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**CASE STUDY ANALYSIS FOR ELABORATION OF ON
DESIGN ECOSYSTEMS OF JAPAN AND ITALY.
ELABORATION OF DESIGN PROMOTION STRATEGY FOR RUSSIA.**

MASTER DEGREE THESIS IN POLITECNICO DI MILANO

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Abstract

Keywords: research, design policy, design promotion,

The presented thesis paper is the research project to support academic knowledge on of design promotion policies, based on the general overview of existing practices in the field, and in-depth development of several national case-studies to calibrate design promotion policy within the design system and attempt to in estimate it's role within industrial and socio-economic historical context.

The research was conducted by reading through different resources, such as official papers, articles, reviews, publications, talking with professionals, and summarizing the results of a research among on the timeline.

The first part of the research is devoted to the analysis of existing models and choosing the appropriate methodology for case-study evaluation.

The second part presents the relationship between the use of design in a country and its overall competitiveness, an overview of design promotion and finding it's place in the design eco-system of national development strategies. Within this part there executed analysis for design index for a global ranking of top-50 economies in 2018.

The middle part is devoted research on two national case-studies - Japan and Italy - with similar high design index, but different with cultural and economic context and systematic approach. The third part is devoted to the analysis of low design rank and culture in Russia and suggestion of action plan for its improvement, based on case-studies outcomes.

The case - studies are chosen by the author in virtue of personal experience in selected countries with notable penetration of design in economy and welfare, in the meantime with the evident systematic approach. The observations generated the main research question: What made those countries so strong design-wise and which lesson could be learned from them to promote and empower design in the mother-country. That question fostered assumption that desired level can result from collaborative conscious efforts heedful of cultural sensitivity. As outputs of case studies analysis there presented mapping of design systems and time-line mappings.

In the last part for the main output of the research, the author analyses the existing situation on design in Russia and suggest the customized action plan for the country based on cultural and socio-economic context comparison and followed by relevant best practices from studied cases. It proposes creating the conditions for private, public, and third-sector organizations to thrive and generate value for the Russian society at large.

ESTRATTO

Parole chiave: ricerca, politica del design, promozione del design,

La tesi presenta il progetto di ricerca per supportare la conoscenza accademica delle politiche di promozione del design, basata sulla panoramica generale delle pratiche esistenti nel campo e nello sviluppo approfondito di diversi casi studio nazionali per calibrare la politica di promozione della progettazione all'interno del sistema progettuale e tentare di stimarne il suo ruolo all'interno del contesto storico industriale e socioeconomico.

La ricerca è stata condotta leggendo diverse risorse, come documenti ufficiali, articoli, recensioni, pubblicazioni, parlando con i professionisti, e riassumendo i risultati di una ricerca tra i tempi.

La prima parte della ricerca è dedicata all'analisi dei modelli esistenti e alla scelta della metodologia appropriata per la valutazione dei casi studio.

La seconda parte presenta la relazione tra l'uso del design in un paese e la sua competitività complessiva, una panoramica della promozione del design e la sua collocazione nell'ecosistema di progettazione delle strategie di sviluppo nazionali. All'interno di questa parte sono state eseguite analisi per l'indice di progettazione per una classifica globale delle prime 50 economie nel 2018.

La parte centrale è dedicata alla ricerca su due casi studio nazionali - Giappone e Italia - con un indice di design alto simile, ma diverso per contesto culturale ed economico e approccio sistematico. La terza parte è dedicata all'analisi del basso livello di design e della cultura in Russia e suggerisce un piano d'azione per il suo miglioramento, sulla base dei risultati dei casi studio.

I casi studio sono scelti dall'autore in virtù dell'esperienza personale in paesi selezionati con notevole penetrazione del design in economia e benessere, nel frattempo con l'evidente approccio sistematico. Le osservazioni hanno generato la principale domanda di ricerca: cosa ha reso quei paesi così forti dal punto di vista del design e quale lezione si potrebbe trarre da essi per promuovere e potenziare il design nella madrepatria. Questa domanda ha favorito l'ipotesi che il livello desiderato possa derivare da sforzi consapevoli e collaborativi attenti alla sensibilità culturale. Come risultato di analisi di casi di studio, è stata presentata la mappatura di sistemi di progettazione e mappature del tempo.

Nell'ultima parte della tesi e principale della ricerca, l'autore analizza la situazione esistente sul design in Russia e suggerisce il piano d'azione personalizzato per il paese sulla base del confronto del contesto culturale e socioeconomico seguito dalle migliori pratiche pertinenti dai casi studiati. Propone di creare le condizioni per le organizzazioni private, pubbliche e del terzo settore per prosperare e generare valore per la società Russa in generale.

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First of all, I would like to thank my thesis supervisor Silvia Ferraris, Professor of the Design School at Politecnico di Milano, that allowed this paper to exist, gave autonomously, but kept in the right the direction, provided with information and contacts, and supported decision to perform part of the research in Japan.

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Also, it was a special occasion and opportunity to have an interview with Kazuyuki Iwai san, Representative Director of the General Design and Crafts Foundation in Japan (デザインと工芸の一般財団法人 工芸財団) who shared the executive opinion about activities of San-ko-shi, industrial craft Laboratory, design research and support in Japan from post-war period to present times.

I express my gratitude to the Association of industrial parks, the hosting organization in Russia, and Denis Zhuravskiy, CEO, and tutor, which was interested to support the research project and provided with support.

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1. INTRODUCTION

In recent years design has come to mean more than giving form; it has increasingly become a strategic element in innovation processes in private enterprises and public organizations. Products, services and entire systems can be identified not just by particular designers of companies, but also recognize the national affiliation. Some countries in the world became famous, even iconic in terms of their design focus, which also contributes to life quality of their citizens, competitiveness of domestic companies on the global market and national welfare.

What makes those countries so strong design-wise? what is the background and current policy? which lesson could be learned from them?

These questions fostered several hypotheses: 1. For creation strong design nation there should be a specific plan of comprehensive support on different levels (design policy), 2. Design awareness, created by its promotion should be the basic pillar for further development, therefore should be studied and implemented first for the «beginners». More and more countries are now in the process of formulating so-called design policies, which emphasize the use of design as an important tool for cultivating innovation and meeting societal challenges. And according to the study, there is a positive correlation between national design policy and national competitiveness.

Design promotion is a part of all studied design eco-system concepts. The special policy takes place when there is a need to inform companies, governments, and citizens about the benefits that design can offer. Although design promotion practices are widely used in countries around the world, there is little academic background and theory to support its development in other countries.

By the opportunity to deepen in the design world of the greatest design-oriented countries - Japan and Italy - the idea to investigate and understand the system of design policy, the chemistry between design and economic, social aspects, based on a comparison of two different cultures, both strong design-influencers, was born.

The intent of this thesis is to develop the concept action plan for design promotion in Russia, based on preliminary study and best practices found in case studies.

The thesis is supported by the Association of industrial parks of Russia, member of working groups in the Ministry of Industry and Trade of Russia for industrial development policies in regions, partner of the Industrial Development Fund for programs of international industrial cooperation, by Takayuki Higuchi, the Associate professor of Chiba University in Japan Takayuki Higuchi, where the author followed the research, and tutored by Politecnico di Milano.

The present Type B Thesis is developed in order to attain the Master degree in Design School of Politecnico di Milano and as a result of the related project within work experience in the Association of industrial parks of Russia. In the Politecnico di Milano, the thesis development is supervised by professor Silvia Deborah Ferraris.

Structure of the thesis

Chapter 1 is focusing on the general introduction of the thesis work and describing the body of the work

Chapter 2 is focused on Conceptual definitions of design policy, design ecosystem and its components and criteria of relevant methodologies, investigated from existing models.

The 3rd Chapter presenting an understanding of the term design within the thesis context and overview of its role in the economy as a part of design eco-system. The chapter also provides the brief design promotion history overlook.

The chapter 4 and 5 are presenting Japanese and Italian case studies accordingly, based on a methodology for mapping design eco-system and present design promotion historical overview in brief national economic development context. The author gives a conclusion on the findings

In the 6th chapter, the research on design integration in Russia, supported by design awareness questionnaire results, is carried out. Includes the general output as a conclusion of the thesis - the developed concept action plan for design promotion in Russia.

In Annex part includes the calculations and the questionnaires.

Activities of the thesis

1. defining the research brief and methodology
 - 1.1. terminology: design, design eco-system, design policy.
 - 1.2. Time period in focus
 - 1.3. analysis of existing academic knowledge about design eco-system and its component
 - 1.4. choosing the mode to use in case-study analysis with focus on design promotion
 - 1.5. defining aspect of design promotion in focus of the case-study research
 - 1.6. formulating methodology for socio-economic review
2. mapping the pedagogic algorithm finding design promotion as an instrument of increasing national welfare through stages:
 - 2.1. research in academic papers and confirmation of positive design impact on economy.
 - 2.2. Research on correlation between design policy and industrial policy.
 - 2.3. Research on global experience on design promotion activities for further reference
3. Case-studies research:
 - 3.1. Brief review of socio-economic development in period from 1940-th up to date
 - 3.2. Research from different sources and mapping the existing design ecosystem.
 - 3.3. Deeper review of design promotion element in historical perspective
 - 3.4. Mapping of socio-economic, industrial and design promotion milestones on the time-line and attempts to find correlation.
4. Review of the design-system in Russia
 - 4.1. Current socio-economic overview
 - 4.2. Simple survey about design awareness (with assumption that it is very low)
5. Analysis and proposal of the action plan for rising design awareness in Russia as the basic steps for introduction and implementation of design for sustainable development.

There was no evidence to support any generalisation that would characterise contrasting approaches at different stages of economic development. Following the investigation of the individual categories, this research examined their interrelation, which resulted in the recommendation of avenues for further research in the field of design promotion, such as the investigation of systemic failures in national design systems, and the political and economic factors that affect the implementation of national design policies.

During the research process were going in parallel, some tasks were redefined and refocused due to lack or inaccessibility of some data.

The final activity process is also shown in the presentation.

2. METHODOLOGY AND DEFINITIONS

2.1. Summary

The approach to the study relied on gathering information and data from a wide variety of sources which were drawn together during the analytical phase of the study. More precisely, there was reviewed literature that could inform about theoretical assessment of how design is evaluated and the system that could be created around it. It also provided some evidence of the relationship between designs and factors such as economic growth, innovation, and competition. First of all, were taken to consideration the reports of the Design Council and Danish Design Center as acknowledged design experts and policy makers, also some general reports from such organizations as UNESCO, World Economic Forum, OECD etc.

For the relevant data about design in countries in question were approached reports of design policy related institutions, basically: Ministry of Economic development, Politecnico di Milano, Association ADI; in Japan - JDP Japan Institute of Design Promotion (former JDPO), Ministry of Economy, Trade and Industry METI; in Russia - Ministry of Industry and Trade, archives of the Museum of Design in Moscow..

The method for choosing the main organizations, exhibitions, museums, awards was the cooccurrence of the results and mentioning on different and most popular online portals (Desixner.com, contestwatchers.com) web-sites of the best design studios, and Google as a search engine.

The research regarding the promotional activities was conducted online and through personal experiences of the author.

The questionnaire about design awareness was designed and distributed as the online survey of Russian citizens. The purpose of the survey was to estimate the level of design awareness among random people, excluding industrial design professionals, but also involved in other creative industries.

Alongside some interviews during the investigation in Japanese case were required, at least to overcome the language barrier and find relevant materials to further transcription and translation. Also, the specific professional opinion required for estimation the developed map and to obtaining missing data.

For definition of design eco-systems and design ranking system here were used comparative analysis of existing methodologies and choosing one relevant to accessible data.

Some examples of the type of literature reviewed for this task:

- Publications by relevant institutions such as British Design Council, UNESCO etc.
- Official state legislation for each country,
- Government publications and handbooks,
- Academic articles,
- Consultancy reports,
- White papers,
- Media articles,
- Working papers,
- Books,
- Web-sites.

In total, more than 200 papers were reviewed in 4 languages (English, Italian, Russia, Japanese). Of these, approximately 60 were subject to detailed review. The short list is presented as Reference section.

2.2. Socio-economic overview methodologies

The brief overviews of countries in question were presented as a chronological narrative showing the development of design promotion strategies (programmes and policies) along with significant political and economic events which have influenced design promotion in the country. This part examined how the establishment of design programmes, their survival, success and failure are related to aspects of the national context.

In the historical perspective, the postwar period considered as the most relevant period to compare the industrial and economic development of all countries. Keeping in mind that 1950th was not the starting point for industrial design, as all countries have already had some design background, from the moment of the WWII the government policies for economic and industry begin to play the utmost role for fast recovery.

The distinct and comprehensive assessing of economic value of design for the industry is problematic. To define design-intensive or design-influenced sector and product at least registered design applied to product specification should exist. Due to the fact that a number of designs in all three countries in focus is unregistered, any definition based on measurable design indicators (e.g. the number of registered designs) will lead to an underestimation of design activity in the economy (The economic review of industrial design in Europe, 2015), so the quantitative approach was not applied. There is no established methodological platform on which to build an analysis of the economic effects of design. Preliminary research registered a handful of international surveys that touch on the topic.

Value of design market is impossible to compare due to the fact that different countries include various components for evaluation. For example, in Russia, the majority of reports consider design only as architecture, interior design, and furniture.

Thus, for resume conclusions, the author puts socio-economic, industrial and design milestones of each country on the timeline map to follow the potential relationship.

2.1 Design eco-system

Design is increasingly being recognized by governments across the world as a factor for innovation in companies, the public sector and society (Whicher, 2014)

Businesses and decision-makers have lacked relevant information on the effects of design on national and business economics. Many reports indicate that companies that adopt a comprehensive approach to design make more money and generate more exports than companies that do not use design.

The definition of design ecosystem is not standardized or officially recognized worldwide.

There was a number of system definitions over past years. According to Raulik-Murphy (2010), the national design system should foresee identifying sufficient interaction between stakeholders for better using of design resources in national economies.

The terminology has been developed from 'Design Infrastructures' (Love, 2007) to 'Design Eco-systems' (Whicher and Walters, 2014) to what this research is calling a design-driven innovation ecosystem or 'Design Innovation Ecosystem'.

The survey mapping deconstructs the components of the design system models proposed (Whicher A., 2014)

	Components
Love (2007)	1) Design businesses, 2) design centres, 3) design education services, 4) design promotion organisations, 5) design research investment, 6) design researchers, 7) design support technologies, 8) design support technology suppliers, 9) design teams, 10) designers, 11) design-focused investment, 12) distribution services, 13) drive to improvement in society, 14) government policy organisations to support design and design research, 15) manufacturing, 16) marketplace for designed ideas and services, 17) organisations commissioning and funding design research, 18) organisations educating design researchers, 19) organisations representing design research, 20) organisations undertaking design research, 21) prototyping services, 22) research in other fields, 23) design certification, 24) cultural support for innovation
Moultrie (2008)	1) Firms, 2) education, 3) design agencies, 4) government bodies, 5) academia
Raulik-Murphy and Cawood (2009)	1) Funding source, 2) design policy, 3) design education, 4) design support, 5) design promotion, 6) research and development, 7) professional associations
Sun (2010)	1) Designers, 2) public sector, 3) private sector, 4) trade associations, 5) government, 6) higher education institutions, 7) design promotion
Whicher and Cawood (2012)	1) Design users (public and private), 2) design support, 3) design promotion, 4) design actors (design centres, associations, networks and clusters), 5) the professional design sector, 6) design education, 7) research and knowledge exchange, 8) Design policy, governance and regulation, 9) design funding
Finnish Ministry of Economy and Employment (2013)	1) Design policy, 2) funding, 3) public sector, 4) design centres, 5) businesses, 6) citizens, 7) research and education, 8) design promoters
Whicher and Walters (2014)	1) Design actors, 2) Design promotion 3) Design support 4) Design Policy, 5) Design Users, 6) Design research , 7) Design Sector, 8) Design Funding, 9) Design Education

Table 1. Design eco-system components in different theories

Source: Mapping design for innovation, Whitcher, 2014

There is a high degree of commonality between components of the different systems - each model identifies education, research, promotion and government as core elements of the system. In this research there selects the model in order to focus on design promotion strategies and also to be able to use the available information about countries in focus. From the listed In this paper for reference is used the updated system by from Whicher and Walters (2014) offer a comprehensive model with seven drivers, which includes the elements:

- 1) Design policy
- 2) Design support
- 3) Design promotion
- 4) Funding sources
- 5) Design education
- 6) Design actors
- 7) Design users
- 8) Design research
- 9) Design professionals

Design policy in this paper is defined as the developed, published and implemented systemized action plan developed by the government bodies. It foresees to development of national design resources and encourage their effective use in the economy and includes the creation of an environment for design to encourage companies to develop their products focusing on design.

Design support includes programmes to assist companies in using design to their business advantage.

Design promotion includes specialized bodies and all actions aimed at increasing awareness among companies and citizens for the adoption of design, its appreciation for boosting welfare and competitiveness.

Design education includes traditional tertiary design education programs both from the public and private universities, also specialized design training for companies and professionals.

Design actors are design-related organizations, contributing sufficient linkage between design professionals, companies, government bodies and users (citizens).

Design users refer to who and how (companies) use design in a country or region

Design funding refers to financing or co-funding available for companies and potentially other organization to invest in design, such as, vouchers, subsidies, grants and tax credits.

Research is about the system and linkage of national and regional design centers and their correlation with companies

Design professionals refer to the number and distribution of designers as well as the networks and associations representing designers such as design directories, networks and grassroots initiatives.

The first six elements (Design policy, Design support, Design promotion, Funding sources, Design education, Design actors) are centers policy creating tools and raising demand for design, according to Whicher (2014). Therefore for analysis of case-studies in Japan and Italy is focused on those bodies and initiatives, while the situation in Russia is analyzed comprehensively in order to create the appropriate plan for linkage with Design users and suppliers.

2.3 Design promotion history overview

This study was developed through a review of publications on design policy and programmes for the support and promotion of design, including research papers, non-peer-reviewed publications, seminar proceedings, articles published by practitioners and government documents.

The objective of this study is to provide fundamental knowledge about design promotion that will inform the development of this research, rather than developing a critical review of the history of design promotion. It seeks to identify issues that have been influential in the advancement of this practice.

Usually, design promotion activities include related Fair, Awards, media and other activities aimed at increasing design awareness within companies that can use it for benefits and increasing competitiveness, as well as for educating citizens to appreciate good design, improve quality of life, being selective, and become co-creators of products for their life.

3. DESIGN IN A NATIONAL DEVELOPMENT STRATEGY

3.1 Economical impact of design

Various studies have shown that good design can lead to competitive advantage (Acklin, C.; Fust, A., 2015) On the other hand, the relationship between design and performance seems to be rather nuanced and dependent on intermediary factors (Chiva and Alegre, 2008). For example, where design in the new product development process is not new to the industry (like furniture industry) such a factor alone would not be sufficient to improve performance. For example, Hertenstein et al. (2005) find in research that investments in design are able to generate financial returns increase sales, make and higher returns on assets. So can be generally assumed, that design makes a positive contribution to the company performance. But design's contribution depends on the role design and designers play in the process, e.g., whether design is in cost or profit department, level of involvement in organizational processes etc. Based on European experience Montresor S. (2016) within a case-study research, defined, that when design is utilized as functional and narrow duty, designers are engaged only in specific NPD activities, usually in one last shaping stage of the process, and excluded from others, typically production and launch. In this case designers are reacting on externally developed briefs and perform relatively defined - that approach can exclude from complementarities between design staff and other staff and from the potential for more radical innovation through design (Verganti, 2009).

3.2 Design as a competitive instrument of industrial policy for national welfare

3.2.1 Role of industrial policy in the strategy of economic growth

Speaking of economic development or growth, specialists usually mean more than just the growth rates of re of GDP. Broader definitions for countries in general, include an assessment of the welfare of society (Arrow et al., 2010.) According to Stiglitz (2010) for measurements of economic performance, environmental, and social dimensions, some aspects of which are often referred to as sustainability, are the central concepts in the measurement level of economic development. In the current work the World competitiveness index, applying comprehensive approach is used to define the economic level.

The Global Competitiveness Index 2017-2018 Rankings is based on how countries and enterprises manage the totality of their competencies to achieve increased prosperity. The Yearbook's competitiveness index contemplates the elements that shape a country's ability to create and maintain an environment that sustains more value creation for its enterprises and more prosperity for its people.

In this paper the Industrial policy, as a part of strategy to reach the national economic growth, is defined in a broad manner: it includes all the policies and interventions aiming at favouring the restructuring of industry and the development of new industries or R&D policies. IP can be formulated the set of government measures - targeted at specific industries and/or manufacturing firms - implemented with the objective to support the development and upgrading of industrial output.

The rationale for industrial policy is that it can steer the evolution of the economy towards activities that are desirable in economic terms - improving efficiency -, in social terms -

addressing needs and reducing inequality -in environmental terms - assuring sustainability - and in political terms -protecting key national interests. The economic rationale includes the search for improvements in static and dynamic efficiency (especially in the cases of market failure); in coordination of decisions; in the framework conditions of economic activities. Gains in dynamic efficiency are the most important argument for industrial policy. Public policy can expand available resources, favouring the growth of firms and industries that are characterised by strong learning processes, technological change, productivity increases, scale economies, internationalisation, and rapid demand growth. The resulting benefits include faster growth of production, incomes, employment and competitiveness (Pianta, 2014, Mazzucato et al., 2015).

In this paper, design promotion is considered as a part of the government policy for the development of industries, which suppose to benefit design approach application. Thought the authorities, responsible for each policy making may vary within this research intended to find if there if correlation or synchronization and how policies and their impacts can affect each other through the time.

