

Cities in a Changing World

Questions of Culture, Climate and Design



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Cities in a Changing World: Questions of Culture, Climate and Design Online

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INTRODUCTION

Cities in a Changing World: Questions of Culture, Climate and Design Online

This proceedings publication is the outcome of the conference, Cities in a Changing World: Questions of Culture, Climate and Design Online, held in June 2021. It was coordinated the research group AMPS and City Tech, CUNY in New York.

A conference organised prior to an international pandemic found a prescience in setting a theme focused on cities and change. The widely observed urbanisation of the human population, despite the exposure of cities to climate impacts, places the city at the core of the human condition in our time, requiring analysis and investigation to identify and address significant social, economic, and environmental challenges that are compounding due to the intense pressures of the expansion and increasing displacement/migration of urban populations. The COVID-19 pandemic raised the stakes, provoking fundamental reconsideration of cities and the benefits but also dangers of density.

The theme of the conference, Cities in a Changing World, allowed scholars from over 30 countries to explore the nature of cities and countryside from the profound perspective of global disruption and abrupt change in patterns of daily life. In many cases, these scholars found the “new” normal exasperating ongoing challenges of climate degradation, social fragmentation and injustice, inequity and hardship. Others observed and documented creative adaptations that provide hope for critical analysis and constructive change for increased social equity and awareness/engagement with the environment supporting sustainable initiatives. Questions of the relationship of culture, climate, and design prompted scholarly investigation of place, heritage, climatic and geographic adaptation in the emerging scholarship of place-based sustainability.

This conference and the papers collected in these proceedings provide a rich exploration of cities in cultural, climatic, and geographic contexts. Theory, history, and design, separately or in combination, provide the basis for the presentation of diverse ideas that moves the scholarship of Cities in a Changing World forward.

Jason Montgomery
City Tech

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MAPPING SOCIAL CAPITAL NETWORKS OF FURNITURE INDUSTRY - RESILIENCE TO CLIMATE EMERGENCY IN DAMIETTA CITY, EGYPT

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INTRODUCTION

The evolution of people, their economies, and the physical space in which they live are formulated and are in constant change through the dynamic interactions between actors in the community¹. Hence, understanding community networks and their reflection on economy and space becomes crucial for urban development, especially within the context of climate emergency. Social systems manifest uniquely within each context as culture, lifestyle and various other variables come into play. The type of economy and how people relate to it is also a significant variable to interpret a given context with its potentials and challenges. Within this context, environmental and economic sustainability and risk are critical where social structures display signs of vulnerability which at the same time offer solutions towards resilience.

For industry-based cities such as Damietta – Egypt, in which a certain industry or craft is imbedded in the culture and livelihoods of the community, most economic activities are directly or indirectly related to this industry (furniture making in this case) and passed down from one generation to the next. In such a dynamic, the small scale of the economic interactions forms an economic cluster² that functions and evolves within its context according to the possibilities and challenges. In this research, the context of MSMEs (medium, small and micro enterprise) is investigated within the centre of Damietta city, towards understanding the effect and magnitude of the social capital networks on the dynamics of the industry in this city, and how social capital has contributed to Damietta being a regional hub for furniture making in the middle east. This paper is part of this research project, where the paper focuses on the mapping of social capital networks in the city according to a field survey of 347 furniture enterprises in Damietta city and a total network of 996 actors in the network (respondents and contacts).

APPROACH

This paper attempts to draw connections between the following factors as reflected on Damietta's Furniture industry in Egypt: social capital components, community structure and spatial proximity. This is through analysing the survey results and visually conveying the social capital network for the whole network and selected clusters. The main hypothesis is that social capital with the compact spatial distribution of Damietta is highly prevalent in the industry and directly correlated with the

spatial distribution of small-scale grassroots economies in Damietta. Enterprises with higher connectedness in terms of trust, network and norms³ are expected to be spatially proximal to one another and to exhibit higher ‘control’⁴ in the market. In relation to community structure, its definition –open or closed–⁵ is also a reflection of the nature of the dimensions of social capital.

This paper builds on the works of Putnam⁶, Coleman⁷, Lin⁸, Bourdieu⁹, Hunt¹⁰ and Burt¹¹ to investigate the theoretical underpinnings that relate to social capital in literature. The work of Ruddick¹² has guided the theoretical base for understanding grassroots economies and social capital as alternative currency, in addition to Porter’s Competitive Advantage Theories, which describes the situation in Damietta as an economic cluster.

