

**The Struggle for Preventative and Early Detection Networking:  
The ‘Asabiyya-Driven Structuration of Women’s Breast Cancer in the Arab Region**

Arwa Luqman

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Department of Communication

Faculty of Arts

University of Ottawa

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## **Abstract**

By 2020, cancer mortality rates are estimated to increase by 180% in Arab countries, where breast cancer is the most common type of cancer. This thesis explores and evaluates the ‘asabiyya-driven structuration (the cohesive force of the group that gives it strength in facing its struggles for progressive reproduction) of cancer agents, government agents, and the World Health Organization agents for breast cancer prevention and early detection in the Arab region. The layers of the philosophical standing from Ibn Khaldûn’s concept of ‘asabiyya and the theoretical foundation of social systems theory, structuration theory, social network analysis, and social capital theory are peeled in order to explore and evaluate the context, constraints, social networks, autopoiesis, and social capital. Utilizing a qualitative research design, this thesis employs content analysis and in-depth interviews, as well as NVivo as a tool for analysis. Data is collected from 122 publications and knowledgeable informants employed by cancer agencies, ministries of health, and World Health Organization offices in Egypt, Jordan, Morocco, and Oman. The findings are divided into the contextual scope of responsibility and resources, the progressive and hierarchal constraining structure, the optimal and weak social networks, the strong and vulnerable shields of autopoiesis, and the presence and absence of social capital momentum, followed by a discussion on the the struggle for structuration against breast cancer. The findings demonstrate that countries with a national cancer control program witness local strengthening ‘asabiyya and ‘asabiyya-driven structuration, while those without a national cancer control program witness weakening local ‘asabiyya. Ultimately, this thesis proposes strategic recommendations to accelerate the regional ‘asabiyya-driven structuration of breast cancer.

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## **List of Abbreviations**

ALSC	Association Lalla Salma against Cancer
BC	Breast Cancer
BCFE	Breast Cancer Foundation of Egypt
CA	Cancer Agent
EMR	Eastern Mediterranean Region
EMRO	Eastern Mediterranean Regional Office
GA	Government Agent
JBCP	Jordan Breast Cancer Program
MoH	Ministry of Health
MoHP	Ministry of Health and Population
NACA	National Association for Cancer Awareness
NCCP	National Cancer Control Program
NCD	Non-Communicable Disease
NGO	Non-Governmental Organization
UN	United Nations
US	United States
US-MEPI	United States-Middle East Partnership Initiative
WHO	World Health Organization

# Chapter 1

## Introduction

### Preface

From 2005 to 2020, the anticipated increase in deaths from cancer in the world is 104%, whereas the anticipated increase is 180% in the Arab region (Rastogi, Hildesheim & Sinha, 2004: 910). In the Arab region, breast cancer (BC) is the first type of cancer in incidence and mortality rates (WHO, 2009b: 10). The region witnesses more than 60% of reported BC cases detected at a late stage, stage III or higher, “when cure is improbable even with the best treatments” (WHO, 2009b: 18). BC starts as a few cells that spread to nodes and body parts in a network-like pattern (Lippman, 2005: 516). In other words, BC burdens society simply through networking patterns within the human body.

The rising incidence and mortality rates of BC are accompanied by a lack of sufficient economic and scientific resources (Jones, Chilton, Hajek, Iammarino & Laufman, 2008: 2207). The World Health Organization (WHO) Eastern Mediterranean Regional Office (EMRO), whose members include most Arab countries, advises:

[N]o matter what resource restraints a country faces, a national cancer control programme is able to lower cancer incidence. . . . The function of these programmes is to evaluate the processes for controlling the disease and to implement those that are the most cost-effective and beneficial for the general population. Programmes should place emphasis on the prevention and early detection of cancers.

(EMRO, 2006: 7)

Scholars argue that BC treatment can cause a substantial economic burden, therefore preventative and early detection measures are particularly compelling in the region because they require less sophisticated and less expensive resources (Magrath & Litvak,

1993: 863). However, the road to prevention and early detection is paved with many obstacles.

In the Arab region, trend reports show that all unhealthy habits, especially smoking, are on the rise (Alwan, 1997: 6-7). Women do not seek or are unaware of proper screening measures due to issues of negligence, cancer-related fear, and misinformation (ALSC, 2006: 6; JBCP, 2008: 12). The current WHO Assistant Director General of Non-Communicable Diseases (NCDs) and Mental Health stresses the importance of the coordination of government agents (GAs), cancer agents (CAs), and WHO agents:

People's health-related lifestyles in any community are closely related to the general lifestyles of the community and to the general beliefs, norms and social values. . . . Therefore, successful large-scale preventive programmes attempt to change, not so much the individuals, but the whole community and many of its social and environmental factors. [GAs] need to be involved in a highly coordinated manner. [CAs] should also be involved and, ultimately, mobilization of the whole community is needed.  
(Alwan, 1997: 11)

This quote sheds light on the importance of networks in raising awareness on BC's preventative and early detection measures, as well as the significance of these networks for the needed control of BC's rising incidence and mortality rates in Arab countries.

BC represents the most frequent and growing cancer in females (and sometimes in males and females combined) in the four countries under study—Egypt, Jordan, Morocco, and Oman (MoH Egypt, 2010; MoH Jordan, 2008; MoH Morocco, 2009; MoH Oman, 2009). In Egypt, the three main agents are the Breast Cancer Foundation of Egypt (BCFE) as the CA, the Ministry of Health and Population (MoHP) Egypt, and the EMRO as the WHO agent. The BCFE is a BC-specific non-governmental organization (NGO) created by 24 members representing doctors and cancer survivors to provide awareness

and education to Egyptian women (BCFE, 2008: para. 1). The BCFE was not established by a political power, like the CA in Jordan and Morocco. In Egypt, the political agent is the MoHP Egypt, which encompasses the Department of Preventative Affairs for NCDs including cancer. Likewise, the WHO agent in Egypt and the leader of the WHO offices in the Eastern Mediterranean Region (EMR), the EMRO, covers cancer amongst other NCDs. Despite the presence of the three main agents, Egypt lacks a national cancer control program (NCCP). Although, the deposed first lady of Egypt, Suzanne Mubarak, was diagnosed with cancer in 2000, she had begun discussing national cancer control in September 2010 (IAEA, 2010).

In Oman, the three main agents are the National Association for Cancer Awareness (NACA) as the CA, the Ministry of Health (MoH) Oman, and the WHO Oman. Like the BCFE, the NACA was not established by a political figure but by a cancer survivor for public awareness of cancer (NACA, 2011: para. 1-2). Additionally, the MoH Oman focuses on NCDs through its NCD Department (MoH Oman, 2011: para. 3). The WHO Oman is generally supportive of the MoH Oman's needs (WHO Oman, n.d.: para. 1-4). Like Egypt, Oman lacks a NCCP despite the presence of the three agents. Furthermore, no information exists regarding cancer diagnosis in the Omani royal family, whose female members are inactive in the political scene. Overall, since no NCCP has been established in Egypt and Oman, they are referred to as countries without a NCCP.

In Jordan, the three agents include the Jordan Breast Cancer Program (JBCP) as the CA, the MoH Jordan, and the WHO Jordan. The JBCP is a nation-wide and BC-specific initiative for early detection and screening. The JBCP embodies a partnership between the MoH Jordan and the King Hussein Cancer Foundation, which is named after

the late King Hussein who died of cancer. The Director of the King Hussein Cancer Foundation, Princess Dina Mired, whose family members were diagnosed with cancer, was appointed the Honorary Chairperson of the JBCP (JBCP, 2011a: para. 1; JBCP, 2011b: para. 1-2; UICC, 2011). The JBCP along with the MoH Jordan and the WHO Jordan created the national *Breast Cancer Screening and Diagnosis Guidelines* (JBCP, n.d.: 3; MoH Jordan, n.d.: para. 1). Generally, the NCD Directorate in the MoH Jordan and the WHO Jordan cover NCDs including the NCCP in their activities (MoH Jordan, n.d.: para. 1; WHO Jordan, n.d.: para. 1).

Morocco's case is similar to Jordan's case. In Morocco, the three agents are Association Lalla Salma against Cancer (ALSC) as the CA, the MoH Morocco, and the WHO Morocco. The ALSC is a cancer-specific agent chaired by the wife of Morocco's King Mohammed VI, Princess Lalla Salma, whose family member was diagnosed with cancer (Lamlili, 2011). Some argue that personal experience is merely a catalyst to political involvement, while political and social recognition are the drivers (Ibid). In Morocco, Princess Lalla Salma gains full recognition for any progressive work on cancer because no other royalty is specialized in cancer (Ibid). Regardless of all the political and personal factors, the ALSC leads Morocco's NCCP along with MoH Morocco's Cancer Prevention and Control Program (ALSC, n.d.: para. 1-9; ALSC, n.d.: para. 1). ALSC focuses on BC through its Breast and Cervical Cancer Early Detection Program. Meanwhile, the WHO Morocco provides general technical support to national endeavors (WHO Morocco, 2011: para. 1). Since Jordan and Morocco established NCCPs, they are referred to as countries with a NCCP. The distinction between countries with and without a NCCP is found vital for this thesis.

## **Research Problematic and Purpose**

The non-medical, regional, preventative, and early detection perspectives of BC remain unexplored and unevaluated in the Arab region. Due to this research problematic, this thesis explores and evaluates the different layers of the CA's, the GA's, and the WHO agent's social networks within the constraining and enabling structure. The main purpose of this thesis is to explore and evaluate the 'asabiyya-driven structuration in order to understand the agents' strength in applying tensions to the constraining structure for BC's preventative and early detection measures in the Arab region. More specifically this thesis explores and evaluates the context, constraints, social networks, autopoiesis, and social capital of BC in the Arab region.

The BC incidence and mortality rates are increasing in a context of scarce resources. This issue is best covered from a non-medical perspective by emphasizing the networking and autopoietic aspect against the constraints because it provides direction of how to combat BC progressively in the region. Strategic recommendations are proposed to accelerate optimal and autopoietic social networks on the country level then on the regional level. Not only can the proposed recommendations advance the fight against BC in the region, but optimal and autopoietic social network can facilitate control of the rising incidence and mortality rates of BC as well. This research serves as a foundation for more specific or comprehensive studies of all Arab and EMR countries.

To investigate BC in the Arab Region, four countries have been selected purposively based on important reasons and justifications explained in Chapter 3. By exploring these four countries, this thesis seeks richness of the information rather than

representativeness and generalization. Nevertheless, the four countries are referred to as the Arab region mainly because of their location. Therefore, the qualitative findings are contingent to the four countries only.