3.2.2 Design impact on national economy competitiveness

If to measure design itself, it is very small component in any national economy, sometimes it is not even calculated as factor or industry. for the policy creation, it could be a barrier as it's share is too small. But through different studies throughout, measuring it's contribution to added value of industrial products etc different, its performance could be bigger than assumed and overall design brings considerably added value to economy. (TBR, 2015)

There is marked correlation between the use of design and the economic performance of companies and subsequent macroeconomic growth. Furthermore, it is apparent that companies where design is a core pillar and which purchase design services both internally and externally perform better. Whether to have an internal design unit and thus indirectly buy the design services internally or to buy them from outside the company are partially regarded as investment decisions each containing certain pros and cons. (Kretzschmar, 2013)

However, Design is often regarded as a soft parameter - alongside with human resources and marketing - which is difficult to quantify since its mechanism cannot be defined in isolated terms. At least the last decade marketing has been granted individual status in company accounts, the economic benefits of design are still difficult to identify due to the comprehensive nature of the activity.

The most commonly used case for the relationship between the use of design in a country and its overall competitiveness is the one made by the New Zealand Institute of Economic Research (NZIER) in a study from 2003. The NZIER made a selection of indicators from the World Economic Forum's (WEF) Global Competitiveness Report 2001-2002 to create a composite 'design index': capacity for innovation, production process sophistication, extent of marketing, extent of branding and uniqueness of product designs.

The full performed analysis on 2017/18 situation according o the NZIER system is in Appendix 1.

Table 2 presents the comparison of general country ranking and its design index.

Total rank	Design rank	Country
1	1	Switzerland

Total rank	Design rank	Country
16	17	Israel

Total rank	Design rank	Country
30	38	Saudi Arabia

2	5	United States	17	19	United Arab Emirates	31	30	Czech Republic
3	14	Singapore	18	7	Austria	32	39	Thailand
4	4	Netherlands	19	12	Luxemburg	33	42	Chile
5	6	Germany	20	10	Belgium	34	34	Spain
7	3	Sweden	21	26	Australia	35	33	Azerbaijan
8	8	United Kingdom	22	16	France	36	32	Inonesia
9	2	Japan	23	20	Malaysia	37	35	Malta
10	13	Finland	24	18	Ireland	38	41	Russia
11	11	Norway	25	21	Qatar	39	28	Poland
12	9	Denmark	26	27	Korea Rep	40	31	India
13	23	New Zealand	27	29	China	41	40	Lithuania
14	25	Canada	28	24	Iceland	42	36	Portugal
15	15	Taiwan, China	29	37	Estonia	43	22	Italy

Table 2. Design-index in first 50 top-ranked economies by World Index

Source: WEF Report <http://reports.weforum.org/global-competitiveness-index-2017-2018/competitiveness-rankings/>, retrieved in February 2018

From the analysis Using the NZIER method and WEF data, there is a very strong correlation between the use of design in a country and its overall competitiveness (Table 2), but research does not say anything about causal relation. However, design cannot be isolated as an explicative factor for competitiveness, because other important factors such as public institutions performance, education system, practices and culture play significant role.

3.3 Elements of efficient design strategy

3.3.1 Current strategies for design policy making in the world

This chapter investigates the linkage between economic competitiveness and the existence of design strategies in individual countries. Conclusions are set comparing the map of strategies for design involvement of the corresponding countries' and stage of economic development.

Design policy is more and more becoming an integrated part of the industrial policy to promote national competitiveness. Most countries seem to recognize the broad nature of design and, hence, its wide array of economic, cultural, social and environmental benefits. Design policies in current context should be more considered as a strategic tool for innovation, economic progress and job creation. Design is therefore also increasingly being emphasized as a tool in the overall industrial policy to boost competitiveness. The link to industrial policy might be a reason why some countries do not want a national design policy (like US), since they traditionally have had a desire to minimize the government's interference with the market. On the other hand, in countries such as Singapore, Hong Kong and South Korea where the industrial policy is very much about promoting certain industries or clusters of industries i.e. a form of "picking the winners", we also see very strong national design policies.

For the following detailed survey from selected top 43 countries by Global competitiveness index, which uses a combination of indicators retrieved from available source (Gisele Raulik-Murphy, 2010) and updated for 30 countries, overlapping the updated ranking.

To describe the design strategy status, there used basic elements: education, promotion, support and policy, usually available of first and middle stages.

Design support and promotion programmes are schemes implemented to assist businesses in using design in order to improve their businesses (Raulik,2004). Design promotion programmes differ from support, basically they are able to attract other funding sources or even sponsorship and generate some income. Promotion campaigns are often targeted at the wide public, usually with the objective of raising awareness of the benefits of design through different channels such as exhibitions, awards, conferences, media etc).

A support programme is usually reliant on government funds and specifically focused on businesses. Professional education indicates availability of tertiary education programs in fields "Product designs", "Design and Engineering".

World index	Country	Education	Promotion	Support	Policy	GDP pc
1	Switzerland	+	+			79,887.5
2	United States	+	+			57,638.2
3	Singapore	+	+	+	+	52,962.5
4	Netherlands	+	+	+	+	45,637.9
5	Germany	+	+	+		42,161.3
7	Sweden	+	+	+		51,844.8
8	United Kingdom	+	+	+		40,367.0
9	Japan	+	+	+	+	38,900.6
10	Finland	+	+	+	+	43,401.2
11	Norway	+	+	+		70,868.1
12	Denmark	+	+	+	+	53,578.8
13	New Zealand	+	+	+	+	39,412.2
14	Canada	+	+			42,183.3
15	Taiwan, China	+	+	+		24,337.1
19	Luxembourg	+	+			100,738.7
20	Belgium	+	+	+		41,271.5
21	Australia	+	+			49,755.3
22	France	+	+	+		36,857.1
26	Korea, Rep.	+	+	+	+	27,538.8
27	China	+	+	+		8,123.2
29	Estonia	+	+	+		17,736.8
31	Czech Republic	+	+	+	+	18,483.7
32	Thailand	+	+			5,910.6
33	Chile	+		+		13,792.9
34	Spain	+	+	+		26,616.5
38	Russian Federation	+				8,748.4
39	Poland	+	+	+		12,414.1
40	India	+	+		+	1,709.6
42	Portugal	+	+			19,838.0
43	Italy	+	+	+		30,661.2

Table 3 Presence of design education, promotion, support and policies in the Top ranked countries

Source: Gisele Raulik-Murphy, 2010, updated by author in December 2017

Professional education design was available in all the reviewed countries. Design promotion programmes in 28. 8 countries had design policies on a national level (Table 4).

The only countries that maintain four levels of design strategies (promotion, support,

education and policy) are Finland, Singapore, Japan, the Netherlands, New Zealand, Korea and the Czech Republic and India - means that they declared that policies for design were actually adopted.

Also from this overview there could be mentioned that Russia among top countries almost the only one doesn't have basic design promotion and support activities.

With regard to the design strategy the countries could be mapped according to the Danish Design Centre system (2003) there are several steps of design involvement in the company in the processes, that also can be applied to the nation:

Step № 1: Non-professional design - is an inconspicuous part. . Design solutions are based on the perception of functionality and aesthetics shared by the people involved. The points of view of end-users play very little or no part at all. Design is not considered as a significant factor in development

Step № 2 Design as styling. Design is perceived as a final aesthetic finish of a product. Policies are focusing on developing a unique or original style

Step № 3 Design as process: Design is not a finite part of a process but a work method adopted very early in product development. The design solution is adapted to the task and focused on the end-use. State-wise it means inclusion of design in development projects as their integral component.

Step №4 Design as innovation: The design process combined with the company vision and future role in the value chain are important elements. For the country design provides diversity and originality of constructive solutions, makes a decisive contribution to the creation of value.

In the Table 5 below the countries are placed on the Danish "Ladder" according to their design activity:

"Design ladder"	Generation of policy in the field of industrial design	Basic policy mechanisms	Countries a position at this "design ladder"
" Lack of design ": it is not considered as a significant factor in development	Policy is not formed	Design - the scope of individual private and public initiatives.	Russia , Bulgaria, Hungary, Lithuania, Slovakia, and others (> 40% of EU members)
" Design as a style ": focusing on developing a unique or original style (school or product)	1st generation policies: government interventions aimed at creating a school of design. Design as a means of industrial policy (emphasis on industrial design)	The emergence of the body responsible for national policy in design. Deployment of a system of design centers, support of the education system and professional consultations. Subsidy programs	Italy , Poland, Czech Republic, Latvia, Romania, France, Latvia, Germany, China, India, Qatar.
" Design as a process ": the inclusion of design in development projects as their integral component	2nd generation: the institutional and educational policy. Policy on the design of the service (shifting emphasis on interdisciplinary design)	Development of the system of design education, branding of design and sector of the creative industry, support for export design. Creation of a system of standards obliging to resort to design in the production and solution of social problems	Japan , Korea, Estonia, Switzerland, Spain, Sweden, Holland, Austria, Belgium, etc.
Design as a continuous cycle of launching innovative development : design provides diversity and originality of constructive solutions, makes a decisive contribution to the creation of value	The third generation of policy: the integration of design and innovation. The development of design as a strategy of socio-economic and innovative development	Inclusion of design in educational programs, incl. school, the adoption of state strategies for the development of design, primarily, the combination of technology and design, the development of urban design, etc. setting goals for total implementation of "green", "sustainable", "universal", etc. design. Creation of a large number of diverse organizational design	USA, Denmark, Finland, Great Britain.

Table 4. Countries on the "Danish design ladder"

Source: Report NGO Center for Strategic development, Russia (2012), updated by the author in Jan 2018

Also with dividing countries to 3 basic steps and transitions according GDP per capita rate, there could be find the consistency between the stage of development and strategy applied.

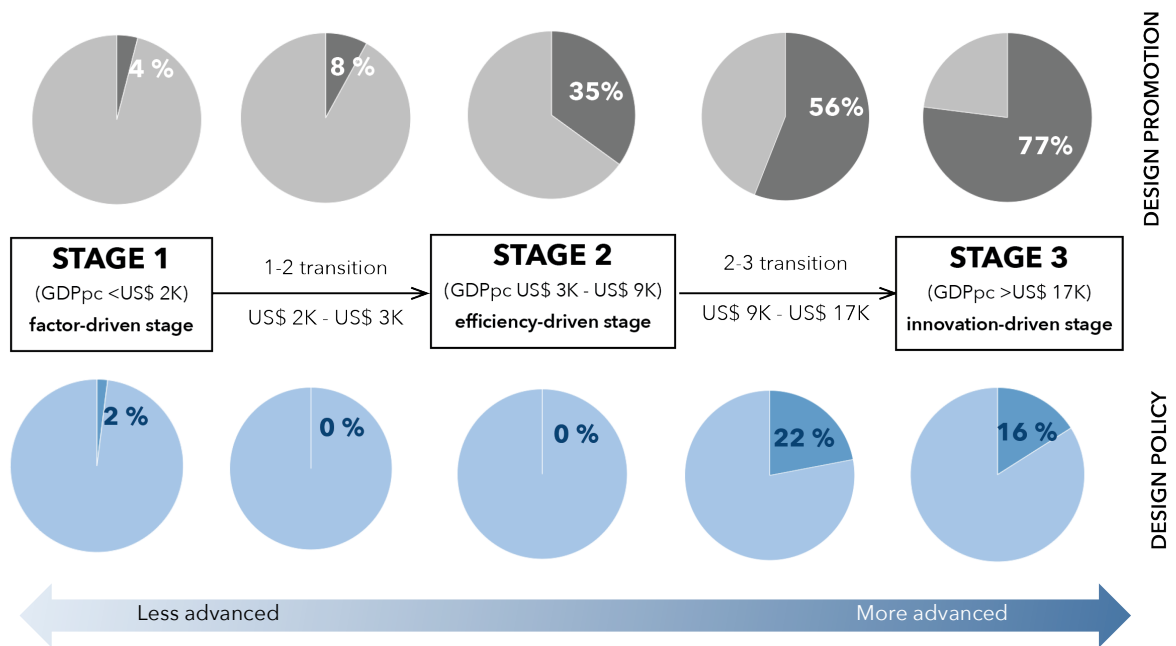


Figure 1. Development of Design policies according to national economic development stage

Source: Gisele Raulik-Murphy, 2010, drawing by the author, November 2017

- The evidence clearly demonstrates that countries positioned higher in the stages of development tend also to be those where design policies and programmes are applied
- Design promotion programmes are present in 77% of the more sophisticated economies (Stage 3) compared to 4% of countries with less developed ones (Stage 1). Design policies are present in 16% of countries at Stage 3 compared to 2% at Stage 1.
- Countries in the transition from stages 2 to 3 perform better in comparison to other stages: 56% of countries run design promotion programmes, 44% run design support schemes and 22% have policies for design. This shows their willingness to invest and increase their performance to move to the next stage.
- Regarding Education, though, all the countries have any kind of education, the best design schools are placed in countries with strong design tradition

Schools of design are covered by various international ratings, among which is known is the rating of BusinessWeek. Among top universities there can be found Politecnico di Milano and Domus Academy in Italy, Chiba University, Kyushu University and Musashino Art University in Japan. There are no Russian educational institutions among the world's leading design schools, which can be illustrative of the poor design education in Russia

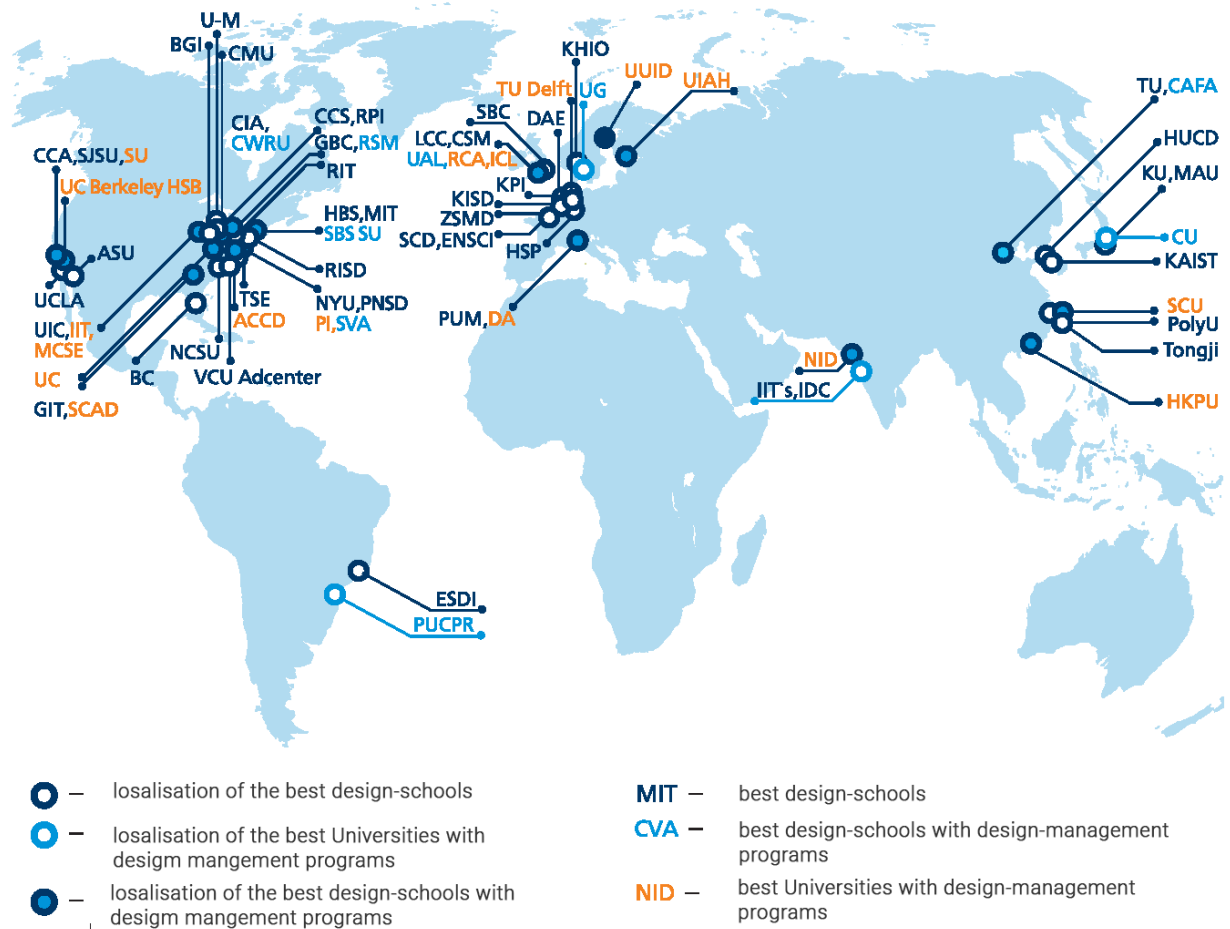


Figure 2. Map of the world's best design school

Source: NGO Expert club, based on Bloomberg Businessweek data, retrieved in January 2017

Conclusions

This chapter research results show that more competitive economies are conscious of the need for innovation and design in as driving force for sustainable development. The information was analyzed using several techniques and compared with data from The Global Competitiveness Report. The findings suggested that programmes and policies for design are mainly present in the most competitive countries. In a comparison of the use of these strategies with the stage of a country's development, it was possible to identify the correlation. The countries in the transition stage invest in design programmes in order to enlarge their competitive advantage, countries at the lower stages of development are usually not prepared to use design as part of their economic, cultural or trade programmes, as they have priorities other than industry improvement.

With the Global Competitiveness Index, this study has also identified a relationship between the position of countries in this index in comparison to their use of policies and programmes for design.

The overview show the variety of scenarios and the role of government in design promotion varies significantly Top countries by design index and overall development don't necessary have national design policies. Some countries have developed explicit design policies at a national level with the long design culture (UK, Finland, Denmark, South Korea), some have mostly regional and local support schemes (Italy, Germany). Some design programs are

mainly government-funded (for example Scandinavian countries, South Korea), others co-funded by industry (for example USA, Italy, UK, Germany). (Raulik-Merphy, 2010)

This study has also shown that the number of countries with design policies in place is much lower than the number of countries delivering design programmes. This is evidence of a lack of forward planning and preparatory studies before the implementation of support and promotion programmes. This is an indication that there may be a need for more coordinated actions, which will maximize the contribution that design promotion can give to economic development. Furthermore, the survey also demonstrated that country with less sophisticated economies are less likely to use design policies to address particular issues. With very few exceptions, programmes for design are not considered a tool for economic or social development in developing countries.

The country in focus - Russia, could be found on the design presence map on the very early stage. Thus before speaking about design as a core tool for innovation and sustainability, the system should pass certain paths towards. Design presence acknowledgment should be boosted by design promotion activity on different levels of governance.

This chapter confirmed two fundamental issues for this research: the existence of a relationship between design promotion strategies and economic development and the uneven distribution of design promotion across countries of different stages of economic development. With these findings and the data gathered during the survey, the foundations were set for the criteria and selection of the case studies to be presented in the next chapter.

3.3.2 Historical review of the development and implementation of design promotion

The objective of this study is to provide fundamental knowledge about design promotion worldwide that will enhance as reference the development of this research, rather than developing a critical review of the history of design promotion. It seeks to identify issues that have been influential in the advancement of this practice.

19th-20th Century: the beginning of design promotion

For centuries government decisions have influenced the development of design, creativity and innovation in both positive and negative ways.

The first events for the promotion of national industry took place in the 19th Century: the great exhibitions for industrial promotion in Paris in 1798 to encourage improvements in agriculture and technology in France. The exhibition proved efficiency to French industry. Repeated the event, increasing in size each time, in 1839, 1844 and 1849.

In response to this act, the British held Great Exhibition of the works of Industry of all Nations in 1851 - the largest one, accompanied by invitation of contributions worldwide. Its objective referred to encourage art and science together and stimulate industrial design. With the great profit the huge land were purchased in London, where a unique cultural hub was built including three museums, theatre and some of the most important educational institutions, including Imperial College and the Royal Colleges of Art and Music (Gibbs-Smith, 1964)

The Great Exhibition of 1851 impressed Napoleon III. Back in France, he launched an exhibition in 1855. Technical novelties included aluminium sheets and Goodyear waterproofs were presented there (National Diet Library of Japan, 2011).

At the end of the 19th Century, two important institutions were founded in Scandinavia: the

Swedish Society for Crafts and Design (1945) and the Finnish Society of Crafts and Design (1875). Both organisations were created with the objective to encourage crafts skills. Later they became important national design promotion organisations: the Svensk Forum and the Design Forum Finland (Design Forum Finland, 2006; Stenros, 2007; Svensk Form, 2005).

At the beginning of the 20th Century the demand for products, the availability of machinery and the rise of mass production encouraged the establishment of the design profession. In 1913 the title 'industrial designer' was first registered at the US Patent Office, used as a synonym of the term 'art in industry', and the American Union of Decorative Artists and Craftsmen (AUDAC) was founded with the objective of organising a legal framework for design patenting and protection (Gantz, 2008).

Post-war period: the foundation of national design programmes

In this post-war era design and architecture were playing a major role in the reconstruction of countries and the improvement of citizens' quality of life around the globe. As a result, many design events were taking place in individual countries as well as on the international scene:

- The founding of national promotional bodies: the Design Council in the UK (1944); the German Design Council (1953); the G-Mark Award in Japan (1957); the Norwegian Design Council (1963); the Design Institute in South Africa (1965); and the Japan Industrial Design Promotion Organisation, JIDPO (1969);
- Salone del Mobile in Milano (from 1961) Biennial exhibitions of design at the Museum of Modern Art in the USA (from 1950th);
- The establishment of international design promotion associations: International Council of Societies of Industrial Design, ICSID (1954); International Federation of Interior Design, IFI (196L)
- establishment of main Design awards: iF Design Award (1954), Red Dot design Award (1955), Compasso d'Oro (1957), G-Mark (1957) etc

From the 1950s the link between design, style and industry started to be recognised as an asset for commercial advantage and exports. With this idea some advanced Governments invested in the establishment of industrial design organisations.