SOCIAL CAPITAL: WHAT, WHO AND WHY

The concept of social capital can simply be explained as “investment in social relations with expected returns”¹³, which is highlighted in various ways in the works of Putnam, Coleman, Lin and Hunt (as above). This implies that engaging in networking interactions produce profits. In other words, social capital is “resources embedded in relationships among actors”¹⁴. Social capital has evolved as a concept through the works of different theorists. Although Bourdieu’s¹⁵ work includes discussion of cultural capital theory, he also provides a structural view explaining and aggregating social capital, one which focuses on the size and volume of the capital possessed by members, and how the interactions of any given members enforce the mutual recognition of those members in the network¹⁶. Coleman¹⁷ stresses on trust, norms, sanctions, authority and closure as forms of collective social capital, while also emphasising the individual’s use of socio-structural resources in gaining better results¹⁸.

Debated issues around social capital include relating the aggregation of collective values of economic, political, cultural or social connections/relations, with other collective terms such as trust and norms. Literature includes a display of substitutable terms or measurements that all convey solidarity and social integration with no specificity of each term’s place in theory. Lin¹⁹ argues that social capital must be distinguished from collective assets such as culture, norms and trust. It is a relational measure with which other collective assets (such as trust) causally correlate without being defined by one another. According to Coleman²⁰, A fundamental social network consists of two types of elements: 1) The Actors, and 2) The things over which they have control and in which they have interest. The latter can be classified into resources or events according to their characteristics. The relations between actors and resources/events can either be control or interest as earlier mentioned. These relations can be broken down into the dimensions of social capital: trust, networks and norms.

Social Capital Dimensions

Social capital has been studied as a domain and its dimensions have evolved through various researchers’ additions over time to include more dimensions and concepts. Building on the works of Putnam, Coleman, Lin, and Hunt, a comprehensive assortment of social capital factors of measurements have been identified, namely; Social Cohesion, Networks and Norms as the main divisions. Social cohesion includes measures of social solidarity, trust and reciprocity. Networks includes Embedded Resources and Network Locations. Lastly, Norms comprise belief in activities collegiality and agreeing with collective rules. The following diagram illustrates the measurements adopted in the study for evaluating the volume of social capital.

Among the three Social Capital dimensions, networks are the most measurable and tangibly quantitation elements. According to Burt²¹, focusing on network mechanisms that affect social capital offers a more transdisciplinary perspective across theory with empirical evidence rather than loosely

tied metaphors and indicators used in a number of social capital research. The empirical work of Burt²² and Coleman²³ investigating Structural Holes Theory versus network closure as social capital provides a tangible quantitative base for measuring social capital. Burt argues that the two network mechanisms work differently and can bring various additions to the magnitude of social capital if utilised collectively within a “more general model of social capital”²⁴.

Social Capital and Geographic Imaginaries

The reflections of space and context on narratives of social capital conceptualisations has been widely debated in literature. According to Naughton²⁵, simplistic geographic imaginaries tend to fit within the dominant views on social capital, producing geographically reduced narratives that deprived of specificity and context²⁶. A notable attempt is that of Naughton²⁷ to connect social capital concepts with geography and address economic latency on a theoretical level, trying to understand how specific communities resolve their problems by utilising resources of their social networks. This emphasises the spatial dimension of social capital, without which the narrative becomes simplistic and disconnected from real context.

This research adopts Naughton’s argument on the significance of context-specific and context-explicit narratives of social capital, which defies the rhetoric of “social capital as a panacea that can be built from ‘nothing’ in any prevailing circumstances and for any desired benefit”²⁸. Reflecting on Damietta’s furniture industry, the patterns of daily life have generated a specific form of social capital networks over time, which is unique to this set of geographic and urban imaginaries for the community of Damietta.

CASE STUDY: DAMIETTA’S FURNITURE INDUSTRY

The Egyptian furniture industry is a well and long-established domain that is linked to geographical advantage with notable access to major markets, reasonably low costs, and highly experienced labour regarding woodworking skills. The wooden furniture industry in Egypt dates back centuries with mostly distinct styles that incorporate Islamic, British and French elements into the design, as well as part of the sector also producing rather international style designs. Exports in the furniture sector started in the 1960s and 1970s pursuing the Soviet Union and Eastern Europe. By the 1980s, the export market shifted in Egypt towards Arab countries to respond to the increasing demand for furniture resulting from booming urban growth in the region²⁹.

The dominance of micro and small-sized enterprises in the furniture industry landscape in Damietta and in Egypt generally is undoubted even with discrepant figures from different data sources³⁰. The following table 1 shows not only the dominance of micro and small enterprises, but the notable rise of their numbers between the years 2006 and 2013. Hence, micro, small and medium sized enterprises (MSMEs) in the furniture industry represent 99% of total number of enterprises, with about 95 percent being micro businesses (less than 5 employees). Although this data dating back to 2013 can hardly be used to reflect the numbers today, the ratios they reflect feature undeniable patterns that seem to persist according to observations, interviews and survey results.

