. A. Michaelson, "Sun Tzu: The Art of War for Managers - 50 Strategic Rules Updated for Today's Business," in *traducere în limba română Sun Tzu – Arta Războiului pentru Manageri. 50 de reguli strategice*, Ed., Ed., Adams Media Corporation, 2010.
19. S. Tzu, "The art of war, HarperCollins," *Edition*, 2011.
20. A. Iyer, S. Seshadri, and R. Vasher, *Toyota Supply Chain Management – A Strategic Approach to The Principles of Toyota`s Renowned System*. McGraw-Hill, 2009.
21. J. K. Liker and T. N. Ogden, *Toyota Under Fire - Lessons for Turning Crisis Into Opportunity*. McGraw-Hill, 2011.
22. bcusack, "Hyperintelligence: Toyota, CIA, NSA, KGB, Mossad and... Sun Tzu," Just Auto. Accessed: June 19, 2025. [Online]. Available: https://www.just-auto.com/features/hyperintelligence-toyota-cia-nsa-kgb-mossad-and-sun-tzu/

 doi:10.20944/preprints202508.1014.v1




23. J. Benders and M. and Morita, "Changes in Toyota Motors' operations management," *International Journal of Production Research*, vol. 42, no. 3, pp. 433–444, Feb. 2004, doi: 10.1080/00207540310001602883.
24. B. Fuchs, "Learning from Toyota: how action learning can foster competitive advantage in new product development (NPD)," *Action Learning: Research and Practice*, vol. 4, no. 1, pp. 25–43, Apr. 2007, doi: 10.1080/14767330701231446.
25. N. P. Jayamaha, Wagner ,Jürgen P., Grigg ,Nigel P., Campbell-Allen ,Nicky M., and W. and Harvie, "Testing a theoretical model underlying the 'Toyota Way' – an empirical study involving a large global sample of Toyota facilities," *International Journal of Production Research*, vol. 52, no. 14, pp. 4332–4350, July 2014, doi: 10.1080/00207543.2014.883467.
26. T. Kito, A. Brintrup, S. New, and F. Reed-Tsochas, *The Structure of the Toyota Supply Network: An Empirical Analysis*. 2014. doi: 10.2139/ssrn.2412512.
27. P. K. Schou, "Coming Apart While Scaling Up – Adoption of Logics and the Fragmentation of Organizational Identity in Science-Based Ventures," *Journal of Management Studies*, vol. 60, no. 3, pp. 688–721, 2023, doi: 10.1111/joms.12908.
28. U. R. Tuzkaya and S. Önüt, "A holonic approach based integration methodology for transportation and warehousing functions of the supply network," *Computers & Industrial Engineering*, vol. 56, no. 2, pp. 708–723, Mar. 2009, doi: 10.1016/j.cie.2007.09.003.
29. K. Zekhnini, Cherrafi ,Anass, Bouhaddou ,Imane, Benabdellah ,Abla Chaouni, and R. and Raut, "A holonic architecture for the supply chain performance in industry 4.0 context," *International Journal of Logistics Research and Applications*, vol. 27, no. 6, pp. 852–879, June 2024, doi: 10.1080/13675567.2021.1999912.
30. abhinav, "How Can Sun Tzu's The Art of War Help Your Supply Chain Resiliency Planning?," Resilinc. Accessed: June 22, 2025. [Online]. Available: https://resilinc.ai/blog/sun-tzu-art-of-war-supply-chain-resiliency-planning/
31. R. T. Ames, *Sun Tzu - The Art of Warfare*. The Random House Publishing Group, 1993.
32. H.-C. Moon, *The Art of Strategy - Sun Tzu, Michael Porter and Beyond*. Cambridge University Press, University Printing House, United Kingdom, 2018.
33. S. Tzu, "The Art of War, Wordsworth Editions Limited, Great Britain, 1998, traducere în limba română Arta războiului," *Editura Art*, 2019.
34. J. Liker, *The Toyota Way: 14 Management Principles from the World's Greatest Manufacturer*, 1st edition. New York: McGraw-Hill Education, 2004.
35. J. K. Liker and D. Meier, *The Toyota Fieldbook: A Practical Guide for Implementing Toyota's 4Ps*. London: McGraw-Hill, 2006.
36. M. E. Porter, *On Competition*. Harvard Business Press, 2008.
37. J. W. Forrester, *Principiile sistemelor: teorie şi autoinstruire programată : traducere din literatura americană, după ediţia a şaptea (1973)*. Editura tehnică, 1979.
38. M. P. Kriger and L. B. Barnes, "Organizational Decision-Making as Hierarchical Levels of Drama," *Journal of Management Studies*, vol. 29, no. 4, pp. 439–457, 1992, doi: 10.1111/j.1467-6486.1992.tb00673.x.
39. P. Mella, *The Holonic Revolution. Holons, Holarchies and Holonic Networks. The Ghost in the Production Machine*. Pavia University Press, 2009.
40. C. I. Hretcanu, "Rolul IT în conceperea și funcționarea rețelelor holonice ale organizațiilor de afaceri în context post-criză," PhD Thesis, Universitatea „Ștefan cel Mare" din Suceava, Suceava, 2016.
41. M. Reynolds, "Systems Thinking Principles for Making Change," *Systems*, vol. 12, no. 10, p. 437, Oct. 2024, doi: 10.3390/systems12100437.
42. Laozi, *Dao de jing: cartea despre Dao şi virtute*, [Ediţia a 2-a.]. Bucureşti: Editura Herald, 2012.
43. P. F. Drucker, *Post-capitalist society*, 1. ed. New York: HarperBusiness, 1993.
44. J. Zhou, J. Yang, and B. Faye, "Synergistic Rewards for Proactive Behaviors: A Study on the Differentiated Incentive Mechanism for a New Generation of Knowledge Employees Using Mixed fsQCA and NCA Analysis," *Systems*, vol. 13, no. 7, p. 500, July 2025, doi: 10.3390/systems13070500.
45. P. Torres-Palacio, "The reduction of production lead time using holonic manufacturing: experiment and analysis," *J. Manuf. Technol. Manag.*, vol. 31, no. 3, pp. 648–668, Apr. 2020, doi: 10.1108/JMTM-03-2019-0097.