### **Thesis Overview**

This thesis examines the environment and social system layer by investigating the context, constraints, social networks, autopoiesis, social capital, ‘asabiyya, and structuration. This thesis draws on ‘Abd-ar-Rahman Ibn Khaldûn’s philosophy of ‘asabiyya, social systems theory, structuration theory, social network analysis, and social capital theory to formulate the theoretical framework, which guides data collection and discussion of findings. The findings of the qualitative content analysis and in-depth interviews demonstrate a great deal on the dynamics of the ‘asabiyya-driven structuration for BC prevention and early detection in the Arab region. This thesis presents models of countries with and without a NCCP. The findings demonstrate that the countries with a NCCP are undergoing local strengthening ‘asabiyya and ‘asabiyya-driven structuration. Meanwhile the countries without a NCCP are undergoing weakening local ‘asabiyya. Based on the evaluation, it is recommended that the agents undertake extensive work to accelerate ‘asabiyya-driven structuration locally and regionally.

This thesis consists of five chapters: introduction, literature review, research design and methodology, findings and discussion, and conclusion. The literature review in Chapter 2 theorizes the topic based on the epistemological roots of ‘asabiyya, theoretical foundation of social systems theory, structuration theory, social network

perspective, and social capital theory. In this chapter, the theoretical framework presents ‘asabiyya as the driver to the needed structuration.

Chapter 3, research design and methodology, conceptualizes and illustrates themes and concepts, research design, research questions, and data collection and analysis. In this chapter, a description of the qualitative research design and purposive sample is provided. This chapter reveals the four research questions guiding this thesis. Moreover, content analysis and in-depth interviews, as well as their sampling, ethical clearance, NVivo analysis, and distinctions are described in detail in this chapter.

In Chapter 4, findings and discussion, the findings of both data collection methods are merged and presented together under each theme. This chapter discusses and analyzes the findings in relation to research questions. The findings are divided into the following four sections: the contextual scope of responsibility and resources, the progressive and hierarchal constraining structure, the optimal and weak social networks, the strong and vulnerable shields of autopoiesis, and the presence and absence of social capital momentum. Hence, the findings demonstrate the context, constraints, social networks and autopoiesis, and social capital, followed by the discussion on the struggle for BC structuration. This chapter includes the vital figures and models.

The conclusion in Chapter 5 presents the significant findings of the asabiyya-driven structuration exploration and evaluation, as well as the proposed strategic recommendations drawn from the evaluation. This final chapter presents the limitations and future research opportunities to advance scholarly work on BC. Lastly, this chapter provides a thesis summary.

## Chapter 2

### Literature Review

Based on the context, research problematic, and purpose, a literature review is employed to theorize the different layers of BC prevention and early detection measures in the Arab region. Consequently, Ibn Khaldûn's philosophy of 'asabiyya is interwoven with social systems theory, structuration theory, social network analysis, and social capital theory to formulate the theoretical framework (Eid, 2008). The primary outlook of the theoretical framework is that the 'asabiyya of the cluster of CAs, the GAs, and the WHO agents is indicated by its social network, autopoiesis, and social capital. These elements of 'asabiyya are drivers to the structuration of BC in the region. Consequently, 'asabiyya—a hybrid concept—is the engine driving the structuration for the needed social and system reproduction to eradicate BC in the region through the hybrid networks of WHO and local agents. Nevertheless, when weakening, 'asabiyya can lead to an increase of the constraining structure and cluster dissolution, which is progressive since it is followed by the rise of a more productive cluster or leadership due to the lessons learnt from the predecessors and the harsher constraining structure. Overall, the duality of structure governs this thesis by lending equal importance to agency and structure as mutually constitutive elements in society.

#### **Philosophical Standing: 'Asabiyya**

In 1377, Ibn Khaldûn published *The Muqaddimah*, where he examines 'asabiyya as one of the main concepts in his book. Many Western scholars were intrigued by the concept

of ‘asabiyya so they modernized it and applied it to Western societies throughout the centuries (e.g. Alatas, 2006b; Darling, 2007; Dhaouadi, 2005; 2008; Fromherz, 2010; Laroussi, 2008). Those scholars either established modern neo-Khaldunian sociology or critically applied ‘asabiyya to Western culture, which resulted in a modern reshuffling of Ibn Khaldûn’s work, thereby attributing him to the modern sociological discussion (Alatas, 2006a: 398; 2006b: 786). Although ‘asabiyya emerged in the Middle-Eastern context of the 14th century, it has been modernized and transformed into a hybrid concept that bridges Western and Middle-Eastern cultures.

Before Ibn Khaldûn coined ‘asabiyya, it was used by the public when describing the Bedouin lifestyle of blood relations and common ancestry (Kayapinar, 2008: 379-380). ‘Asabiyya, which generates from the root ‘asab or to bind, implies binding individuals into a group (Ibid). Ibn Khaldûn’s work is characterized by linguistic novelty because he reveals the deeper layers within conventional terms (Lawrence, 2005: xxiv). The term has progressed from describing blood ties, family, and tribal organizations to referring to larger institutional structures or alliances and civilizations (Ibid). Ibn Khaldûn lends ‘asabiyya depth, breadth, and functionality by presenting its flexibility across time and space with his ambiguous take on it (Laroussi, 2008: 357; Lawrence, 2005: 396-399).

The precondition of ‘asabiyya is the context of harshness and difficulty, which can be overcome through collaboration led by a chieftain, who obtains his authority and power from the collective group (Ibn Khaldûn, 2005: 108; Lawrence, 2005: 388-389). The chieftain obtains leadership because he stimulates the highest level of ‘asabiyya in the group (Ibn Khaldûn, 2005: 108). When a person sharing the ‘asabiyya of the group has reached the highest rank, he becomes the chieftain and commands obedience (Ibid).

This chieftain cannot fully achieve command and control without the help of ‘asabiyya (Ibid). The authority of the chieftain is a result of his control over resources, which are obtained through the efforts of group members and their collective ‘asabiyya, thereby making power dependence a precondition of social power exercise (Alatas, 2006a: 402). Moreover, the chieftain serves as a coordinator between the various tribes and social organizations within the group (Ibn Khaldûn, 2005: 109).

In addition to leadership, ‘asabiyya also pertains to nobility or “houses” which is driven by the common locality of members of the group (Ibid: 108). A member of the group is noble when he shares the group’s locality or descent and most importantly when he shares their ‘asabiyya (Ibn Khaldûn, 2005: 102; Kayapinar, 2008: 389-392). Ibn Khaldûn adds, “Even if an individual tribe has different ‘houses’ and diverse [‘asabiyya], still, there must exist a [‘asabiyya] that is stronger than all the other [‘asabiyya] combined” (2005: 108- 130). This quote refers to the legacy of Almohads, which inspired Ibn Khaldûn’s notion of ‘asabiyya (Fromherz, 2010: 12). Almohads ruled over North Africa from 1147 to 1230, and their legacy continued even after Ibn Khaldûn’s death in 1406 (Ibid: 12-13). Mahdi Ibn Tumart, a charismatic leader who inspired loyalty, was the founder of Almohad movement (Ibid). Clans and tribes let go of their closed territorial functioning, which is the group’s distinct ‘asabiyya, and joined Ibn Tumart for a wider and comprehensive ‘asabiyya (Ibid). This ‘asabiyya was deemed stronger than their local ‘asabiyya and their opinions and desires were in harmony with the larger group (Ibid).

Ibn Khaldûn does not offer an all-encompassing definition of ‘asabiyya, thus each scholar develops his/her own understanding of it (Kayapinar, 2008: 357). One of the most prominent translations describes ‘asabiyya as “the cohesive force of the group, the

conscience that it has of its own specificity and collective aspirations, and the tension that animates it” (Lawrence, 2005: xv). Other translations that are either too specific or too general are solidarity, cohesion, belonging, power, legitimacy, group feeling, esprit de clan, corporate spirit, group will, and vitality (Alatas, 2006a; Darling, 2007; Faghirzadeh, 1982; Kayapinar, 2008; Laroussi, 2008). ‘Asabiyya is one of Ibn Khaldûn’s “most untranslatable terms” and cannot have an equal synonym or translation (Kayapinar, 2008: 379-400). Ibn Khaldûn defines it in a progressive and cumulative way using ambiguous metaphors, which allows him to demonstrate the flexibility of the term across time and space (Kayapinar, 2008: 396-399; Laroussi, 2008: 357). Nonetheless, many scholars agree that it represents collective and progressive energy (e.g. Alatas, 2006a; Darling, 2007; Faghirzadeh, 1982; Kayapinar, 2008; Laroussi, 2008). Most criticism of ‘asabiyya stems from not considering the flexibility of the term, and attempting to pinpoint a single synonym of it (e.g. Alatas, 2006a; Ardic, 2008; Enan, 1979). Mohammed Al-Jabri criticizes Ibn Khaldûn for expanding upon ‘asabiyya as the external defense mechanism rather than its internal aspects (Dhaouadi, 1990: 325). Al-Jabri emphasizes ‘asabiyya as a social web that organizes the relationships between individuals and tribes within a system (Ibid: 325-326). The external and internal ‘asabiyya of the group are considered within ‘asabiyya’s elements.

Ade Kearns and Ray Forrest (2000) analyze the dimensions of social cohesion within advanced societies, which encompass the elements of ‘asabiyya discussed in *The Muqaddimah*. Kearns and Forrest (2000) list the interlinked elements that indicate the presence and strength of ‘asabiyya: civic culture, social order and social control, social solidarity, social networks and social capital, and territorial functioning and belonging.

The common values and civic culture element is where members share common structural principles, citizenship, and culture engagement (Ibid: 998). Common structural principles refer to unity of aims that sustain social harmony (Ibid: 998). Social harmony is advanced by the citizenship of the members, who trust, accept, and fulfill the collectively agreed-upon rights and responsibilities led by governing authority or organization (Alatas, 2006a: 402). Additionally, citizenship refers to the ability of cooperation for collective solutions and production of unity tools (Kearns & Forrest, 2000: 998). Overall, a civic culture encompasses culture engagement in public and collective affairs for social order (Ibn Khaldûn, 2005: 102; Kearns & Forrest, 2000: 998).