During the 1980s and 1990s The Far East engaged in design promotion with the challenge of changing the perception of cheap products. With this goal aligned with exports and economic development, East Asian governments were keen to make large investments in the promotion of design (Blaich & Blaich, 1993; Cho, 2004).

21't Century: fast design dissoution

At the beginning of the 21st Century, design was starting to be recognised as a strategic tool and not only as a marketing asset. This was reflected in design programmes and their approach to companies. The Danish Design Centre was at the forefront of this idea, launching the Danish Design Ladder - a framework used as a method to measure easily the level of design adopted by a company, which allowed design support programmes to measure the impact of their intervention. (Ramlau & Melander, 2004). This approach due to effectiveness was also adopted by other countries in Europe (Sweden, Austria, the UK) and used in further research as reference to map countries.

As design became strategic, design promotion and support programmes evolved. The need for better planning also became apparent. In consequence, design policies grew in importance. Besides the examples of Korea and Taiwan, which had the practice of following five-year plans, other countries published policy documents: Finland (Design 2005) in 2000;

the UK (The Cox Review) in 2005; Denmark (Design Denmark) and India(National Design Policy) in 2001, Japan (METI design policy) in 2003.

The scope of design promotion strategies tends to broaden as the design discipline also evolves from use of design solely for industrial and economic benefits to solving social issues and reorganizing governance.

Conclusions

This brief design promotion history review established revealed the idea of global trends and established connection between historical facts and the evolution of design programmes. Some key events (e.g. the Industrial Revolution, the Post-War period, the recent fall of communication barriers) have generated a demand for design, which, in turn, stimulated the implementation of design programmes and policies across the globe. This understanding is relevant for this research in two aspects: in confirming the connection of the national context for the development of design programmes and policies, topic addressed in the first research question presented in chapter 1; and in developing the ability of interpreting economic and social context in order to develop the adequate the of design promotion strategies.

4. CASE STUDY: JAPAN

General data

Population: 127,304,591

Total area: 377,962 km²

Population density: 259 /km²

GDP: 4,356,322

GDP per capita: 38,196

R&D spending: 3.56 % of GDP

R&D spending as % of GDP 3.4%

R&D spending in PPP\$ \$170,589.5M

R&D spending by sector of performance

- Business \$132,644.8M (78 %)
- Government \$14,202.9M (8%)
- Universities \$21,457.0M (12%)
- Private non-profit \$2,284.8M (7%)¹

The cultural and creative industries in Japan

Economic value: €2870M (2014)

Employed: 995,000 people (2014)

Japan's design has bloomed at a stroke in the period of rapid economic growth after the WWII and became one of the driving forces to change the living and culture of the Japanese people. That happened thanks to Japanese government policies and initiatives, aimed to develop competences and technologies of local producers to compete on the global market, prepare the products for export as well as to enhance living environment of citizens.

4.1 Socio-economic overview of Japan

Japan has been modernizing itself for the past 150 years. During that interval, it placed a strong focus on economic development after its new constitution after World War II renounced war. The first wave of economic development was seen in the 1950s and 1960s as Japan experienced rapid economic growth with roughly 10% growth of real GDP. This growth, sometimes referred to as Japan's economic miracle had several notable aspects. The growth was brought about by a complex set of factors including not only resources such as the well-educated workforce and active investment, but also productivity improvements, efficient management of companies, development of transportation and technology, appropriate government policies, as well as the international political and economic environment (Patric & Rocovsky, 1976). Osamu Shimomura, a leading economist at the time who provided the theoretical framework for analyzing the economic miracle, pointed out that

¹ STATISTICAL HANDBOOK OF JAPAN 2017 - Ministry of internal affairs and communications

² G-Mark official web site <http://www.g-mark.org/about/a01.html>

the Japanese people, who had been released from war-time constraints such as the gold standard and zaibatsu, greatly improved their creativity (Shimomura, 1962)

The post-war Japanese industry has grown from having low wages intensive industries such as agriculture, textiles in 1945-1950 to capital-intensive industries with higher wage rates and in the 1960s-early 1970s turned to heavy and automation systems - shipbuilding, automotive steel, consumer electronics. Later it evolved from focused production in the 1970s and 1980s; to flexible production (making a range of products on the same production line using just-in-time inventory to provide higher variety and lower in a short time. (Musselwhite, 1990). This was done by absorbing foreign technologies and making continuous improvements while maintaining quality consciousness (Ohno K. 2006)

The industrial policy of Japan was based on the system of state indicative planning. In the post-war period, the aim of the industrial policy was a rapid economic recovery through the development of the coal and steel industries. From the 1950s (and until the 1980s), the government of Japan actively intervened in industrial development, pursuing policies, aimed at the development of industries with high added value - potential industries, "winners" [53sh (automotive, electronics, engineering).

Japanese companies tend to market technology-intensive products. First, R&D focusses on continual incremental improvement, which naturally extends product technology.

Japan retains a dominant STI position in key industries such as automobiles, electronic components, digital cameras and machine tools. In 2004, all Japanese universities were semi-privatized and turned into 'national university corporations', with both faculty and staff losing their status as public servants. There is an assumption academic policies imported chiefly from the USA, such as competitive R&D funding, centres of excellence and a shift towards more frequent temporary academic positions, may have undermined the unique features of the existing university system by helping the top universities but damaging R&D capacities at other universities and destroying old domestic research networks.

Japanese Ministry of industry and trade played the utmost role in the Japanese miracle during the postwar period. One of its primary duties is precisely the creation of those: powerful interests in the economy that favor shifts of energy and resources into new industries and economic activities where design is promoted as the core element for innovations as drivers of the economy and global competitiveness.

Establishment of general policies including those for the promotion of design is carried out by MITI (Ministry of Industry and Trade of Japan since 1957.

Today, despite an overall economic slowdown beginning in the 1990s, Japanese industries remain amongst the most highly advanced and innovative worldwide. In many manufacturing industries, Japanese companies are world leaders in both production and technological design-wise advancements. Japanese manufacturers have traditionally excelled in steadily improving production processes and accumulating production know-how within their organizations to achieve the ultimate goal of high quality products at competitive prices. However, this Japanese model is losing its effectiveness in many industrial fields, as China, the Republic of Korea and other nations with lower labor costs emerge as tough competitors. (UNESCO, 2010)

Based on the recognition that everyone has the potential to conduct economic activity, that one of the driving forces of the economic miracle was the creativity of the general populace. This is one of the earliest statements referring to the importance of design for activating innovation and economic development in Japan.

In the 1950s-1970s, the key instruments of industrial policy were : protectionist measures (tariff protection and import quotas), tax incentives for companies - according to a sectoral criterion, direct subsidies to industries (this type of support was used until the 1970s), export subsidies, provision of loans (Okuno-Fujiwara M. ,1991)

In the years 1960-1973. The Ministry of Trade, Economy and Industry of Japan has implemented a policy to restrict competition in order to avoid excessive accumulation of capital. In the 1980s, there was a transition in Japan from the implementation of a "strategic" policy to the implementation of a "corrective" policy [60], a shift in focus towards supporting the private sector in R & D activities (Noland M., 2007).

It should be noted that, despite the active role of the state from the point of view of implementing industrial policy, Japan was characterized by a low level (financial) of state participation in innovation activity until the 1990s. Actually, the innovative activity of enterprises was primarily aimed at the implementation of technological (process), rather than grocery, innovations (the current policy is aimed at changing this model). 1 Industries were selected on the basis of the following criteria: an assessment of their importance for the future of Japan's economy; contribution to demand-driven growth; use the potential of the achieved level of industrial concentration; the ability of market forces to ensure the development of public-private partnership.

Since the late 1990s, tools for the development of small and medium-sized enterprises is the program of guarantees for export credits, measures for the development of innovative infrastructure and tax incentives. Since the beginning of the 2000s, the goal of supporting promising industries has identified three key areas of industrial policy: human capital and professional development; development and protection of intellectual capital; implementation of measures to intensify R & D (Kuchiki A., 2007)

Since the 2000s, the state has begun to pay increased attention to the development of regional clusters - a policy direction that includes both regional policy and tools to develop business cooperation with universities and research centers Noland M., 2007).

4.3 Japanese Design Eco-System

In Japan the government control the national design policy developed in 2003. Design promotion is delivered though professional organizations, associations, non-profit organisations and industry bodies.

1) Design policy

Developed in Japan in 2003 by the Ministry of Economy, Trade and Industry of Japan and since that time is regularly updated.

In New 2016 Design Policy handbook the concept pillars are:

1. Management

As the relative competitiveness of Japanese companies falls and the domestic market is expected to shrink due to the declining birthrate, it is important to establish company individual positioning in the world market. To that end, management must be design indispensable to recognize and to utilize design at the core of management.

2. Education

Area for cultivating human resources capable of Design Thinking and implementation

3. Internationalization

Although the Japanese design developed dramatically after the war, the domestic market is still small and for the future it is necessary to sell it to the world market through internationalization, information and at overseas exhibitions.

A. Diffusion and awareness of design

B. Design promotion in regions

- C. Design promotion in SMEs
- D. International cooperation through design
- E. System concerning design protection etc

Usually, there is issued detailed Handbook, published on METI web-site and includes the following documents:

- Promotion of design policy
- Outline of design policy
- Detailed explanation
- Design related statistical materials
- Design promotion measures in each prefecture etc.
- Main design-related organizations

2) Design support



Cultural industry national strategy (Cool Japan strategy)

METI promotes overseas advancement of an internationally appreciated "Cool Japan" brand, cultivation of creative industries, promotion of these industries in Japan and abroad, and other related initiatives from cross-industry and cross-government standpoints.

Created to the appeal of Japanese culture, lifestyle and clothing food into additional value (Commercialization of the Japanese appeal) in addition to the traditional industry such as cars, home electronics and devices by capturing vibrant overseas demand.

The role of MET is inking "Cool Japan Initiative" to private business and spreading them out to the world.

Supporting of design in the regions

measures to strengthen research and development and regional cooperation.

- Designer database ("JAPAN DESIGNERS" <http://www.japan-designers.jp>) - a database which can search designer information of all over Japan from past work of the designer and award history etc. Promotes matching of designers with those who need solutions by design, such as companies, organizations, and individuals in Japan and overseas
- Design Development Instruction Liaison Committee / Regional Bureau of Economy, Trade and Industry

Seminar for companies on comprehensive design management including management, distribution etc. to promote design in regional industry the way of design development guidance from the ground and to make it more effective.

Supporting design for small and medium enterprises

- JAPAN Brand Development collaborative workshops aimed at formulating a strategy based on companies' own strengths of products and technologies,
- Support for overseas trade and participation fairs for SMEs - JETRO (Japan External Trade Organization) covers the exhibition expenses, usually funds the Japan Pavilions. Also, offers consultancy and financing for various services such as customs clearance, booth design, local public relations, etc.
- Traditional Craft Industry support project support traditional craft items designated by the Minister of Economy, Trade and Industry (222 items as of November 2013) through collaboration with other fields such as tourism and other production areas for the development of sales channels at large domestic and overseas audience.

3) Design promotion

3.1 Awards:



The most famous and old and globally recognised award is **Good Design Award** - since 1950 aimed at developing products, such as household appliances and cars, from industrial products, houses and buildings, various services and software, publications

The Historical Transition of the Good Design Award for Review

From 1950 Daily goods, home appliances started as target for prevention of counterfeit goods to 2014 Reorganization into three areas of tangible, intangible and fusion including methods and social contribution activities²



Kids design Award is a program which recognizes outstanding products, space and services that realize and disseminate the philosophies of designs for kids, namely, designs that contribute to the safety and security of children, designs that cultivate children's creativity and sensibility, and designs for comfortably raising children. Winners will be allowed to use a Kids Design mark labeled on their recognized works.³

3.2 Exhibitions and museums

21_21 Design Site - was created by architect Tadao Ando and fashion designer Issey Miyake. "The idea was to create not only a museum that shows exhibits," says Ando, "but also a place for researching the potentiality of design as an element that enriches our daily life, a place that fosters the public's interest in design."⁴

Tokyo Midtown Design Hub - is the base of the design network established in April 2007 and focused on related events. Organizations that play three different roles of design promotion, job function, research education, and others collaborate to link information on "people", "business" and "knowledge" by design, disseminating information through exhibitions, seminars and publications.⁵

3.3 International cooperation

In order to deepen mutual relations with the international economic society, the projects for international exchange and cooperation through design are being conducted

- Good Design Award Overseas Expansion - winners are given preferential treatment in participating overseas design awards, etc.). Having a relationship with Thailand's "Design Excellence Award", Indian "I-mark", Singapore «G Mark», collaborating. In addition, Asian countries in Taiwan, South Korea, Hong Kong and Cambodia, Laos, Myanmar, South East of Vietnam on the spread of design and education activities.

- Cool Japan Overseas Matching - conducted presentations and other activities for local companies in the point market / growth markets, namely cities. It is aimed at grasping the demand in overseas B to C market of "a cool material of cool Japan".

² G-Mark official web site <http://www.g-mark.org/about/a01.html>

³ <https://kidsdesignaward.jp/>

⁴ <http://www.2121designsight.jp/en/>

⁵ <http://designhub.jp/en/>

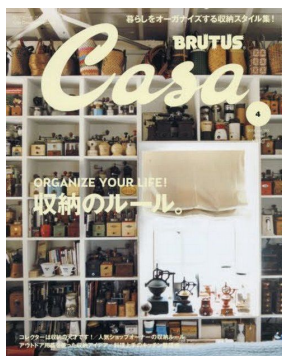
- Advanced personnel point system - with the Bureau of the Ministry of Justice, foreigners in order to promote the acceptance of foreign talented nationals, take preferential treatment in immigration control by the point system. Points are set for each item such as academic background, work experience, annual income, achievement, and as a result of evaluation the advanced candidates who reached the score as advanced personnel, could be granted a period of residence, relaxation of the permission requirement.

International Design and Liaison Center - international collaboration base centering on design, support active creation of opportunities for exchange and collaboration with domestic and international industry, research educational institutions, design organizations.

3.4 Design Media

Hard Copy

- Casa BRUTUS - a monthly magazine, Japan's most influential art & design magazine. Founded in 1998 with a special issue together with the Italian gourmet magazine "Gambero Rosso", Supplement of magazine BRUTUS, published by the Magazine House Corporation <https://casabrutus.com>
- AXIS Magazine - a bilingual design magazine <http://www.axisinc.co.jp/english/magazine/vol/192.html>



Digital

- PinMag (<http://pingmag.jp/>) A bilingual online magazine on design and anything about "making". They look at everything from art including; product design, packaging, architecture, web design, typography, illustration, photography, fashion, programming, graphics, video, art, toys, traditional crafts, graffiti, set design, etc. Anything that they consider inspiring and exciting.
- JDN (<https://www.japandesign.ne.jp/>) stands for Japan Design Net and they they publish design and art news for all audiences interested in being creatively inspired. JDN is also connected to To-Ryu-Mon, a website that lists the largest variety of open calls in Japan.

4) Funding sources

According to the open strategies published or METI web-site among funding sources for design promotion in the country and overseas considered:

- Ministry of Economy, Industry and Trade (Directly)
- Cool Japan Fund, Kids Design Association (METI through designated Funds)
- JETRO (METI through dedicated organisations)
- Investment banks and corporations

- Private manufacturers

5) Design education

The selection of mentioned universities was made based on professional point of view and advise of the Assistant professor of the Chiba university, Takayuku Higuchi, co-supervisor of the project.

NATIONAL UNIVERSITIES

- **Chiba University**⁶ - highest education and research institute in training sophisticated designers and design researchers in Japan.
 - In 1949 become the independent university from Tokyo Design and Art University, specialized on Design. One of the Top-ranked globally
- **KIT (Kyoto Institute of Technology)**⁷ national university established in 1949, has have two primary focuses, design and science. Forerunner of the Faculty of Engineering and Design, has varied if Design specialisations.
- **Kanazawa University**⁸ the third oldest university in Japan, founded in 1949, and one of the Hokuriku region's major institutions of higher education
- **Tsukuba University**⁹ endeavors to contribute to the progress of science and culture, has more than 300 research institutions
- **Kyushu University**¹⁰ the 4th oldest university in Japan and one of the former Imperial Universities. It is considered one of the most prestigious universities in Japan.

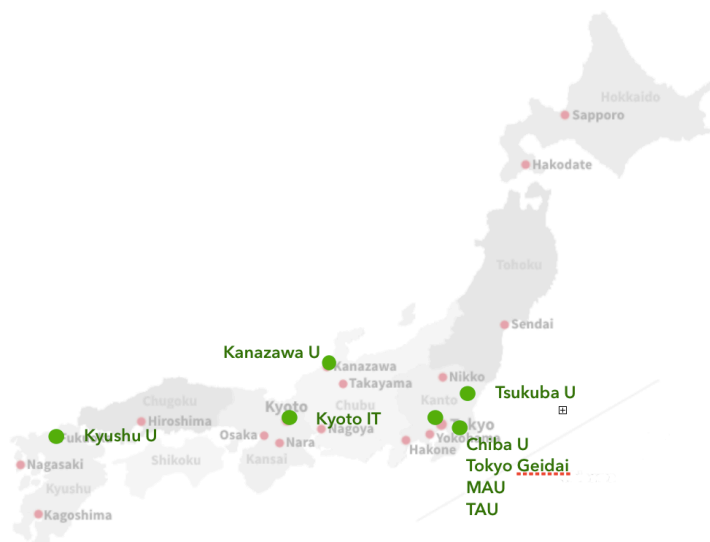


Figure 3. Design -universities in Japan, specialized in Industrial Design

Source: drawing by the author, August 2017

PRIVATE UNIVERSITIES:

- **Tokyo GEIDAI**¹¹ = stated in 1887 the Tokyo School of Fine Arts& Started
- **Tama Art University**¹² = private art university located in Tokyo, Japan. It is known as one of the top art schools in Japan founded in 1935.
- **Musashino Art University**¹³ - founded in 1962 and having roots going back to 1929 as Teikoku Art School ("imperial art school") was founded in 1929. One of the leading

⁶ Chiba University <http://www.chiba-u.ac.jp/e/>

⁷ <https://www.kit.ac.jp/en/>

⁸ <https://www.kanazawa-u.ac.jp/>

⁹ <https://www.tsukuba.ac.jp/en/>

¹⁰ <http://www.kyushu-u.ac.jp/en/>

¹¹ <https://www.geidai.ac.jp/english/art/design>

¹² <http://www.tamabi.ac.jp/english/dept/in.htm>

art universities in Japan - from its start, the university taught fine art and industrial design. D - LOUNGE opened in April 2012 and involved in the training of artists and designers and has played a part in Japan's art and design education.

TRAINING PROGRAMS

Design administration training in collaboration with the Ministry of Economy, Trade and Industry, local governments, public testing laboratories, organizations and manufacturers working on design administration programs aiming to master the necessary knowledge (designer and company needs, effective collaboration, strategy etc.) necessary to tackle the problem. METI holds training to acquire practical knowledge and skills necessary for carrying out tasks and formation of personal connections between players.

6) Design actors

- **JDP - Japan Institute of Design Promotion**

institution for comprehensive promotion of design, Good Design There are Core Programs and Projects performed by it:

- Design Promotion and Publicity: sharing design information with the public at exhibitions, seminars, and workshops (JDP, universities)
- Special awards: the main is the "Good Design Award", Japan's leading platform for design evaluation and commendation since 1957, the program has recognized design excellence in more than 42,000 winning entries and G-Mark logo attests to design that brings these things into our lives in better ways
- International Activities: national delegations to attend trade shows, support national design award programs, participate in design exchanges, and publicize design information

The Japan Institute of Design Promotion is Japan's only comprehensive design promotion organization¹⁴

- **JIDA - Japan Industrial Designers' Association** - is the sole national organization for industrial designers in Japan, and was founded by 25 members in 1952, during Japan's period of reconstruction shortly after the end of World War II. One of its major activities in its 50-year history include hosting the ICSID International Conference in Kyōto in 1973, and again in Nagoya in 1989. It would be fair to say that these International Conferences played an important part in laying the groundwork for the development of Japan's industrial design.¹⁵
- **JETRO** the Japan External Trade Organization, is a government-related organization that works to promote mutual trade and investment between Japan and the rest of the world. Originally established in 1958 to promote Japanese exports abroad, JETRO's core focus in the 21st century has shifted toward promoting foreign direct investment into Japan and helping small to medium size Japanese firms maximize their global export potential. help small and medium-sized Japanese companies export their design products to overseas markets.¹⁶

¹³ <http://www.musabi.ac.jp/english/course/undergraduate/scd/>

¹⁴ <https://www.jidp.or.jp/en/partnership/network>

¹⁵ <http://www.jida.or.jp/>

¹⁶ <https://www.jetro.go.jp/en/jetro/>

- **Japan Society for Design Engineering (JSDE)** -providing a lot of programs of information exchanges and human communications that are related to design engineering, for the public, in order to contribute to the improvement of related academic studies and technologies, and also to show our presence as a significant information center of design engineering.¹⁷
- **Japanese Society For The Science Of Design (JSSD)** Since its founding in 1954 (the first general meeting was held on March 22), the Japanese Society for the Science of Design (JSSD), a scholarly organization registered and approved by the Science Council of Japan, has been undertaking activities to achieve its goal of "contributing to the advancement of academic research in the field of design through the mutual cooperation of its members."¹⁸
- **Japan Electronics and Information Technology Industries Association (JEITA)** is to promote the healthy manufacturing, international trade and consumption of electronics products and components.¹⁹
- **The Japan Society of Kansei Engineering** the scholarly field that aims to contribute to society by discovering and utilizing the value of emotions. The major activities of the Society include publishing academic papers in Japanese, the society journal, and the Transactions of Japan Society of Kansei Engineering in English, and holding the Spring Conference, the Annual Conference and lecture meetings.²⁰

There are some other design related associations in Japan, for this work there were selected the the most referenced and mentioned in the National design policy book.