The pattern of the industry is also apparent in the spatial distribution of mixed-use buildings within the city centre as in the following land use map (figure 1). The mixed use highlights the live-work pattern in Damietta, where landowners have their workshops on the ground floor with their residents on the top floor. This also coincides with the entrepreneurial nature backed up by the extremely high percentage of privately owned workshops and buildings in the city (map in figure 2).

Year	Total number of employed persons	Total number of enterprises	Number of enterprises according to employee				
			Less than 5 employees	5-9 employees	10-24 employees	24-49 employees	50+ employees
2006	255,065	89,209	8,729	7,069	285	70	56
2013	270,222	104,250	98,728	5,006	369	56	91

Table 1. Distribution of Enterprises in furniture industry as MSMEs categories³¹

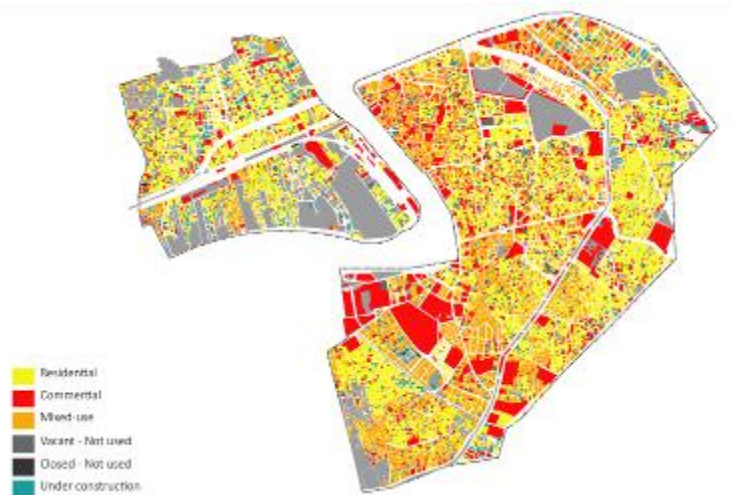


Figure 1. Land Use Map of Damietta³² (developed by researcher)

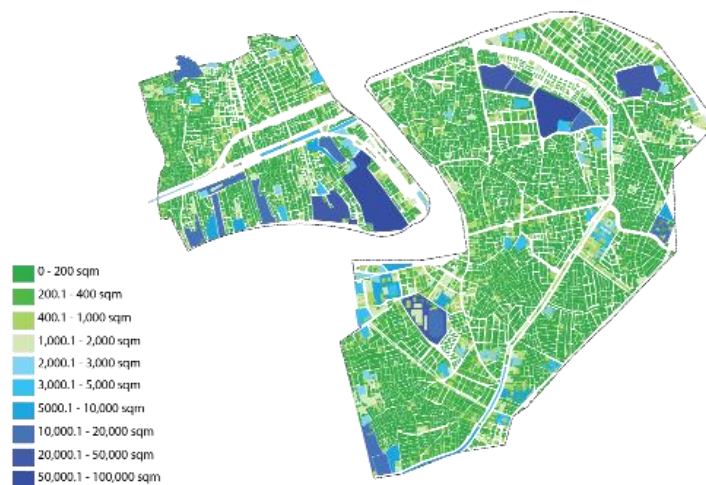


Figure 2. Map of land plot areas in Damietta³³ (developed by researcher)

Climate Emergency in Damietta

The current political landscape in Egypt is enforcing a national economic direction of creating new mega projects in different areas. Examples are the new Administrative Capital east of Cairo, as well as new cities such as New Alamein and New Damietta (which are independent cities adjacent to the old city fabric but disconnected from it). This direction can be challenged as the “old” urban and economic infrastructure of the nation is put out of focus for the sake of new projects, leading to questionable rational of the development agenda.

Regarding Damietta's development, the government's new mega project (DFC) is focused on furniture industries with international funding and foreign investment and stated to be situated outside the borders of the old city as a purposeful encouragement of the already existing furniture industry in the city. According to the sea level rise map below (Figure 3 and 4), not only is the whole region subject to sea level rise, but more specifically DFC site lies completely on land of elevation zero and +1m at most, leaving the whole plot vulnerable to sea level rise by the year 2080 (or 2100 at best). Given the magnitude of the investment in this project, it would be rather controversial to execute it on a plot that is expected to be submerged within 50 years' time.

From a socioeconomic perspective, Damietta's economic nature has been always associated with the entrepreneurial essence of its furniture industry. It is a unique context where cluster economies (similar to Sassuolo, Italy) has evolved through decades and has been passed down from one generation to the next. Such a mega project outside the city would be drawing out not only the employment pool in the city, but also the income and local investment. Instead of developing the city's economy, the project –in its current form- is offering an autonomous industrial base where Damietta's population shifts to be worker-based rather than owners and entrepreneurs.

