



Economía Creativa

ISSN: 2395-8200

economia.creativa@centro.edu.mx

Centro de diseño, cine y televisión

México

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Economía Creativa, núm. 5, 2016, Mayo-Octubre, pp. 31-73

Centro de diseño, cine y televisión

Ciudad de México, México

DOI: <https://doi.org/10.46840/ec.2016.05.03>

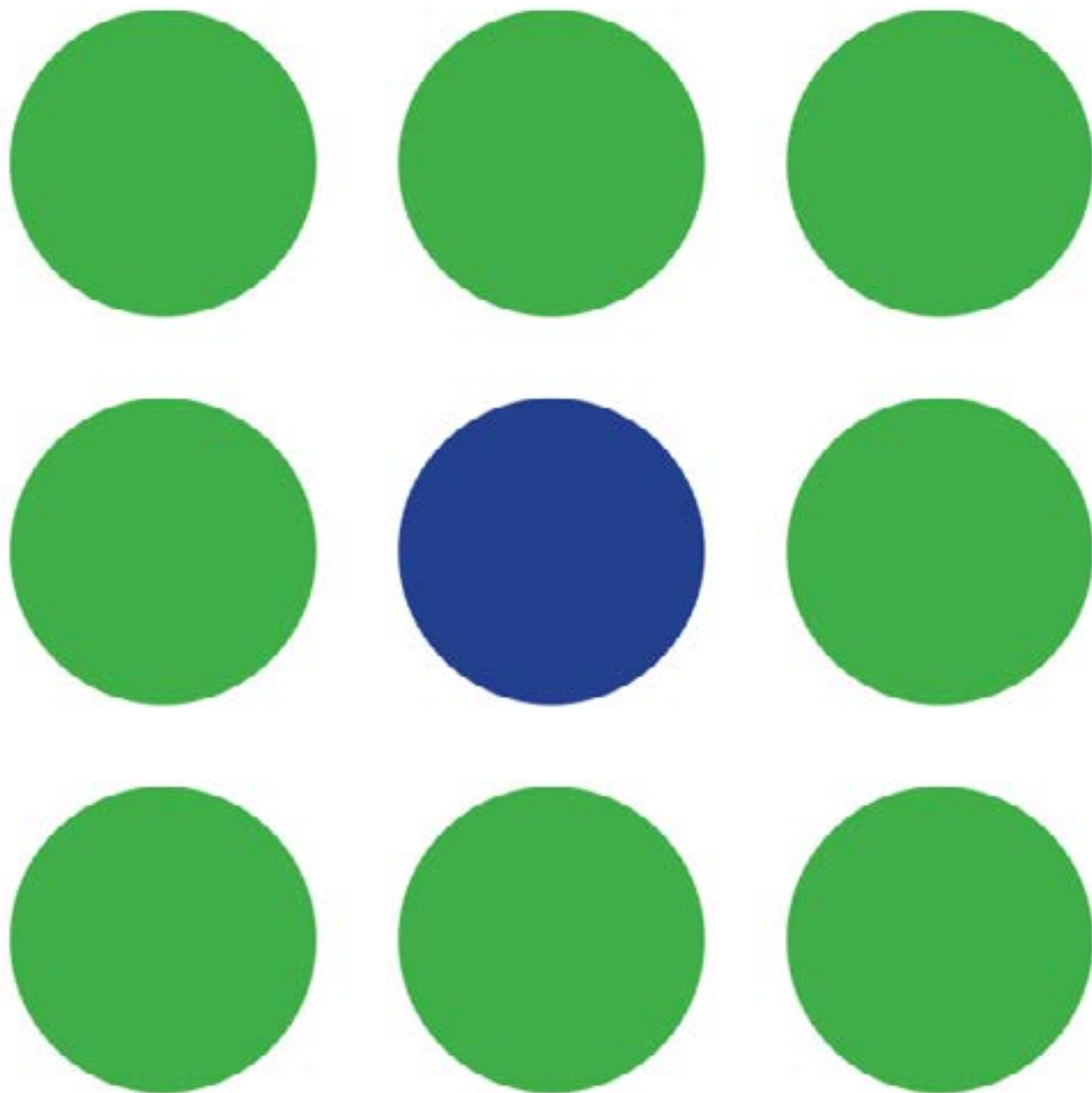
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Manufactura creativa: el impulso detrás del crecimiento en la Ciudad de México

Andrea Sancho

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*Creative Manufacturing:
A Driving Force behind Mexico City's
Future as a Creative Cluster*

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Resumen

En este estudio se refieren a algunas medidas que el gobierno mexicano ha tomado para emprender nuevas estrategias tendientes a instaurar una era “post-maquila” mediante el auge de sectores manufactureros avanzados como la aeronáutica, el transporte y el equipamiento. En contraste, este trabajo explora la idea de invertir en innovación y creatividad específicamente para el caso de la Ciudad de México, territorio que experimenta una transformación social y un renacimiento económico que, de ser adecuadamente incentivado, puede contribuir al desarrollo de un clúster de productos altamente creativos. El estudio evalúa los cambios antes referidos, refiere a la clase creativa, el clima emprendedor y a los posibles obstáculos para la concreción del clúster.

Palabras clave | Innovación; diseño; Ciudad de México; manufactura; clúster creativo.

Abstract

The Mexican government is in the wake of employing new strategies to move the economy into a “post-maquila” age by focusing its growth on advanced manufacturing sectors. These plans are dedicated to such industries as aerospace, transportation, and tooling. This study, in contrast, builds on the idea of investing in innovation and creativity by proposing a focused solution for the Mexico City metropolis. Mexico City is experiencing a social and economic renaissance that, if properly nurtured, can propel it to become a design and manufacturing cluster of innovative and creative products. This study will evaluate recent changes, focusing on the growing creative class and entrepreneurial climate, as well as assessing what is missing in order to foster the creation of this cluster that would ultimately offer similar economic and social benefits as advanced manufacturing.

Keywords | Innovation; design; Mexico City; manufacturing; creative clusters.

Recently, the ProMexico Trade and Investment office, responsible for developing economic strategies that increase Mexico's participation in the world economy, released a detailed report describing a plan to shift Mexico's export and manufacturing strategy from basic manufacturing to advanced manufacturing. The maquila industry helped develop the Mexican economy and successfully transformed it into a export-based economy (Creticos & Sohnen, 2013).

Maquila manufacturing and exports however, are much more susceptible to both international economic fluctuations, as seen during the global economic recession in 2008, and international competition, such as manufacturing in Asia. Creating a strategy in advanced manufacturing would increase Mexico's value added exports and would create jobs for both factory workers and the current unprecedented number of students graduating from 2-year colleges and 4-year universities in Mexico.

Yet, falling in line with the government's economic plan to encourage advanced manufacturing, creative industries offer similar economic and social benefits, and Mexico City has the essential elements to form a cluster in creative industries. Furthermore, innovation clusters cannot exist in isolation; the country needs to create a larger network of clusters that promote both innovation and creativity (Creticos & Sohnen, 2013).

Mexico City is the largest metropolis in the Western Hemisphere with a recent renaissance that has begun to transform the city in the last 5 years or so. The city's age demographic is very telling; the majority of the population is in its teens to mid-thirties (*Urban Age Cities Compared*, 2011). The younger generations have an appreciation for technology and artisanal value, which is innate in their culture. They are one of the key factors in transforming the city and they are a significant part of a growing middle class within Mexico.

Restaurants, neighborhoods, and markets are booming within Mexico and they are all economic indicators of this growth within the city. Many compare Mexico City's energy to that of California when it was the frontier of design and technology. It has been said, for example, that

Europe [is], dying; Mexico, coming to life. The United States, closed and materialistic, Mexico, open and creative. Perceptions are what drive migration worldwide, and in interviews with dozens of new arrivals to Mexico City—including architects, artists, and entrepreneurs—it became clear that the country's attractiveness extended beyond economics (Cave, 2013, 30).

This is why Mexico City has a distinct advantage and opportunity to grow into a new creative cluster, and one that does not rule out manufacturing either.

In recent years, manufacturing has been largely ignored or passed over. Its value has been seen as archaic and old-fashioned, while the service sector has been hailed as the future (Bryson, Clark, & Vanchan, 2015). But a rich manufacturing sector that focuses on innovative design products would only strengthen Mexico City's renaissance.

While the traditional manufacturing industries were seriously hit, the more knowledge-based creative sectors were more resilient to external shocks. In 2008, despite the 12 per cent decline in global trade, world trade of creative goods and services continued its expansion, reaching \$592 billion (Creative Economy, 2010).

It could become a large employer, benefiting everyone, from the younger college graduates to the working classes who must not be forgotten. And this strategy would also mirror the values of this city and its newest group of residents as mentioned above.