Design protection s carried out by the **Patent Office**

Since 2012, the Patent Office has "Intellectual Property Comprehensive Support Desk" that conducts a one-window service, for 47 prefectures nationwide.

Conclusions

The overall design system in Japan could be represented as the following scheme (Fig.4). From the research outcomes it's easy to identify the strong influence of Government Bodies on design promotion strategy. At the same time the trust to the government and company security is very high. The system is pretty simple and not overlapping with functions and support measures.

Consistent connection with the strong order between companies, research centers and designers is established and clear. Design education in Japan is considered to be of high quality. At the same time, the connection between graduates and companies is not clear. Existing system of specialised Association is transparent and gives power to the parties involved to find the right and only way to solve the problems.

¹⁷ <http://www.jsde.or.jp/english/>

¹⁸ <http://jssd.jp/en/about/>

¹⁹ <https://www.jeita.or.jp/english/>

²⁰ <http://www.jske.org/abouts/>

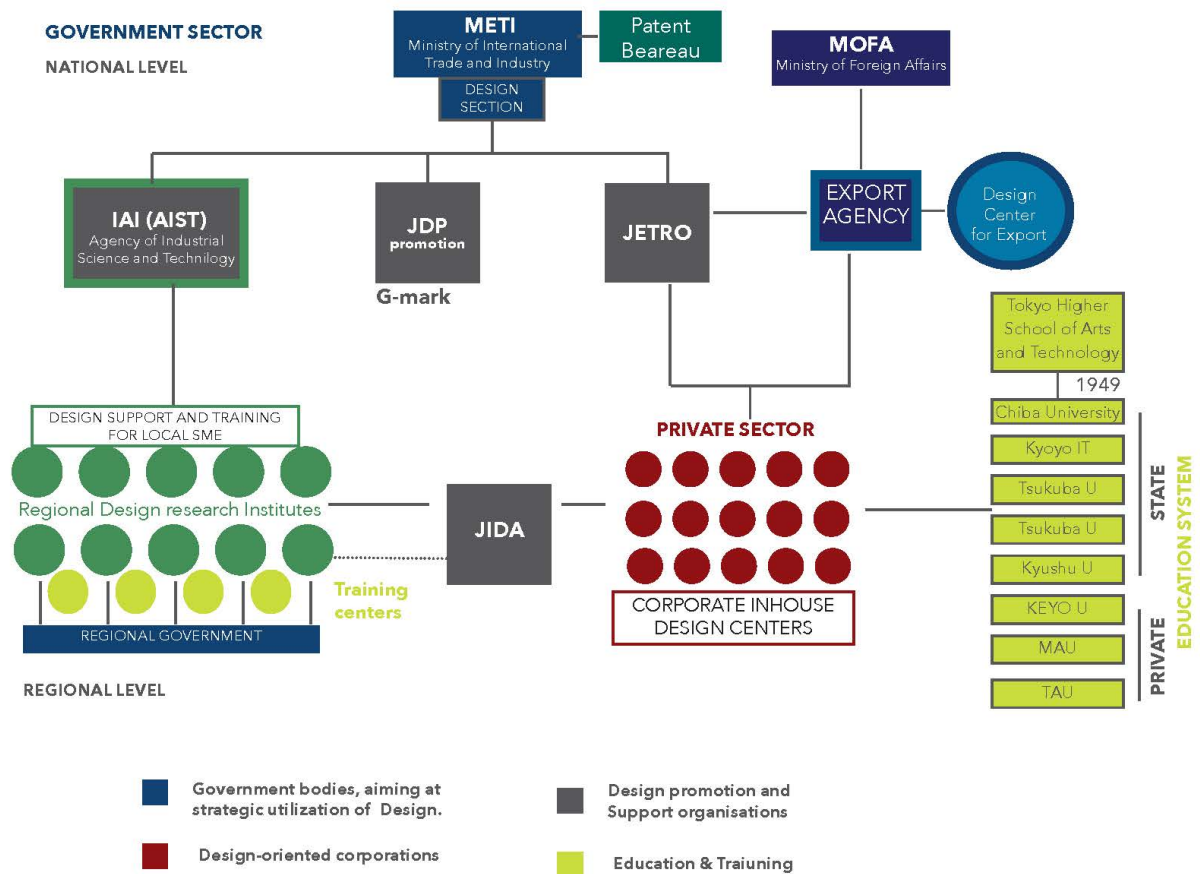


Figure 4. Mapping of Design eco-system in Japan
 Source: drawing by the author, November 2017

At the same time due to the cultural aspects, the system involving several parties is quite sluggish, what makes every solution and settlement slow, and that slows fast introduction of technologies and solutions to design consumers (manufacturing companies). While big corporations, which are not included in the map and have no need of design promotion incentives. They are rich and powerful enough to have their own design centers, organize training and enhance idea of design inside the corporation, developing new products and categories.

Education system focused on design (product, engineering) is spreaded over the country, allowing all the parts of Japan develop uniformly in terms of design knowledge.

Design promotion channels reach not only engaged professionals, but also popularized in media and advertising advertisement making people aware and engaged in co-creation process.

4.4 Review of design promotion history in Japan

When the word "Design" came in Japanese language, it was translated as «intention to craft». «Intention» means will, feeling, «craft» means skill, ingenuity, as the first meaning from Latin - in the 14th century. Designare, «Based on the plan» means «to create (to make, to build)» - to invent, to intend. (METI, 2014)

The history of research and promotion measures of industrial crafts and design in Japan begins with the establishment by Ministry of Trade and Industry «Crafts Laboratory» in 1928.

It was an unprecedented national policy project in the world that combined traditional craft and art technology into something corresponding to industrial technology, design and life culture of the new era. After the war In 1952, the institution was transformed to Craft Foundation - an organization that conducts research and dissemination work supporting the activities of this Industrial craft laboratory.

Lately the Foundation was renamed to «Industrial Art and Illustration Laboratory (IAI)», and with the new word «design» was meant to develop best practices, methods and technologies related to the creation of products and living environments, promote educational activities and development of related industries by carrying out various activities such as research, research, public relations, exchange. For this purposes, it conducted:

1. industrial craft and design survey research projects,
2. industrial crafts and design publicity exchange projects,
3. other related businesses to continue from the former Craft Foundation

The Design Promotion Council under METI was established was 1954. With the support of IAI from 1955 the domestic Japanese manufacturers were encouraged to imitate western product design by exchange programs and invited foreign designers.

In 1957-1959 the government establishes the design selection system for G-mark Awards, which picked up best products designed in Japan. At the same time The Ministry of Foreign Affairs promotes establishment of the Law for inspection of products for export to ensure sufficient quality and good image of "Made in Japan". The strong design protection patent system established in Japan became the core element of design eco-system from the very beginning. Japan's Design Law sets up protection the shape, form and external appearance of an object. The main criteria are a) Visual appeal to aesthetic sense и) Industrial usability (Design Act No. 125 of April 13, 1959)

In 1958 the special Design Section is established at the Ministry of International Trade and Industry MITI (Design Policy Office of Ministry of Economics, Trade, and Industry today.

In 1960, Japanese designers worked under the influence of the WorldDesign Conference (WoDeCo) in Tokyo with the main theme "Our Century: The Total Image—What Designers can Contribute to the Human Environment of the Coming Age".

In 1961 METI published the Report of Design Promotion Council which Recommendations included establishment of core institutions for design promotion, enhancement of design education, establishment of design training institutions, enhancement of public testing laboratories, holding of a comprehensive design exhibition, strengthening of SMEs support by design centers.

In 1969 Japan Industrial Design Promotion Organization JIDPO established to control G-mark. Later renamed to JDP and now plays the key role for design promotion in Japan.

In 1972 the METI Design Promotion Council does Interim Report of "How to implement design promotion measures in the 1970s". It advocates system of design promotion policy, develop and expand design promotion system, establish test and research system, preserve design, promote international exchange, etc.

1973 was announced as Design Year. Following the recommendation for international exchange promotion through design of the Council's report of 1972, in Japan there were held "The 8th World Design Organization General Assembly" and " World Industrial Design Conference in Kyoto (ICSID '73 Kyoto)" under the theme "Soul and Material Things,".

focused on the problems of design activities in a rapidly changing world. There was a global design milestone, and ICSID marked the end of modern design's role in providing the meaning and function of materials and beginning of postmodernist era. (Iguchi, 2013) From this moment Japanese design were aimed on creating more authentic designs, internationalization and growth for industrial society in Japan. That was re-orientation of economy to people, materials to mindfulness, efficiency to humanity, and expansion to sustainability.

In 1979 with the new Design Promotion Council Report "On future design promotion measures" the main aim was on design promotion measures for industries, enhance and strengthen the G-mark product selection system, improve facilities for design promotion.

The report of 1988 for Design Policy in the 1990s aimed on further penetration of design into society, improvement of design infrastructure, promotion of international exchange through design with advocacy within 1989 Design Year events.

In 1989 Nagoya City hosted the "World Design Conference ICSID '89 Nagoya" followed by the General Assembly Meeting of the International Association of Industrial Design Organizations, as well as "World Design Expo '89", which brought many new cooperative linkages to Japanese designers.

On the 1 October of 1990 There was established the "Design Day" in commemoration of the day on which the Design Promotion Council established in 1954.

In 1993 the new report "New design policy in response to changes in the times" established scheme for development of design HR, design promotion for small and medium enterprises, design promotion programs for the regions.

In 1998 the work of Design Promotion Council as part of METI was stopped. The G-mark operation transferred to JDPO and privatized.

METI issued in 2003 the new Report on Strategic Design Utilization (First Design Policy Book) with recommendations on 40 items concerning core design system elements - establishment / improvement of infrastructure, strengthening protection of rights such as design rights, nurturing practical human resources, raising public awareness etc.

In February 2003 The Strategic Design Utilization Study Group was established by the METI Manufacturing Industry Bureau to investigate and study issues related to utilization of design. Later the Group issued «The Recommendations for Strengthening the Competitiveness», held number of events like «Design and Business Activities in Design» training, study seminars and other measures.

In 2008 the 2nd Strategic Design Utilization Study set up three pillars for design competitiveness: 1) management; 2) education; 3) internationalization as a specific direction of future design policy.

2007 is marked by creation of Kids Design Award and formulation of KANSEI Value Creation Initiative, focused on new design approach - pursuing emotional aspects and sensitivity value as innovation and growth driver for sensibility value creation. Issued Jinx model - recommendation to realize the manufacturing of highly appreciated values and services.

Years 2008 - 2010 were announced as "Kansei Value Creation Years" and Japanese companies have been actively implementing measures to realize this initiative. One such measure is the "Kansei Value Creation Fairs," which showcase outstanding Kansei products in Japan and overseas. Fairs were held in Tokyo and Paris in 2008 and in Kobe and New York in 2009, aimed at communicating the latest in Japanese design both domestically and globally.

2010 marks the third year of the Kansei Value Creation Years, and fairs will be held in Kanazawa and Hong Kong. (METI, 2008, Araki, 2007).

2011 - Establishment of Creative Industry Division In METI for aggregating the functions of tasks on the creative industry from the Industrial Affairs Division. The main role is promoting overseas development through implementation of Cool Japan Project.

2014 CSD (Child Safety through Design) certification was launched is the world's first child accident information etc. There was held a Seminar on "Creating a Safe Society from a Children's Perspective and Market Development"

[The Promotion and Regulation of Industry in Japan, Stephen Wilks, Maurice Wright]

he Ministry of Economy, Trade and Industry (then Ministry of International Trade and Industry) established the Design Division in 1958.

INTERVIEW CITATIONS

- What is Design in your point of view?

From the early stages it was called industrial art. After turned to Industrial Craft, Craft instructions ..Today it is Design.

- How did you study Design after graduation?

- As a part of government strategy for acquisition of design skills, I was sent to Germany. There I was working in collaboration with Peter Behrens.

- Who usually takes care of design promotion nation-wide?

- Design promotion tasks are often split between several government bodies. when the responsibility of design promotion is split between several ministries there is a potential risk that it may "fall between two chairs" and thereby reduce the impact of the design policy.

JDP and industrial engineering labs have been doing design support, but after that the corporate in-house design has been advancing regardless of government support since the 1970s.

- What was the Craft instruction institute dedicated to?

- First we did design research, then design education, later it was like promotion, and finally doing administration, and then I did some more. It was the institution's task to dispatch research subjects and people. s it publicity? In short, there were no organizations before the war, so everything was a group. In 1952, after the war, in 1952, the industrial crafts laboratory was named. That is why Japan was exporting all the time. It is because exports seem to be domestic freedom since joining the WPO. In 1953 it became the Product Art Research Institute.

- How mainly the government supported the design in Japan on early stages?

- /for export promotion, they wanted small businesses to do a good design of the region want small businesses to do a good design of the region. MITI entered with the testing laboratories to each region so SME's could have prototyping and knowledge center, both for crafts and mass production..

Interview with Kazuyuki Iwai, Representative Director

デザインと工芸の一般財団法人 工芸財団 (of General Crafts and Art Foundation)

Brief BIO

Born in 1939

1962 graduated at Chiba-U

1962 Tsusansho, Sangyo kogei shikenjo (Industrial Craftworks Laboratory)

1969 Tsusansho, Seihin kagaku kenkyujo (Product Art Research Institute)

1982 Professor, Tokyo Kasei-Gakuin University Lives and works in Tokyo

2013 Representative Director of General Crafts and Art Foundation



Conclusions



Figure 5. Time-line map of esign and industry in Japan

Source: drawing by the author, December 2015

Though the comprehensive Design policy was developed in Japan only in 2003 as new Report on Strategic Design Utilization, the public institutions in Japan did a hard systematic work on introduction of design ideas to the citizens through the available channels and lifestyle items for more than half a century.

This brought the effects benefits almost immediately and together with the other factors that influenced the miracle economic growth in the 1970s, the Japanese design was placed on a very high world level.

It is noteworthy that efforts to promote design have been directed from the very beginning both the external and domestic audience, even more for external. This internalization brought design to the professionals of Japan to get the best existing practices from the West, quickly go through the stage of imitation, develop their original memorable style and use the design strategically for the growth of business, and, as a consequence, national welfare.

Today, design in Japan stated as one of the key core elements in decision-making processes and the development of any strategy - commercial and social activity.

Having passed the stage of increasing awareness and as a consequence of communication - raising the level of demand for the quality of products and services from the customers as a sign of increasing the level of life, public institutions have in fact fulfilled their role perfectly, therefore, the activity and the number of new initiatives for renewal naturally decrease.

A powerful and important once institution of JDP today plays a simple role of the operator of the Good Design awards and some small events. Still the role of JETRO for support of internazionaliztio is high.

Today the main trumps for industrial design in Japan are within big manufacturing corporations, gained their power after the WWII also thank to design approaches, and now fund their own design centers or even separate agencies, training programs for employees and suppliers.

If apply these practices for the further development of action plan, some element could be useful as for less design-oriented audience, diffusion awareness of design is crucial key.

5. CASE-STUDY: ITALY

Data

Population: 60.7 mln ppl

Total area: 302,073 km²

Population density: 201/km²

GDP US\$ billions 1,850.7

GDP per capita US\$ 30,507.2

GDP (PPP)% world GDP 1.86 R&D spending: 1.287% of GDP

R&D spending as % of GDP 1.4%

R&D spending in PPP\$ \$30,350.9M

R&D spending by sector of performance

- Business \$16,807.0M (55%)
- Government \$4,030.0M (13 %)
- Universities \$8,612.9M (26 %)
- Private non-profit \$901,087.1k (3%)

The cultural and creative industries in Italy Economic value: €46.8M (2014)

Employed: 995,000 people (2014)

5.1 Italian economic development overview

Within just twenty years from 1949 to 1960 Italy has transformed from an agricultural economy to an industrialised one. Italy's growth after the second world war was supported by an extensive industrial policy. Starting from the 1950s Italy experienced an impressive structural changes, an impulsive of economic transformation during the 1960s and a slow down at the beginning of the 1970s with focus on development of new activities in electronics, telecommunications and aircraft. Industrial policy has also provided the country with communications and transport networks, and a reliable energy supply.

The North-South regional differences after the war were increased during this period of rapid economic growth. Things did not change dramatically in the 1980s and the large regional inequality remained and even more increased. From 1980s and later the inability to industrialize the South Italy was confirmed (D'Antonio, 1990)

From the 1950s up to the end of the 1970s, the central Italian government was the main decision-maker for economic strategy and industrial policy. The Ministry of Industry (1948), and the Ministry of State Holdings (1956), played major and often conflicting roles (Aurora.A, 2014). Since that duality the Italian economy from the end of the Second World War was characterized by private/public-sector dualism (Prodi and Di Giovanni, 1990). The work of the Government and of the Ministries had very low efficiency and bureaucracy, many decisions were influenced by lobby. Thus the structural difficulties between North and South at the beginning of the 1980s were not under control. The new invented activities that at first were relatively inefficient and expensive, but later became efficient over time.

During 1950s and the 1960s were a period of rapid GDP growth when the North of the country began the industrialization process (Silva, 2007). In the 1960s, the industrial policy of Italy was considered as part of the strategic planning policy, with main aim to localise production and boost the domestic demand. During this time the majority of measures and incentives were referred to the creation of SMEs and to support their activities.

According to Di Maio (2017) two distinct phases of the policy during the so called "economic miracle" period (1950-1970). During the 1950s the leading instruments for industry were the state-owned enterprises and public holdings. In the 1960s, the major instrument to sustain the growth of the manufacturing industry was instead the (government controlled) credit system. In this way, government intervention contributed to the realization of metallurgy and chemical industry in the South and of the metallurgy and the mechanical industry in the Centre-North. In 1970th the priorities of the Italian industrial was still to help financially firms in crisis and to enlarge the sphere of action of the public sector. This approach continued also in the 1980s, making Italy unable to exploit the trade and technological opportunities that were emerging at the world level.

At the beginning of the 2000s, the Italian industrial structure was characterized by: a) the existence of only few large firms able to compete at the world level; b) low mobility and few new large firms established; c) a large presence of SMEs. (Bianchi, 1990) SMEs were unable to develop coherent growth strategies and do not have sufficient resources to exploit all the market opportunities and even to enjoy the incentives provided by the state. (Prodi and De Giovanni, 1990). Policy was in fact mostly designed to serve the political objectives of stabilizing investments and promoting development in poorer areas of the country rather than to pursue the traditional objective of an industrialization strategy such as favouring structural change (Maio M., 2013)

Today the Italian productive landscape is characterised by enormous majority of SMEs (99.9 % of companies and 81.3 % of employment). (ISTAT, 2015)²¹ with high specialisation in medium/low-tech sectors, and with less human and financial capital to invest in research and innovation. These numbers make special support very important to enable the connection between industries and centres for knowledge production. Companies with limited resources hardly able to get access to innovations for creation of new products, services and processes.

At current state Italy is relatively specialized in terms of value added products for export (WEF analysis, Figure 3) and high-tech sectors such as metal products, domestic appliances, machinery and automotive, motorcycles and bicycles, yachts (Fortis, 2007).

Industrial design continues to be an important element in the leading Made in Italy sectors on which Italy's economic development has been based from the second after war to today.

Italy launched the program «Industria 2015» in 2006 (OECD, 2013), which included strategic guidelines for the future development and competitiveness of the Italian economy²². This strategy is based on the elaboration of future scenarios facing the country in the medium to long term. The incentives provide a total of EUR 200 million, implementing 30 projects. One of the projects is New Technologies for Industrial Innovation Project (an element of the 'Made in Italy' programme), which outlines the strategy for public intervention in support of business for Italian competitiveness, including specific themes such as the concept of "beauty, design and quality of 'Made in Italy'" (SEE, 2011).

²¹ <https://www.istat.it/it/files/2015/06/IWP-12-2015rev.pdf>

²² Programma industria 2015. MSE Italy

http://www.camera.it/cartellecomuni/leg15/RapportoAttivitaCommissioni/commissioni/allegati/10/10_all_2008ind2015.pdf

The National PNR (National research Program) 2015-2020 among High potential sector mentioned also Design, and dedicated 487,1 mln euro but later the termin «Design» dissolved in description of the objective: reconstruction of large national aggregates, on some specific topics of strategic interest for the national industry:

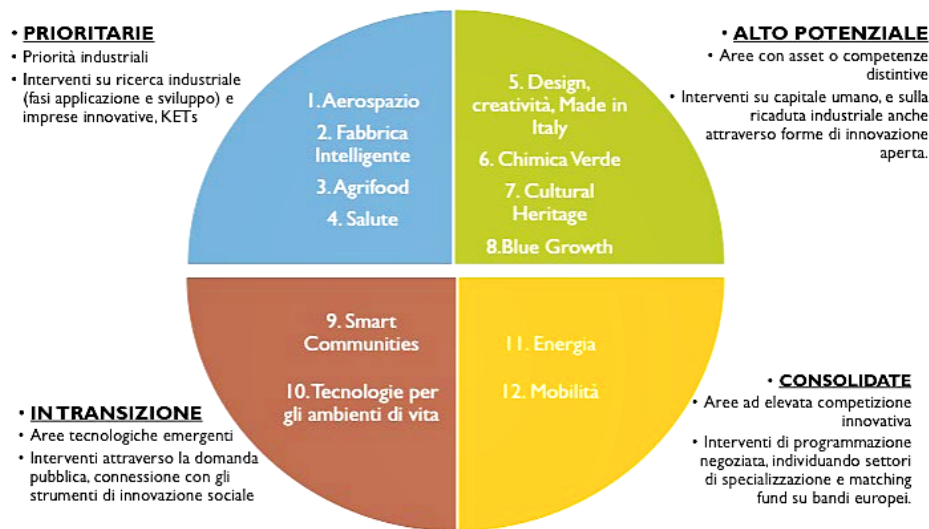


Figure 6. Priorities for Italian National Funding for Research.