Social order and social control entails the absence of internal contradictions, thus external struggles are collectively dealt with through obligations and expectations (Kearns & Forrest, 2000: 999). Supported by the group, the chieftain oversees social order (Ibn Khaldûn, 2005: 108). The challenge is how to get diverse groups integrated into the wider social order, while respecting cultural differences (Kearns & Forrest, 2000: 999). To overcome this challenge, the chieftain's coordination skills should include the needs of the group's members, who in return should share the goals of the wider social order (Ibn Khaldûn, 2005: 130). Lastly, mutual dependencies—power exercise and power dependence—between the group and its members are reciprocated so that they are all part of a social goal from which they will all share benefits (Kearns & Forrest, 2000: 999).

The social solidarity element is present in a collaborative and active group that recognizes the needs and interests of its members (Kearns & Forrest, 2000: 1000). Members are much more likely to benefit other members, with whom they share common institutions and networks (Ibid). The members need to be willing to provide assistance

and to engage in collective action (Ibid). A collective culture includes reductions in wealth disparities, where opportunities are distributed equally among members and places to aim for common and collective economic and social standards (Ibn Khaldûn, 2005: xli; Kearns & Forrest, 2000: 1000). This element implies open access to resources for collective benefits through social networks (Kearns & Forrest, 2000: 1000).

For institutions to get through life effectively and responsibly, a high degree of social interaction on the local level through strong and weak ties is needed (Alatas, 2006a: 402; Ibn Khaldûn, 2005: 129; Kearns & Forrest, 2000: 1000). Progressive change occurs from social networks that constitute and produce social capital by fostering civic engagement (Kearns & Forrest, 2000: 1002). The social network and social capital element are covered in the social network analysis and social capital theory sections.

Last but not least, territorial functioning and belonging is one of the most essential elements of 'asabiyya (Kearns & Forrest, 2000: 997). Groups often feel that they belong to a particular place through common values and norms; thereby they are willing to participate in its social networks and build its social capital (Kearns & Forrest, 2000: 1002). The notions of belonging, place attachment, and spatial mobility are linked strongly to symbolic bonds and historical experiences, as well as group identity, group-reference, and nobility (Ibn Khaldûn, 2005: 102; Kayapinar, 2008: 389-400; Kearns & Forrest, 2000: 1002). The extent of a group's territory depends upon the quantity of its active participants (Ibn Khaldûn, 2005: 129). To a certain extent, the more numerous the tribes and groups of an alliance are, the larger and more diversified are its resources (Ibid). The alliance's strength will depend upon members' attachment to the group, especially those who do not share the same descent, through sharing the wider 'asabiyya,

working with other members, and obeying the leader (Darling, 2007: 356). This element has two potential drawbacks (Kearns & Forrest, 2000: 1002). The danger of small-scale territorial functioning and belonging is the limited access to resources and mobility (Ibid). On the other hand, the danger of a large-scale territorial functioning and belonging is the loss of the community and unrecognized local needs and interests, which results in internal social contradiction and local distrust (Kearns & Forrest, 2000: 1002). These drawbacks accelerate the fall phenomena in the rise and fall progressive movement (Ibn Khaldûn, 2005: 115).

Ibn Khaldûn's philosophy revolves around the notion of change (Alatas, 2006a; Ardic, 2008). 'Asabiyya is the identifier or "lowest common denominator" of change within social organizations (Kayapinar, 2008: 378). Ibn Khaldûn discusses the changing nature of societies by explaining that production and reproduction are based on the recurrent patterns of interaction between structural forces and agency (Ardic, 2008: 461; Dhaouadi, 1990: 329; Ibn Khaldûn, 2005: 108; Kayapinar, 2008: 401-402). Hence, Ibn Khaldûn takes a duality approach because he reserves room for agency in explaining changing structures and structures in explaining agency (Ardic, 2008: 454).

Ibn Khaldûn describes the rise and fall of social organizations as an inevitable phenomenon with certain internal and external accelerators (Alatas, 2006a: 401; Ibn Khaldûn, 2005: xli; Kayapinar, 2008: 375). Ibn Khaldûn argues, "Only tribes held together by group feeling can live in the desert" (2005: 97), thus, the strength and rise of a tribe or a dynasty against external constraints is driven by 'asabiyya and the elements discussed. As for the fall phenomena, it is accelerated when the chieftain excludes some members from the group's resources instigating disruption within the group (Lacoste,

1984: 116). However, as long as the group retains its ‘asabiyya, authority that disappears in one branch will, of necessity, pass to another branch of the same group (Ibn Khaldûn, 2005: 114). If the group does not retain its ‘asabiyya, then the cluster disintegrates, and a more productive group forms to face greater constraints (Ibid).

The greatness of a social organization, the extent of its territory, and the length of its duration depend upon the ‘asabiyya of its members (Ibn Khaldûn, 2005: 129). The ‘asabiyya of the group leads the social organization to expand because other groups or organizations let go of their territorial functioning to join it (Ibid: 108). Nevertheless, a social organization should not undergo excessive expansion beyond its optimal territorial functioning (Senturk & Nizamuddin, 2008: 543). This optimal territorial functioning is found in the organizations or collectivities that build upon the experiences of their predecessors ideologically and administratively, as well as change and adapt in the light of their experience (Darling, 2007: 355). This adaptation takes places through the high level of administrative continuity and growth in internal operations by preserving their communication (Ibid). Excessive expansion, which can also accelerate the fall of a social organization, results in an increase in duties that saps and exhausts the organization’s energy undermining its strength against external constraints (Ibn Khaldûn, 2005: 114). Moreover, internal contradiction occurs because of the many opinions and desires within the group, which can lead to its dissolution (Ibid: 130). According to Ibn Khaldûn as a dynasty is nearer to decay and disintegration, it shrinks inwards under external pressure until it finally collapses (2005: xl).

Ibn Khaldûn’s philosophy is criticized as pessimistic because of his indifference to the absence of progress in the rise and fall phenomena (Ardic, 2008: 461; Enan, 1979:

160). This criticism reduces the rise and fall of a civilization to a cycle when it is, rather, a progressive movement across space and time (Ibid). Ibn Khaldûn views the fall of a social organization as an opportunity for the rise of a new one, which would evolve through self-creation, or autopoiesis, by learning from its predecessors and distinguishing itself from its harsh environment (Darling, 2007: 356-357; Faghirzadeh, 1982: 51; Ibn Khaldûn, 2005: 115; Luhmann, 1995).

### **Social System Theory**

Like Ibn Khaldûn, Niklas Luhmann persistently questions how a system could maintain itself against the backdrop of the continuous dissolution of systems (Hernes, 2008: 78). In 1984, Luhmann established the process of autopoiesis, which stands for self-creation, in his book *Social Systems* (Arnoldi, 2001: 2; Schatten & Baca, 2008: 837). Autopoiesis is the process by which an organization maintains itself from dissolution by differentiating itself into subsystems, which operate according to their respective communication framework (Bakken & Hernes, 2003: 10-11; Cooper, 2006: 59; Hernes, 2008: 78). Each subsystem is closed operatively to other subsystems by reproducing itself based on “particularly coded communication” (Seidl & Becker, 2006: 23). These internally coded communication systems allow the subsystems to function according to their own logic, and process other communication according to it (Ibid). Most importantly, even though subsystems have distinct functions, like Ibn Khaldûn’s subgroups, they still adhere to and complement the larger system, which becomes its external environment (Ibid: 23-24).

A system constitutes and maintains itself by creating and maintaining a difference from its environment, which includes other systems, and uses its boundaries to sustain the

difference (Luhmann, 1995: 16-19). For Luhmann, a social system is where an "autopoietic connection of communications occurs and distinguishes itself against an environment by restricting the appropriate communications" (cited in Mingers, 1995: 141). The distinction between the system and environment is the functional premise of self-referential operations (Hernes, 2008: 88; Luhmann, 1995: 16-17). Self-referentially insinuates an operationally closed system that protects itself from the complex environment's strain on its capacity by restricting its communication (Arnoldi, 2001: 5; Bakken & Hernes, 2003: 11-12; Cooper, 2006: 59; Luhmann, 1995: 37). Nevertheless self-referentially embraces openness to the external environment through interactions, which represents communication between agents based on the system's needs and decisions about what to communicate and what to avoid to create meaning (Hernes, 2008: 83; Luhmann, 1990: 3-5; Mingers, 2004: 404; Seidl & Becker, 2006: 24-25).

The meaning-creators are the communicative events, which represent an interconnected network of communication that follows a common goal and constitutes three elements: information, utterance, and understanding (Hernes, 2008: 88; Luhmann, 1990: 3; Mingers, 1995: 141, 145; Schatten & Baca, 2008: 845). These three elements embody the closure of autopoietic systems, and are generated and coproduced as a unit (Mingers, 1995: 143). Information is produced internally based on the system's needs (Mingers, 1995: 143; Seidl & Becker, 2006: 18). The utterance is the self-referential communication which comprises how and why the information will be used, and by whom within the system (Ibid). Lastly, understanding is the element by which the communicative event is implanted within the system causing change and reproduction (Ibid). Understanding is the most important element because it draws the distinction

between information and utterance allowing for further autopoietic production and communication (Mingers, 1995: 143).

At the institutional level, autopoiesis is indicated through the unity and the recursion of operations, communication and decision structures or communicative events, and the institutional self-descriptions of its identity (Bakken & Hernes, 2003: 12; Schatten & Baca, 2008: 840; Seidl, 2003: 145). Luhmann defines an organization as a system that consists of and produces decisions (Schatten & Baca, 2008: 838; Seidl & Becker, 2006: 24). All decisions produce and reproduce the distinction between an organization and its environment (Seidl & Becker, 2006: 24). The organization cannot exist without the distinction between the internal decisions and all other communication (Ibid). In regards to the organizational self-description, it constitutes the symbols or wording used by the organization when referring to itself (Seidl, 2003: 124).

Luhmann adds that elements, processes, boundaries, and other structures within the system are produced internally (1990: 30). Furthermore, the system internalizes and processes the meaning of external factors through various channels within the system thereby making it its own (Arnoldi, 2001: 5; Bakken & Hernes, 2003: 12; Hernes, 2008: 85). This meaning-production is essentially the act of drawing a distinction between the system and the environment (Luhmann, 1995: 20). This meaning-creation along with the routine practices leads to system reproduction, where systems evolve “through time due to their capacity to transform unorganized complexity into organized complexity while building the external complexity into their internal operations” (Bakken & Hernes, 2003: 12). A system faces complexity, when the number of elements within the system or the environment increases thereby making it difficult to process and connect all the elements

to one another (Luhmann, 1995: 24). Complex systems maintain themselves and adapt to their complex environment by dealing first with their complexity through self-referentially and recursion (Ibid: 31). Then they channel and internalize the external information through their subsystems (Ibid: 18). The most prominent criticism of Luhmann's autopoiesis is the absence of the individual (Bechmann & Stehr, 2002: 74; Schatten & Baca, 2008: 845). Since this research entails institutions rather than individuals, this criticism does not apply. Furthermore, supporters of the critical school or Jürgen Habermas criticize Luhmann as dispassionate because he establishes principles as self-referential rather than universal (Arnoldi, 2001: 2). This thesis explores and evaluates the existing self-referential principles so this criticism does not apply as well.