In the past, Mexico's artists and designers, who were often stimulated by government initiatives, reached significant recognition on the world stage. An example of this is muralist Diego Rivera who reached celebrity status in the United States, yet his murals, commissioned by the government, are found throughout the city for anyone to enjoy, regardless of wealth. Similarly, Mexican architect Luis Barragán represents a pinnacle of Modern Mexican Architecture and was awarded the celebrated Pritzker Architecture Prize in 1980 (Luis Barragán, 2016), examples of his work can be seen throughout the city. Even UNESCO has acknowledged that "[t]raditional craftsmanship is perhaps the most tangible manifestation of intangible cultural heritage" (*Traditional craftsmanship*, n.d.) as is true for Mexico. Mexico was once a bastion of creativity and design recognized internationally and if properly fostered could become this again. Creativity and skill are innate and these elements could transform themselves into an advantage in a competitive globalized market.

The international design community has recently recognized the importance of Mexico City as a global design center. In October 2015, the International Societies of Industrial Design named Mexico City the Design Capital of the World for 2018. The mayor's support and the design community's commitment were significant factors in the decision-making process for the organization (*Mexico City Named*, 2015). This recognition reinforces my contention that Mexico City has the potential to become a creative cluster.

Methodology

This study is based on qualitative methods. I examined current economic studies; research regarding the manufacturing sector in Mexico and abroad; and studies on innovation, creative industries, creative clusters, and Mexican culture. I also conducted three semi-structured interviews and 2 questionnaires. I interviewed Orfeo Quagliata, founder and lead designer of Studio Orfeo Q; Marisa Garcia, business manager and designer of Studio Orfeo Q; and Andres Muller, sales director for Taracea. These two firms are examples of successful companies that manufacture design products within the Mexico City metropolis and can serve as a case in point to start-ups and entrepreneurs. The creative director of the fastest growing

furniture company in the United States (who asked to remain anonymous) and happens to import products from Mexico City, Asia, and Europe, filled out a questionnaire answering similar questions that were posed in the interviews.

Basic Manufacturing and Its Effects on the Mexican Economy

After the signing of the North American Free Trade Agreement (NAFTA) in December of 1993 and it taking into affect January 1, 1994, Mexico gradually and successfully shifted to an export-driven economy that naturally complemented the maquila industry that emerged during the 1960s (Sandoval Ríos, Carreón Sánchez, Ortiz Porcayo, & Moreno Blat, 2011). The maquilas imported parts or components from partner countries, like the United States, assembled them, and exported the final product for exclusive sale abroad. This led to the manufacturing or assembly of goods, such as electronics, car parts, and apparel (Hansen, 2002). But the benefits to the Mexican economy from this type of manufacturing are incredibly limited, and focused purely on employment. Furthermore, the benefits are geographically limited. “These plants have always been concentrated along the Mexico-US border, meaning that the outlying states rarely saw the benefits of the maquila industry, regardless of the maquila sector growth, which by 2000, generated 48% of Mexico’s exports and 35% of the country’s imports” (Hansen, 2002, 2).

The maquila industry has also left Mexico extremely susceptible to the business cycles of other countries due to the competitive nature of the business and ease of relocation if costs rise or if competitors become more attractive (Hansen, 2002). An example of this was visible when there was a decrease in manufactured goods in Mexico from 2003 to 2010. This was likely caused by two major factors: the global economic crisis and China’s entrance into the World Trade Organization only a few years before (Creticos & Sohnen, 2013). The maquilas allowed the Mexican economy to expand rapidly but also left it susceptible to the whims of the global economy.

In comparison, (...) the United States has been the leading producer of manufactured goods for more than 100 years, currently producing nearly 18% of the global manufactured products. The sector has long sustained the country's economic growth, spurring constant innovation and knowledge generation (Creticos & Sohnen, 2013, 2).

Following the United States example, the Pro Mexico office has focused its efforts on developing an economic strategy that encourages the creation of clusters in advanced manufacturing in cities across the nation.

Advanced Manufacturing and Creative Industries

Advanced Manufacturing: ProMexico Plan

According to Creticos and Sohnen “the term advanced manufacturing is used to indicate that the process uses some type of innovation – either the product design and function or in the production process itself” (2013, 6). The US Department of Labor describes advanced manufacturing as using technology and processes, and having a demand for more skilled workers (2013). This often refers to industries where occupations in the sciences and engineering can be found.

Mexico was initially passed over for advanced manufacturing due to its proximity to the United States. American companies could keep R&D in-house without exporting it to Mexico, a country that is located within the time zones of the United States. In comparison, their distance from the United States favored countries like China, Japan, and India because American corporations were required to invest in R&D offices in these countries, hiring educated workers in order to create real time responses between design and manufacturing (Creticos & Sohnen, 2013).

Mexico has a unique opportunity at this point; companies are beginning to inshore their operations back to the United States as costs in Asia begin to rise. It also resulted difficult for many companies to manage R&D facilities so far from headquarters. Furthermore, the 2010 Global Competitiveness Index has found that for many American companies “access to talented workers was a major driver in attracting manufacturing above labor and material cost” (Creticos & Sohnen, 2013, 7). The 2014 International Institute for Management Development World Competitiveness Yearbook, also lists a skilled workforce and cost competitiveness as a country’s key attractiveness indicators (IMD, 2014).

This gives Mexico a new advantage; it finally has the opportunity to offer a competitive bid now that the main driver is not cost but skill, and growing expense of manufacturing in Asia is ultimately bridging the gap in cost. The new ProMexico plan emphasizes advanced manufacturing, by focusing on the management of talent; promotion of design; and development and engineering capabilities in the processes, products, and materials produced in Mexico. This is a paradigm shift from “Made in Mexico” to “Designed and Manufactured in Mexico” (Sandoval Ríos et al., 2011, 14).

This plan goes on to specify that Mexico’s strategy is to move away from low-cost high-volume manufacturing, to industries that encourage skill, creativity, and innovation because these industries create a network of engineers, entrepreneurs, scientists, and financiers, just to name a few (Sandoval Ríos et al., 2011). By encouraging the advanced manufacturing segment, new companies or factories would employ Mexican labor in multiple stages from designing to tooling and manufacturing to marketing and branding. The primary materials would also be mostly Mexican.

The ProMexico plan went on to prepare a SWOT analysis on design in Mexico as can be seen in Figure 1. There are a few indicators on this figure that are extremely interesting. Firstly, it highlights creativity, as well as talent in engineering, as a strength, showing value

in the potential of the Mexican worker. And the “Low recognition of Mexican design” (Sandoval Ríos et al., 2011, 48) is as a threat, although not surprising, as Mexico is barely beginning to invest in advanced manufacturing or the creative industries.

Creative Industries

The definition of the term “creative industry” varies from place to place and organization to organization. Here I have chosen to illustrate its general meaning by outlining some of its more popular definitions.

- The UK DCMS model describes the creative industries “as those requiring creativity, skill, and talent with potential for wealth and job creation through the exploitation of their intellectual property” (Creative Economy, 2010, p.6).
- The WIPO copyright model “is based on industries involved directly or indirectly in the creation, manufacture, production, broadcast and distribution of copyrighted works” (Creative Economy, 2010, p.6).
- UNCTAD defines the creative industries as the cycles of creation, production, and distribution of goods and services that use creativity or intellectual capital as primary outputs. They use knowledge-based activities, potentially generating trade and revenue. It includes both intangible and tangible goods with creative content, and combines the work of the artisan with the industrial and service sectors (Creative Economy, 2010, 8).

The Creative Class and Creative Entrepreneurs

A “creative class” is described in the Creative Economy Report as “a cohort of professional, scientific, social and cultural dynamism, especially in urban areas” (2010, 10). The creative class includes a large spectrum of professionals, such as engineers, architects, artists, educators, musicians, doctors, and designers. This interaction of disciplines is what leads to innovation and

the creative outlook of a city as well as the creation of new technology, systems, or content. Most important, these individuals must share a “common creative ethos that values creativity, individuality, difference, and merit” (2010, p.11).

Similarly there is more and more discussion regarding the importance of the creative entrepreneur. Traditionally entrepreneurs have been recognized as people who take risks and seize opportunities to develop innovative ideas for a business or product. Entrepreneurs blossom in economies that foster creativity and innovation, and they help to jumpstart the economy. They transform ideas into creative products or services. Ultimately, the formation of a creative society, city, or cluster is not brought about by large multinational corporations; rather it is the result of many small and medium corporations that manufacture or create value in innovative products and services. It is after this business climate is born that larger companies begin to take notice.