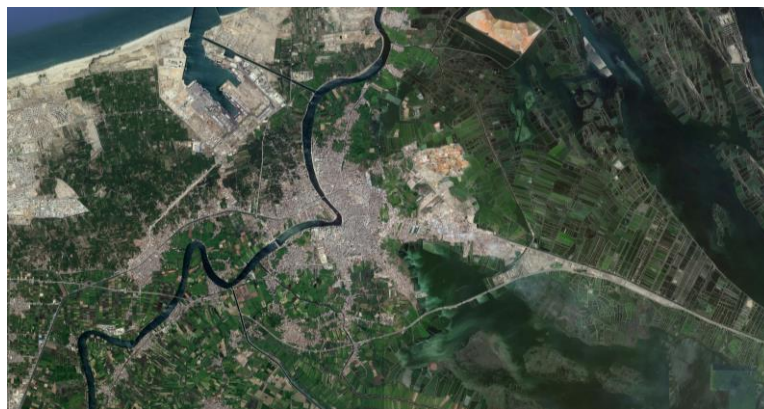


Figure 3. Google Satellite Imagery of Damietta³⁴



Figure 4. Simulation of 2m Sea Level Rise scenario³⁵

METHODS

The methodology presented in this paper is part of a more inclusive quantitative and qualitative inquiry towards quantifying and mapping social capital networks for a spatially concentrated industry for the case study of Damietta city. The overall research methodology involves several data collection

methods including semi-structured interviews, systematic observations, field survey and geospatial network mapping. This paper focuses on the field survey and the subsequent visualization and analysis of the social capital network in Damietta. This included visualizing and analysing the total network of the survey sample of respondents (347), the total overall network connections between respondents and contacts (996 actors) with 716 directed mapped ties. Questions in the survey examined trust, networks and norms, as well as variables related to other market dynamics such as power distribution within the network. This is also the basis of the following spatial mapping (GIS) of the relevant survey questions results to highlight whether the relations identified have a different spatial dimension that the statistics does not fully cover (such as proximity, transport, infrastructure, ... etc).

It is worth mentioning that the results of this research have an inherent limitation as they rely on a sampling approach rather than bigdata for the network mapping. This has been selected due to the limited access to data and the semi-rural nature of the community in Damietta, which meant that online crowdsourcing was not feasible. The research acknowledges that the measured random sample, although statistically significant, would not represent all the network connections, but rather provide information on some of the connections within the overall network in Damietta's industry.

RESULTS

Survey Analysis

The survey was conducted with a total of 347 respondents. The age of respondents is normally distributed with a range of 19-60 years. The mean age of respondents was mid-40s, with a wide range of ages within the sample. In terms of ranges, the most prevalent ranges are 40s and 50s, followed by 30s. The highest value for respondents' role in enterprise/workshop was sole owners with 57.3%, followed by senior workers (17.6%) and co-owners (12.7%). With 70% of respondents owning and co-owning enterprises, there is a clear indication of the entrepreneurial pattern in Damietta's furniture industry. Cross-examining the age and role of respondents shows that the highest captured category is workshop owners aged 40-60 years old.

Regarding the role of enterprises on the value chain, most respondents did not report one activity (carpentry, upholstery, etc.), but reported on working in multiple activities that correspond to a certain type of product, process or pattern of work, which was contrary to the literature about this industry, and reflects on the specific pattern of work in Damietta. One of the patterns that prevailed in the responses is that many businesses that identify as carpenters also chose distribution and sales as part of their activities. These enterprises mostly adopt the product order pattern, where the central enterprise/owner is a carpenter who gets an order/transaction that they outsource to neighbouring enterprises to finish different parts of the work. The work is then collated at the end within the central carpenter's workshop to be delivered to the client.

The results of different questions for each section all show positively skewed responses favoring the abundance of social capital dimensions within the sample. These values have been used as basis of calculating a relative score for social capital in the survey sample as an attempt to estimate the magnitude of social cohesion, networks and norms based on the collective results of questions from the survey. Table 2 below shows the calculated values and synthesis of what these indicate. In table 2, almost all mean values are towards to higher end of the scale, indicating a positive abundance of social capital in the sample. The only indicator that was below medium mean value is the norms, and even in this case, the mode (the most abundant value in the dataset) value is still above average towards higher social capital.

These relative values reiterate the previously identified results in a collective manner, where measures of trust, reciprocity and networking for the whole dataset indicate prevalent social capital. The lower value for norms can be analysed as a reflection of the vernacularity of the evolution of social capital as a collective value in the community. The lack of driving/supporting bodies that push forward and stir the market into capitalising on the existing social capital might justify the values arising, and propose a gap in the structure of the market and industry society in the city with a lot of room for development and further research.