When a system continues to exist, it is provided with opportunity for change (Hernes, 2008: 85). In this theory, a system's stability equals system reproduction and change (Ibid). Without reproduction, a system dissolves (Ibid). One of the reasons a system undergoes dissolution is the lack of distinction from the environment through autopoiesis (Luhmann, 1995: 34). Moreover, not only do systems adapt to their complex environments but also to their own complexity (Ibid: 31). The excessive expansion of subsystems causes internal improbabilities and shortages that the system adapts to by channeling external complexity into internal meaning processing (Hernes, 2008: 85; Luhmann, 1995: 31). Systems need to organize and manage their internal complexity to handle external complexities (Hernes, 2008: 85). Autopoiesis supplements Ibn Khaldûn's inevitable fall phenomena of social organizations by providing a possible solution.

Autopoiesis becomes the adaptive mechanism, or the double function of separating and connecting system and environment, by inducing improved mechanisms

to avoid disintegration (Cooper, 2006: 75; Luhmann, 1995: 28, 31). Luhmann is criticized for adopting functionalism but it is possible to reformulate his work to the duality of structure by emphasizing agents as central to the change process in a system through their routine activities (Mingers, 1995: 150). The interplay between the process and structure in an autopoietic system is crucial (Hernes, 2008: 85). The process of communicative events offers opportunities for change as well as stability, while structure institutes self-maintenance and meaning processing of change or process opportunities (Ibid). Luhmann is criticized for not exploring the distinction between organization and structure, which is discussed by Anthony Giddens (Mingers, 1995: 150).

### **Structuration Theory**

Some scholars argue that Luhmann's autopoiesis has been influenced by Giddens' structuration theory (Haines, 1988: 171; Mingers, 1995: 133; 2004: 407-408). Giddens declares his interest in autopoiesis and his belief in the continual production and reproduction of social structure through self-reproduction (Haines, 1988: 171; Mingers, 1995: 133; 2004: 407-408). In *The Constitution of Society* in 1984, Giddens investigates the nature of agency, social structures, social system, and the interrelations between them to form his theory of structuration.

Giddens' notion of agency involves the connection of agents and social structure through the examination of social practices, which are the routine relations between actors or collectivities that draw on shared cultural beliefs and stocks of knowledge (Giddens, 1984: 25; Haines, 1988: 171; Rose, 2006: 176; Tucker, 1998: 84). Giddens emphasizes that social practices are ingrained deeply in spatial institutional linkages

(Rose, 2006: 176). Social practices are characterized by social action, social power, social position, and social role.

Social action “depends upon the capability of the individual to make a difference to a pre-existing state of affairs or course of events” (Giddens, 1984: 14). The agents’ capability stems from their knowledge-based rationality and skill (Jones & Karsten, 2008: 132). This rationalization entails that agents can maintain an ongoing theoretical understanding of their activities to explain their actions (Rose, 2006: 177). A skilled member of society is one that transfers evaluative knowledge into action (Jones & Karsten, 2008: 133). Moreover, freedom of action in resources-transmission and rule creation impacts capability and awareness (Giddens, 1984: 198; Haines, 1988: 170; Jones & Karsten, 2008: 132). Giddens is criticized for ignoring agents’ lack of awareness—which is dealt with in the theoretical framework—that leads to the disruption of social power (Cohen, 1989: 272). The agent’s social power is indicated by rules and resources distribution through normative rights and obligations, which can lead to an understanding of the agents’ roles in the system (Giddens, 1984: 282; Tucker, 1998: 82). Moreover, social roles and the differential distributions of resources in social systems are illuminated when agents are positioned, which is when they are embedded within the system and its web of underlying structures (Rose, 2006: 177).

Giddens defines a system as “the reproduced relations between actors or collectivities organized as regular social practices” (1984: 25). Like Luhmann, Giddens views routine social practices as the regulators of collectivities sustaining social institutions (Ibid: 24, 282). Routine activities between institutions represent the fundamental recursivity of society (Rose, 2006: 176). The first and most basic feature of

a society is clustering, where institutions constitute definite structural principles that distinguish overall types of society across time and space (Giddens, 1984: 164, 283). Like Ibn Khaldûn, Giddens describes clustering as what occurs when the following is present: a specific locale or territory, normative elements that justify the occupation of the locale, and a common identity or group feeling (Ibid). Overall, clusters and systems are not structures in themselves, but rather they have structures through rules and resources (Haines, 1988: 171). Systems are the outcomes of the application of rule and resource structures by agents through their practices (Rose, 2006: 176). Rules are techniques or generalizable procedures that members access, while resources relate to the content, advantages, and capabilities of ties that members draw on for encounters (Ibid).

Giddens defines structure as the “rules and resources, organized as properties of social systems” (1984: 25). Since it exists if translated into concrete actions only, structure is the condition and consequence of action, thus, the production of social action is recursive (Haines, 1988: 170). This recursive nature of systems not only explains the duality of structure that connects action and structure, but also one that connects action and system because structure is established within the constitution of agents and systems (Ibid: 171). Agents draw on structural rules and resources in their social practices, while the social structure is being created continuously through the flow of agents’ social practices, which reconstitute and possibly modify the structure (Giddens, 1984: 25; Jones & Karsten, 2008: 131-133). Giddens highlights the duality of structure as the soul of structuration theory, where action and structure are seen as the medium and outcome for each other (Haines, 1988: 171; Jones & Karsten, 2008: 130; Rose, 2006: 175). Structuration is defined as the “conditions governing the continuity or transmutation of

structures and therefore the reproduction of social systems” (Giddens, 1984: 25). The enactment of everyday activities and routinized practices are the prime expression of the duality of structure in respect to the progress of social life (Giddens, 1984: 282; Tucker, 1998: 76). The duality of structure is criticized as an impossible cycle because action and structure are pre-requisites for one other (Cohen, 1989, 201). However, since social practices require specific skills to be reproduced, the agents reproduce these practices through a gradual skill acquisition from the structure itself (Ibid). This duality of structure resembles Ibn Khaldûn’s outlook on structure and agency.

The continual production and reproduction of social structure through time is analyzed by examining the constraining and enabling structural properties, which are the “institutionalized features of social systems, stretching across time and space” (Giddens, 1984: 195; Haines, 1988: 171). Since the enabling structure embodies the social capital discussed in social capital theory, this section covers the constraining structure—the material and structural constraints—only. The material constraints are driven from the character of the material world including time and space differences and infrastructure capabilities (Cohen, 1989: 215; Giddens, 1984: 176). On the other hand, structural constraints originate from social construction of conditions for action based on the character of structural properties and the positioned agent (Cohen, 1989: 219; Giddens, 1984: 176; Haines, 1988: 172). Differences in structural principles occur when agents do not fulfill their positions and roles leading to structural contradiction, which breeds internal constraints (Giddens, 1984: 24, 185, 198). Generally, structural constraints are central in criticisms. Scholars argue that structural constraints can eliminate social agency in extreme circumstances, and that the theory lacks an adequate account on structural

constraints (Cohen, 1989: 223; Jones & Karsten, 2008: 132). These criticisms are not applicable, because this theory views agents as knowledgeable enough to adapt and cause change, and structural constraints are specified in the theoretical framework (Cohen, 1989: 224). Overall, the main themes of structuration theory constitute the main components of social network analysis.

### **Social Network Analysis**

The themes within 'asabiyya, autopoiesis, and structuration theory constitute the main components of social network analysis, which focuses on social entities or actors' interaction with one another and the structure or framework of these interactions (Galaskiewicz & Wasserman, 1994: xii). Social network analysis is distinguished from other research approaches because it encompasses theories, models, and applications that examine actors and their actions, relational ties or links, enabling or constraining network structure, and the structure of patterns of relationships (Wasserman & Faust, 1994: 4-5; Wellman & Berkowitz, 1988a: 3-4). The unit of analysis is not the individual but an entity consisting of agents or a set of nodes, and the connections amongst them (Ibid).

Social actors are the individuals, groups, institutions, or nation states that are represented as a node or a set of nodes in the network (Haines, 1988: 175-176; Wasserman & Faust, 1994: 4-5). The overlapping characteristics of a node are position, role, and centrality. Position refers to how an agent is embedded within a network through the occurrence in other agents' archival records, and a profile of characteristics (Burt, 2008: 146; Wasserman & Faust, 1994: 348). Actors occupying the same positions do not need to be in direct connection with one another (Ibid). While network position

refers to a collection of actors, network role refers to associations among relations that link social positions, thus, positioning drives social roles (Wasserman & Faust, 1994: 349). Roles in social networks can be modeled at three interrelated levels: agents, subsets of agents, and the network as a whole (Ibid). One of the ways to measure position and role as well as power is through centrality, which represents the closeness and betweenness of actors (Vega-Redondo, 2007: 35-36). To find the central agent in a network, one can take an agent out of the network and count the number of connections or ties deleted, as well as the network resources lost (Wasserman & Faust, 1994: 218). A central node is crucial for the network's coordination but over dependence on it results in network fragility (Vega-Redondo, 2007: 36). Like Ibn Khaldûn's view on excessive expansion, the highly central node's energy and operations can be exhausted and strained, thereby decreasing the overall performance of the network and its social ties (Ibid).

Relational ties are the linkages between actors that serve as channels for the transfer or flow of material resources, e.g., money or finances, non-material resources, e.g., information and political support (Burt, 2008: 148; Galaskiewicz & Wasserman, 1994: xiii; Wasserman & Faust, 1994: 5). Information resources may include information of the environment external to the network, or of contacts and resources internal to the network (Wellman, 1988: 40). Additionally, actors represent human resources within institutions (Ibid: 45). Ties are usually asymmetrically reciprocal, differing in intensity, quality and direction of flow of resources (Ibid: 40). Although strong ties are better for commitment and trust, weak ties are useful for resource diversity (Vega-Redondo, 2007: 34). Analysts argue that the existence of any type of ties is important because any

connection facilitating the flow of resources within a system is beneficial (Wellman, 1988: 45).