Creative Clusters and Cities

More recently the concept of the “creative economy” has been applied to the economy of cities. Creative clusters are measured by evaluating the creative and economic development of a smaller and more controlled area, where the government has the ability to create a more focused strategy or approach toward developing the creative industries. The development of a creative city can happen in a few different ways. Firstly, it can be jump-started by the cultural heritage of the city where large parts of the workforce are hired by museums and cultural sites, and the city’s population remains in constant contact with artistic and cultural venues. Secondly, cities are becoming people centric instead of corporate centric (*Creative Economy*, 2010). More recently, corporations are being attracted to cities that have a positive business climate and a growing and varied population. But a creative city is not defined by the number of museums or creative businesses it has; it must include a diverse, creative, and skilled workforce, as well as creative and innovative government, educational institutions, organizations, and social and cultural activities. It is what the Creative Economy Report describes as the “soft infrastructure” (2010, 14) that is at the core of a creative city.

In 2015 the town of Puebla, which lies 3 hours outside of Mexico City was added to the UNESCO creative cities network for design. UNESCO writes that the purpose is to capture the potential of culture and creativity as key enablers of sustainable development (*47 cities*, 2015). Although it is relatively too soon to understand the benefits that this designation has had on the local economy, it begins to create a network of neighboring cities that follow a similar value system. These cities do not function in a vacuum. Creative clusters and cities follow a people centric approach towards economic growth that focuses the development of the cultural and creative assets that already exist.

A recent example of a successful business cluster within Mexico was the creation of the Guanajuato Inland Port. This is a cluster of businesses that worked together with the government to create the ideal setting they needed to maximize profits and efficiency. Within almost 3,000 acres of land they have created a customs office that services an air, rail, and trucking port along with 76 companies. A record \$2.6 billion dollars has been invested and this business cluster has created 15,000 direct jobs (Master Plan, n.d.) Each cluster in its own right has the potential to reach a comparable level of success by creating a solid network between citizens, private industry, and public policy.

Mexico City's Potential as a Cluster in Creative Industries

Many similarities are found between the definitions of advanced manufacturing and the creative industries. What stands out is that both of these industries find skill, innovation, creativity, intellectual capital, and job creation as key factors. Although one industry focuses more on the arts and design the other generally in the sciences and engineering, their value systems and proposed results are similar. It is important for these industries to function parallel to each other so as not to hinder the government's economic plan while allowing Mexico City's economy to develop organically in design, the arts, and innovation.

The Mexican creative industries have the advantage that they can infuse their products and designs with a mix of artisanal craftsmanship and ingenuity, Mexican aesthetic, and Mexican

materials making it difficult to copy or to compete against, thereby developing its own niche market or contemporary style. In comparison one of the weakness of advanced manufacturing is that many of the products can still be manufactured abroad and would have to compete against countries like the United States. According to the Creative Economy Report, for developing countries a starting point is to identify creative sectors with greater potential: to look at interdisciplinary opportunities, entrepreneurial capabilities, access to technology, trade potential domestically as well as internationally (2010, p. xxii).

Interdisciplinary Opportunities

There are a number of factors, from education and cultural events to immigration statistics and government policies that presently lead to interdisciplinary opportunities within Mexico City.

Education. Mexico City has one of the highest concentrations of universities and research institutions in the Western Hemisphere. It has more graduates than almost any other city in the region, including the United States. And follows the United States closely in number of engineering graduates as well (Booth, 2012). Furthermore, the rapid growth of CENTRO University indicates that there is a need for alternative creative degrees in Mexico City. This University offers 7 bachelor degrees ranging from Film and Television, Industrial Design, Fashion and Textile Design, Interior Architecture, and Visual Communications among others, and enrollment has grown approximately 800% since its inaugural class in 2005.

CENTRO has also collaborated with government agencies like ProMexico by creating a comprehensive directory of Mexican designers (*Sector Report*, 2013). Similarly, CENTRO just finished a program, 3D×100, through which students worked with the company Ideas Disruptivas to develop the design of a new 3D printer. The company has manufactured the printers and in conjunction with the university they will be donating these open-source printers to low-income schools. Although these collaborative projects between educational institutions and the private and public sectors are limited, they are positive steps. They create mentorship programs and participating students grow beyond theoretical experience.

Demographics. Currently, the population of Mexico City has reached 22 million people, making it the largest city in the Western hemisphere. Furthermore, it is a young city with approximately half of the population under the age of 27. This leads to a demographic of people who are overwhelmingly students and who work in an “informal economy” (Ludwig & Gomez-Mont, 2013). This used to be viewed as negative; however, now the flexibility of the workforce is seen as a bastion of opportunity. As Ludwig and Gomez –Mont explain, if “you think about 22 million mouths to feed, it’s absolutely daunting. If you start thinking in a different paradigm of 22 million minds, it becomes another thing” (2013, p.10). Immigrants are also an essential ingredient to a city; they often bring with them an entrepreneurial spirit, new ideas, and cultural influencers, such as music, food, and style, all of which enrich a city. And Mexico City is the primary location where immigrants are settling within Mexico. Right now 21% of expatriates living in Mexico are listed as finding employment either by freelancing or opening their business and the average age of foreigners is 20 years old adding to the young demographic (Flores, 2014).

In the capital... immigrants are becoming a larger proportion of the population and a growing part of the economy and culture, opening new restaurants, designing new buildings, financing new cultural offerings and filling a number of schools with their children (Cave, 2013, 30).

These immigrant populations entering Mexico are varied. Mexico City has the largest demographic of Americans living outside of the United States, but immigration from Asia, Europe, and the rest of Latin America also continues to rise (Cave, 2013).

Government Institutions and Policies. Mexico City is also home to the most museums than any other city in the world and there are four UNESCO World Heritage Sites within the Mexico City metropolitan area. Access to these institutions lead to the cultural enrichment of the population. The majority of these museums have public days during which visitors are granted free access to visit exhibitions. There are also new government and private

platforms that work toward the betterment of the city. Laboratorio para la Ciudad's mission is to "foster civic innovation and urban creativity" (Ludwig & Gomez-Mont, 2013, 1). Picnic Mexico is a private platform geared toward innovation and creativity; it works as an incubator or accelerator for innovation of concepts, products, and services (*Sector Report*, 2013). Furthermore, the local government's liberal reforms have made Mexico City one of the most progressive cities on the continent. Mexico City passed gay rights before New York did (...) ha[s] abortion laws in place (...) a limited form of euthanasia, and some interesting social programs as well. Mexico City has started defining itself as a progressive space that wants to further individual and social freedoms (Ludwig & Gomez-Mont, 2013, 4).

This level of social openness in its political policies along with the significant amount of cultural institutions along with private initiative to promote creativity speaks volumes in the potential for cultural and creative enrichment within Mexico City.

Trade Opportunities. Mexico is the country that has the most trade agreements at "12 treaties that give it preferential status in 44 countries. (...) the agreements provide access to over 1 billion potential customers representing 62% of the global GDP" (*Sector Report*, 2013). There is also potential for foreign direct investment in the city, focusing on the creative industries. The Netherlands prepared a Dutch Sector Report on the creative industries in Mexico and found that Mexico's existing creative strengths are in film, architecture, design, gaming, music, and new media (*Sector Report*, 2013). The report explains that

both countries are renowned for their quality in design but as they come with different traditions they have different strengths and weaknesses to learn from.
– Netherlands is known for new applications and Mexico for its rich cultural traditions and heritage (*Sector Report*, 2013, 60).

Mexico has such a diverse urban population that Mexicans and the city's immigrant population are organically interacting and working together. Lastly, Mexico's proximity to the United

States continues to be favorable for Mexico. Its primary market will likely remain the United States, the country in the region with the most buying power.

Entrepreneurial Capabilities

As mentioned earlier, Mexico City is bustling with a young population that is primarily under 30 and a recent immigration population that is relocating to Mexico City because of the city's favorable urban lifestyle and economic prospects. These two groups of people are rated among the highest for entrepreneurial activities. Currently, 6.3% of the people "between the ages of 18 and 24 own their own company" (Rampton, 2015, 7); "there are 45 venture capital funds" (Rampton, 2015, 5) and "100 accelerators and 20 incubators" (Rampton, 2015, 6). Furthermore, the Mexican government created the National Entrepreneurs Institute, which is dedicated to organizing funding for start-ups and small and medium businesses.

The government has earmarked almost \$600 million dollars for small business and investment (Rampton, 2015). The cost of starting a business in Mexico is going down, and there are progressive venues being created in Mexico City that offer business owners low cost platforms to feature their business. Mexico City has more design markets than any other city in the world. These markets function as pop-up shops. Entrepreneurs and designers open shop at these *mercados* and often have customers who come just to see what is new. The companies keep track of their customer base via social media, and these new companies are starting to sell online as well, which is relatively new in Mexico. Furthermore as seen in figure 2, in Mexico, an investor only requires 6 procedures and 9 days to open a business; these numbers are notably lower than in China, Russia, or Brazil (*Sector Report*, 2013).