		Calculated Trust Score	Calculated Norms score	Calculated Total score	Networks Themes		
					Calculated Network Embedded Resources score	Calculated Contact score	Calculated Status Locations score
N	336	339		702	702	702	702
	11	8		14	14	14	14
Mean*		6.6443	4.9846	6.2553	5.2637	7.9076	5.5945
Median*		6.6667	5.1389	5.9251	5.4142	7.5000	5.5556
Mode*		6.88	5.83	7.41	6.66	10.00	5.56
Std. Deviation		1.08638	1.18675	1.05511	1.30583	1.65126	1.38696
Skewness		.010	-.096	.314	.043	-.209	.256
Std. Error of Skewness	of.133		.132	.092	.092	.092	.092
Range		6.53	5.08	5.78	5.54	7.92	7.11
Minimum		3.47	2.83	3.67	2.79	2.08	2.89
Maximum		10.00	7.92	9.44	8.33	10.00	10.00

Range: 1: least value for social capital.
10: highest value for social capital.

Table 2. Calculated social capital measures according to survey results (Source: Calculated from author results)

Social Capital Network Visualisation

The network as visualised separately from geolocation reveals a pattern of smaller networks between enterprises that mainly relates to their position on the value chain. This also relates to the small scale of the enterprises and how almost all actors in this network are not of high power in the market with a large variety of connections.

There are a limited number of nodes that exhibit higher level of connectivity, and this would suggest that these enterprises are either bigger in scale of work and connections in the market, or possess higher skills in their precise business activity, which would justify their higher connectivity. That said, these nodes still do not exhibit great influence on the larger scope of the network in Damietta.

Observing the clustering pattern of the network as in the below Figure 5 shows that the network (as reflected from the survey entries) consists of a collection of smaller networks that are clustered separately from one another, with some connections between some of the clusters through centric nodes (highly connected nodes). This data supports the research’s understanding of the nature of the furniture industry in Damietta as being small and micro enterprises and implies that the sample is highly representative in terms of reflecting the existing patterns of the industry in the city.

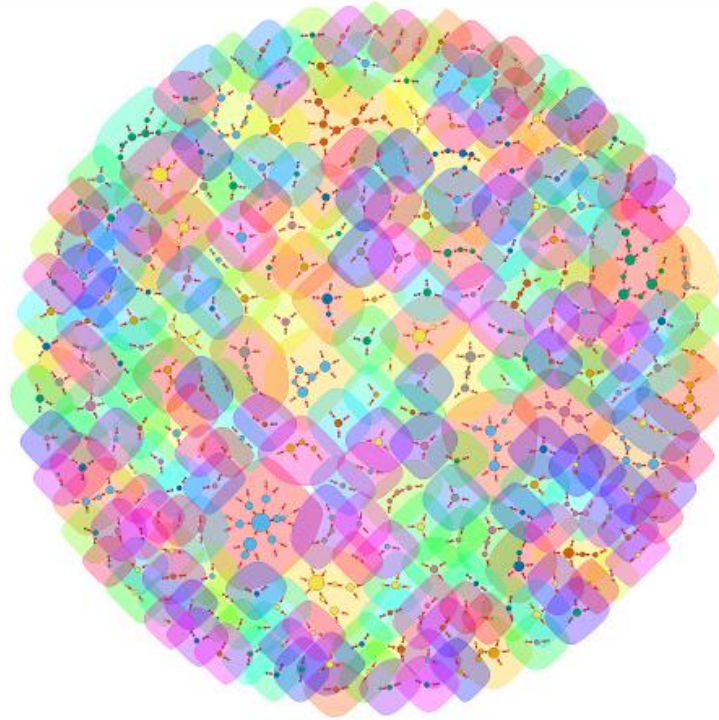


Figure 5. Visualising Network Clustering in Damietta (Source: Author analysis)

DISCUSSION

The primary hypothesis of this research on the claim of the abundance of social capital agglomeration within the economic cluster of Damietta has been supported through the data. The findings exhibit evidence of the vitality of trust, networks and norms as a main structure of business interactions between MSMEs. The spatially dense urban fabric of the city also suggests a link between proximity and social capital, which will be further investigated through the following phases of this research. Even though this case implies clear industry-related indicators, the potential for generalisation lies in the common factors found in global south cities with local industry concentration, small-scale (MSME-based) economic cluster, and a strong long-term social structure. Through context examination and consideration, the research methodology can be replicated in different contexts for comparable industries.

Contrasting to conventional municipal perspective, according to Ruzek³⁶, embracing local economies (including those informal in nature) can allow for more sustainable economies. For the case of Damietta with the underlying climate emergency factors in the argument, the dynamic suggests that the local MSMEs economies in the city offer a viable and more resilient alternative to the DFC project. This is in addition to the literary argument that supports that local economies are a sustainable alternative to capitalism and can shift the global focus from a globalized capitalist society to eco-localism³⁷. From this notion, quantifying the magnitude and scale of social capital as a major driver for success in Damietta opens a greater discussion on sustainability and development choices for the future.