Source: *PROGRAMMA NAZIONALE PER LA RICERCA 2015 - 2020, Italia. Retrieved in December 2017*

Conclusions

The set of knowledge and skills that Italian design gained in in terms of design quality, technological innovation, business flexibility, availability of skills and creative knowledge are the result of a process of accumulation over time which constitutes an economic wealth for our country. Industrial design has been and continues to be an important element above all in the leading Made in Italy sectors on which Italy's economic development has been based from the second after war to today. They are agri-food and drinks, fashion, furniture, ceramic, stone and marble tiles, metal products, machinery and household equipment, motorcycles, bicycles and yachts (Fortis, 2007).

5.3 Design eco-system in Italy

Today Italy is worldwide famous for its design convention, a reputation built on the abundance of the Italian design sector and a tradition of entrepreneurship. Despite this strength, the recognition of design as a lever for industrial and economic prosperity is still low in Italy. This is represented as a disintegrated model of lobby and governance. (design for Europe, 2017)

Investigation by INDACO research in Politecnico on the Italian design system (Design Directory²³), gave two main results (Simonelli, 2009): 1) Italy has a large design system without any institutional back-up to support and acknowledge its importance; 2) design is a diffused phenomena, it needs to be investigated at two levels: an explicit (the acknowledged sources such as Design Schools, Design Magazines,) a tacit one, represented by all of the hidden data to be gathered on field, due for example to the absence of a national order that

²³ www.designdirectory.it

makes it difficult to map the active professionals in the field. Design does not have a clear role both in public support mechanisms (dedicated design policies do not exist in Italy) (Sorvali & Nieminen 2008), and in the points/ways of contact between designers/design competencies and industry.

The majority of the Italian studios work both as architect and designer. Most of them have been founded in the '60/'70 and have kept the same small-medium size structure (from 1 to 5 employees and from 20 to 30 freelancers working on a project basis).

Product and interior design predominate over communication, service design and design management, while medium-low technology sectors (typical of Made in Italy) prevail, apart from bigger studios that work in more advanced sectors like automotive and household electric appliances. (Bianchi 2007)

1) Design policy

Italy has a wide design system without clear and strong state and institutional back-up to support its importance (Simonelli, 2009)

2) Design support

There is a number of public bodies in Italy to support design and innovation.

Among them: Innovation Centres, Research Centres (Universities, Research Consortia, and Foundations), Entrepreneurial Associations, and Consortia for Industrial Development, Finance System, Policy makers and Public administrations, Industrial Observatories, Scientific Parks, and Industrial Liaison Offices.

This rich picture appears by historical reasons. The Italian productive landscape is characterised by small companies (family businesses often with less than 10 employees) (IPI, 2003; ISTAT, 2006a; 2006b) with high specialisation in medium/low-tech sectors

A national survey on these bodies has been conducted by RIDITT (Italian Network for the diffusion of Innovation and Technological Transfer to Companies promoted by the Italian Ministry for Economic Development and managed by the Italian Institute for Industrial Promotion) (Mallone, Moraca, Zezza, 2006).

National support system based mainly around CITT (Centres for Innovation and Technological Transfer). These are organised as consortia of public nature that act on a regional basis and deliver services in three main areas: (a) information, (b) education, (c) technical assistance. Technical support varies between researching specific competencies/partners to test and prototyping. Although some of these services include closely design concerns, the last is seldom acknowledged.

The mapping, performed by Politecnico in 2008 for over 300 centres that deal with design. It resulted to conclusions that a real collaboration between designers/SMEs is highly personal. This means that it varies with the characteristics of the territorial context, and it depends on the personality of the entrepreneur and on the company's culture. Thus it reflects specific contextual conditions, resulting in an uncertain national support system

Regional level programs

Several regions are investing in design considering it as a driver of innovation. Among them the most active: Lombardy, Piedmont, Veneto, Trentino-Alto Adige, and Emilia-Romagna and The Marches. In those regions, design is mainly funded within small-scale programmes, mainly supporting support applied research for industry, like development of prototypes.

Regions prefer offering small-scale initiatives and low-finance solutions, such as connecting companies and young designers to develop of ideas and prototypes. The majority of

incentives are tied to the idea of innovation, making it difficult to spot specific roles for design.²⁴

The most interesting design policy work in Italy is taking place in regional pilot projects, with no real structured strategy. At this regional level, three areas of activity have emerged:

- support companies in the development of new products, services
- promoting design-driven projects and internationalization
- HR development: development of professional skills and organisational capabilities

It is not relevant to list all the regional initiatives within this paper, but for giving an idea some are mentioned below:

Initiator: The Chamber of Commerce of Milano (CCIAA MI)

CCI MI hosts the Special Agency for Innovation (Innovhub SSI,) which aims to promote managerial, organisational and technological innovation, and competitiveness of the entrepreneurial system. Innovhub - Experimental Stations for Industry is a privileged source of access to information and services on all the topics related to innovation. Gives to SME number of services: information on all the topics of innovation, funding, technology transfer

Initiator: The Chamber of Commerce of Milano (CCIAA MI)

Un designer per le imprese - research and innovation project by the Milan Chamber of Commerce and MaterialConnexion in collaboration with Material Connexion, Naba, Triennale di Milano., aimed at students from the most prestigious design schools in Milan (Politecnico, IED, NABA, SPD) to experiment with projects that enhance the new technologies by combining the traditions and know-how for the brand.

Initiator: Piedmont Region and Torino LAB

Ecipa - course, financed by the Piedmont Region aimed at the work placement of 24 designers in 24 SMEs, structured in 400 hours of training and 100 hours of internship.

Initiator: Lombardy Region

INNODRIVER - grants to support small and medium-sized companies in Lombardy in the acquisition and development of advanced technological innovation and patent services - available by the Lombardy Region for the 2014-2020 (DECRETO N. 11997)

Initiator: CEii Trentino and Trentino Sviluppo.

DEA Design Artigianato per il Trentino - with the support of the Politecnico di Milano and the patronage of the Department of Industry, Crafts and Commerce of the Autonomous Province of Trento, collaboration of selected 8 young designers for the development of innovative projects with companies of the Autonomous Province of Trento. The opportunity offered to young designers is to immerse themselves in one of the companies of the local production system and be able to collaborate for 4/6 months with it to develop a design project (product, communication or service). The competition is aimed at young Italian and foreign designers (maximum age 35) who have obtained a professional diploma or a degree (1st or 2nd level) or a specialization (master, specialization courses) in design (product, communication, service).²⁵ Total Budget allocated: 150 000€, main budget destination: costs of design research and designers fees, total companies involved: 92.

²⁴ <http://designforeurope.eu/policy/design-policy-map/policy-analysis-italy>

²⁵ http://www.designhub.it/dea/iniziativa/edizione_3

3) Design promotion

3.1 Awards:

- **Compasso d'Oro** - an industrial design award originated in Italy in 1954 by the La Rinascente company from an original idea of Gio Ponti and Alberto Rosselli. From 1964 it has been hosted exclusively by Associazione per il Disegno Industriale (ADI). It is the first and most recognized award in its field. The prize aims to acknowledge and promote quality in the field of industrial designs made in Italy and is awarded by ADI. It was the first award of its kind in Europe and soon took on an international dimension and relevance, multiplying the occasions on which the exhibitions of award-winning objects were held in Europe, the United States, Canada and Japan.²⁶

With an initiative that has no precedents in the field of international design the Ministry of Cultural Heritage - Regional Superintendence for Lombardy, with Decree of 22 April 2004, declared "of exceptional artistic and historical interest" the Historical Collection of the ADI Compasso d'Oro Award, consequently inserting it into the national heritage.²⁷

- **A' Design Award and Competition** is the world's largest design competition awarding best designs, design concepts and products & services. The award is organized by OMC Design Studios SRL, member of ADI and ICSID, started with a Ph.D. thesis at Politecnico di Milano in Italy, regarding design awards & competitions. Today sponsors and patrons vary every year, the awards had been previously endorsed by institutions such as: Como Municipality Culture Department and Regione Lombardia, BEDA (Bureau of European Design Associations) Politecnico di Milano University, Media included Yanko, Dezeen, Dexioner, DesignBoom and others.

A' Design Award has founded the Salone del Designer, with the sole purpose to provide a platform for winners to sell their designs.²⁸

- **Milano Design Award** - the prize that celebrates the best exhibition design of Milano Design Week. It is a project established in 2010 by elita - enjoy living italy (<http://www.elita.it/category/design/>), in collaboration with Fuorisalone.it, IED-Istituto Europeo di Design and Valverde, under the patronage of Comune di Milano. Starting from 2016 it has become a project shared by Milano Fuori Salone committee and supported by the major design districts²⁹

- **PORADA International Design Award** - International Design Competition for Italian and foreign designers and creative professionals, promoted by Porada Arredi srl, a leading company in the furniture accessories production industry, and POLI.design, under the patronage of ADI, the Association for Industrial Design.³⁰

3.2 Exhibition and museums

- **Salone Internazionale del Mobile (Milan Design Week)** - was founded in 1961 as a vehicle for promoting Italian furniture and furnishings exports and soon became the most keenly awaited event in the world of furniture, today is the most important international event in the world of design and furnishing. The original sponsors were furniture manufacturers from



²⁶ Wikipedia https://en.wikipedia.org/wiki/Compasso_d%27Oro

²⁷ ADI Web-site <http://www.adi-design.org/compasso-d-oro.html>

²⁸ <http://www.competition.adesignaward.com/aboutus.html>

²⁹ <http://milanodesignaward.com/about/>

³⁰ <https://www.polidesign.net/en/Porada2017>

the Federelegno-Arredo trade association with patronage by Ministry of Economic Development and ITA Italian Trade Agency. Today trade show corporation and a member of the ICSID (International Council of Societies of Industrial Design) and ADI (Association for Industrial Design).

- **FuoriSalone** unofficial, urban part of Salone del Mobile , phenomenon born on the initiative of INTERNI in 1990, today is the most important event in the world for the industrial design sector, in particular the furniture sector. It is not a trade fair event , it is therefore not organized by any entity and is not managed by any central institutional body, it was born spontaneously in the early eighties , [4] by companies that operate in the



furniture industry and industrial design. Nevertheless, the communication and the promotion of the same has been taken care of by different organizations and companies operating in the sector: among these the magazine Interni that in addition to having created the logo

- **Triennale di Milano** - originated in 1923 as the first International Exhibition of Decorative Arts is held in Monza, with the objective of stimulating the relationship between industry, art and society,. the Triennale di Milano come to life as could be see now 1933, became an



independent legal entity. With guidance from personalities such as Gio Ponti and Mario Sironi, the Triennale's story begins. It always addressed the issue of industrial design, with shows dedicated to this specific sector. The phenomenon of Italian design evolved exactly at that time and was associated to the cult of all things Made in Italy, alongside the country's industrial development. Foundation members: Ministero dei beni e delle attività culturali e del turismo, Regione Lombardia, Comune di Milano, Camera di Commercio di Milano, Camera di Commercio di Monza Brianza.³¹

- **Open Design Italia** starts out in 2010 as a market-exhibition on self-production; it selects products that have a high narrative value, that convey the know-how and that favor a short supply chain, illustrating the collaborative work between the designer and local enterprise and craftsmen. It has important international partnerships have been launched with DMY Berlin, the Embassy of the Kingdom of the Netherlands in Italy, and the MUSE (Science Museum) in Trento, Italy. In 2016 became an incubator of international talents and offers a cluster of services and opportunities for business development, product development and marketing to designers, makers, artists, craftsmen and small series companies

3.3 Design media

Hard Copy

- **Domus** - The international reference for architecture, design and urban planning. Not just a magazine, but a precious tool for work, updating and in-depth analysis. Distributed in 89 countries, it is the most concrete expression of Italian style and good taste in the world. The international reference for architecture, design and urban planning. Not just a magazine, but a precious tool for work, updating and in-depth

³¹ <http://www.triennale.org/>

analysis. Distributed in 89 countries, it is the most concrete expression of Italian style and good taste in the world. Gio Ponti delineated the magazine's goals in his editorials, insisting on the importance of aesthetics and style in the field of industrial production. It has been a reference point for architects, industry professionals, designers and students, for whom it is also a valuable tool for work, updating and in-depth analysis. From 1992 fully bilingual (Italian and English), *domus* is international for content and dissemination: 46% of copies are distributed abroad in 89 countries and co-editions have been launched in China, India, Sri Lanka, Germany, Switzerland, Austria, Central America and Africa

- **Interni** - monthly magazine published since 1954 as the first magazine dedicated to interior decoration, **INTERNI** is today one of the main communication tools in the field of contemporary international and Italian design, an essential work tool for professionals and design enthusiasts. **INTERNI** launched publications in Russia (2011) and China (2015).
- The famous **FuoriSalone**, urban phenomenon that animates the city of Milan during the Salone del Mobile week, was born on the initiative of **INTERNI** in 1990.
- **ICON DESIGN** (<http://icondesign.it/>) launched in 2015 Mondadori's high-end monthly magazine that talks about the world of design, architecture and the related worlds of, technology, automobiles, and fashion, covering the topics of the sector with a completely new approach that is original and focused on design.



Digital

- **DesignLibrary** - the first library entirely dedicated to design, funded by membership fees, national and international publishers - design-related companies. A place where to study and to participate to talks, press conferences, cultural events, workshops and previews. Every Thursday since 2006 held Design Thursday on premises <http://designlibrary.it/>
- **DesignDirectory** <http://www.designdirectory.it/>

4) Funding sources

- Ministry of Cultural Heritage and Activities and Tourism Projects: DAB project, program to support new design through competitions for ideas and projects which are directed to young Italian designers, under 35. National level program.

- Ministry of Economic development.
- The National Fund for Innovation (FNI) - an instrument fund aimed at micro, small and medium-sized enterprises to allow them access to financial resources for innovation, in the form of risk capital participation or facilitated loans in the absence of guarantees³². FNI has a budget of 20 million euro dedicated to the design for which the banks have been selected, Unicredit and Mediocredito Italiano, which they manage two portfolios of loans for a total amount of approx € 100 million to be allocated to small and medium-sized enterprises (also aggregated through Network contract) operating in the design sector assisted by the FNI cash collateral for a total value of 8.3 million euros.
- Ministry of Education, University and Research. Financial investment in the NRP, where Design is mentioned as one of the highest priorities, is almost 2.5 billion euros in resources in the first three years.
- On regional level several regions are more active in design support and policies: Lombardia, Trentino Alto Adige.
- Finlombarda spa (financial company of the Lombardy Region, organizes and conducts social, economic, and industrial programs. Provides advisory and economic support for SMEs, funded 1971).

5) Design education

The selection of major universities for Design Education was made in accordance with top-ranked Italian universities according to the World University Ranking (<https://www.timeshighereducation.com/>), which offer Industrial Design Master's degrees



Figure 7. National Universities in Italy, specialized in Design and engineering

Source: drawing by the author, December 2017

³² <http://www.uibm.gov.it/index.php/disegni-e-modelli/incentivi-alle-impres/e/fondo-innovazione-griglie>

NATIONAL UNIVERSITIES

Among the major universities, providing design-education%

- **Politecnico di Milano** is a scientific-technological university which trains engineers, architects and industrial designers. was one of the first Italian universities to implement the reform of the university system, which led to the "three plus two" education structure with Bachelor of Science and Master of Science programmes. Conducts 43 master courses. Under the program with DeEP: Design in European Policies provides evaluation of indicators for understanding on the impact of design innovation policies
- **POLI.design** - founded by Politecnico di Milano, making it a worldwide point of reference for post-graduate training. Along with the Politecnico's Design School and its Design Department, comprises the Design System of the Politecnico di Milano
- **Sapienza University of Rome**, founded in 1303 by Pope Boniface VIII, is one of the oldest universities in the world and a high performer among the largest universities in international rankings.
- **Royal Turin Polytechnic** (The Regio Politecnico di Torino) was founded as institution in 1906, but its origins go back further. It was preceded by the Scuola di Applicazione per gli Ingegneri (Technical School for Engineers), Trade and Industry. Politecnico di Torino is a "Research University" that is particularly focused on the balanced development of fundamental and applied research. The Design is one four macro-areas for research activities.
- **UNIBZ** Free University of Bozen-Bolzano was founded in 1997 with the vision of a internationally oriented institution representative of multicultural alpine territory, Offers design master program - Eco-social Design about eco-efficient products and services.

PRIVATE UNIVERSITIES

- **IED** Istituto Europeo di Design has been operating in the fields of education and research in the disciplines of design, fashion, visual communication and management over 50 years. C Today has campuses in Milan , Rome, Turin, Madrid, Barcelona, São Paulo, Venice, Florence, Cagliari, Como and Rio de Janeiro.
- **Domus Academy**, Milano, founded in 1982, Italy's first postgraduate design school. Founded by art critics and designers recognized an extraordinary opportunity to fill this void and mentor the next generation of designers. . A part of the GALILEO Global Education group.
- **IAAD** The Italian University for Design, Torino - n 1978 opened first Italian the specialization "Car body architecture", today "Transportation design". Since 2008 the Department of "Transportation Design" is entitled to Andrea Pininfarina.
- **Scuola Politecnica di Design** (Milano) was founded in 1954 by Nino di Salvatore, painter and theorist of a project-based application of the principles of the Gestalt psychology. He set up SPD as the first design school in Italy following his interests in applied arts, industrial processes and in their mutual relationships.

- **Nuova Accademia di Belle Arti Milano (NABA)**, part of the GALILEO Global Education group, is an internationally renowned art and design academy located at the center of Milan's world-famous design scene. - is the largest private art academy in Italy. It offers bachelor's and master's degree programs in Italian and English that are accredited by the Italian Ministry of Education, University and Research (MIUR).
- Etc.

6) Design actors

- **Associazione per il Disegno Industriale ADI** - since 1956 ADI unites designers, companies, researchers, teachers, critics and journalists around the themes of design: design, consumption, recycling and training. It is the protagonist of the development of industrial design as a cultural and economic phenomenon. since 1956 ADI has gathered designers, companies, researchers, teachers, critics and journalists around the themes of design: design, consumption, recycling and training. He is the protagonist of the development of industrial design as a cultural and economic phenomenon. Since 1958 it has been managing the Compasso d'Oro Award
- **Federlegno** (Italian Federation of Wood, Furniture and Furniture Industries - initiated Salone del Mobile in 1961) and other 14 Sectoral Federations under Confindustria, aimed at promotion and development of designated sectors. Deliver training programs, workshops and international representation on exhibitions.
- **UNIONCAMERE** - Italian Union of Chambers of Commerce, Industry, Crafts and Agriculture - is the public body that unites and officially represents the Italian Chamber system. Founded in 1901, it realizes and manages services and activities of interest to Chambers of Commerce and economic categories, coordinating local programs. Design support programs are not forced from the top, but developed and promoted depends on particular CC activity and finances. Among the most active: Camera Commercio Industria Torino, Milano Camera di Commercio (supports special selected Agencies for Innovation Technology Transfer services to SMEs of the province of Milan. he Chamber hosts the Special Agency for Innovation (Innovhub SSI,) which aims to promote managerial, organisational and technological innovation, and competitiveness of the entrepreneurial system) and others
- **Torino Lab** - is a company that stands between the business world and applied research in the field of design. It was founded in 2009 as part of a network of relationships with the main institutions and related bodies. Business activities are developed in three specific sectors: Design Management, Training and the "Typical Industrial Products" project. countless workshops on 3D printing and programming of Arduino boards³³
- **CUID Conferenza Universitaria Italiana del Design** - a university association that deals with the training in design in the Italian public universities and represents guidelines for cultural policy. It unites majority of professors and with critical promotes initiatives that can benefit the prestige of university studies in public bodies.³⁴
- **SID - La Società Italiana di Design** - the Italian Design Society has as its purpose the development and dissemination of design culture, the progress of studies in this field, their enhancement in science, training, academic, social and civil, sharing and

³³ <http://www.torinolab.it/>

³⁴ <https://cuid.it/>

dissemination of the results of the research and debate among the scholars of the discipline. Provides support for companies and Universities, for example, to organize exhibitions abroad.

Design protection

is the competence of the **U.I.B.M. (Ufficio Italiano Marchi e Brevetti)** - the department of the Minister for the Economic Development responsible for registering patents, trademarks and designs. A work may be registered as a design if *"the appearance of the product as a whole or part thereof such as its lines, colors, shape, texture or materials is new and has an individual character"* (article 31 of Legislative Decree n. 30/2005 - Italian Intellectual Property Code, following the EU Designs Directive 98/71/EC).³⁵

To support the implementation of investment projects aimed at the economic exploitation of patents for industrial invention or designs / models, the Ministry of Economic Development has created a line of subsidized loans for micro, small and medium-sized enterprises granted by selected intermediary banks.

Previously Italian legislation has provided protection to industrial models since 1940 in two categories: (i) utility models enhancing the efficacy or convenience of machinery or its parts, as well as (ii) ornamental designs and models.