Access to Technology

Currently, Mexico City has average access to technology. Companies are beginning to use social media and the Internet, and manufacturing is creative and innovative but not necessarily high-tech. This is largely because Mexico was never a high-tech manufacturing nation. Ingenuity often leads to a manual workaround. Mexico is so urban and tight-knit that social media, although popular, has not exploded as it has in other countries. And factory workers are so ingenious that they find solutions without advanced equipment. But this sector begins to grow at a rapid pace. The younger generations are much more interested in technology. In terms of Internet usage Mexico is in eleventh place based on number of users following the United Kingdom and France (*Internet Users*, 2014). Certain private initiatives also begin to make a push, such as the 3D x 10 program mentioned earlier. Investment in the high-tech manufacturing sector is expensive and requires large capital investment, leaving business owners weary of these types of investments.

Finding Common Ground between Successful Design Manufacturers

According to the Programa Nacional de Cultura 2007 – 2012, the cultural industries that the “Mexican government aims to fortify are:

- 1 Cinema**
- 2 Public Media (radio and television)**
- 3 Television**
- 4 Radio**
- 5 Editorial Production**
- 6 Popular Culture (artisans, tourist initiatives)**
- 7 Design (fashion, jewelry, furniture, graphic design)”**

(*Sector Report*, 2013, 34).

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	Number of procedures required to open a business	Days required to open a business	Number of procedures required to obtain a building permits	Days required to obtain a building permit
Mexico	6	9	10	69
Russia	8	18	42	344
China	13	33	28	270
Brazil	13	119	17	469

Figure 2. Table of Ease of Operation. Made by The World Bank: Doing Business 2013. Taken from: *Sector Report Creative Industries Mexico 2013*. (2013). Retrieved from .rvo.nl/sites/default/files/2014/02/Sector Report Creative Industries Mexico 2013.pdf

Unsurprisingly design and manufacturing are at the bottom of the list. In recent years, manufacturing has been considered an “old-fashioned” way to energize the economy. Yet, in this case study, representatives from three companies were interviewed: Taracea, a manufacturer of high-end handmade furniture; Studio Orfeo Q, a manufacturer of glass-design products, ranging from jewelry, décor, furniture, and architectural installations; and a representative from an American furniture company with 260 million+ dollars in yearly sales. This company manufactures in Mexico City with Taracea as well as with other factories within Mexico, Asia, and Europe. These companies are creating innovative designs and are setting themselves apart from the market by utilizing “Mexican” advantages as tools while maintaining creative and innovative manufacturing techniques. The commonalities between these companies will be evaluated to pinpoint real benefits of manufacturing in Mexico and the shared practices that led to their success will be examined.

Mexican Influence in Design

Representatives from all three companies gave a similar answer regarding the influence of in their designs. All three indicated that Mexican style has influenced their designs but that they do not export Mexican style as a finished product.

Taracea. Andres Muller, the sales director for Taracea, explained that their style is dependent on which of their collections is being considered, but that overwhelmingly Mexican influence can be seen through the handmade quality and the materials used. This influence can be seen in Figure 3, in which a Taracea worker is using a traditional forge to make the metal legs of a piece of modern furniture (Figure 4). Furthermore, Andres stated that

good design should improve lives and must be manufactured responsibly in addition to being aesthetically relevant. Our products improve the environment, improve the lives of our employees and provide our customers with a product that exceeds their expectations. To me that is good design (Sancho, Appendix A).

Taracea goes beyond making aesthetically beautiful furniture; it is forward thinking enough to also include environmental concerns in design. Not only do they use native Mexican woods in their products, but all of their wood is also recovered, reclaimed, or sourced from responsibly managed plantations. This is a step that is essential in good creative industry that transcends advanced manufacturing and can be one of the added bonuses to developing a creative cluster, especially since a common value system is often adopted.

Studio Orfeo Q. Orfeo Quagliata and Marissa Garcia agreed that certain aspects of Mexican design have influenced Studio Orfeo Q's product design. In particular, the architecture of Luis Barragán, and color have been major influencers. Orfeo explained that his collaborations with other Mexican designers and companies have surely influenced his style as well. This is a perfect example of the creative and entrepreneurial immigrant working with local Mexican designers to create a new look and product.

American Company. The creative director for the American company described that there are traditional handmade elements, such as turned legs, distressed finishes, iron hardware, and marquetry work that are clearly Mexican influences in their product lines. It's the traditional Mexican colonial style and workmanship that contributes to the design of their products.



Figure 3. Traditional metal work at Taracea for creating unique finishes on metal legs.



Figure 4. Modern metal legs that are finished with traditional methods.

Manufacturing in Mexico City: Benefits and Barriers

Representatives from all three companies pinpointed that proximity to the United States is one of the primary benefits to manufacturing in Mexico. They also described the cost to quality ratio in different ways. Mostly, they agreed that their products or something similar could be made in other countries, but not for the same cost if quality is maintained. Another point that Orfeo made, which also applies to Taracea, is that their products are high-end and made to order; they are not made in large quantities. This makes manufacturing in places like Asia inefficient. The creative director from the American company did describe though, that the business relationships built in Mexico are singular. More and more, this company looks for partnerships rather than just factories in which to manufacture its products. Secondly, the wood species, metals, and overall the materials used by Taracea and other Mexican factories, are of higher value.

Interestingly, the interviews did not reveal common barriers. Responses varied; they pointed to government difficulties, cost of importing materials, consistency of handmade products, and access to machinery. These barriers are common for most developing countries and include economic, political, and social issues.

Mexican Labor and Workmanship

Interviewees from all three companies named workmanship and skill as essential. Interestingly, though, in both Orfeo's and Taracea's case, the majority of the workforce does not come in with any specific skill. The process is almost entirely run like an informal apprenticeship, whereby workers develop skills on the job. In both companies, skilled factory workers have been with the companies for upward of five years. In their experience, the interviewees have found that Mexican workers tend to be skilled with their hands, which is part of their artisanal cultural heritage. Orfeo noted that his employees are extremely creative and ingenious; all of the techniques they employ are unique and are invented in-house. Although they may not have a machine or method to create a specific product, his employees work together to develop a process for making that product.

Innovation Creation

Both Taracea and Orfeo representatives believe that their companies are very innovative in their techniques. Taracea uses a marriage of Old World traditional/artisanal techniques along with newly developed finishes and styles and manufacturing processes that are uniquely their own. Very few companies have mastered the techniques they have, let alone applied them to creativity in design. Figure 5 shows a piece of traditional Taracea furniture, which requires intricate marquetry work. This same skill set is applied to Figure 6, a contemporary reinterpretation of a Scandinavian design. Similarly, the same technique is applied to Figure 8, which is a reinterpretation of Figure 7, an iconic design by Le Corbusier. All these items employ the same technique but in new applications and by borrowing iconic European designs. For Taracea, competition is a major driver of innovation, and their innovation sets them apart from companies that try to imitate their brand.

As mentioned previously, Orfeo invented his own techniques and developed new ones regularly according to what his designs call for. This innovation sets the company apart from their competition as many can only try to replicate his product, an impossible feat, due to the delicate nature of glass production.

Orfeo's know how is a combination of years of experience, apprenticeships with other famous glass artists, and in house innovation brought on by many of his employees.

The American company's representative also described Taracea products in particular as innovative in design. Since Taracea's owner now includes his 27-year-old son in the design process, the collaboration has brought about fresh and more innovative designs and finishes to the product line.



Figure 5. A traditional piece that requires highly skilled marquetry work.



Figure 6. A contemporary twist on a Scandinavian design, employing the same traditional methods as in figure 4.



Figure 7. Le Corbusier's Le Grand Comfort.



Figure 8. Taracea's reinterpretation of Le Corbusier's iconic design. Made with exotic Mexican woods.

Customer Base

Taracea and Orfeo have a mixed customer base, both domestic and international. According to Marissa, this customer base has made Studio Orfeo Q resilient in times of economic upheaval, such as the world recession of 2008. Diversification acts as a cushion to any economic downturn. It also helps diversify the work and styles that a company develops.

Collaboration

Studio Orfeo Q strongly emphasizes collaboration. Orfeo spoke of his personal experience of when he first moved to Mexico. Designers and manufacturers were afraid to collaborate and kept their secrets guarded. But he has slowly begun seeing a transformation or natural evolution, which he partially credits to Darwinism in the sense that it became evident that without collaboration neither the designers from Mexico City nor the factories were going to flourish and compete internationally. Now companies like Studio Orfeo Q and Taracea collaborate regularly. This collaboration can be seen in some of the designs on which they have worked together, such as the products seen in Figures 9 and 10. Previous to his



Figure 9 and 10. Collaboration between Taracea and Orfeo Q Studio. Provided by: Studio Orfeo Q.

collaborations with Taracea, Studio Orfeo Q was primarily sold décor and glass art installations –this collaboration created an entirely new product line and opened him up to a new customer base. Other examples of collaboration can be seen between Taracea and the American company. The American director described Taracea as the only company with which they collaborate 100%, both parties equally influencing the design of the finished product, compared to all other factories where they provide the finished design without any sense of collaboration.