NOTES

¹ Coleman, James S. *Foundations of Social Theory*. Harvard University Press, 1990.

² Porter, Michael E. "The Competitive Advantage of Nations." *Harvard Business Review*, 1990. <https://doi.org/10.1007/978-1-349-11336-1>.

³ Putnam, Robert D., Robert Leonardi, Raffaella Y. Nonetti, Raffaella Y. Nonetti, and Raffaella Y. Nonetti. *Making Democracy Work: Civic Traditions in Modern Italy*. Princeton University Press, 1993. <https://doi.org/10.1017/CBO9781107415324.004>.

⁴ Lin, Nan. "Social Networks and Status Attainment." *Annual Review of Sociology* 25, no. Weber 1946 (1999): 467–87. <https://doi.org/10.1146/annurev.soc.25.1.467>; Lin, Nan. "Building a Network Theory of Social Capital." In *Social Capital: Theory and Research*, edited by Rene Dubos. New York, 2001. <https://doi.org/10.1108/14691930410550381>.

⁵ Wallman, Sandra, Mai Vidali, Rossella Lo Conte, and Montouri Bond, Virginia. "Themes and a Model." Edited by Sandra Wallman. *The Capability of Places*, 2018, 1–14.

⁶ Putnam, Robert D. *Bowling Alone: The Collapse and Revival of American Community*. Simon & Schuster, 2002; Putnam, Robert D., Robert Leonardi, Raffaella Y. Nonetti, Raffaella Y. Nonetti, and Raffaella Y. Nonetti. *Making Democracy Work: Civic Traditions in Modern Italy*. Princeton University Press, 1993. <https://doi.org/10.1017/CBO9781107415324.004>.

⁷ Coleman, James. "Social Capital in the Creation of Human Capital Author." *The American Journal of Sociology* 94, no. Supplement (1988): S95–120; Coleman, James S. *Foundations of Social Theory*. Harvard University Press, 1990.

⁸ Lin, Nan. "Social Networks and Status Attainment." *Annual Review of Sociology* 25, no. Weber 1946 (1999): 467–87. <https://doi.org/10.1146/annurev.soc.25.1.467>; Lin, Nan. "Building a Network Theory of Social Capital." In *Social Capital: Theory and Research*, edited by Rene Dubos. New York, 2001. <https://doi.org/10.1108/14691930410550381>.

⁹ Bourdieu, Pierre. "The Forms of Capital." In *Handbook of Theory and Research for the Sociology of Education*, edited by Nicole Woolsey Biggart, 280–91. London: Greenwood Press, 1986.

¹⁰ Hunt, Carter A., William H. Durham, and Claire M. Menke. "Social Capital in Development: Bonds, Bridges, and Links in OSA and Golfito, Costa Rica." *Human Organization* 74, no. 3 (2015): 217–29. <https://doi.org/10.17730/0018-7259-74.3.217>.

¹¹ Burt, Ronald S. "Reinforced Structural Holes." *Social Networks* 43 (2015): 149–61. <https://doi.org/10.1016/j.socnet.2015.04.008>.

¹² Ruddick, William O. "Trust and Spending of Community Currencies in Kenya." In 3rd International Conference on Social and Complementary Currencies Oct 27th-30th 2015 Management School at Federal University of Bahia - Salvador, Brazil, 22, 2015; Ruddick, William O., Morgan A. Richards, and Jem Bendell. "Complementary Currencies For Sustainable Development in Kenya: The Case of The Bangla-Pesa." *International Journal of Community Currency Research* 19, no. D (2015): 18–30.; Dissaux, Tristan, and William O. Ruddick. "Challenges of Collective Organization and Institution Building around Community Currencies in Kenyan Slums." In IV International Conference, Social and Complementary Currencies, 1–9. Barcelona, Spain, 2017.

¹³ Lin, Nan. "Building a Network Theory of Social Capital." In *Social Capital: Theory and Research*, edited by Rene Dubos. New York, 2001. <https://doi.org/10.1108/14691930410550381>.

¹⁴ Hauberer, Julia. *Social Capital Theory; Towards a Methodological Foundation*. *Handbook of Research on Contemporary Theoretical Models in Information Systems*, 2011. <https://doi.org/10.4018/978-1-60566-659-4.ch024>.

¹⁵ Bourdieu, Pierre. "The Forms of Capital." In *Handbook of Theory and Research for the Sociology of Education*, edited by Nicole Woolsey Biggart, 280–91. London: Greenwood Press, 1986.