Conclusions

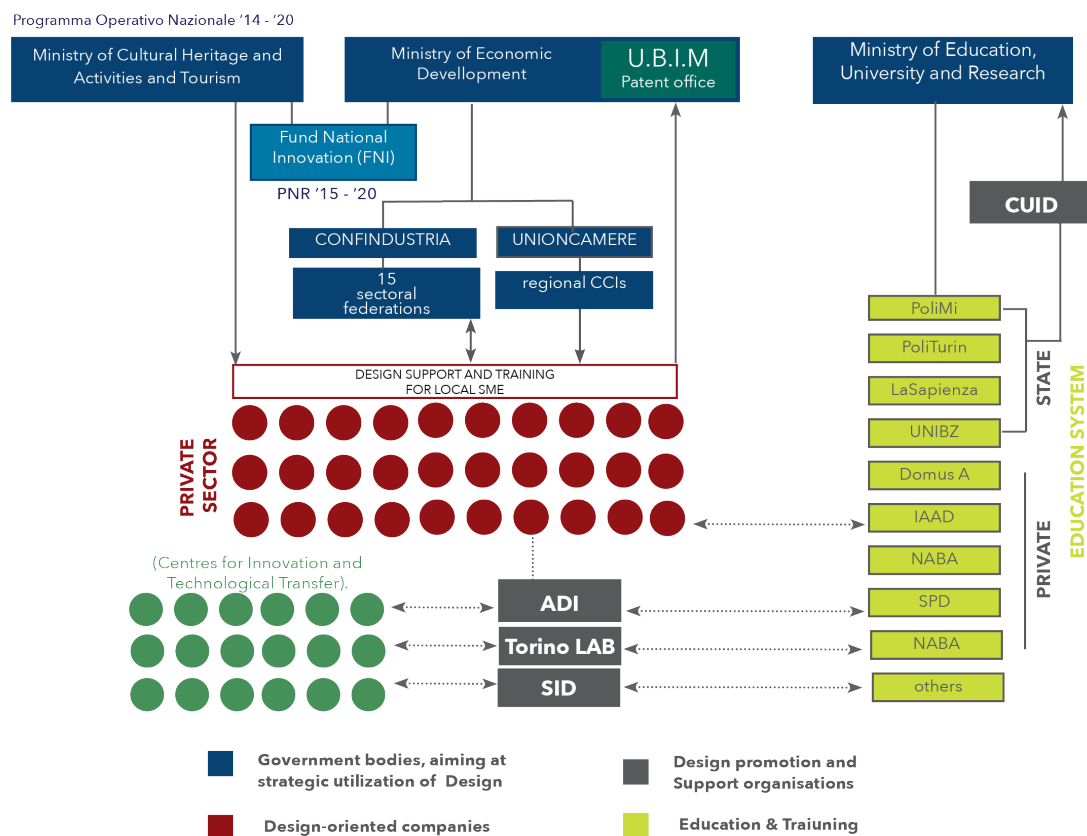


Figure 8. Mapping of design system in Italy

Source: drawing by the author, January 2018

The design situation in Italy is peculiar, because of its tradition of successful collaborations between entrepreneurs/designers. These have been based on trusted friendships that would influence the development of the company's culture (Utterback et al., 2007). Because of the

³⁵ UBIM web-site <http://www.uibm.gov.it/index.php/inglese>

need for this kind of external support, Italian design companies have developed in networks. This was mainly hidden in the personal relationships of the entrepreneur, thus very difficult to measure and support. Relationships would often emerge by creating models that could not be controlled top-down and where design would represent a tacit addition. Due to the difficulties in grasping this structure, the government has developed a networked system of public support very specialised locally and bound to know better the necessity of an area.

In the past 10 years the new wave of design support programs started. Among them DEA - a typical smaller, regional design policy initiative, where the relatively small budget aimed to encourage firms to develop a first awareness and understanding of design for the development of new products, services and processes.

Italy has mostly programs for regional design support and promotion and now started to pay attention to design at a national level. Design policy is often regional, so depends on the activity of the local government. Good example is Lombardia/Milan region. Historically and geographically Turin is also an important design centre, once in 2008 was chosen as the world design capital.

At present, design is mainly funded as part of innovation support programmes. At a national level this is largely takes the form of funding opportunities created by the Ministry of Economic Development, and indirect funding provided by other ministries related to cultural and social development.

5.4 Overview of design promotion history in Italy

In the above analysis based on WEF ranking, Italian design performance has resulted higher than the national economic competitiveness of the country.

And despite the wealth of the design sector and the design promotional system - there is still no national body at present advocating for its political recognition. (Design for Europe, 2017)

In the list of national programmes supporting design only local and fragmented initiatives appear, often overlapping both in objectives and for the geographical areas. As a result Italy often tries to restart actions for creation structured design system. The industrial system in Italy builds a fragmented and challenging picture as well. (Lucchese M., 2016)

Design industry in Italy is a dual face. The bright side is represented by the globally famous elements as design schools, magazines, acknowledged iconic brand and designers. On the other hand there is a huge lack of reports and data on design outcomes. There is no clear role of design in public support policies, no special design policies (Sorvali & Nieminen 2008), and in the points/ways of contact between designers/design and industry.

Nevertheless, design is characterized as a driver of innovation and for this reason the management generates the fight against counterfeiting - U.I.B.M. in 2009.

In Italy the first objects, the result of a conscious design, appeared at the end of the 1920s, together with the formation of rational architecture currents, with the publication of the Domus magazines (1926), with the establishment of the Decorative and industrial art exhibitions of Monza (1923) and later moved and called Triennale di Milan (1933).

Of this first period we must at least mention the 'mobile radio' of L. Figini and G. Pollini (1933), the Lancia 'Aprilia' of 1937, etc. But it is above all in the post-war period that the Italian design has got global recognition with the success of motor scooter, which have become iconic, such as the 'Vespa' by Piaggio in 1946 and the 'Lambretta' by Innocenti

(1947), models of typewriters and sew that Nizzoli designed for Olivetti and Necchi, the lights of the Castiglioni brothers and, moreover, with the multiple activities of design studies, such as the BBPR (1930th) . Subsequently there were various trends and actions to research, proactive and experimental, oriented to create and individualize design objects.

1945, a non-profit organization called Handicrafts Development Inc. was formed in the USA by Dr and Mrs Max Ascoli to help Italian artisans after the ravages of the war. At the same time in Italy was established CADMA. In 1947 the House of Italian Handicrafts was set up in New York as a retail outlet for Italian crafts and in the following year money was made available to help Italian craftsmen under the Marshall Aid scheme and CADMA was merged with the larger CNA of which the House of Italian Handicrafts was an American subsidiary. Through contact with the latter in 1949 the Art Institute of Chicago began to investigate the possibility of an exhibition of Italian crafts in the USA in 1951 the exhibition was ready to tour the USA.

In 1950's industrial objects became a symbol of this new renaissance period; Italy suddenly found out that modernity means welfare, comfort and a best type quality of life. So next to home appliances we could find furniture, lamps, a vast range of objects for home and free time, radio sets and television sets that gave life to a typical 50's gay image.

The excitement was on the top in 60's, when the design of ordinary objects was very popular. In this period national and international market demand increased, people accepted the idea to overpay for brand or design, usually meant aesthetics.

At the same time, the world famous technically-complicated products, where the design was one of the driving ideas, started to develop. The first Ferrari-bagged car, product of design, was produced in 1947. Later companies begin to develop their own design centers (Zanussi, 1954).

In 2011 the Lombardy Region started the project "Un designer per le imprese" with to promote a strong and meaningful perception of the relevance of design to beneficiary SMEs, and to promote the use of innovative materials and innovation

processes in medium-sized firms based in the Lombardy Region. Total Budget for three years policy initiative: 475 000€. Main budget destination: prototype development by firms. As the result, 90 products developed and 4 launched to the market.

But there no formal evaluation has been run or even considered for this initiative. Policy makers conducted informal interviews with beneficiaries. However, no data collection is undertaken, nor reports produced and no data is currently available. Italian firms tend to not retain such evidence or documentation. This is a typical situation for this type of design policy initiative: with relatively small budgets and centered on coaching and the matching. Such initiatives are primarily concerned with the aim of encouraging firms to establish a first relationship with design for future collaboration.

The Italian programme "un designer per le imprese" has the objective of raising awareness of the relevance of design in the business of SMEs and the use of innovative materials and innovation processes in medium-sized firms. It is a project implemented to encourage communication between the business community and young designers. Various players such as the Milan Chamber of Commerce (CCIAA), Province of Milan, the Como Chamber of Commerce, the Monza e Brianza Chamber of Commerce, Material ConneXion (MC), six Design Schools located in Milan and Como are involved in this program. Also, Design and Craft for Trentino (DEA) in Italy have sought to develop a design culture within companies and connect design and small businesses at a local level in order to create innovative

networks between universities, institutions, micro and small local businesses. Participating companies have received training, support in the selection of project ideas, and design support throughout the development of firm-specific projects. (OECD/OCDE, 2015)

2013 - Creative Citizens PoliMi and DESIS project - program of weekly co-design sessions dedicated to 4 different service clusters: food systems, services for sharing goods and skills, cultural services and legal and bureaucratic services. Promoters: Politecnico di Milano, Cascina Cuccagna, Zone 4 Milano Funders: Politecnico di Milano

2016 - European Fund for Regional Support 2014-2020. Call for tender "Smart Fashion and Design" program initiated by Regione Lombardia - of grants for experimental design projects with actual and proven effects in the fashion and / or design supply chain. Applications accepted by a minimum of three partners, including at least two SME with provided Grant of a non-refundable contribution € 800,000.

	HUMAN DEVELOPMENT			FRAMEWORK DEVELOPMENT		ASSET DEVELOPMENT	
	Capability building	Support for research	Service supply	Promotion & advocacy	Financial support	Technical support	Networking & collaboration
FESR 2014-2020: Bando "Smart Fashion and Design"							
Design and craft for trentino region							
Creativita y commercio							
Magazzini Aperti							
Digitale e Moda							
Trentino Sviluppo - Punto Design							
Territori Creativi							
Design +3							
Creativita; eventi i luoghi per l'innovazione nella moda e nel design							
Design competition creativita +3							
A designer per interprises							
Design é competition							
Fondo Nazionale per ;'innovazione							

Figure 9. Mapping of Italian design promotion and support activitis according to targeted zones.

Source: Design policy for Europe, Italy. <http://designforeurope.eu/policy/design-policy-map/policy-analysis-italy> . Retrieved on May 2017. Drawing by the autor

CONCLUSIONS

Italy has a leading position in the global design sector. The set of knowledge and skills that Italian design represents in terms of design quality, technological innovation, business flexibility, availability of skills and creative knowledge are the result of a long process

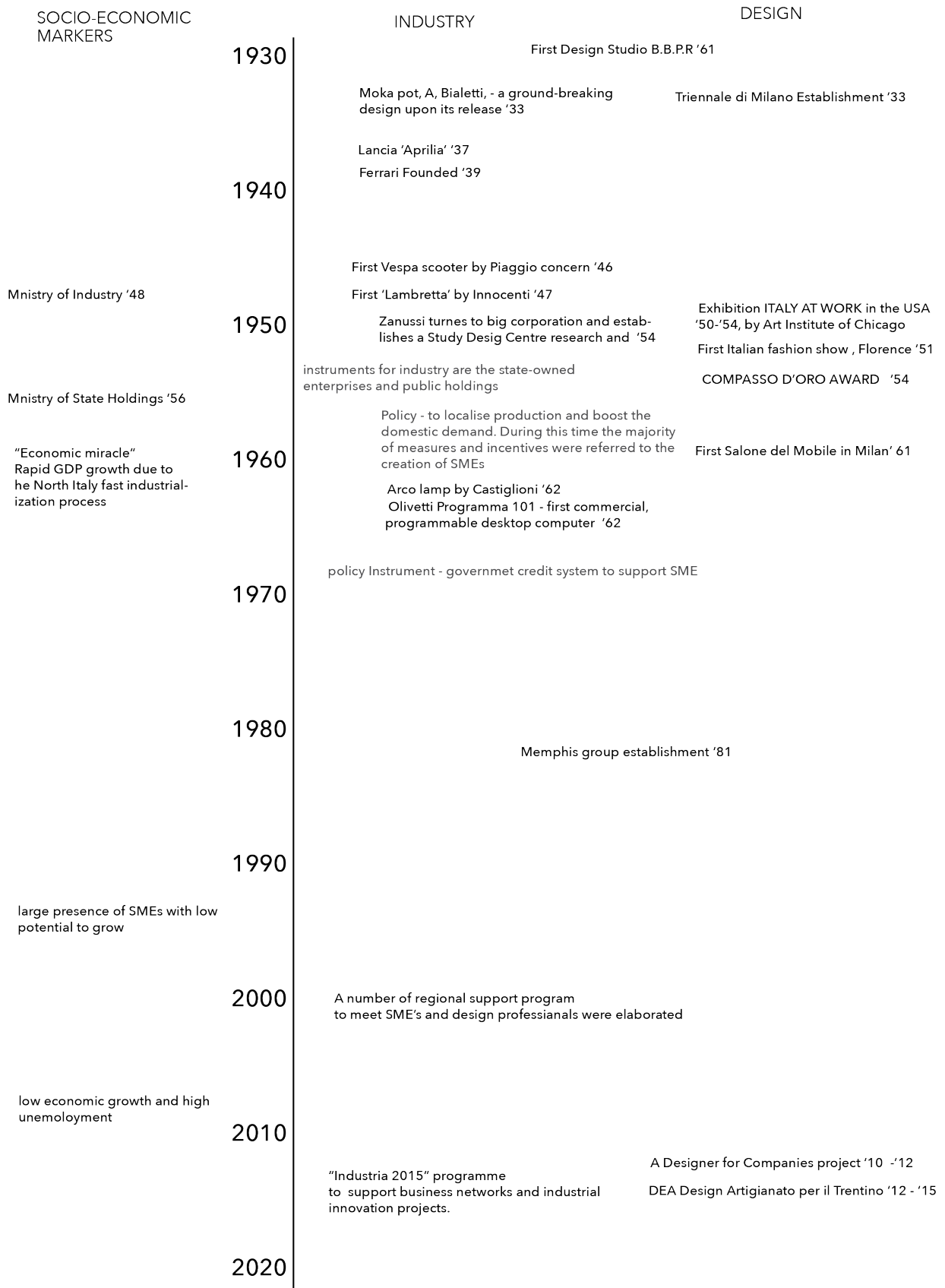


Figure 10. Design promotion in Italy on time-line

Source: drawing by the author, March 2018

From the beginning the key role of design promotion was given to genius celestial In the individual architect-designers (especially Gio Ponti , who participated in the biggest design projects in Italy - establishment of Compasso d'Oro, Triennale di Milano, publishing Domus magazine) and Ettore Sottsass, one of the most influential and important figures of the last century, who were spreading interest to design and awareness among wide public with their big-name projects.

The design promotion sector is driven mostly by the industry, which is 99,% consists of SMEs and sector Unions. Programs are founded and initiated by regional state bodies.

Reviewing the design policy ecosystem in Italy reveals that the greatest number of funders and policymakers come not only from governmental institutions but also from the industry, which was interested to promote «Made in Italy» brand.

Italy's design intermediaries are diffused across the country and often represented by the regional or local chamber of commerce, once again underlining the regional base of design innovation support actions. The design promotion and support is mostly concentrated on local level governments or private initiatives, not coordinated by the higher body, resulting in a lack of a coordinated vision to produce a wider impact. A small amount of indirect national funding comes from three different ministries (Research, Economy, and Culture) all identifying design with different roles and capabilities, while the great majority of local funding comes from regions who - in the absence of national guidance - provide support only in response to the specific local context.

Institutional design competencies and responsibilities for design are often spread across multiple decision-makers. Something that regional or national design centers do not have specific initiatives to address.

Looking at the beneficiaries of design policy, SMEs are on the receiving end of the highest number of actions. A minor role is being played by citizens - consuming and demonstrating an interest in using design as lever of innovation in business and public services.

Other key characteristics of the Italian design system are is the separate national and regional funding. National funding is not directly linked to design, regional funding sometimes targetting design. For example, the national programme for research (PNR 2014-2020) only mentions design in connection with the development of the manufacturing system. As result design is linked to traditional industrial goods not to modern technology-intensive products and services. (Design for Europe, 2016)

Design promotion initiatives (private) through half century still vital and having growing value on the global market, though coordinated by the industry.

The majority of educational programs as well as biggest promotion activities concentrated on the North due to historical reasons, hampering the equal development of design diffusion in SMEs.

Unfortunately, there is lack of formal evaluation of programs conducted to estimate their effectiveness. This is a typical situation for this type of design policy initiative: with relatively small budgets and centered on coaching and the matching.

6. DEVELOPMENT of the strategy for RUSSIA

Data

Population: 146, 877, 088

Total area: 17,125,200 km²

Population density: 8.4/km²

GDP: 281,992M.\$

GDP per capita: 11,099

R&D spending: 1.1% of GDP (42,6bln)

The cultural and creative industries in Russia

Economic value: \$14.8M (2014)

Employed: 130,000 people (2014)

6.1 Socio-economic overview

ECONOMIC

Today Russia expects Russia is experiencing uneven growth dynamics. A favorable external trade environment (recovering demand and improved terms of trade) have supported the balance. The medium-term growth forecast for Russia has been slightly increased since the last Russia Economic Report (May 2017) following a somewhat stronger-than-expected recovery of domestic demand and higher exports. Global growth and trade started to strengthen at the end of 2016. Russia's economy showed signs of overcoming the recession caused by the shocks of low oil prices and economic sanctions.

In 2018 there is A big positive surprise from industrial production standing at 2.9%.

2.9% Industrial production growth
vs consensus -0.5%

Manufacturing growth of 4.7% helped along with a 1.1% expansion in the mining sector. The acceleration of manufacturing production looks rather broad-based with food, light industry and clothing, oil refinery, chemicals, metallurgy and pipes, car and vehicles, some machinery goods as well as consumer durables all driving the rebound. In the mining sector, lower oil production (-1%) was offset by higher output of coal and other non-energy commodities.

Russia registered impressive progress reaching 35th position among the 190 economies measured in this year's World Bank Doing Business report.

SME is a priority sector for the Russian government that was hit the hardest by the recession as SME loans experienced the sharpest decline compared to other market segments. (World Bank, 2018)

In 2014 due to politic motives there was elaborated import substitution plan, aimed at support of domestic manufacturings. Thus, the significant part of imported good, especially different machines, were baned to be imported. Instead, it was supposed that Russian companies should be suddenly ready to produce the same quality goods and components.

Many industries had problems with component supplies, market shelves were empty due to lack of technologies, materials and sufficient quality goods.

Large corporations remain dominant in the structure of Russia's economy, with a high degree of concentration in traditional heavy-industry sectors, in the oil and gas sector, with a limited SME sector. The public sector retains its dominant role in many industries, which undermines competition. In the financial sphere, three major government banks account for more than half of all assets of the banking sector, thus suppressing competition and hindering financial services development. Russia's Central Bank bail-out of two large private banks (the second-largest and fifth-largest private banks, jointly equal to 5.2 percent of the banking sector assets) in August-September 2017 points to a continued fragility in the Russian banking system. However, after two years of recession, Russia registered GDP growth of 1.5 percent in 2018.

POLIITC

Russia - the largest country on earth in terms of surface area - emerged from a decade of post-Soviet economic and political .

Major income from vast natural resources, above all oil and gas.

The current president - Russia's dominant political figure over 18 years, since 2000 - has enhanced the control over state institutions and the media - a process supplemented by an emphasis on patriotism, military force and appealing to memories of Soviet-era power to shore up domestic support.

Thus, this course supports major investments in military sector and R&D there, high level of bureaucracy and corruptness of public bodies³⁶, less focused on enhancement social infrastructure, development of creative and critical approaches.

The greatness of the country situation on regional level (85 regions), strictly ruled by the governors, assigned by the president, is not helping to enhance local control of initiatives, many of them are performed only for paper report. In this situation majority of local initiatives depend a lot on the regional leader and his policy, working independently.

There are some most developed Russian regions (Tatarstan, Ulyanovsk, Kaluga, and, Sverdlovsk) (Rosstat, 2018), both profiting from their proximity to the Moscow, but also having strong support programs empowered by local policy makers.

SOCIETY

Russia has one of the world's most diverse societies - as many as 160 ethnic groups live there. The population of about 142 million on country's vast territory. It's very unevenly spread, with most people clustered in European Russia, near the Ural Mountains and in southwest Siberia. Most Russians are an urban breed - three-quarters of them live in cities. Roughly 80 per cent of the population is ethnic Russian. The rest is a mix of other ethnic groups.

According to Carnegiyy Mooscow Center, the majority of Russians are concerned primarily by economic issues: inflation, low wages, insufficient social payments (up to 70 percent of people), poverty, destitution, declines in the standard of living (up to 50 percent), and the risk of unemployment (up to 40 percent). Corruption is an acute social problem, making it a notable subject among secondary issues.

Unemployment declined slightly in the first half of 2017, while low inflation and a recovering economy allowed real wages to increase. However, real disposable income growth remained negative, driven by contractions in other income sources. The poverty rate in Russia, under its

³⁶ According to the Trading Economics global Ranking, Russia has the highest corruption rank among G20 (135 points).

national definition, increased marginally in the first half of 2017, while the share of the vulnerable population continued to grow.

Economic Freedom, world ranking: 114 (Source: [2017 Index of Economic Freedom, Heritage Foundation](#), retrieved in January 2018)

Conclusions

Today the economy of Russia shows unexpected growth, based on development of industry. SME's share, as the innovation driving sector is still small but developing, and the government is supporting them, but they still act as auxiliary elements and have not yet established themselves as self-sufficient economic agents.

Facing the recent political and economical transitions, i.e. sanctions and import substitution national policy, Russian companies have got a very beneficial position, got rid of many competitors in specific industrial areas, can expand nowadays.

At the same time, in design context, the resource based economy, largeness of the country, ethnic diversity, regions autonomy, high corruption level, lack of data - are barely favorable for creating and controlling nation-wide design promotion programs. Thus, every initiative and policy should be carefully considering the interaction between federal and level governance, and has to be low-cost solutions for the administration.