The patterns of ties to allocate resources in a social system need to be investigated from the context of larger network structures to understand the complexity of resource transmission, which can be hierarchal or cyclical (Breiger, 1991: xiv; Wellman, 1988: 41, 45). The asymmetric ties drive these hierarchal types of resource transmission between nodes and clusters, which constitute differences in access to resources and highlight exercise of power (Wellman, 1988: 45). On the other hand, the cyclic resource transmission is when power exercise and power dependence are present (Ibid). To manage the complexity of resource transmission, a network is divided into different components or sub-networks that are defined by their nodes, role, and geographical size (Ibid: 32). When the resources are limited, members need to use collaborative or complementary ties rather than competitive ones within the sub-networks to gain access to scarce resources (Wellman, 1988: 47). Unequal access to resources or unacknowledged needs can lead to internal structural constraints in cluster (Ibid: 45).

Clustering organizes a network's ties into functional groupings that transmit resources in complementary ways with a common aim and locale, as well as induces opportunities and decreasing vulnerability by diversifying resource outlets (Vega-Redondo, 2007: 34; Wellman, 1988: 43, 47). Furthermore, when agents' ties connect clusters, they form cross-linkages, which ensure the access to non-redundant information through access to external resources (Wellman, 1988: 43). Like 'asabiyya, autopoiesis, and structuration theory, social network analysis argues that cross-linkages should not

overwhelm the cluster so that it reserves its autonomy and strength to its internal operations of solidarity (Vega-Redondo, 2007: 34; Wellman, 1988: 42, 45, 47).

Vicky Cattell (2001) sheds light on the different types of networks, especially the network of solidarity. The network of solidarity, which creates the most social capital, is the optimal network with a unified goal that consists of wide range of groups made of similar and dissimilar agents, and dense and loose ties. Members of the network of solidarity perceive shared interests with different groups. This network is the ultimate balance of flexibility and personal growth without sacrificing a sense of community. Moreover, this network provides its members with a wide range of resources due to its diversity, which resembles Almohads' network, Ibn Khaldûn's inspiration for 'asabiyya.

Like structuration theory, social network analysis views that any network's structure provides opportunities for and constraints on its nodes' actions (Wasserman & Faust, 1994: 4-5). Within this notion of duality, actions taken under structural constraints can modify the network structure itself (Haines, 1988: 174; Wasserman & Faust, 1994: 4-5). These modifications have the potential to create a new network structure, which actors need to adapt to (Ibid). The actions of the nodes, as well as the constraining or enabling network structure leads to the reproduction of the network and the nodes' actions (Haines, 1988: 176). Therefore, it is important for this thesis to draw on social capital theory to theorize the enabling structure.

### **Social Capital Theory**

Social capital theory can be traced back to the work of Pierre Bourdieu—the critical cultural theorist—in the late 1960s and early 1970s (Arneil, 2006: 7; Baron, Field &

Schuller, 2000: 3). Bourdieu describes social capital in his famous article published in 1986 by breaking down capital into three forms: economic, cultural, and social (Arneil, 2006: 7). Bourdieu defines social capital as:

[T]he aggregate of the actual or potential resources which are linked to possession of a durable network of more or less institutionalized relationships of mutual acquaintance and recognition which provides each of its members with the backing of the collectivity-owned capital.

(cited in Fulkerson & Thompson, 2008: 542)

Bourdieu argues that social capital is not a benign force rather it is a virtue of past accumulation of resources, which defines boundaries between groups and institutions (Arneil, 2006: 8; Burt, 2001: 32).

For Bourdieu, social capital is a collective asset shared by members of a defined group, with clear boundaries, obligation of exchange, and mutual recognition with a focus on resources, group membership, and networks (Bhandari & Yasunobu, 2009: 487-488; Fulkerson & Thompson, 2008: 542; Lin, 2010b: 22). Like social network analysis, Bourdieu views social capital as the resources resulting from the social structure and produced by group members (Burt, 2001: 32; Lin, 2010b: 22). Repeated social exchanges and collective efforts to share resources reinforce mutual acquaintance and recognition between group members (Lin, 2010b: 22). Repeated exchanges transform the information exchanged into recognized signs and reports that distinguish the collective group (Arneil, 2006: 8). Through mutual recognition, signs, and reports, the group is maintained and reproduced and its solidarity is reaffirmed (Arneil, 2006: 8; Bhandari & Yasunobu, 2009: 487-488).

Bourdieu's gives equal importance to agency and structure (Fuchs, 2003: 396). Structure fosters, maintains, and reproduces social capital, or limits and constraints social

capital, thereby producing agents' actions (Fuchs, 2003: 396). Like Giddens, Bourdieu states that agents' social practices are central to the ongoing reproduction of societies (cited in Tucker, 1998: 84). The environment surrounding those agents is in constant development that involves the connectedness of actors and structures (Ibid). Bourdieu emphasizes that agents are driven to adapt and produce social capital in the context of struggle (Ibid). Moreover, Bourdieu advises that social capital analysis should address the aggregate number of connections and the nature of these connections by examining social networks and resources (Arneil, 2006: 201; Burt, 2001: 32; Field, 2003: 17).

Bourdieu's definition of social capital is rooted in networks and the quality and quantity of resources (Hurlbert, Beggs & Haines, 2001: 209). Although Bourdieu does not explicitly discuss forms of social capital to better formulate resources, the four forms—social support, social leverage, social order, and organizational participation—discussed by Richard Carpiano (2008) are consistent with his theory. Social support refers to a form of social capital that agents can draw upon to cope with constraints or problems within environmental or daily practices by sharing them with other nodes. Similarly, social leverage is social capital that assists agents in accessing information that is critical to overcome the social or economic hardships. Additionally, social order requires agents that are able to maintain social order collectively through social roles and obligations. Lastly, organizational participation refers to agents' formally organized collective activity for addressing collective issues through internal activities and external community empowerment. These collective issues, as well as collective capital, are maintained and refined by social networks (Bhandari & Yasunobu, 2009). Moreover, for Bourdieu, a social network is the social relationship that enables actors to gain access to

the network's resources or other actors' resources (Ibid). Traditionally, strong and dense social ties provide the best means of social support, while weak ties are bridges to strong ties, but weak ties tend to outnumber strong ties and provide a sense of identity and security (Kearns & Forrest, 2000: 1000). Overall, a dense or closed network, similar to an autopoietic system, is required for collective capital to be maintained and reproduced in a scarce environment (Bhandari & Yasunobu, 2009: 488-490; Lin, 2001a: 8).

Power is determined by the accumulated resources through connections by sharing scarce resources (Arneil, 2006: 8). More specifically, power depends on the size of the agent's connections and on the volume or amount of capital in these connections (Lin, 2010b: 22). Bourdieu's social capital emphasizes class conflicts and power dynamics such as inclusion or exclusion, where powerful agents can protect and further their interests, while disregarding the less powerful agents' interests (Arneil, 2006: 8, 201). When the dominating class does not take into consideration the other groups' needs of rules or resources, the agency of these other groups proceed on the change process (Fuchs, 2003: 406). This change process is where a new type of societal self-organization is created based on democratic inclusion, distribution, and participation (Ibid). The clear boundaries between members cause power struggles between those who belong and those who do not through inclusion and exclusion (Arneil, 2006: 8).

Some critics argue that Bourdieu's theory is a static one that ignores social change, but these critics are unaware of the importance Bourdieu has given to class struggles and social change (Fuchs, 2003: 399). Although Robert Putnam has a leading

role in making social capital globally accessible and relevant, Bourdieu's definition<sup>1</sup> makes it easier for those seeking to distinguish cause from effect more effectively with a focus on critical evaluation of networks and resources (Arneil, 2006: 9; Baron, Field & Schuller, 2000: 12). Moreover, Bourdieu's symbolic take on social capital renders a low operationalization level, which is criticized as well (Angelusz & Tardos, 2001: 299). However, through the interweavement of other theories such as autopoiesis, structuration theory, and most importantly social network analysis in the theoretical framework, social capital is lent a high operationalization level (Eid, 2008).

#### **'Asabiyya-Driven Structuration**

From the examination of the epistemological roots and theoretical foundation, sufficient threads of knowledge that detail, complement, or encompass each other are acquired. The theoretical framework leads to the conclusion that the structuration of BC in the Arab region is driven by the 'asabiyya of the cluster of the CAs, the GAs, and the WHO agents. This conclusion is based on the discovery that 'asabiyya's elements (social networks, autopoiesis, and social capital) are drivers to structuration. This thesis discusses the epistemological roots and theories in light of the topic from the limited literature available on Arab, EMR, and developing countries.

#### ***Breast Cancer's Social Network Cluster***

Social networks comprise social entities' interaction with one another and the structure or framework of these interactions (Dhaouadi, 1990: 325-326; Galaskiewicz & Wasserman,

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<sup>1</sup> The Privy Council office in the Canadian Government employs Bourdieu's social capital over Putnam's due to its focus on networks and resources (Baron, Field & Schuller, 2000: 12).

1994: xii; Kearns & Forrest, 2000: 997). Elements of social network analysis—social action, position, and role—highly complement the civic culture element of ‘asabiyya. Social action depends upon the capability of the node by its rationality and skill coupled by freedom of action throughout the network of common structural principles, citizenship, and culture engagement (Giddens, 1984: 14; Jones & Karsten, 2008: 132-133; Rose, 2006: 177). Additionally, social position refers to how an agent is embedded within a network, while social role refers to associations among relations that link social positions, and entire collection of agents and positions (Burt, 2008: 146; Ibn Khaldûn, 2005: 102; Kearns & Forrest, 2000: 998; Wasserman & Faust, 1994: 349). Therefore, ‘asabiyya’s civic culture element is where members’ social action, social position, and social role in a network are driven by common structural principles, citizenship, and culture engagement.

For social network analysis and ‘asabiyya’s social order element, social power is examined through centrality (Kearns & Forrest, 2000: 999; Vega-Redondo, 2007: 35). Moreover, optimal institutions fulfill social solidarity through a high degree of social interaction on the national level then on the international level for Ibn Khaldûn (Alatas, 2006a: 402; Cattell, 2001: 1506, 1513; Ibn Khaldûn, 2005: 129; Kearns & Forrest, 2000: 1000). This can be explained through the network of solidarity, which includes strong ties, weak ties, and cross-linkages, as well as community involvement (Alatas, 2006a: 402; Cattell, 2001: 1506, 1513; Ibn Khaldûn, 2005: 129; Kearns & Forrest, 2000: 1000). Social network analysis and Ibn Khaldûn prioritize strong ties as the best means of social support, but also highlight the importance of weak ties that represent bridges to strong ties, and provide a sense of identity and security (Kearns & Forrest, 2000: 1000). Overall,

social network analysis covers ‘asabiyya’s elements of civic culture, social order, and social solidarity.