Many barriers exist that can discourage the creation of a creative cluster in Mexico City. Insecurity and corruption sit at the top of the list and are the main deterrents of formal business and capital formation (Noriega & Trigos, 2015). The legal system is corrupt and difficult to work with as well and cannot be counted on. Continued instability and cartel violence result in further insecurity. This can also lead to brain drain, and can deter businesses from setting up offices in Mexico City. In 2015 Mexico ranked 95th on the Transparency International list out of 168 places falling into the bottom half of perceived corruption by its citizens (*Corruption Perceptions*, 2015). Younger entrepreneurs have less patience for continued corruption and are not fooled by their government's false efforts. And the lack of coordination of public resources intended for economic development is common as well.

The city also suffers from fairly high air pollution, although it has improved dramatically over the last 20 years. This air pollution, along with the lacking longer-term environmental protection plan, and urban development plan, can act as a disincentive for entrepreneurs and companies moving their employees. Mexican politics has also long championed social policies that commonly lead to strict government regulation, which restrain the creation of formal small businesses if not balanced.

Low quality education, beginning with the primary levels, and lack of standardization of education qualifications, especially for skills or apprenticeship education, make it difficult for foreign companies to value workmanship and ability. Coordination between higher-education institutions and manufacturers and other businesses is also poor; institutions are barely beginning to work with private industry especially in creating networks for recent graduates. A lack of academic study in entrepreneurship and channels for mentorship for budding start-ups is one of the main barriers for the creation of young companies (Costa, 2013). And cultural perceptions to entrepreneurship are slowly changing; yet many do not accept.

Conclusion

According to Richard Florida's journal, *Cities and the Creative Class*, it is the 3 Ts—technology, tolerance, and talent—that are the driving forces behind the creation of a creative city or cluster (2003). Mexico City currently has access to all of these, although some more than others. First, the technology sector in Mexico is growing. "The Internet penetration is only 38%, the smartphone penetration is 37% and the social network penetration is 36%. This means that as numbers scale the internal market will grow rapidly" (Rampton, 2015), especially since the demographic within the city is young. And as we can see with the examples of Studio Orfeo Q and Taracea, ingenuity and talent is already present and healthy.

Florida describes tolerance as "openness, inclusiveness, and diversity to all ethnicities, races, and walks of life" (2003). I do believe that this openness is present in Mexico City. As mentioned earlier, immigration is at an all-time high and many expatriates have called Mexico City their home. As a creative expatriate who describes Mexico as one of the few places he could still manufacture his products, Orfeo is a perfect example of this. Florida demonstrates that one of the most important indicators of creative capital growth, as well as high-tech growth, is "The Gay Index" (2003). Mexico City is also winning in these 2 categories. As mentioned earlier, Mexico City's liberal governance has made it one of the most open and liberal cities within Mexico. In 2012, it was measured that there were "about 6000-14000 gay men, who were mostly young and economically active individuals with higher educational and socioeconomic levels than the average levels of the population as a whole" (Gutierrez, 2012, 3). This marks Mexico City as one of the most tolerant cities in Latin America where equal rights for gay individuals is still generally lacking.

Florida's (2003) study equates talent with at least a Bachelor degree. Mexico City has a higher concentration of graduates than almost any other city in the Western Hemisphere. But Florida's research was primarily targeted toward the United States, and there is a skill factor that he does not take into consideration. There are certain labor skills that I would consider talent, such as the artisanal skill. Although these workers have not formally graduated from college, as we have seen in the interviews, many of the factory workers have almost a decade

worth of training in their artisanal skill; they far surpass this Daniel Levitin's golden rule of 10,000 hours to become a master.

Yet, Florida's equation of the 3 T's is not magic and he has admitted that his theory is rather an alternative method to measure human capital that takes other factors than just a bachelor's degree into account (Florida, 2012). There also exist important influencers that go beyond his 3 indicators. As mentioned by Andy Pratt in his article regarding creative cities, only by taking into account the "subtleties of historical and locally specific practices of cultural and creative activities.... can we understand the processes animating creative cities, and accordingly begin to develop a range of policy responses to them" (Pratt, 2010). It is important that the policymakers, business leaders, academia, and design community see this as an opportunity to create a climate that encourages creativity and production. Although there are many different models of how to create or manage a creative city or cluster, these models will fail if considered static and applied accordingly. The key is to analyze a city's, history, capacity, demographics, institutions, etc. and ultimately create a strategy that takes these factors into account.

Mexico City still has obstacles to overcome. Just as corporations "are defining more of their value in terms of intangibles: the creativity of their designers, the effectiveness of their software architects... the strength of their internal organization or culture and their links with their external partners" (Sandoval Ríos et al., 2011, 41), Mexico's political leadership, needs to show a comparable investment in transparency, creativity and effectiveness as well. Government policies need to support more interdisciplinary or multidisciplinary strategies that include economic, cultural, technological, and environmental linkages, for example.

Significant changes also need to be made in intellectual property rights and business finance (Creticos & Sohnen, 2013). High interest rates and a fluctuating currency remain serious economic hindrances for Mexico, severely limiting entrepreneurs and potential business growth and affecting human capital development and Foreign Direct Investment.

Mexico City's leadership should also look for opportunities to join international networks, such as the creative cities network. These types of groups can help guide Mexico City in the direction it needs to take toward fostering its creative cluster. University leadership, both public and private, needs to continue building connections with local business leaders. Universities like CENTRO have begun to create connections but many more opportunities should be developed for students.

Ultimately, many of the key components that have led to the success of my interviewees' companies coincide with the reasons why Mexico City is becoming a creative cluster or city. They reinforce the idea that Mexico must embrace its cultural heritage and use this heritage as a benefit. Mexico has long been recognized as a country with a skilled arts and crafts population, but a next step would be to develop these skills into an economic and creative advantage. Advanced manufacturing is a positive step for the country; however, it lacks the cultural and artistic component that offers Mexico a new competitive advantage.

The recent designation as the Design Capital of the World for 2018 has given Mexico City a boost on the road to becoming a major international creative cluster. In addition to having such crucial components as a young, educated population, entrepreneurial spirit, technological innovations, and creativity, Mexico City now also has international recognition that reinforces its importance as a design center. The future of the city's innovation and creativity is now in the hands of the decision makers to create.

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Appendix A

Interview of Andres Muller, Director of Sales for Taracea.

Would you consider your product “Mexican” in style?

Our products incorporate elements from many cultures and many eras. All our products, regardless of style, share the unique touch of our ebanists, so while the style is not necessarily Mexican, the warmth of our products is. Also just about all of the materials we use are Mexican. We really have tried throughout our collections to use Mexican artisanal craft and apply it to good design let it be Mexican, Traditional, Transitional, or Contemporary.

What percentage of your products are made in Mexico?

100% - We have a completely vertical operation – so we source our woods from Mexico, we make all of our own hardware, and well the workmanship is all Mexican.

Are there advantages to making your products in Mexico?

Mexico has skilled artisanal labor that is unavailable anywhere else at this scale. For our handmade products, manufacturing in Mexico is key. The proximity to the United States means product can economically ship from Mexico and arrive to the United States within a week.

Could this product be manufactured abroad?

It is unlikely that the handmade process we have developed could be replicated elsewhere maintaining the quality and feeling of our furniture, as well as the cost.

What are the main difficulties to manufacturing in Mexico?

The Mexican government tends to make doing business in Mexico a bit difficult, it is still slow and bureaucratic, plus banks and financing can be hard nationally.

Who do you consider your main competition?

We have all sorts of competitors from the wholesale side of our business to direct competition to the retailers that purchase from us. The key to our business is to always innovate and always create products with value.

How many people are a part of the “design team” at Taracea?

Javier, the owner is Taracea's designer, we all think we are designers and the entire executive team at Taracea contributes or collaborates at one point in the designs by gathering ideas, determining tendencies and the sizes the market is asking for but Javier takes abstract concepts and converts [them] into innovative designs that sell.

What do you or your company define as “Good Design”?

Good design should improve lives and must be manufactured responsibly in addition to being aesthetically relevant. Our products improve the environment, improve the lives of our employees, and provide our customers with a product that exceeds their expectations. To me that is good design.

Are there any historical or cultural factors that you are aware of that influence your company or designs?

And/or is there a Mexican design aesthetic that you are aware of that influences your company or designs?

Absolutely, our furniture has Spanish, Italian, Danish influences amongst many others, from subtle to very evident. As a Mexican company, we also have entire collections inspired by great personalities like Maria Felix and Mauricio Garces, collections that are cosmopolitan and innovative yet at the core have a Mexican essence.