6.2 Design eco-system in Russia

Nowadays, Design in Russia is emerging and start evolving. Some design initiatives, mostly private are existing but the design value is not yet established. Design just recently appeared in official documents as the term, but at its nature was never a government's priority. Design education exists mostly in higher education. At total, 13 universities in Russia, offer design programs. According to interviews with Russian designers and professors, design is undervalued, underestimated, unappreciated and behind the times. The main problems are that there is clear idea what is design and its value, so there is no demand from Russian companies. They don't trust designers and consider design as additional unnecessary expense. Moreover they expect designer to touch just the visual part, all other supposed to be just engineering task (Yaroslav Rassadin, Russian product designer, Red Dot Award winner). Design education is considered poor and under-developed. As Arseny Meshcheryakov, Head of the School of Design of the Higher School of Economics argues, traditional state design education in Russia is hopelessly outdated.

According to the results, the challenges are the wrong societal attitude towards design, some challenges in design education, the undervalued attitude of the audience of design, the non-existing representative national organisation and lastly the small local market. Despite that, a 24% sees an increasingly emerging value on design by pointing out that people in Cy start to appreciate Design, and especially younger generations. It is worth mentioning that a large number of respondents about the role of design is object oriented. Lastly, the responders were asked to point out the challenges confronting design in Cy. By using the qualitative software 'atlas.ti', a thematic analysis and categories of all replies was provided. The challenges are the broad societal challenges, the educational challenges, the government indifference, the clients, recipients of design services, the lack of infrastructure, no representative organization and lastly the small size of market (Souleles, 2017).

1) Design policy

There is no data about any attempts to create the comprehensive design policy.

2) Design support

According to the public statement of the Ministry of industry and Trade, there created the Engineering and Industrial Design Council and the Fund, supposed to facilitate development of industrial design. No initiatives were implemented, all priorities are given to engineering.

3) Design promotion

3.1 Awards:

- **FORMA** Student's competition of industrial design³⁷ - held since 2017, aimed at popularization and development of industrial design in Russia, help to graduates studying in the specialty of industrial design. The organizers of the Contest are the Ural State Architectural and Art University (URGA) and the Union of Designers of Russia (SDR) with the support of the Russian Student Center at the Ministry of Education and Science of the Russian Federation. The Operator of the Contest is the company "Business Event" Group of Companies "Formika".

3.2 Exhibition and museums

- **Moscow Design Museum** - private museum, founded by design his was founded in 2012 and is the first cultural institution in Russia specifically dedicated to design
- **Moscow Design Week**³⁸ - is one of the major events in the field of design in Russia. From 2010, one on the main goals - rough to the new level works by Young Russian designers and meet with international design community.
- **Saint Petersburg Design Week**³⁹ - is one of the major events in the field of design in Russia. From 2010, one on the main goals - rough to the new level works by Young Russian designers and meet with international design community.⁴⁰
- **Sretenka Design Week** - 2010-2011 SDW brings together initiatives in the field of art, architecture, graphic and industrial design, designed for both professional and the broadest audience. The event was held for two consecutive years (2010-2011)
- **Moscow International Salon of Innovations and Investments** - exhibition and competition, held 2001-2010, Organized by the Ministry of Education and Science of the Russia, Moscow GOvernment and Scientific Research Institute,

3.3 Design media

- <http://rdh.ru/> Russian Design Hub - web portal about design and architecture, empowerebd by Interni
- **INTERNI Russia** - Russian edition of Italian magazine INTERNI © Russia is published since 2011.

³⁷ <http://formacon.ru/>

³⁸ <http://moscowdesignweek.ru/#about-project>

³⁹ <http://www.spbdesignweek.ru/en/about/2017/>

- **OBJECT Russia** - Its main publication in Dutch is published since 1991. Russian edition of OBJEKT © Russia is published since 2009.

4) Funding sources

The design promotion programs funded mainly by private resources - companies or even private people.

Design support programs are funded by the state corporations, like /rostech or Rosnano/

5) Design education

STATE

- **ITMO Saint Petersburg State University** of Information Technologies, Mechanics and Optics () is one of the leading higher education institutions in Russia, providing training and research in advanced science, humanities, engineering and technology. Founded in 1900 earned its name "National Research University," having many international projects.
- **Moscow State Artistic Industry Academy Named After S.G. Stroganov**⁴¹
- **Moscow State University of Design and Technologies**
- **Saint-Petersburg State University of Industrial Technologies and Design** - established in 1930 he today is a multi-disciplinary educational complex at different educational levels in 249 programmes in design, engineering, the humanities, economics and pedagogy.
- **MIET Moscow National Research University of Electronic Technology**⁴²
- **Higher School of Economics. Design School**

PRIVATE

- **The British higher school of art and design BHSAD** - works in close partnership with the School of the Creative Arts of the University of Hertfordshire in the UK and specialises in professional education in various creative fields. Today is one of the most contemporary and equipped education centers in Russia.

6) Design actors

- **Russia Designers Association**⁴³ is an all-Russian public creative association created in 1991 by specialists working in all types of design, representing about 3000 professionals who live and work in 65 cities of Russia. member of ISID
- **The Club of Industrial Designers** is a private association developing serial production of design objects and working to create a competitive industry in Russia. was founded in February 2014. in Moscow, four design-companies.
- **Engineering and Industrial Design Council under the Ministry of Industry and Trade**⁴⁴ of the Russian Federation (the Council) - an advisory body formed to prepare proposals for the implementation of state policy in the field of engineering and industrial design The Council includes representatives of the Ministry, interested federal executive bodies, engineering and design companies, organizations,

⁴¹ <https://www.mghpu.ru/>

⁴² <https://eng.miet.ru/>

⁴³ <http://sdrussia.ru/>

⁴⁴ <http://minpromtorg.gov.ru/activities/industry/sisadachi/injining/>

development institutions, public and other organizations. All activities of the Council are focused on development of engineering and engineering centers. Taking into account the recommendations of the Council, the Ministry of Labor of Russia developed and approved in 2015 a professional standard: "Industrial designer (ergonomist)"; The development of professional standards projects "Designer of small forms" and "Designer of vehicles" have been contracted under state procurement and are currently under development.

- **The Center for Project Management in Industry⁴⁵** (the federal budget institution Russian Technological Agency) is the project office of the Ministry of Industry and Trade of the Russia. The purpose of the activity of the institution is the promotion of the development and implementation of the state industrial, technological and innovative policy of the Russian Federation. In fact, after inspection of all initiatives and targets, design is not mentioned anymore, and all the activity is focused on development of engineering.
- Design protection is realized through registration in the **State Register of Industrial Designs** and certified by design patents issued by the **Russian Patent and Trademark Office (Rospatent)**.

Designs relating to applied art subject matter may be protected in some cases by copyright. The existence, exercise and enforcement of copyright require neither registration of the work nor observation of any other formalities. In some cases, if it can be proved that a design falls within the scope of copyright law, copyright protection may apply regardless of registered design protection. Copyright protection of an unregistered design starts from the creation of the work and lasts for the author's lifetime plus 70 years⁴⁶

7) Design users

The state in the Russian Federation, unlike on the developed markets, is not an active user of services in the field of industrial design. So, at the moment, design users on the Russian market can be divided into several key groups:

- **Large and medium-sized Russian producers (majority of active users)** At the moment, the main engine of such projects in the Russian Federation from the state side is RUSNANO and ROSTEKH,
- **SMEs and start-ups** (mainly manufacturers of medical equipment, sports equipment, systems security, etc.)
- **Large foreign corporations** - for example, manufacturers of household appliances and electronics Samsung and LG), who have a huge market in Russia with a rather high national component, therefore it is necessary to develop models adapted to the requirements of Russian consumers. However, according to the statements of design companies, there are few such orders.

8) Design research

There are two basic research centers in the field of design that are engaged by the state authorities: National Research University Higher School of Economics and NGOs Center for Strategic Research North-West.

⁴⁵ <http://rta.gov.ru/>

⁴⁶ <http://www.worldtrademarkreview.com/Intelligence/Design-Rights/2018/Country-chapters/Russia>

Also, the Skolkovo IC can have a great potential for the development of the creative industry. In the scientific and technological complex, special economic conditions are provided for companies operating in the priority sectors of the modernization of the Russian economy: telecommunications and space, biomedical technologies, energy efficiency, information and nuclear technologies. In 2012, four specialized facilities were opened, which comprise, in general, the full cycle of work required to create a model of a new product (from conceptual development to implementation in production): the laboratory "Engineering", "Industrial Design", "3D prototyping" and "Machining". Residents act as customers of such services.

9) Design professionals

At the moment, according to expert estimates, there are already over 300 design bureaus in Russia that carry out artistic and volumetric product design as the main specialization or indirect business unit. Absolute leaders of the emerging market can be called only two **design studios**: SmirnovDesign (1994) and Art. Lebedev Studio (1995)

From the point of view of developing the market of design services, leaders play an important role - they pave the way for **smaller studios**, including those emerging on their resources. The former employees of SmirnovDesign created their own studios of industrial design: Art-up, Manworksdesign, Lumiknows, objectlab. Leadind companies "accustom" the conservative industry to understanding the need for design.

On the Russian market there are no brunch units of foreign design agencies. This could be explained by the tight Russian market. However, many Russian design companies cooperate with foreign offices on various issues, while directly contacting.

Also in the Russian Federation, as in other markets, there is a significant number of **freelance designers**. However, unlike developed markets (for example, the USA, Italy, Finland, etc.), where independent designers are in demand as high-class specialists, in the Russia their activities have no significant impact on the development of the Russiandomestic market and often reduces to aesthetic functions.

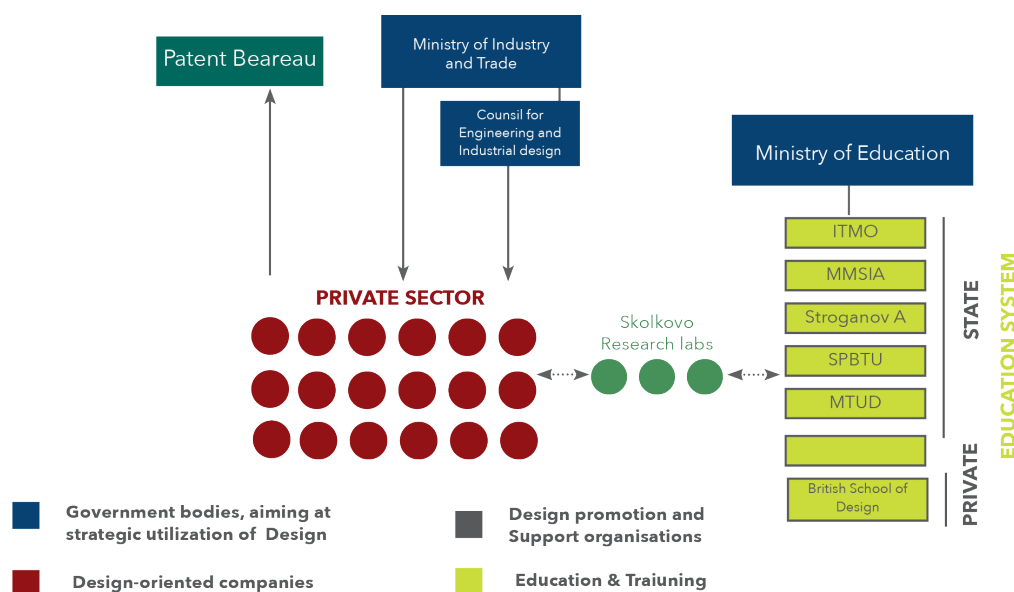


Figure 11. Design eco-system in Russia

Source: drawing by the author, March 2018

From the map of nowadays situation, it is clear that there are interaction and no system.

Companies don't have any communication and support, graduated young designers, according to interviews, often turn into graphic or interior directions.

Most initiatives for events, awards, clubs are private, and can't stand lack of demand, stop their activity.

The only official body responsible for industrial design development is the council under the Ministry of Industry and Trade, which haven't executed any real action.

Thus, this situation requires some updates, responsible bodies and action plan with low-cost solutions applicable on national and regional levels.

6.4 Historical review of design context in Russia and USSR

Due to historical aspect and propagandized social doctrines many approaches in Russia are targeted on engineering efficiency, suffering lack of attention to esthetics and complex people-oriented. Deep experience in two other cultures - Japanese and Italian - обнажили strong and weak point in design eco-systems of all three countries and crystalized to idea research the history of success of strong design-wise case studies and using and combining best practices, доказавшие свою состоятельность во времени, propose the list of solutions and action plan for industrial policy of my country

After the Second World War, the forces of Soviet designers and designers were thrown at the restoration of the ruined economy. Russia design and applied art were extremely ideologized and subordinated to the stylistics of socialist realism. (Galkin, 2005)

The history of the development of industrial design can be divided into three main stages:

1. 1920 - 1964 the existence of Soviet ethical policy, including support of craft workshops, specialized technical and engineering universities. Industrial design as a definition did not appear.
2. 1964 - 2000 the All-Union Scientific Research Institute of Technical Aesthetics (VNIITE) was founded and worked for technical aesthetics - a state near-design.
3. Since 2000, Russia is beginning to interact with foreign design schools, design centers are being opened, the professional design education evolved.

The introduction of a new economic policy at the beginning of the first stage entailed the creation of the All-Russia artistic and technical workshops (VHUTEMAS) in 1920. But in 1932 it was abolished with NEP (New economic policy) and after followed by the military and post-war period, which was characterized by a long hard deficit of goods, many were distributed by coupons. In such a planned economy, there was not a demand of improving quality, aesthetics, or increasing competitiveness. In the country there is a situation when the goods inside the country did not have competitors, let alone foreign ones.

Scientific Research Institute of the Art Industry was founded in 1932 as a center for scientific and creative work in the field of artistic crafts. Its basis was the Commercial and Industrial Museum of Handicrafts, opened in 1885 by the initiative of the Moscow provincial zemstvo. The institute's mission was to study the history and current state of art crafts, to develop and restore them, and to introduce new designs using Soviet themes. The first to open embroidery and lace labs, in 1980 there were already 16 laboratories in which artists, technologists, art historians. (Archives of design Museum in Moscow)

The official date for the creation of the state design system can be considered 28 April, 1962 - on that day the Resolution of the Council of Ministers of the USSR "On improving the quality

of products of machine-building and cultural goods through the introduction of methods of artistic design" was signed.

In 1962, the All-Union Scientific Research Institute of Technical Aesthetics of VNIITE was created, and was considered a national design center. At the same time state universities started to open courses on the training of artists-designers. VNIITE recruited philosophers, sociologists, logicians, semiotics, well-known in the country and they in fact had to invent the principles of design, since they had no access to world practice. Particularly good developments were made within the framework of the defense industry, since most of the budgetary funds were concentrated there. VNIITE researches were mainly focused on ergonomics - in the aviation and space industries, but this experience was not used in any way in the civilian industry.

Since 1964, VNIITE has published the **magazine "Technical Aesthetics"**. In fact, VNIITE was the main design and research organization in the USSR in the field of artistic design.

In 1962 an assortment laboratory was opened in the Special Design Bureau, in which an expert analysis of the functional, technological and aesthetic properties of products was conducted.

Figure 12. Soviet magazine «Technical Aesthetics» 1968, 1969, 1970



In 1964, under the USSR Academy of Arts, a central experimental and experimental studio for artistic design was created, the Senezhskaya Studio. Combining technical design with an artistic approach, the participants of the seminars were engaged in the preparation of complex proposals for the design of the urban environment, the reconstruction of squares, and the design of large exhibitions.

In 1969, a patent department appeared, responsible for legal protection, registration and obtaining patents for industrial designs and trademarks.

The history of the creation in the 1970s of the Volga Automobile Plant of the VAZ of two large divisions - the design department and the department of economic aesthetics - is indicative. In the design division AvtoVAZ worked about 200 people, while the production of the plant - cars - became famous throughout the world for bad design and bad characteristics, which already became a household name, and received a lot of negative reviews.

The customer put the artists-designer as precise technical task. With him were discussed all the stages of the project - sketches, life-sized mock-ups. Enterprises, understanding the limited possibilities of technological lines, discussed the details in advance and avoided the creation of utopian projects. The share of realized projects was rather high due to the narrow specialization of artists-designers.

Since the design system was part of other systems, it had to solve ideological tasks. For example, when developing toys, the country's development vector was taken into account: during the active development of the space industry, "space" toys were produced, the country needed engineers - a mass production DIY sets began.

After the collapse of the USSR, In the early 1990s, factories began to close, institutes and design bureau dealing with technical aesthetics became useless, SKHKB ceased operations. Almost all archival materials are lost. (Archives of Design Museum in Moscow). Many design centers nevertheless created quite high-quality developments, concept cars and prototypes, which existed in one copy only for participation in exhibitions.

In the transition to a market economy, the situation has not improved on its own, as successful foreign counterparts have emerged, and the production of domestic goods has fallen sharply, like budgets, respectively. Closed enterprises and entire industries, so up until the 21st century there were no design customers in the country.

However, in the Russian economy, based on a shortage of design for a long time, lost the competitive place in the world, since the role of Design was always important in the market of the "consumer". Efforts and money did not bring any result, because the instruments of the market economy did not find a place in the planned economy. However, in Japan the situation developed due to state policies more forcefully, so the market quickly formed depend on the growing expectations of consumer demands and a high competitive environment. Therefore, in this case the role of best practices of national design policies could be useful.

One of the main problems of the market under study is a significant share of its shadow part. As recognized by many individual designers, almost all orders made for individuals were paid in cash and not included in the total volume of services provided by official bodies. Obviously, this situation greatly complicates market monitoring, distorts statistics and does not allow to adequately assess the actual situation from the point of view of market volumes in both monetary terms and in kind.

Early collaborations between Russian and foreign university professors, engineers, and researchers can provide opportunities for Russian technologies and joint ventures.

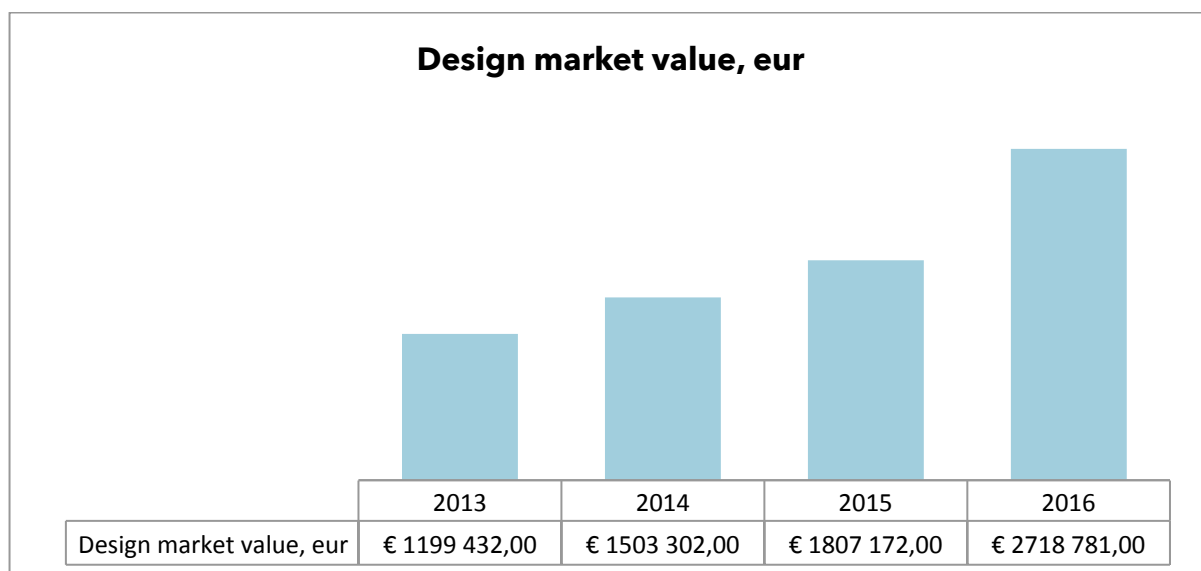


Figure 13. Design market value in Russia

Source: Rosstat Annual review http://www.gks.ru/free_doc/doc_2017/year/year17.pdf, retrieved in February 2018

According to Rosstat the value of design market in Russia has expanded twice in the last two years but still remains small.

According to research of Higher School of Economy in Russia (2014), the all design activities are concentrated in Moscow and Saint-Petersburg, though main manufacturing facilities are located far from it. Good exapmle is Ekaterinburg city which hosts annual exhibition

INNIPROM, there there always organized Industril design corner and lectures from famous Russian and foreign designer. There recently 3 design-studios were opened.