- ¹⁶ Lin, Nan. "Building a Network Theory of Social Capital." In *Social Capital: Theory and Research*, edited by Rene Dubos. New York, 2001. <https://doi.org/10.1108/14691930410550381>.
- ¹⁷ Coleman, James S. *Foundations of Social Theory*. Harvard University Press, 1990.
- ¹⁸ Lin, Nan. "Building a Network Theory of Social Capital." In *Social Capital: Theory and Research*, edited by Rene Dubos. New York, 2001. <https://doi.org/10.1108/14691930410550381>.
- ¹⁹ Lin, Nan. "Building a Network Theory of Social Capital." In *Social Capital: Theory and Research*, edited by Rene Dubos. New York, 2001. <https://doi.org/10.1108/14691930410550381>.
- ²⁰ Coleman, James S. *Foundations of Social Theory*. Harvard University Press, 1990.
- ²¹ Burt, "The Network Structure Of Social Capital." *Research in Organizational Behavior* 22 (2000): 345–423. [https://doi.org/10.1016/s0191-3085\(00\)22009-1](https://doi.org/10.1016/s0191-3085(00)22009-1).
- ²² Burt, *Structural Holes: The Social Structure of Competition*. Journal of the American Chemical Society. Vol. 111. Harvard University Press, 1992. <https://doi.org/10.1021/ja00184a026>; Burt. "Structural Holes Versus Network Closure As Social Capital." In *Social Capital: Theory and Research*, edited by Rene Dubos, 31–56. New York, 2001. https://doi.org/Burt_2001.
- ²³ Coleman, James S. *Foundations of Social Theory*. Harvard University Press, 1990.
- ²⁴ Burt, "The Network Structure Of Social Capital." *Research in Organizational Behavior* 22 (2000): 345–423. [https://doi.org/10.1016/s0191-3085\(00\)22009-1](https://doi.org/10.1016/s0191-3085(00)22009-1).
- ²⁵ Naughton, Linda. "Geographical Narratives of Social Capital: Telling Different Stories about the Socio-Economy with Context, Space, Place, Power and Agency." *Progress in Human Geography* 38, no. 1 (2014): 3–21. <https://doi.org/10.1177/0309132513488731>.
- ²⁶ Sheppard, Eric. "Geography, Nature, and the Question of Development." *Dialogues in Human Geography* 1, no. 1 (2011): 46–75. <https://doi.org/10.1177/2043820610386334>.
- ²⁷ Naughton, Linda. "Geographical Narratives of Social Capital: Telling Different Stories about the Socio-Economy with Context, Space, Place, Power and Agency." *Progress in Human Geography* 38, no. 1 (2014): 3–21. <https://doi.org/10.1177/0309132513488731>.
- ²⁸ Naughton, Linda. "Geographical Narratives of Social Capital: Telling Different Stories about the Socio-Economy with Context, Space, Place, Power and Agency." *Progress in Human Geography* 38, no. 1 (2014): 3–21. <https://doi.org/10.1177/0309132513488731>.
- ²⁹ International Labour Organization. "Skills for Trade and Economic Diversification (STED) in Egypt; The Case of the Furniture Industry." Cairo, 2016.
- ³⁰ International Labour Organization. "Skills for Trade and Economic Diversification (STED) in Egypt; The Case of the Furniture Industry." Cairo, 2016.
- ³¹ International Labour Organization. "Skills for Trade and Economic Diversification (STED) in Egypt; The Case of the Furniture Industry." Cairo, 2016.
- ³² CAPMAS. "GIS Data from Census Data 2017." Cairo, Egypt, 2019.
- ³³ CAPMAS. "GIS Data from Census Data 2017." Cairo, Egypt, 2019.
- ³⁴ Google. "Google Maps," 2021.
- ³⁵ Climate Central. "Surging Seas; Risk Zone Map," 2018. https://ss2.climatecentral.org/#14/31.1757/29.8937?show=satellite&projections=0-K14_RCP85-SLR&level=6&unit=feet&pois=hide.
- ³⁶ Ruzek, William. "The Informal Economy as a Catalyst for Sustainability." *Sustainability (Switzerland)* 7, no. 1 (2015): 23–34. <https://doi.org/10.3390/su7010023>.
- ³⁷ Ruzek, William. "The Informal Economy as a Catalyst for Sustainability." *Sustainability (Switzerland)* 7, no. 1 (2015): 23–34. <https://doi.org/10.3390/su7010023>.