Do you consider your company or products innovative?

We develop new collections every 6 months, we constantly explore new finishes and manufacturing methods. Innovation is at the core of our company, many of our designs will be copied within a year of being launched; this keeps us on our toes and keeps us agile and constantly innovating.

Where do you think innovation comes from?

Ambition creates innovation, knowing that everything can be done better or more efficiently leads to innovation in processes and designs.

Is your customer base primarily national or international?

We have significant presence in Mexico and the United States and work with designers worldwide.

Do your international customers generally have a preconceived notion of the product when they hear it is manufactured in Mexico? If so, do they have a positive or negative reaction?

They expect a handmade good, China is associated with mass production, Mexico with unique handmade products, it is our job to take spectacular designs.

Nationally vs. internationally is there a major difference in the styles or products that they purchase?

Absolutely, bestsellers vary by region. Light colors do very well in the coasts, small furniture where real estate is expensive, innovative design does well first in the metropolises and trickles down to smaller cities, and the examples continue.

Appendix B

Interview of Marisa Garcia, Business Manager and Designer for Studio Orfeo Q.

Interviewer: Hi, Marissa, I wanted to ask you a couple of questions about the company, and also I wanted to know if it's OK if I record the interview?

Marissa: Of course.

I: Perfect, Ok and If you can answer in English or Spanish, it doesn't matter.

M: Perfect.

I: First, I would like to know, in regards to your product, would you consider Mexican in style.

M: Er, not that much... On one hand, yes. I feel like it's a fusion between contemporary design, but what it does have as Mexican influence is the color. That has been a great influence on Orfeo. There is a great presence of color in the design as to distance itself from more monochromatic houses like eggplant in color, so as to break a bit by introducing lots of color.

I: Ok, so, you are definitely influenced by Mexican style or tastes.

M: Si

I: Ok

M: We're influenced, however I do not think that seeing our designs you might think that this is a Mexican style but, we're influenced by the architecture, let's say, in the style of Barragán, and the use of plenty of color.

I: Ok, perfect. What percentage of your products are made in Mexico?

M: A hundred percent.

I: Ok. Are there any... what would you consider specific advantages to making the products in Mexico.

M: Manual work is cheaper.

I: Ok. Would you say that this could be manufactured abroad?

M: Yes, It could be done. Because what you really need to manufacture our products are the electric ovens, but it would be more expensive.

I: What about the skill? Do you find the same skill abroad? Of your workers?

M: Yes, they can be taught. I mean, we have been working with these boys for about 15 years, but, truth be told, Orfeo could provide training for anyone, but it definitely would be more expensive.

I: What are the main difficulties of manufacturing in Mexico?

M: I really don't see any difficulties. Maybe the problem of manufacturing in Mexico is related to the importing and exporting.

I mean importing the glass and then exporting the finished pieces. This proves more expensive to clients who live abroad.

I: Ok and how many people are a part of your design team per se, is it just Orfeo that designs or do you have more people that end-up the business?

M: Orfeo and I for the last six years and recently Luis has just entered as a part of the design team, but since I am leaving, the ones that will be in charge will be Luis and Orfeo.

I: So, what's your educational background? Did you study design?

M: Industrial design, yes. In Mexico.

I: And Luis?

M: The same as well. Industrial design at Anahuac University also in Mexico.

I: Perfect. I just wanted to ask you one more thing, kind of a follow-up question about what we were talking about before: Did the workers that you have, did they come in with the skill sets already? Or did Orfeo teach them everything from the beginning?

M: Sorry, can you repeat? It didn't get through.

I: The workers that you have right now in your factory. Did they come with the skill set? Or Did Orfeo teach them everything that they know?

M: The guys, the ones that are more experienced give training to the new guys.

I: Ok, but, when did Orfeo start? Do you know?

M: When Orfeo came to Mexico he started working with the other company named Nouvelle. Orfeo was more focused on the founding while Nouvelle was more into blowing. From there, three boys left with him, and up until now they still work with him, but they knew about blowing glass. Orfeo soon taught them and now they are the ones who are teaching.

But, no... at the time of hiring them they don't have and formal training or previous studies or anything. Orfeo has trained them all.

I: So, when you look to hire, you don't look to hire glass blowers or glass artisans.

M: No, not at all. We're looking for normal hard-working people with the need to grow. Because it is important the people who enter are ready to spend a great deal of time... I mean not to be in training the whole time.

I: Ok, perfect

M: But yes, most of them have not finished secondary school

I: What's the shortest... out of your whole team who's been there the least amount of time? Is there people who've been there...

M: Yes, we had one that underwent training a couple of weeks ago and he lasted for about 1: two weeks.

I: Oh wow.

M: Yes, but the rest... My position was usually occupied for about two and a half years, I'm currently on my sixth, the other boys they've been around since the company started, about 15 years ago. 11, 10, and from the factory, I believe the most recent one must have about 2 and a half years.

I: So, from the factory, you have people that have been around longer than...

M: Yes, yes. They started with Orfeo since Nouvelle.

I: Ok, If you want, we'll take a break, and afterwards we'll finish the rest of the questions at another time, ok?

M: Perfect.

I: Perfect.

Appendix C

Interview of Orfeo Quagliata, Founder and Lead Designer for Studio Orfeo Q.

Interviewer: Hi, Orfeo. I'm here to interview you for my case study, and I wanted to see if it was ok if I could record you.

Orfeo: Absolutely.

I: Perfect, thank you, Let's continue. You said you wanted to start by talking about a few of your experiences?

O: Yeah, Just based on what you were telling me about the project. I moved down here 15 years ago I was coming back and forth from San Francisco, while I was teaching there and still in school. And I started designing for Nouvel Studio, the crystal company. And when I started coming down here and when I first moved down here the design community and the manufacturing community were very small scale at least the one that I encountered, was very tight, like not tight-night, like very separate. Like every single designer or company I knew, kind of withheld their secrets and very, very protective of everything because there must have been, some sort of, since it was a very new scene I think when I moved down here we were frustrated. I grew up in San Francisco where everybody is a designer, like when I left San Francisco there were probably more designers than... you know businesspeople. It was ridiculous. It was frustrating for me because I was trying to help other designers out, and there was almost a resistance to help. So, in the manufacturing part, I was trying to help people hook up different manufacturing jobs, to get some stuff done, and everybody had their little people who wouldn't share them. So it's almost like this point of frustration, but as I've been here, I've actually seen the development of partnerships and people being much more open [to] collaborations. So It's like I've seen the whole process and the evolution of what you're talking about Mexico and the manufacturing, design becoming a hub or whatever the word is you use now. But it really has, since I started coming down here, to date, I've seen the actual evolution and people slowly but surely being more open to now there's actually a community of designers all working together doing shows together, exporting together, everybody helping each other out. So we really create Mexican design and production as something that is exportable, still in its... it can see But I've seen an evolution that it's actually quite proud of.

I: Sorry to interrupt, What do you think that's caused this evolution? Guys come here like you and intrude in it? Or new people come in just tired of the old ways?

O: Somewhat but also realizing the need for that. Right? Cause you're trying to compete with European companies that have a history behind them. Right, then it's like all the people staying in their shells, I mean it's not the way to evolve. So I think it's just evolution. Essentially, it's Darwinism. It's just the need to collaborate in the open and once people see that that helps instead of hurts, then that's something that it's obvious. But it is something that takes time, it's like when a baby learns to speak. It's a process.

I: Ok. Yeah, because it would be impossible to compete against countries like Italy where everybody works together and collaborates and respects the designer.

O: They don't so much there. But, since they're so big and they've so much history...

I: And so they don't talk...

O: ...and they do not eat as much as we do.

I: Ok I want to ask you a few things about your products in particular. Do you consider what you do Mexican in style? Or are you influenced by Mexico at all, in your designs?

O: Honestly, not so much. I think that I'm influenced by... I'm definitely... I feel myself pushed by the evolution of design in Mexico, and I think that being in Mexico and the fact that we are starting to collaborate maybe or even more so that in Italy, It's a weird kind of dichotomy there, but I think that collaborating with other Mexicans, definitely. Not Mexico in itself, but the fact that you collaborate with so many people, that being around Mexicans and designing with Mexicans definitely influences you in that way. I think that one thing I can probably say about one thing that Mexico has helped in my style or in everyone else's was, is the need for color. Because Mexican design in itself, architectural interior design, is what I call "Beige and eggplant."

I: Yeah

O: Essentially these muted tones and everything else; here in Mexico at least, they really want poppy colors. Right? So the world where... and it's not like the other architectures. everything is yellow and orange and... but that slowly evolved into this of kind everything being muted tones and wood, you know, and like this kinda of you know basic color palettes.