Social network analysis and Ibn Khaldûn describe clustering as what occurs when the following is present: a specific locale or territory, normative elements that justify the occupation of the locale, and a common identity and aim (Wellman, 1988: 43). Moreover, collaborative and complementary clusters are underlined by Ibn Khaldûn and social network analysis (Giddens, 1984: 283; Wellman, 1988: 47). Clustering can help organize a network’s ties into functional subgroups, and these clusters can connect to form cross-linkages (Wellman, 1988: 47). Social network analysis and Ibn Khaldûn accentuate the notion of duality, but social network analysis adds that the cluster or network itself has a constraining or enabling structure within the system in which it is embedded (Ardic, 2008: 454; Haines, 1988: 171; Wasserman & Faust, 1994: 4-5). Like ‘asabiyya, the constraining structure can result from overwhelming cross-linkages that weaken the cluster in maintaining its internal operations (Vega-Redondo, 2007: 34; Wellman, 1988: 42, 45, 47). Other elements that accelerate a cluster’s disintegration are unequal access to resources and unacknowledged needs for combatting BC (Wellman, 1988: 45).

The rise in the incidence and mortality rates of BC environment accompanied by a lack of sufficient economic and scientific resources drives agents under study to share a common goal of eradicating BC through networking for preventative and early detection measures (WHO, 2008: 28). Due to the specific locale, cancer burden within the locale, and the common identity, the CAs, the GAs, and the WHO agents represent a regional cluster, which follows Ibn Khaldûn’s outlook. Moreover, since few organizations in the

world can claim to have all the BC resources, complementary networking and collaboration are important (Tanjasi, Tran, Palmer, & Valente, 2007: 193). As the social practices of any cluster constitute its social networks, and social network includes the elements of ‘asabiyya (civic culture, social order, and social solidarity), then the social network element along with its sub-element indicate the strengthening ‘asabiyya. Another element of ‘asabiyya—territorial functioning and belonging—is linked to autopoiesis.

### ***Breast Cancer’s Autopoietic Shield***

Autopoiesis and social network analysis define system and cluster as distinct collectivities that distinguish themselves from the environment through an autopoietic connection of communication with a specific aim (Giddens, 1984: 164, 283; Mingers, 1995: 141). Therefore, an autopoietic cluster is the alternative expression of an autopoietic system. One of the pillars of autopoiesis is to internalize external communication through interactions or cross-linkages, which ensure access to non-redundant external resources (Hernes, 2008: 83; Luhmann, 1990: 3-5; 1995: 37; Mingers, 2004: 404; Wellman, 1988: 43). Like autopoiesis, social network analysis argues that cross-linkages or interactions should not overwhelm the cluster (Vega-Redondo, 2007: 34; Wellman, 1988: 42, 45, 47). Interaction should be internalized based on the cluster’s needs to reserve its autonomy and strength to its internal operations (Ibid). A system and a network require subsystems or sub-networks to be maintained and organized into functional groupings (Goodman, Steckler & Alciati, 1997: 182; Luhmann, 1995: 18; Vega-Redondo, 2007: 32; Wellman, 1988: 47). Since autopoietic communication maintains and progresses systems and subsystems, optimal social networks need to be

autopoietic. Social network analysis and autopoiesis assess system or cluster reproduction, but social network analysis takes it further and analyzes social reproduction (Bakken & Hernes, 2003: 12; Haines, 1988: 175; Wasserman & Faust, 1994: 4-5).

Ibn Khaldûn's optimal territorial functioning and belonging element follows the same elements of autopoiesis. In both processes, subgroups have specific functions and communication systems but still adhere to and complement the larger system, which becomes its external environment (Seidl & Becker, 2006: 23-24). Although autopoiesis does not explicitly refer to the duality of structure, but it can be reformulated to fit into it since the enactment of everyday activities and routinized practices are the prime expression of the duality of structure (Ardic, 2008: 461; Dhaouadi, 1990: 329; Hernes, 2008: 85; Ibn Khaldûn, 2005: 108; Kayapinar, 2008: 401-402; Tucker, 1998: 76). Furthermore, autopoiesis supplements Ibn Khaldûn's inevitable fall phenomena of social organizations by providing a possible solution or internal and external adaptive mechanism (Cooper, 2006: 75; Luhmann, 1990; 30; 1995: 28, 31). To avoid disintegration, agents undergo communicative events that are explained through internally produced reports or symbols that include local needs and interests as well as access to resources (Ibid). This shield of autopoiesis drives structuration as well.

Since structuration theory suggests that structural principles stipulate the distinction of systems or clusters, structural principles are embodied within the autopoietic elements of communicative events and self-description (Bakken & Hernes, 2003: 12; Giddens, 1984: 164, 283; Schatten & Baca, 2008: 840; Seidl, 2003: 124, 145). Autopoiesis and structuration present systems as constitutive of subsystems that are dependent and autonomous, but autopoiesis goes further by stating that subsystems

operate according to their respective communication framework (Bakken & Hernes, 2003: 10-11; Cooper, 2006: 59; Giddens, 1984: 164; Hernes, 2008: 78). Autopoiesis and structuration theory follow or can be reformulated to follow the duality of structure (Haines, 1988: 171). While structuration theory examines structure and agency, the autopoietic process emphasizes agency or internal structure only by explaining how institutions adapt internally to their environment (Cooper, 2006: 75; Giddens, 1984: 282; Luhmann, 1995: 28, 31; Tucker, 1998: 76). One of structuration's drivers is social practices, which are the enactment of everyday activities and autopoietic routinized practices that sustain systems and regulate collectivities (Ibid). Since autopoiesis constitute social practices and social practices drive structuration, then autopoiesis drives structuration of BC.

The BC networks need to be autopoietic in order to be maintained through self-creation. Since the research focuses on the Arab region, then the optimal territorial functioning and belonging is at Arab region level. Some of the practices that similar agents in other regions undergo for autopoiesis are internal reports representing communicative events, recursive operations, internal guidelines and decision structures, self-descriptions of its identity, and interactions on a need-basis (Bakken & Hernes, 2003: 12; Cooper, 2006: 75; Luhmann, 1995: 31; Mingers, 1995: 141; Schatten & Baca, 2008: 840; Seidl, 2003: 145; WHO, 2008: 28). Driven by autopoietic social practices, system reproduction is needed for the cluster to be more efficient in fighting BC. The presence and strength of an autopoietic shield and its component for the BC cluster in the Arab region is what this thesis investigates. Overall, autopoiesis is needed for the maintenance of the BC cluster and networks, as well as to drive structuration in the region.

### ***Breast Cancer's Constraining Structure and Structuration***

Social practices are the regular relations between actors or collectivities, who draw on shared cultural beliefs and stocks of knowledge in structuration theory, thus social practices clearly represents to social networks (Giddens, 1984: 25; Tucker, 1998: 84). Since structuration is driven by social practices then it is driven by social networks. So far, this thesis establishes that autopoiesis and social networks drive structuration. Additionally, structuration theory and social network analysis examine the following elements: social action, social position, social role, and social power. While social network analysis describes social actors as individuals, groups, institutions, or nation states represented as a node or a set of nodes, structuration theory defines them as capable actors, who are skillful and rational (Giddens, 1984: 14; Haines, 1988: 170-176; Jones & Karsten, 2008: 132-133; Mingers, 1995: 133; Rose, 2006: 177; Wasserman & Faust, 1994: 4-5). Structuration theory explains positioning as when an agent is embedded within the system and web of underlying structures (Rose, 2006: 175-177; Tucker, 1998: 82). Meanwhile, social network analysis describes it as when an agent is embedded within a network through a profile of characteristics, and the occurrence in other agents' archival records (Burt, 2008: 146; Wasserman & Faust, 1994: 348-351; Wellman, 1988: 45). Furthermore, Giddens explains social role through normative rights and obligations, while social network analysis refers to it as relations that link social positions so it is based on multiple layers of: agents, subsets of agents, and the network as whole (Giddens, 1984: 282; Tucker, 1998: 82; Wasserman & Faust, 1994: 349). Finally yet importantly, social power in structuration theory is explained through rules and resources,

while in social network analysis it is explained further through centrality (Giddens, 1984: 282; Tucker, 1998: 82; Vega-Redondo, 2007: 36).

Like structuration theory, social network analysis argues that cross-linkages should not overwhelm the cluster and weaken its internal operations (Vega-Redondo, 2007: 34; Wellman, 1988: 42, 45, 47). Both theories explore internal structural constraints as well. Structural constraints are due to unequal access to resources, or unacknowledged needs for social network analysis (Giddens, 1984: 24, 185, 198; Wellman, 1988: 45). Meanwhile structuration theory demonstrates structural constraints as the differences in structural or systems principles causing contradictions (Ibid). Like structuration theory, social network analysis follows the duality of structure where the network's structural environment provides opportunities and constraints to agents' actions (Giddens, 1984: 25; Jones & Karsten, 2008: 131-133; Wasserman & Faust, 1994: 4-5).

Similarly, Giddens and Ibn Khaldûn follow the duality of structure approach, but Giddens goes further and details the constraining structure and enabling structure (Ardic, 2008: 454; Giddens, 1984: 25). Structuration theory explains the constraining structure as external or internal to the system through material and structural constraints (Giddens, 1984: 25, 185, 198; Kayapinar, 2008: 388-389). The enabling and constraining structure illuminates the social reproduction and system reproduction of structuration (Giddens, 1984: 25; Haines, 1988: 171).

'Asabiyya and structuration theory address the clustering of institutions, which encompass social networking, as what occurs when the following is present: a specific locale or territory, normative elements that justify the occupation of the locale, and a

common identity or group feeling based on structural principles (Giddens, 1984: 164, 283; Kayapinar, 2008: 382; Rose, 2006: 176). This clustering includes subsystems, which are autonomous but also dependent on the larger system (Giddens, 1984: 164; Seidl & Becker, 2006: 23-24). Since the civic culture element of 'asabiyya includes right, obligations, responsibility assignment, and collective participation, then structuration's social action, social position, and social role harness civic culture (Alatas, 2006a: 402; Giddens, 1984: 14; Ibn Khaldûn, 2005: 102; Kearns & Forrest, 2000: 998; Mingers, 1995: 133; Rose, 2006: 175; Tucker, 1998: 82). Moreover, the social order element of 'asabiyya includes power, thereby encompassing the social power in structuration theory (Giddens, 1984: 282; Kearns & Forrest, 2000: 999; Tucker, 1998: 82). 'Asabiyya and structuration theory explain the context of harshness and difficulty as the precondition to the progressive process, but structuration takes a more detailed approach by explaining it as the environmental and material constraints (Giddens, 1984: 25, 185, 198; Kayapinar, 2008: 388-389).