BIBLIOGRAPHY

- Bourdieu, Pierre. "The Forms of Capital." In *Handbook of Theory and Research for the Sociology of Education*, edited by Nicole Woolsey Biggart, 280–91. London: Greenwood Press, 1986.
- Burt, Ronald S. "Reinforced Structural Holes." *Social Networks* 43 (2015): 149–61. <https://doi.org/10.1016/j.socnet.2015.04.008>.
- . *Structural Holes: The Social Structure of Competition*. *Journal of the American Chemical Society*. Vol. 111. Harvard University Press, 1992. <https://doi.org/10.1021/ja00184a026>.
- . "Structural Holes versus Network Closure as Social Capital." *Social Capital: Theory and Research*, 2017. <https://doi.org/10.4324/9781315129457-2>.
- . "Structural Holes Versus Network Closure As Social Capital." In *Social Capital: Theory and Research*, edited by Rene Dubos, 31–56. New York, 2001. https://doi.org/Burt_2001.
- . "The Network Structure Of Social Capital." *Research in Organizational Behavior* 22 (2000): 345–423. [https://doi.org/10.1016/s0191-3085\(00\)22009-1](https://doi.org/10.1016/s0191-3085(00)22009-1).
- CAPMAS. "GIS Data from Census Data 2017." Cairo, Egypt, 2019.
- Climate Central. "Surging Seas; Risk Zone Map," 2018. https://ss2.climatecentral.org/#14/31.1757/29.8937?show=satellite&projections=0-K14_RCP85-SLR&level=6&unit=feet&pois=hide.
- Coleman, James. "Social Capital in the Creation of Human Capital Author." *The American Journal of Sociology* 94, no. Supplement (1988): S95–120.
- Coleman, James S. *Foundations of Social Theory*. Harvard University Press, 1990.
- Dissaux, Tristan, and William O. Ruddick. "Challenges of Collective Organization and Institution Building around Community Currencies in Kenyan Slums." In *IV International Conference, Social and Complementary Currencies*, 1–9. Barcelona, Spain, 2017.
- Google. "Google Maps," 2021.
- Hauberer, Julia. *Social Capital Theory; Towards a Methodological Foundation*. *Handbook of Research on Contemporary Theoretical Models in Information Systems*, 2011. <https://doi.org/10.4018/978-1-60566-659-4.ch024>.
- Hunt, Carter A., William H. Durham, and Claire M. Menke. "Social Capital in Development: Bonds, Bridges, and Links in OSA and Golfito, Costa Rica." *Human Organization* 74, no. 3 (2015): 217–29. <https://doi.org/10.17730/0018-7259-74.3.217>.
- International Labour Organization. "Skills for Trade and Economic Diversification (STED) in Egypt; The Case of the Furniture Industry." Cairo, 2016.
- Lin, Nan. "Building a Network Theory of Social Capital." In *Social Capital: Theory and Research*, edited by Rene Dubos. New York, 2001. <https://doi.org/10.1108/14691930410550381>.
- . "Social Networks and Status Attainment." *Annual Review of Sociology* 25, no. Weber 1946 (1999): 467–87. <https://doi.org/10.1146/annurev.soc.25.1.467>.
- Naughton, Linda. "Geographical Narratives of Social Capital: Telling Different Stories about the Socio-Economy with Context, Space, Place, Power and Agency." *Progress in Human Geography* 38, no. 1 (2014): 3–21. <https://doi.org/10.1177/0309132513488731>.
- Porter, Michael E. "The Competitive Advantage of Nations." *Harvard Business Review*, 1990. <https://doi.org/10.1007/978-1-349-11336-1>.
- Putnam, Robert D. *Bowling Alone: The Collapse and Revival of American Community*. Simon & Schuster, 2002.
- Putnam, Robert D., Robert Leonardi, Raffaella Y. Nonetti, Raffaella. Nanetti, Raffaella Y. Nonetti, and Raffaella. Nanetti. *Making Democracy Work: Civic Traditions in Modern Italy*. *Making Democracy Work: Civic Traditions in Modern Italy*. Princeton University Press, 1993. <https://doi.org/10.1017/CBO9781107415324.004>.
- Ruddick, William O. "Trust and Spending of Community Currencies in Kenya." In *3 Rd International*

- Conference on Social and Complementary Currencies Oct 27th-30th 2015 Management School at Federal University of Bahia - Salvador, Brazil, 22, 2015.*
- Ruddick, William O., Morgan A. Richards, and Jem Bendell. "Complementary Currencies For Sustainable Development in Kenya: The Case of The Bangla-Pesa." *International Journal of Community Currency Research* 19, no. D (2015): 18–30.
- Ruzek, William. "The Informal Economy as a Catalyst for Sustainability." *Sustainability (Switzerland)* 7, no. 1 (2015): 23–34. <https://doi.org/10.3390/su7010023>.
- Sheppard, Eric. "Geography, Nature, and the Question of Development." *Dialogues in Human Geography* 1, no. 1 (2011): 46–75. <https://doi.org/10.1177/2043820610386334>.
- Wallman, Sandra, Mai Vidali, Rossella Lo Conte, and Montouri Bond, Virginia. "Themes and a Model." Edited by Sandra Wallman. *The Capability of Places*, 2018, 1–14.

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