6.5 Current design context in Russia

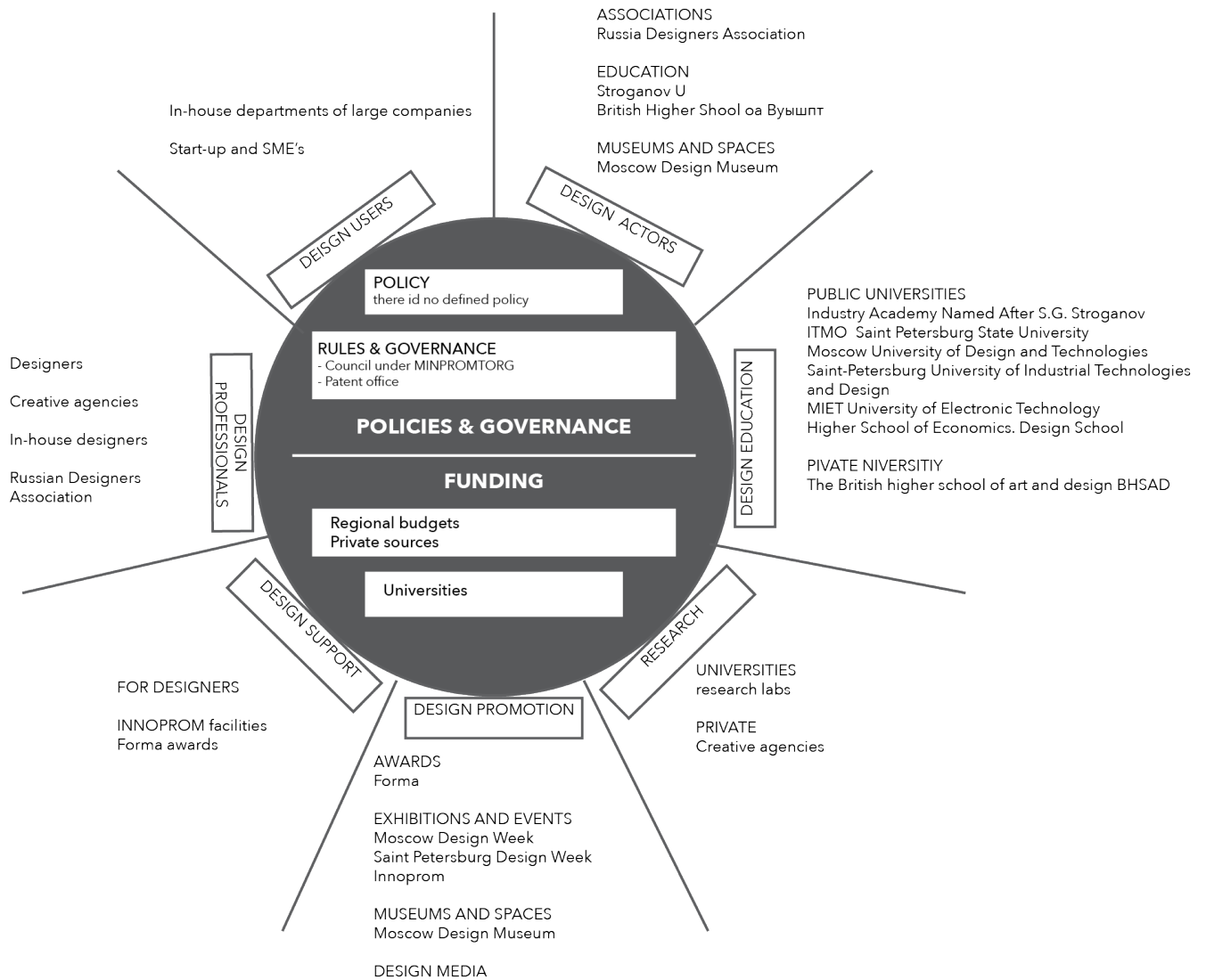


Figure 14. Design eco-syste in Russia

Source: drawing by the author, February 2018

From the above research the scheme (Fig. 14) can be elaborated. From this brief overview in political and socio-economis context we can definy Strong and eak points of existing elements to work on further (Fig. 15)

ANALYSIS OF DESIGN ECO-SYSTEM IN RUSSIA

WEAKNESSES

STRENGTHS

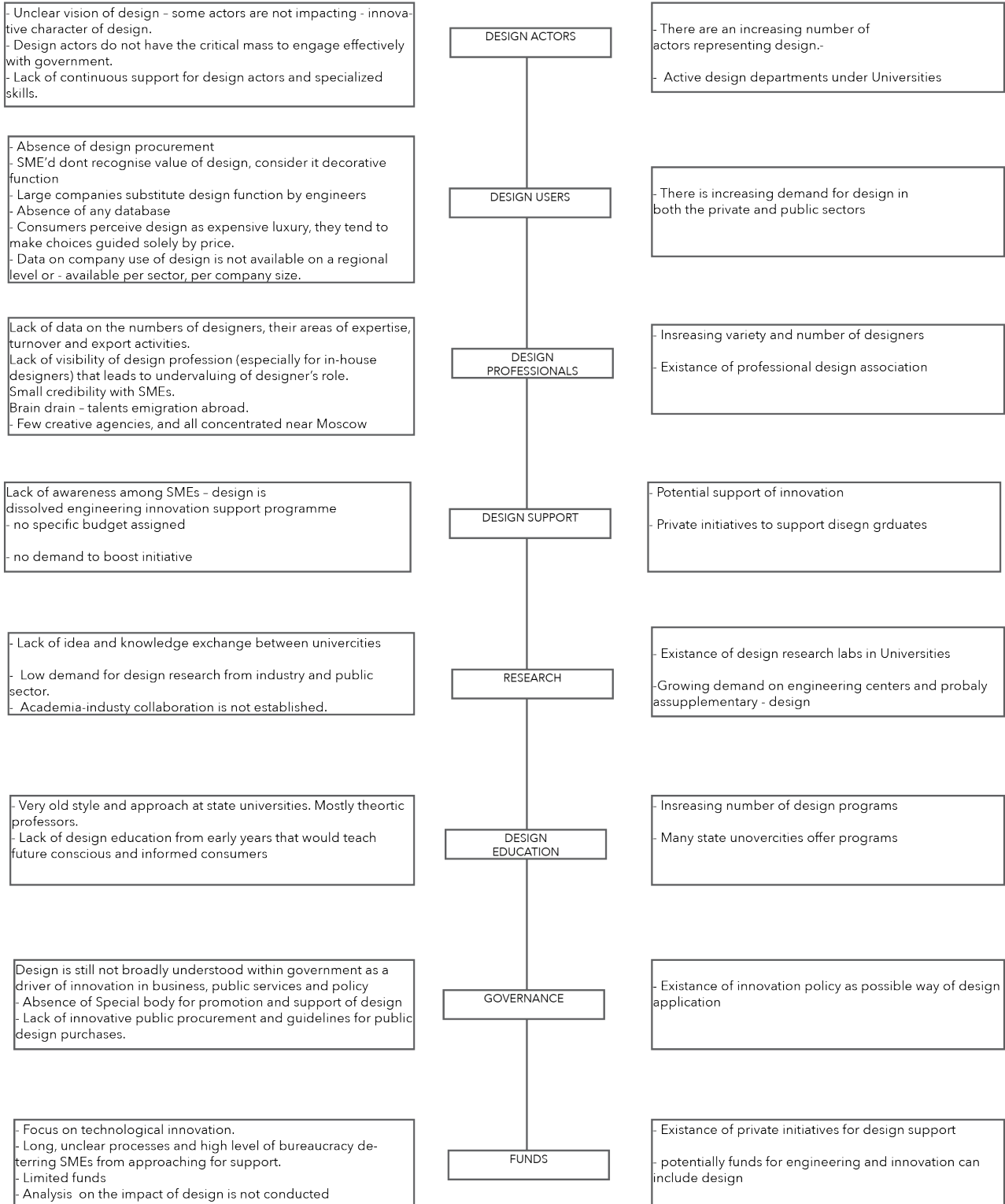


Figure 15. Analysis of strong and weak points of Russian design eco-system

Source: drawing by the author, March 2018

One of the main problems of the market under study is a significant share of its shadow part. As recognized by many individual designers, almost all orders made for individuals were paid in cash and not included in the total volume of services provided by official bodies. Obviously, this situation greatly complicates market monitoring, distorts statistics and does not allow to adequately assess the actual situation from the point of view of market volumes in both monetary terms and in kind.

Even now, manufacturers still do not trust Russian artists, and try to copied foreign samples tand adapt to local condition. Bone thinking of managers of manufacturing companies, trying to save on costs and get a quick result, hamper the development of industrial design. The situation is exacerbated by the weak diversification of industry and the low level of added value to consumer goods produced on Russian market, where there might be a demand only for decoration from design.

There is the professional Association, which is poorly active and dont represnr designer's on GR level properly, neither initiates design promotion camgaings on it's own.

Design users underestimate value oa design due to luck of information and education. Large companies , prevalent in the Russian economy, prefer to invest in technologies and engineering. SMEs don' t have support program for funding their acquisition of design approach.

One of the prospective niches in existing system is investment into innovations and start-ups based on reasearch and innovation centers all over the country.

The positions of the Russian Federation can be assessed as rather weak on the general background, the Russian market of services in the field of industrial design is at the stage of its formation. The current lag in the Russian creative industry and its low integration into the world market is due, first of all, to the legacy of the Soviet planned economy, when the design of manufactured products was not important. Also, its role was played by the slow recovery of industry in the country after the crisis of the 1990s

However, at the moment there are also a number of stop factors that hamper the more active development of the direction. In particular, this is the skeptical attitude of domestic producers, the technological backwardness of production, the shortage of qualified personnel, the underdeveloped consumer culture, a few public-private initiatives (mainly the design projects of RUSNANO and Rostecha), and the poor promotion of domestic industrial design in the domestic and foreign markets.

Proposal for design promotion and support in Russia

Comparative analysis of situation overviewed countries

Comparing the current state of design eco-systems and historical perspective, analysing similarities and differences, based on statistics:

	Japan	Italy	Russia
GDP per capita PPP,\$	38239	34620	24026
R&D spending total	170081819	30126467	40522053
R&D spending, %	3,28	1,33	1,1
Private R&D spending	133499051	16659109	23991226
Private R&D spending %	78%	55%	59%
State R&D spending	13434355	3992989	12588722
State R&D spending %	8%	13%	31%
Higher education R&D spending	20882748	8606933	3886686
Higher education R&D spending %	12%	29%	10%
NGO R&D spending	2265663	867452	55417
NGO R&D spending %	1,3%	2,9%	0,1%

Table 5. R&D spendings in Russia, Japan, Italy 2017

Source: WEF Report <http://reports.weforum.org/global-competitiveness-index-2017-2018/competitiveness-rankings/>, retrieved in February 2018

Country	Public institutions performance	Intellectual property protection	Quality of scientific research
Japan	21	18	14
Italy	135	50	31
Russia	67	93	41

Table 6. Specific index extracts for Japan, Italy and Russia in 2017

Source: WEF Report <http://reports.weforum.org/global-competitiveness-index-2017-2018/competitiveness-rankings/>, retrieved in February 2018

Design awareness study in Russia

For the purpose of design studying design awareness there was done a simple investigation with questionnaire .

Among 97 respondents 60 live in Moscow, 11 - in Saint Petersburg, all others (16) - in Other cities of Russia. Majority of respondents are young people 23-30 (61), 31-50 (25), 7 teenagers/ students in age of 16-22, 4 respondents are over 50 years old.

The main questions were about design perception and attribution.

89,6% of respondents attribute design to aesthetics, 56,3% think it should contribute usability, and only 35% connect it to the innovation.

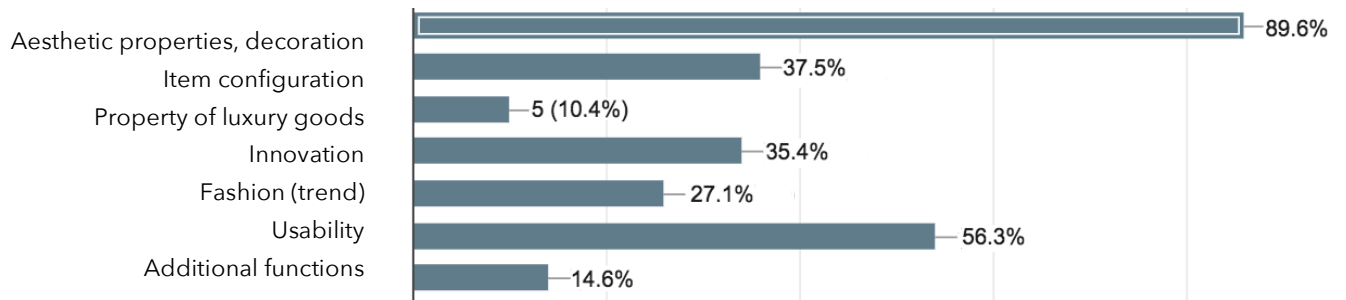


Figure 16. Design attribution idea among respondents in Russia

Source: info retrieved from personal Google Form results, in February 2018.

Conclusions

With the existing design eco-system elements, funds structure, government performance and culture of interaction of public and private sectors (there is a huge lack of trust to public bodies, in general), the number of low-cost on first steps initiatives, where the public sector supports private initiatives and experts, spreading the knowledge through workshops or personal consulting seems the most effective

At least one expert from the design community, working in the Ministry body, in collaboration with other experts could estimate the priority sectors and choose the most prospective companies to apply design approach and evolve in domestic and international market.

For the society with low design awareness that could be done initially as support experiment program, executed by the government with acknowledged specialists from the market.

Also it is important to collect and evaluate the data to track the success of the projects.

UNIQUE PREREQUISITES FOR DESIGN IN RUSSIA

- growing economy and industrial output
- import substitution policy as booster of growing competitive new productions
- growing demand for higher wellbeing
- fostering a start up ecosystem

HYPOTHESIS

The structured low-cost design promotion roadmap can move the system towards appreciation and use of design as powerful tool for economy.

PROJECT

The summary learnings of the chapter one with global overview and chapter two representing the author empirical experience and research on design eco-systems and best practices of the two acknowledged design oriented countries, lead to the concept hypothesis. This project should create a proposal of how the design promotion in Russia could be performed in short-term.

TARGET AUDIENCE

The target audience of this project are the design actors -governance and policy-making bodies- and the professional design sector of Russia

METHODOLOGY

Desk research and case-studies, performed in previous chapters as references.

The road-map solutions

1. Design Competence, research and education

- Increasing design literacy through early childhood education: Citizens' understanding of design is promoted by education. Design is accumulated with early childhood education and individuals are encouraged through "learning by doing"

Addressed to: Ministry of Education, Private School and kindergardens

- Design education is promoted through basic education and upper secondary education: Design education is also incorporated into other subjects such as the use of technology, environmental education, and communication skills.

Addressed to: Ministry of Education, Private School and kindergardens

- Tertiary International co-operation with leading international education institutions and research institutes in the design fields.

Addressed to: Ministry of Education, Private Universities and training centers

- Special education programs for the public sector aiming at the methods or design in the user-driven renewal of public services is promoted.

Addressed to: All government bodyies' HR departments

- Design research and the application of research results are strengthened such as the application of new materials and manufacturing techniques. (e.g. 3D printing).

Addressed to: Ministry of Industry and Trade

- **Establishment of Knowledge and Innovation Center** for innovation partnerships for co-operation between higher education institutions, research organizations, businesses and other parties:

1. Should be a non- profit organisation.

2. Core team: of design experts that would share knowledge and tools with the key stakeholders (academia, public, private, government,users) in order to address both innovation in business and society challenges.

3. Potential funders: University of Technology and particularly within or part of the art and design learning lab, Ministry of Industry and Trade

4. Final goal to achieve% to be self - sustainable and autonomus under its own roof.

5. Main activities:

- Data collection and analysis
- Education and advocacy
- Connected with allied sectors and pro and engaging multidisciplinary specialists
- Design thinking training
- Creation or support of secor Events and awards

2. Balancing Design ecosystem for the demand and supply

- Supporting SMEs to have more design competence through free training, providing advice on how to utilize design competence, and enhancing the use of design in the public sector

Addressed to: Ministry of Industry and Trade, training centers

* Advisory and development service for SMEs to be provided.

- Innovation funding through various projects and programme activities are provided to encourage companies to find experimental and user-driven solutions

Addressed to: Ministry of Industry and Trade

- * Needs special budget

- _Companies utilizing design for product and service export are encourages to make use of funding instrument

- Subsidies and Tax incentive for the firm's wage costs of staff employed for R&D and design, and a tax relief for companies degistering designs

Addressed to: Ministry of Industry and Trade , Ministry of Finance

- Reduced interest rate on loans for on firm's wage costs of staff employed for R&D and design, and a tax relief for companies degistering designs

Addressed to: Ministry of Industry and Trade , Industry Development Fund

3. Design used in the development of society and for well-being in the public sector

- Design will be promoted through the innovation operating programs or relevant units
- Design is used as a driver of public service development based on the cooperation of municipalities and the ministries (e.g. public procurement).
- Supported communications between design agencies and cities/municipalities to enhance successful public procurement.

4. Additonal suggestions

- For stimulation of domestic consumption
 - State purchases of products and services from local enterprises
 - Preferential crediting of buyers of products and services of local enterprises
 - Subsidies of buyers of products of local enterprises
- For supporting exports
 - Credit support for exports of design items
 - Assistance in finding partners abroad (design items and services in the field of promdesign)
 - Political support of major foreign contracts related to the industrial design
 - Tax benefits for exported design items, simplified customs procedures
- Public-private partnership
 - Concession agreements (creation of infrastructure facilities for design companies)
 - Joint ventures

SUMMARY

The esecuted research study allowed deconstructing and exploring the situation about design globally and specifically in Russia as the target coutry fir further development.

The global owerview of success histories and best practices of involving design in the economic strategy as the tool for higher added value and consequentall nationl economic performance and competitiveness confirmed the primary hypothesis.

The results in both parts - academical justification and project roadmap would be presented for the further consideration of targeted organisations.

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Appendix 1.

World rank	design	Country	Company spending on R&D	Value chain breadth	Degree of customer orientation	Production process sophistication	Nature of competitive advantage	Extent of marketing	Capacity for innovation	average design
1	1	Switzerland	6,1	5,8	6,1	6,5	6,5	5,8	6,2	6,1
2	5	United States	5,9	5,7	5,8	5,9	5,7	5,2	6	5,7
3	14	Singapore	5	5,2	5,7	5,6	5,7	5,2	5	5,3
4	4	Netherlands	5,6	5,5	5,7	6,2	6,0	5,6	5,7	5,8
5	6	Germany	5,6	5,6	5,7	5,9	5,8	5,5	5,8	5,7
7	3	Sweden	5,6	5,7	5,8	6,1	6,0	5,5	5,8	5,8
8	8	United Kingdom	5,1	5,6	5,4	5,9	5,9	5,8	5,5	5,6
9	2	Japan	5,6	6,1	6,2	6,4	6,4	5,1	5,1	5,8
10	13	Finland	5,3	5,1	5,5	6,1	5,7	4,2	5,6	5,4
11	11	Norway	4,9	4,8	5,7	6,2	5,7	5,2	5,3	5,4
12	9	Denmark	5,0	5,2	5,8	5,8	6,5	5,0	5,3	5,5
13	23	New Zealand	4,4	4,4	5,7	5,1	4,4	5,2	5,3	4,9
14	25	Canada	4,3	4,3	5,5	5,6	4,1	5,0	5,1	4,8
15	15	Taiwan, China	5,2	5,0	5,9	5,3	5,3	5,2	5,1	5,3
16	17	Israel	4,8	5,2	4,9	5,7	6,2	3,7	5,9	5,2
17	19	United Arab Emirates	4,5	5,3	5,8	5,2	5,1	5,0	5,4	5,2
18	7	Austria	4,9	5,9	5,9	6,1	6,3	5,0	5,6	5,7
19	12	Luxemburg	5,2	5,0	5,5	5,9	5,9	4,6	5,6	5,4
20	10	Belgium	5,2	5,3	5,6	6,0	5,9	5,0	5,5	5,5
21	26	Australia	4,4	4,2	5,5	5,2	4,7	4,0	5,1	4,7
22	16	France	5,2	5,4	5,2	5,6	5,7	4,4	5,5	5,3
23	20	Malaysia	5,1	5,2	5,6	5,1	4,7	4,8	5,4	5,1
24	18	Ireland	4,8	5	5,6	5,7	5,4	4,7	5,2	5,2
25	21	Qatar	5,1	5,2	5,5	5,3	4,6	4,8	4,8	5,0
26	27	Korea Rep	4,4	4,9	5,2	5,2	5,1	3,3	4,7	4,7
27	29	China	4,6	4,5	4,6	4,5	4,4	4,5	4,5	4,5
28	24	Iceland	4,5	4,7	5,6	5,4	4,9	3,9	5	4,9
29	37	Estonia	3,8	3,9	5,5	4,2	3,9	4,1	4,9	4,3
30	38	Saudi Arabia	3,6	4,4	4,6	4,6	4,2	4,3	4,2	4,3
31	30	Czech Republic	4,2	4,3	5	4,8	3,9	4,3	4,9	4,5
32	39	Thailand	3,6	4,3	5,5	4,3	4,4	3,4	4,1	4,2
33	42	Chile	3	3,9	4,6	4,4	3,3	3,4	4	3,8
34	34	Spain	3,5	4,8	5,1	4,8	4,3	4,3	4,3	4,4
35	33	Azerbaijan	4,4	4,4	4,9	4,6	4,1	4,2	4,7	4,5
36	32	Inonesia	4,4	4,6	5	4,3	4	4,2	4,8	4,5
37	35	Malta	3,8	4,4	4,7	4,8	4,4	4,2	4,7	4,4
38	41	Russia	3,5	3,8	4,5	3,9	3,4	4,5	4,2	4,0
39	28	Poland	3,4	4,7	5,1	4,3	5,8	4,6	4,1	4,6
40	31	India	4,5	4,5	4,6	4,5	4,4	4,4	4,5	4,5
41	40	Lithuania	3	4,2	5,2	4,5	3,6	3,6	4,8	4,1
42	36	Portugal	3,8	4,4	5,1	4,6	4,1	4,1	4,6	4,4
43	22	Italy	3,9	5,3	5,1	5,2	5,8	4,6	4,9	5,0

Appendix 2

Questionary

General information

What is design for you?

- Property
- Process
- Sense
- I do not know

Age

- 15-22
- 23-30
- 31-50
- more then 50

What's your gender

- feminine
- male

Where do you live?____

Is your profession connected with design?

Yes / no / partially

What is your occupation?_____

What is design for you? (What does design mean for you and where do you notice it)

What is associated with the term "Design" (choose several options)

- Aesthetic properties, decoration
- Items configuration
- Property of luxury goods
- Innovation
- Fashion (trend)
- Usability
- Additional functions
- Other ...

Where can Design be applied?

- Clothing
- Interior
- Branding and illustrations
- Systems
- Communications
- Transport
- The services
- Household items
- Other ...

Design - it's more...

- Additional advantage
- Basis of idea / product

Are you interested in Design?

How much are you interested in learning about new designs?

do not check it - very, often interested in

Where you will find out about the design news

- Design Portals
- Groups in social networks
- Exhibitions
- Conferences

What design exhibitions, conferences and media do you know? ____