Like any cluster or system within a larger social system or society, the cluster of BC preventative and early detection measures are present within the external and internal enabling and constraining structures, which act as the drivers and outcomes of social practices or social networks (Haines, 1988: 171; Magrath & Litvak, 1993: 869-870; Rose, 2006: 175). The schools of thought that argue against the duality of structure and structuration are interpretative sociologies, functionalism, structuralism, and dualism (Breiger, 1988; Bryant & Jary, 1991a; Fuchs, 2003; Haines, 1988; Rose, 2006). In interpretive sociologies, human agency is at the center but structure and structural constraints are disregarded (Bryant & Jary, 1991a: 7; Giddens, 1984: 2). Meanwhile in

functionalism and structuralism, structure and structural constraints are at the center and active agents are disregarded (Ibid). Similarly, dualism argues against duality because it views agency and structure as opposing phenomena, where change is explained as either a social-induced or an agent-induced phenomenon (Bryant & Jary, 1991a: 2; Haines, 1988: 177). Structuration and the duality of structure attempts to supersede the deficiencies by giving researchers a framework to analyze agency and structure (Giddens, 1984). Structuration and the notion of duality gives equal importance to BC's enabling and constraining structure, as well as the active agency of the cluster of CAs, GAs', and WHO agents. Therefore, the duality of structure serves as the underlying principle of this thesis.

This thesis reviews available literature regarding constraints in Arab countries, EMR region, or developing countries in order to have a preliminary notion of regional constraints. In developing countries, cancer centers are often overcrowded because they serve vast regions, which decrease women's clinical early detection habits (Magrath & Litvak, 1993: 871). The weak infrastructure constitutes the weak epidemiological research capabilities, lack of training for health-related information communication technologies, and a general lack of protocols and ethical rules for health-related technology (Rastogi, Hildesheim & Sinha, 2004: 909; Shorbaji, 2006: 14-15; WHO, 2005: 1). Furthermore, women do not attend to proper screening measures because of cost or time constraints, inadequate health-care clinics, and inadequate distribution of clinics (Magrath & Litvak, 1993: 863). An effective physician-patient communication is emphasized as a prerequisite for increasing women's compliance with BC preventative and early detection measures (Ibid: 871). However, the lack of effective physician-patient

relationship and lack of medical recommendation due to uninformed physicians and nurses serve as key barriers (Madanat & Merrill, 2002: 281; Magrath & Litvak, 1993: 871). Driven from the character of the material world including time and space differences and infrastructure capabilities, material constraints include inadequacy of health centers, weak infrastructure, and cost or time constraints. In addition to material constraints, a system can face structural constraints, which originate from social construction of conditions for action, that take the form of external structural constraints and internal structural constraints (Giddens, 1984: 176). The environmental trends pertain to the westernization of the developing countries' society in diets high in saturated fat, sugar and salt, and an inadequate intake of fruit and vegetables, as well as overweight or obesity, physical inactivity, and tobacco use (Magrath & Litvak, 1993: 863; Rastogi, Hildesheim & Sinha, 2004: 909; WHO, 2004: 2).

The overlapping social attitudes, which are sometimes present in Arab-specific literature, include lack of BC awareness, negligence, cancer-related fear, fatalism, low self-efficacy, and misinformation. A general lack of awareness exists about BC, which is often perceived as an incurable disease that symbolizes death (El Saghir, 2008: 310; JBCP, 2010: 2; ALSC, 2006: 6, 11; Lamyian, Hydarnia, Ahmadi, Faghihzadeh & Aguilar-Vafaie, 2007: 1165; Omar, Khaled, Gaafar, Zekry, Eissa & El-Khatib, 2003: 460). Moreover, negligence contains three subthemes: perception of good health, lack of self-concern, and absence of symptoms, thereby no early detection measures are sought (Lamyian et al., 2007: 1165). Early detection measures are linked to cancer-related fear of the following: cancer diagnosis, pain, radiation, and death (Ibid). Similarly, cancer-related fatalism is the perception that individuals have limited influence to change or

prevent the course of the disease (Ibid). Furthermore, low self-efficacy causes an avoidance of preventative and early detection habits because of the low self-confidence, weak-mindedness, and passivism (Barg & Grier, 2008: 335; Lamyian et al., 2007: 1165). Lastly, misinformation includes lack of physician guidance or referral, low health information, and lack of awareness about the importance of BC screening (Lamyian et al., 2007: 1165). Therefore, the external structural constraints constitute environmental trends and social attitudes. These definitions of the structural constraints address the criticism about Giddens' inadequate account on structural constraints.

Internal structural constraints pertain to the differences in structural principles including priorities and commitments amongst members of the cluster, as well as unequal access to resources or unacknowledged needs (Giddens, 1984: 185, 198; Goodman, Steckler & Alciati, 1997: 189-190; Sheikh, 2000: 774; WHO, 2008: 28; 2009a: 8, 34-35; Wellman, 1988: 45). This thesis uncovers the environmental constraints and internal constraints regarding the four countries under study through the qualitative findings. This thesis is concerned about the constraining structure as the driver to social practices, while the enabling structure discussed in the next section is the outcome.

Overall, the civic culture includes social action, position, and role, while the social order element includes social power, chieftain, and rules. Additionally, social solidarity includes lack of internal constraints, network of solidarity including Arab community involvement, reduction in wealth disparities including recognition and open access to resources. To overcome constraints, social networks are evaluated by exploring and evaluating civic culture, social order element, and social solidarity. Along with autopoiesis, which includes communicative events, agent's history and self-description,

interactions, recursivity, and internal codes and guidelines, the optimal social network elements lead to an enabling structure or social capital of BC.

### ***Breast Cancer's Enabling Structure of Social Capital***

Social capital theory and social network analysis highly complement each other. Both theories view social actors as the institutions or nodes in a network that produce social capital through the network structure (Arneil, 2006: 8; Bhandari & Yasunobu, 2009: 487-488; Fulkerson & Thompson, 2008: 542; Haines, 1988: 175-176; Lin, 2010b: 22; Wasserman & Faust, 1994: 4-5). Moreover, both theories realize that mutual acquaintance and recognition between group members entails undergoing repeated exchanges to transform the information exchanged into recognized signs and reports, and collective efforts to share resources (Ibid). In regards to power, social network analysis explains it in term of centrality in regards to the quantity and quality of connections and resources, while social capital theory follows the same conceptualization but adds mutual recognition, acquaintance, and repeated exchanges (Lin, 2010b: 22; Vega-Redondo, 2007: 35-36; Wasserman & Faust, 1994: 218). Both theories caution that excessive expansion exhausts this power (Lin, 2010b: 22; Vega-Redondo, 2007: 36).

For Bourdieu, a social network is the social relationship that provides access to the networks' resources (Bhandari & Yasunobu, 2009: 487-488). Both theories accentuate resources. However, social capital theory adds that the actual and potential resources in a social network follow themes of social support, social leverage, social order, and organizational participation (Burt, 2008: 148; Carpiano, 2008: 83-85; Galaskiewicz & Wasserman, 1994: xiii; Wasserman & Faust, 1994: 5). Both theories

underline the importance of strong and weak ties, and diversity of resources (Kearns & Forrest, 2000: 1000; Vega-Redondo, 2007: 34; Wellman, 1988: 40). These collective issues and social capital are maintained and refined by social networks (Bhandari & Yasunobu, 2009: 488). Creating the most social capital, the network of solidarity is the optimal network that accounts for the interests of a wide range of groups made of similar and dissimilar agents, dense and loose ties, and formal and informal ties with a unified goal, perception of shared interests, a sense of community, and diversity of resources (Cattell, 2001: 1507, 1513). The normative social capitalists, including Robert Putnam, disagree with the resource social capitalists, including Bourdieu, in regards to power struggles in resource exchanges within networks (Angelusz & Tardos, 2001: 299; Fulkerson & Thompson, 2008: 540). However, since this thesis highlights networks, resources, power, duality, and contexts, Bourdieu's social capital is employed.

Bourdieu and social network analysis follow the duality of structure, and the network's structural environment as providing opportunities for and constraints on the nodes' actions to produce or maintain social capital (Fuchs, 2003: 396; Galaskiewicz & Wasserman, 1994: xi; Wasserman & Faust, 1994: 4-5). The networking of the nodes to face the constraining structure leads to social reproduction, which can be explained as fostering or maintaining social capital in the environment (Haines, 1988: 176). Overall, social capital is the result or quantity and quality of social networking that provides the channels for the transfer or flow of resources that leads to the accumulation of aggregate or potential resources (Burt, 2008: 148; Galaskiewicz & Wasserman, 1994: xiii; Wasserman & Faust, 1994: 5). Furthermore, social capital is explicated through social

reproduction and system reproduction achieved through social networks (Fuchs, 2003: 396). System reproduction, in particular, is explored by autopoiesis.

A dense or closed network, an autopoietic system, is vital for the maintenance and reproduction of collective capital (Bhandari & Yasunobu, 2009: 488-490; Lin, 2001a: 8). Clear boundaries of a defined group, which share collective social capital, represent autopoiesis (Bhandari & Yasunobu, 2009: 487-488; Fulkerson & Thompson, 2008: 542; Lin, 2010b: 22; Luhmann, 1995: 16-19). The powerful can abuse these clear boundaries by inclusion and exclusion, thereby causing internal contradiction (Arneil, 2006: 8; Fuchs, 2003: 406). This causes a subsystem to rise as an independent autopoietic system (Ibid). While autopoiesis explains that subsystems have independent and distinct communication systems, social capital theory takes it further and describes the recognized signs and reports through which a group is maintained and reproduced (Arneil, 2006: 8; Seidl & Becker, 2006: 23-24). Autopoiesis leads to the maintenance and reproduction of social capital on the network level, thus autopoiesis leads to system reproduction, which embodies internal social capital sought by structuration theory (Bakken & Hernes, 2003: 12; Bhandari & Yasunobu, 2009: 488-490; Lin, 2001a: 8).