 doi:10.20944/preprints202508.1014.v1




46. J. Soldatos, Ed., *Artificial Intelligence in Manufacturing: Enabling Intelligent, Flexible and Cost-Effective Production Through AI*. Cham: Springer Nature Switzerland, 2024. doi: 10.1007/978-3-031-46452-2.
47. Z. Zhang *et al.*, "A practical approach for multiagent manufacturing system based on agent computing nodes," *Proceedings of the Institution of Mechanical Engineers, Part C: Journal of Mechanical Engineering Science*, vol. 236, no. 4, pp. 1907–1930, Feb. 2022, doi: 10.1177/0954406220908626.
48. A. Gorod, L. Hallo, L. Statsenko, T. Nguyen, and N. Chileshe, "Integrating hierarchical and network centric management approaches in construction megaprojects using a holonic methodology," *ECAM*, vol. 28, no. 3, pp. 627–661, Aug. 2020, doi: 10.1108/ECAM-01-2020-0072.
49. M. L. George and S. A. Wilson, *Conquering Complexity In Your Business - How Wal-Mart, Toyota, and Other Top Companies Are Breaking Through the Ceiling on Profits and Growth*. McGraw-Hill, 2004.
50. A. Burciu, *MBO & ciclul afacerilor*. Bucureşti: Editura Economică, 1999.
51. A. Burciu, G. Prelipcean, and I. Bostan, *Introducere în management*. Bucureşti: Editura Economică, 2008.
52. H. Håkansson and J. Johanson, *Business Network Learning*. Emerald Group Publishing Limited, 2001.
53. *Developing relationships in business networks*. London: Routledge, 1997.
54. C. I. Herţcanu, *Reţelele holonice de afaceri: un model de business în era digitală*. Bucureşti: Editura Economică, 2022.
55. W. Y. Wu, C. H. Chou, and Y. J. Wu, "A study of strategy implementation as expressed through Sun Tzu's principles of war," *Ind. Manage. Data Syst.*, vol. 104, no. 5–6, pp. 396–408, 2004, doi: 10.1108/02635570410537480.
56. C. T. Foo, "Implementing Sun Tzu's Art of War, system of systems (SoS) thinking Integrating pilot's F22 Raptor cockpit and the brain of CEO," *Chin. Manag. Stud.*, vol. 3, no. 3, pp. 178–186, 2009, doi: 10.1108/17506140910984041.
57. A. Martín-Gómez, M. J. Ávila-Gutiérrez, and F. Aguayo-González, "Holonic Reengineering to Foster Sustainable Cyber-Physical Systems Design in Cognitive Manufacturing," *Applied Sciences*, vol. 11, no. 7, Art. no. 7, Jan. 2021, doi: 10.3390/app11072941.
58. C. Turner and J. Oyekan, "Manufacturing in the Age of Human-Centric and Sustainable Industry 5.0: Application to Holonic, Flexible, Reconfigurable and Smart Manufacturing Systems," *Sustainability*, vol. 15, no. 13, Art. no. 13, Jan. 2023, doi: 10.3390/su151310169.
59. C. Wickert, K. Potočnik, S. Prashantham, W. (Stone) Shi, and Y. Snihur, "Embracing non-Western Contexts in Management Scholarship," *Journal of Management Studies*, vol. 61, no. 8, pp. e1–e24, 2024, doi: 10.1111/joms.13048.

*Statista, 2025

*Toyota Motor Corporation, Annual Report, 2024