I: Yes. like really austere.... And then what do you consider are the advantages to manufacturing in Mexico from your experience?

O: I mean, there's being able to manufacture, it's possible to manufacture in Mexico, as opposed to the States and as opposed to even Europe at this point. I mean the company's starting out in Europe, and the manufacturing is very powerful. So I mean unless you're getting stuff, and a lot of my friends in the States that design stuff they have it manufactured in China and assembled in the States. So in Mexico, it's possible to manufacture. When I had a small factory in the States it was like, it was impossible. One, because the workers, my employees would be students or other people in my industry, and they would stay for a very short period of time. And then they would spin off and essentially take my ideas and the do their own ideas and put what they learned in my factory, but you could never keep employees. Because... and also like, obviously the... the wage. Right? So, manufacturing in Mexico was possible and it's also very So if your employees, if your boss they stay with you for a long time, so you have, you're not worried about people quitting and you losing every other information than being capitalist and going and taking your ideas and going through your processes, and moving on with them.

I: Ok, You've mentioned earlier that like you have friends that would design things and then have them actually made in China and assembled in the States. Could your products be manufactured abroad?

O: No. One, because, my place runs too high, and it's like I also don't sell volume to be able to do that. But I mean, I've a few friends here that have bought and sold from China. Like designed stuff and manufactured in China and then sold through the States and their Mexican companies. However in the end it didn't wind up working out because you had to buy so much volume. So essentially you either manufacture yourself or you become a buyer and a seller and you're just essentially a PR company, not a design.

I: You think you could technically like to hypothetically open the same factory you have in China or India or something like that or do you think that what you do right now is special to Mexico, its unique to Mexico?

O: Well, I think technically, hypothetically, it would be possible if I wanted to do that. But however the mind, and of course that I say is the main market, well minded along Mexico but it used to be most of the States. So that just that the vicinity of... to be close to the States.

I: Is a huge...

O: Would I know anything like that! If I was a guy who was manufacturing for other people, by being close to the States, while you're in Mexico, it also makes Mexico very appealing. Because most peoples' major market is the US. Even if you're manufacturing something in China. So unless you're doing a huge high volume, you're making small products. Right? Then neither one of those kind of a rest to have stuff done in China. I would never do that just because: One I wouldn't want to live over there. Two, because I'm very close to the States. You know I do small volume products, inexpensive.

I: Ok Perfect. What are the difficulties of doing business in Mexico the barriers?

O: Oh, well I could tell you about a funny story. When I first moved down here I was with my friend Jason, who has a factory in Oaxaca. We'd do glass together, We were with my friend Michael, who has the other glass company. We were all together in the same tractor, Jason and I were bitching and moaning, about tomorrow tomorrow and tomorrow and it never gets here and we were frustrated and Michael said if it were that easy everybody would be doing it.

I: Yes

O: Right? So there are some hurdles to overcome right? Like, there's no harder worker than a Mexican immigrant you know, Mexicans are fantastic workers, They have a bad reputation in the States which has always baffled me. That it's so so getting used to the culture, specially, as a foreigner, that we have to stay on top of people,... that, you know, once you find your provider, if anything else, stick with them and don't always try and find the better deal, find someone who you can work with, because the cultural shift is hard at first but, doesn't matter who you are, a lot of people can't deal with it, So that's why so many people don't manufacture in Mexico. Because you know it's different, on top of it you have to be here. So it's harder for people who are living abroad to make a factory here, if you want to make a factory here you have to live here.

I: Ok. Perfect. Who, do you think is your main competition? Or do you have competition? Are other countries are trying to compete with what you're doing?

O: I suppose I could have a lot of competition through Murano. But with tabletop stuff, there's one company called Skol, that do a lot of blow products that I do mostly fusing so there's nobody that does higher-end stuff like me in fusing, and as far as artistic installations and artwork over I do in houses, I'm pretty much the only show in town.

I: What about lower-end imitation stuff? Do you find that people try to copy you?

O: There's a friend of mine who is a guy in Guadalajara that does glass, but it's a different kind of glass. It's using a lower-quality glass, and more of a volume kind of stuff. So there's competition if you wanna see it that way, but not really as far as quality I mean, there's people that make more money than I do. They are not doing stuff that is as nice or high quality...

I: Yeah but they don't actually do what you're doing. Now I'm going to go a little bit with your workers. What do you look for when you're hiring someone do they require skill do you train them, mostly you are factory people, not as much your design team.

O: Everybody that I've ever hired, they don't know anything about glass. Most of them, were very young, I mean I've had, a lot of them are my... my 85 percent of my manufacture employees and supervisors have been with [us] for seven years.

I: Ok

O: So when we hire somebody new, it's essentially someone who doesn't know anything and it's like and then you see if they can if they have

the hand-eye coordination the patience, to do what we do. I mean I don't even know about them. My head guy, he makes sure that this guy just doesn't work this guy's out; it's essentially a few months trial. There's a lot of people who decide that don't want to do it because it's just polishing glass, that where you start really to come in.

I: Yeah

O: So the qualities are willingness, you know, hardworking and then being available to get along with the rest of the essentially. So it's not something you might have experience in, because nobody knows what I do. There will be one or other people who....

I: And it's mostly because you make up your techniques, right? Or you create your techniques? So there isn't really a skill set they can come in that would prepare them for what they're doing. Do you find that, cause I know you said that you had a factory in the USA at one point or a small, like Mexicans tend to be more creative.... or ingenious or handy, or have a natural ability in their hands, I mean there's been a lot of talk about how Mexico's just like, culturally are just no.... no vs match against no one ever says that about China.

O: China is...There are so very machine-based actually.

I: They are very assembly line...

O: Yeah, very assembly line and Mexicans are diligent, they're hard workers. You know there's a tradition here in the arts and crafts. That is very low volume right? so like the arts and crafts that are done here are, aren't designed here by another country. They are made here. The arts and crafts here are done by families. So there's a tradition of actually doing arts and crafts, and exporting them for families or somebody coming in and buying them and exporting them. So it's not so much as "lend me this" which is also kind of bubbly maybe, one of the problems is that if someone wants something manufactured they have to get it from the States. People aren't just used to manufacturing for other people with their design because cause they're doing their own style of craft. You know each city... each you know, each have letters: Oaxaca, the pottery. Each area has their own craft, they do their own...

I: Yeah, it's almost like their identity is rooted in their craft. Ok that's really interesting. So you would consider all your workers as creative, pretty much. Right?

O: Some much more than others. One of my guys is an amazing artist who can draw anything he's a graffiti artist; he's my guy, he's kind of the guy I can lean on creatively there's a couple of my co-workers that are always throwing ideas at me about new machinery and invent.. and what did you say about ingenuity.

I: Ingenuity right.

O: They're inventing machines and fixing all the machines and the electricity it's like, Instead of calling the electrician, my guys would just do that. I'm doing a new technique where I can figure just how to polish the interior of a ring, my guys will build a machine to be able to do that. And I always listen. There's never a bad idea. Come to me with ideas. I totally encourage that. So, there are a lot of ideas, and actually I have a point system for that.

I: Oh really?

O: Like, Oh that was a great idea that's a four! I think of myself in points. I'm the one that gives them exact points. Sometimes they go and how many points? How many points? But it's something that we created like a fun system, it's not a financial system, it's a just kinda being-proud-of-yourself system. But yes, very ingenuitive. We can figure out how to do any stuff and we don't have enough money sometime we need a new machine and won't ask for it, they just figure out a way to do it. Yes, so the answer is very very...

I: Ok. And talking about machinery, Marisa said one of your biggest problems in the past she felt generally in Mexico that it was easier to make what you need than to bring it in because it wasn't necessarily available all of the time.

O: We made most of our stuff, we have to admit it. But, there are some things which bring like kilns sometimes. But most of all in fact we made it.

I: And how does that do you find that technology helps your process at all? or hasn't improved through the years?

O: In fact, I just gave a talk to this glass conference. The guy who talked before me he's a very successful installation artist. And he was like tech studio and ta ta ta, and I have this machines and calibrations and I'm completely opposite to that. We were one of the most low-tech facilities you'd ever find in glass. So we pretty much work with what we have, we don't invest in new machinery just because... I have a friend who owns a company that does all this crazy machinery and then these guys go and like we'll do it this way and faster. All the rest of the machinery just sits there. Because there's something about manual labor is something that is very prevalent in your life. People are more used to it.

I: So, pretty much technology why is probably the only thing that you guys is like on the design side having your people use software to help render and design.

O: Absolutely we're pretty much low-tech.

I: How would you consider your products innovative?

O: Pretty much everything we do we invented it, so- In the industry we're always asked how did you do that? And when you see it in a store it's not something that somebody else would have at the store, um so a lot of the times when I design and produce for major companies, like the guys from The Oscars or Jessica or Prada Works in the Tiles, all these different companies, they'll use me as something totally different that they doesn't read in catalogues that they bought it in China. Even though they might not sell all of my products, they permanently kinda used it as this little light, Oh look we have this guy that designs for us.

I: Awesome. We've pretty much covered everything that I had written down on my questions. I don't know if there's anything else that you might want to add? That you maybe think it was important or...

O: Give the brief again

I: I'm pretty much talking about how I think that if Mexico. like right now Mexico City is in a point where they have a lot of really positive

elements were they can become a creative cluster, and I pretty much want to say is that the government should look at this and they should take advantage of this and encourage it. And so I'm showing how all these things are naturally resident from the culture just like the urban development of the area, entrepreneurship right now, that amount of graduates that they have in industrial design and engineering and all this other different...

O: I think that one something that is going to definitely help exactly what you're saying, I think personally, we are at that point now, that you're talking about the we're almost getting to, we there but were still in infancy.

I: Yeah

O: I think the technologies in itself, email, skype you know, chipping, Instagram, social media, all of these things are making Mexico getting us there faster than some other countries even because of our close to the States. The States are starting to take Mexico more seriously, and the fact that Mexico in itself, and there are a few things that's sponsored from Mexico, like it really means that some people realize what's going on and be more proactive towards Mexican design.

I: Yeah, just because, I was just giving the example of... I read this big report that ProMexico did a little while ago, a year or two ago, and they're really focusing on what they call like advance manufacturing like aerospace, and car design, not just assembly line, like cars, but these different things that are high tech, or software, but they haven't really looked into the creative industries and I think that you use a lot of the same kind of... things that I kind of elements top go into the creative industries, and they're just as resilient as these other ones, so I think is interesting to having mentioned it that Mexico's background. That's kind of what I'm proposing.

O: Yeah I mean, it is important, that the car design and manufactories are there. But yeah there was a point like eight or nine years ago, when both Mexico was really trying to export like, Mexican design, and then the crash happened in 2008 and then urged them and at some point for Mexico doubled the feel that I was getting when I was giving the NY show, before the show so I got a bigger booth and then they cut all of my funding right before the show, so from my big double and then they cut it to Zero.

I: Oh my God.

O: I never saw any of the money. So I committed to doing something and then I pulled out because there's a crisis here financially and then it's like. I haven't seen a lot of since then even, like if it's what you're saying like they diverted their focus to. and you didn't know about that, It feels like it does because we really haven't been approached by them like before they were very proactive and approaching me about giving me money to go to shows and do all this crazy stuff and then there were nine years. But you're right. They been doing that kind of focus as taken away from us, more so like independent, like designers actually.

I: And then the other thing that I wanted to ask you about since you've been here for about 15 years, is have you felt that there's been a renaissance in Mexico City recently, like kinda like the city coming back together, kind of booming, the architecture, and, I mean have you seen that transition, people have been talking about that...

O: Absolutely, I mean, the city, you can see it physically, actually happening, but also, like I was saying, the coagulation of the design community meeting together, that I've always said the in the last fifteen years Mexico, has had two exports: two creative exports, which is architecture and movies, so, we directors, the last one won two Oscars.

I: Yeah, Cuarón and...

O: That means that something is happening for the last 15 years. And then the architects are becoming more international. Well now it's time for the design to get there, I think we're starting to I think we're out of cause we're starting to see something happen

I: Ok Perfect! That's pretty much everything and I think it's perfect. Thank you so much, Orfeo.

O: You're welcome.

Appendix D

Second, written questionnaire of Marisa Garcia, Business Manager and Designer for Studio Orfeo Q.

Where do you think innovation comes from?

From the techniques we use.

Is your customer base primarily national or international?

During the company's first 8 years our market was mainly international, but with the recession in 2008 we lost the majority of our international clientele. We had to change the direction of the company and focus on the national market. In order to do this we focused on interior design projects and architectural installations that are directed towards the domestic market. Now these are projects that direct with the end consumer and that are custom made.

At the beginning the company manufactured table top articles, jewelry. As well as different product line that we would design and produce for America companies. Illumination for Jesco Lighting, trophies for R.S. Owens, and tiles for Water Works. Today the clientele is divided; on one side we have the installations and interior design projects. That's where our national clientele is, on another side we have products, small art pieces, the jewelry line, that the clientele is national as well as international.

Do your international customers generally have a preconceived notion of the product when they hear it is manufactured in Mexico? If so, do they have a positive or negative reaction?

They are surprised that it is made in Mexico.

Nationally vs. internationally is there a major difference in the styles or products that they purchase?

When it comes to products the international market takes more risks than the national market, although it has been harder for us to introduce ourselves to the international market. But the national market prefers to invest in "artwork" or installations instead of products. The more expensive it is the more prestige it has and it is easier to sell in Mexico.

Would you consider that you export "Mexican" design or Mexican workmanship applied to Western design products?

Mexican workmanship applied to western design products.

Appendix E

Written questionnaire of the Creative Director of one of the fastest growing furniture companies in the United States that manufactures products in Mexico City.

Would you consider the Taracea product “Mexican” in style?

Yes and no. Yes for their more traditional products and styling. I like the way they incorporate more traditional style in some of their pieces... heavy hand turned legs, rich distressed finishes, stepped moldings and iron hardware all contribute to this look. Also, their use of inlay and parquetry definitely bring to mind a more traditional “Mexican” style for me.

I think many of their products reflect a more contemporary or transitional style that does not initially make me think of typical Mexican style. Their use of interesting woods and letting the natural character of the wood be the “design” is one example of this. Milpa, slabs, etc., really have a more organic and clean feel to me. Their use of interesting metallic finishes (both on wood and metal) also feel more modern in aesthetic. Their new techniques on plywood are also more decidedly contemporary. I also appreciate the way they have taken some of their more “traditionally Mexican” silhouettes and finished them in more modern tones to update a traditional look (like bleached or light grey).

How much influence does Taracea have in the design of your products?

More than almost any vendor we work with. When we began working with Taracea, we found that often giving our own ideas resulted in very high price points. We also found that Javier is a true artist and that it is just more productive to work with him making variations on existing product. We really like our partnership and feel that the designs are a true collaboration.

I do feel compelled to state that this is not a typical relationship for us. We typically design the product and provide sketches/photos to vendors to recreate our concept. It is a very unique and special relationship that we have with Taracea in that we truly develop product together. We will usually see what they show at High Point and make variations on the pieces to create our exclusive product.

Are there advantages to making your products in Mexico?

Yes. First is convenience. For both development and production, the physical proximity is a benefit. Second, we like working in Mexico. We have close relationships with our Mexican vendors... relationships that are of course based in business, but also develop into friendships. This is a major value in our business structure... we look for long term partners as opposed to just factories. Lastly, we find the materials in Mexico to be appropriate to our brand. Mexican Oak, for example, does very well for us because of its naturally rustic look. We have another vendor that specializes in copper manufacturing that is also an important material for us.

Could your collaborations with Taracea be manufactured abroad?

Yes.

What are the main difficulties to manufacturing in Mexico? And/or what is Taracea’s greatest weakness as a manufacturer?

Our major issue has been consistency. We have made extreme progress in this area, but over the years we have seen issues with finish color consistency from PO to PO.

Who do you consider Mexico's manufacturing sectors main competitor?

Italy. The price points and hand work are on par with Italian artisans.

Is there a Mexican design aesthetic that you are aware of that influences the designs you purchase or collaborate on with Taracea?

Yes, I think their finishing and wood selection contribute to the aesthetic. The collections we purchase with them typically have rich or new finishes and allow the natural characteristics of the wood to be a component in the design.

Do you consider these collaborations innovative?

Yes. Each High Point we are excited to visit the showroom to see "what is new." I feel that Taracea consistently develops new and interesting products.

Where do you think innovation comes from?

I think it is primarily driven by Javier. Increasingly, however, it seems that Pablo is participating in the design and finishing concept as well. I would imagine that there are others contributing to the overall design, but I see Javier as the driver of the look and concepts. He is very talented as an artist and designer.

Would you consider that you import "Mexican" design or Mexican workmanship applied to Western design products?

I would say both.... For the more traditional pieces, Mexican design and workmanship. I think that some of our collections speak to this. They are very traditional silhouettes and rely on Mexican workmanship to achieve the style. For some of our newer ventures and especially the product we just reviewed with them this month, I think the pieces themselves are more clean lined and the finishes are more updated (like metallic). I don't think that these are necessarily Mexican or Western, or that the techniques are uniquely Mexican, but I do think that since they are created and made in Mexico, it is an important for us to use that in marketing efforts and the overall story of the product. For example, we are using antique glass in some products. We use this particular material in many different countries. It is interesting, however, because each country uses its own way to achieve the antique look.