Bourdieu and Giddens ascertain the duality of structure where agency and structure constitute and drive each other (Fuchs, 2003: 396; Jones & Karsten, 2008: 131-133). Power is a common theme in both theories. In structuration theory, power depends on the positioning of rules and resources, while social capital theory views power by its quantity, quality, and scarcity of resources and connections (Arneil, 2006: 8; Giddens, 1984: 282; Lin, 2010b: 22; Rose, 2006: 175; Tucker, 1998: 82). Moreover, Bourdieu emphasizes that agents are driven to adapt and produce social capital in the context of

struggle, which Giddens would explain as the constraining structure (Fuchs, 2003: 396; Haines, 1988: 171; Jones & Karsten, 2008: 131-133). This continual production and reproduction of social structure through time is analyzed by examining the constraining and enabling structure (Haines, 1988: 171). Bourdieu's definition of social capital follows the same progressive outlook on social practices in structuration theory (Fulkerson & Thompson, 2008: 542; Giddens, 1984: 14; Mingers, 1995: 133). Social practices are central to the ongoing reproduction of societies in both theories (Giddens, 1984: 25; Tucker, 1998: 84). Since social capital embodies the enabling structure for social and system reproduction, structuration is driven by social capital, which is advanced by Ibn Khaldûn's philosophy (Carpiano, 2008: 83-86; Haines, 1988: 171).

‘Asabiyya and social capital are referred to as an active force and progressive energy (e.g. Arneil, 2006; Alatas, 2006a; Burt, 2001; Darling, 2007; Kayapinar, 2008). Ibn Khaldûn and Bourdieu follow the notion of duality (Ardic, 2008: 454; Fuchs, 2003: 396). Like Ibn Khaldûn, Bourdieu emphasizes that agents are driven to adapt and produce social capital in the context of struggle (Fuchs, 2003: 396; Kayapinar, 2008: 388-389). Progressive change can occur because social networks that foster civic engagement can constitute and produce social capital (Kearns & Forrest, 2000: 1002). The chieftain, who maintains the social order element of ‘asabiyya, can be located by his accumulated resources, connections, and social capital (Arneil, 2006: 8; Lin, 2010b: 22). Since the social solidarity element of ‘asabiyya follows themes of collective action, diverse resources, and equality, the network of solidarity that fosters mutual acquaintance and recognition embodies this element (Bhandari & Yasunobu, 2009: 487-488; Cattell, 2001: 1507; Ibn Khaldûn, 2005: xli; Kearns & Forrest, 2000: 1000). These network aspects as

well as the four types of resources, social support, social leverage, social order, and organizational participation, resulting from the network of solidarity represents social capital (Cattell, 2001: 1507). Bourdieu's notion of inclusion and exclusion within a social network follows the implication of small-scale territorial functioning and belonging, large-scale territorial functioning and belonging, and internal contradiction (Arneil, 2006: 20; Kearns & Forrest, 2000: 997).

Social capital in this context is defined as the internal and external actual or potential resources shared by a durable network of solidarity of the CAs, the GAs, and the WHO agents with clear boundaries, obligation of exchange, and mutual recognition. More importantly, a closed system or cluster in cancer-related collectivities, similar to autopoiesis, is required for maintenance and reproduction of collective capital (Bhandari & Yasunobu, 2009: 488-490; Lin, 2001a: 8). This capital can be dissected to external social capital or social reproduction, and internal social capital or system reproduction, as well as potential social capital. The external social capital embodies the forms of social support and social order for Arab women to combat BC (JBCP, 2010: 2-3; Carpiano, 2008: 85-86, WHO: 2008: 30). The internal social capital includes the following forms of social capital social support, social leverage, social order, and organizational participation for CAs, GAs, and WHO agents (JBCP, 2010: 2-3; Carpiano, 2008: 85-86; Tanjasiri et al., 2007: 193; WHO: 2008: 30). The potential social capital can be external through social support, social leverage, and social order for Arab women to combat BC, or internal through social support, social leverage, social order, and organizational participation for a strengthening 'asabiyya of agents in the Arab region (Ibid).

### ***The Strengthening and Weakening 'Asabiyya for Breast Cancer***

The rising incidence and mortality rates of BC along with other environmental constraints in the Arab region serve as the precondition of 'asabiyya, more specifically agency. The current debates about Ibn Khaldûn often compare him to Émile Durkheim in regards to agency (Gellner, 1975; Haines, 1988; Faghirzadeh, 1982). In Durkheim's notion of solidarity, society stands at the beginning and agents and solidarity are products of society (Faghirzadeh, 1982: 136). On the other hand, Ibn Khaldûn views agency and 'asabiyya as the beginning and end of civilization (Ibid). Ibn Khaldûn's hybrid concept is the best choice for this thesis because it illustrates the powerful hybrid agency between the WHO, which is a developed country institution, and the local CAs and GAs in developing Arab countries (Magrath & Litvak, 1993: 872; Miller, 2010: 1022). The CAs, the GAs, and the WHO agents in the Arab region benefit from each other by transmitting resources in complementary ways. This hybrid collaboration occurs within a cluster, where developed and developing countries' institutions join networks to fight BC seeking social reproduction through structuration.

Once the precondition or the context of struggle and constraining structure is met, social networks become the core of the process. Social networks or social practices include the elements of 'asabiyya: civic culture, social order, and social solidarity. Social networks serve as an indicator of 'asabiyya. The protective shield of this process is autopoiesis, which embodies the optimal territorial functioning and belonging (Darling, 2007: 355; Kearns & Forrest, 2000: 997). Therefore, autopoiesis becomes an element of 'asabiyya, thereby indicating it. Furthermore, social capital is a result of this autopoietic

social network and represents another indicator of ‘asabiyya. Thus, ‘asabiyya contains three elements that indicate its presence: social networks, autopoiesis, and social capital.

Meanwhile, since structuration’s main driver are optimal social practices or networks which lead to social reproduction and system reproduction, social networks drive structuration. Additionally, autopoiesis maintains networks and leads to optimal territorial functioning and belonging as well as system reproduction or internal social capital (Bakken & Hernes, 2003: 12; Bhandari & Yasunobu, 2009: 488-490; Lin, 2001a: 8). Thus, autopoiesis drives structuration. Moreover, optimal social networks lead to structuration or system and social reproduction (Fuchs, 2003: 396). Since social capital embodies the enabling structure, structuration is driven by social capital as well (Carpiano, 2008: 83-86; Haines, 1988: 171). Consequently, since social network, autopoiesis, and social capital—‘asabiyya’s three elements—are drivers to structuration, structuration is driven by ‘asabiyya.

However, if weakening, ‘asabiyya can lead to an increase in the constraining structure, accompanied by cluster dissolution. A weak ‘asabiyya can be indicated through the weakening of its three elements. Absence of autopoiesis and social capital are demonstrated through the lack of their elements. In regards to weak social networks, it is presented by lack of the following: civic culture, social order, and social solidarity. Overall, the theoretical framework of all the discussed elements of the epistemological roots and theoretical foundation, which this thesis assembles in light of the topic under study, is intended to provide an insight on the present and future of the cluster of the CAs, the GAs, and the WHO agents in the Arab region.

## Chapter 3

### **Research Design and Methodology**

Based on the purpose of this thesis, this thesis employs a qualitative research design following an inductive style. A relevant sample of four countries is chosen through purposive sampling method. Furthermore, this thesis formulates four research questions that explore the environment layer and social system layer, as well as evaluate the ‘asabiyya-driven structuration. In order to provide insight on the present and future of the CAs, the GAs, and the WHO agents, qualitative content analysis and in-depth interviews are carried out with NVivo as a tool for analysis. Following the theoretical framework, a conceptualization is required in order to dissect and organize the concepts further.

#### **Conceptualization**

In this section, a comprehensive conceptualization and understanding of the concepts is provided, as well as the relationships and links amongst them. This thesis looks into major concepts drawn from the literature review, which are the context, constraints, social networks, autopoiesis, social capital, and ‘asabiyya-driven structuration. Some concepts are adopted literally from the literature, while others have been used in a new light from the qualitative findings (Neuendorf, 2002: 50; Neuman & Robson, 2007: 111).

#### ***The Breast Cancer Context***

The context of this topic involves the environment and the social system. The environment is the multifaceted, complex, and comprehensive system of the Arab

society. It encompasses distinct systems of institutional clusters and their target or public audience (Giddens, 1984: 164; Mingers, 1995: 150). Environment and society are used interchangeably in this thesis. The environment includes the Arab women population at risk (due to the absence of preventative and early detection knowledge, attitudes, and behaviors), the environment structure, and institutional clusters or social systems (Fuchs, 2003: 396; Galaskiewicz & Wasserman, 1994: xi; Wasserman & Faust, 1994: 4-5). The definition of structure is adopted from Giddens as the “rules and resources, organized as properties of social systems” (1984: 25). The scarce resources are understood as the resources needed or sought by agents within the structure.

### ***The Constraining Structure***

The structural properties are defined as the constraining and enabling “institutionalized features of social systems, stretching across time and space” (Giddens, 1984: 195; Haines, 1988: 171). In this thesis, the social system under study embodies the hybrid cluster of the CAs, the GAs, and the WHO agents in the Arab region that network to combat rising incidence and mortality rates of BC in the region. The cluster’s structural properties include structural principles, which are understood as the agreed-upon or different self-referential distinct principles of the system (Giddens, 1984: 195). Structural principles encompass preventative and early detection measures. The WHO promotes BC control within the context of comprehensive NCCPs that involve prevention, early detection, diagnosis, treatment, rehabilitation, and palliative care (WHO, 2011: para. 1). This thesis focuses on the first two steps: prevention and early detection. Prevention includes control of specific modifiable BC risk factors, as well as effective integrated

prevention of NCDs, which promotes healthy diets and physical activity, as well as control of alcohol intake, overweight, and obesity (Ibid: para. 3). Early detection encompasses early diagnosis and screening (Ibid: para. 4). Early diagnosis, or awareness of early signs and symptoms in symptomatic populations, is employed to increase downstaging. Downstaging is the increase of BC detected at an early stage rather than that detected at a late stage (Ibid: para. 6-11). Moreover, screening includes mammograms, clinical breast examination, and breast self-examination (Ibid: para. 7-13). In general, CAs and GAs follow the WHO outlook on BC preventative and early detection. The agents or nodes in this research are the GAs, the CAs, and the WHO agents under study, as well as other agents that combat BC or cancer constraints.

The environmental constraints consist of external structural constraints and material constraints. The external structural constraints constitute environmental trends and social attitudes. The environmental trends pertain to the following: BC incidence, cancer incidence, late stage discovery, inequalities in health service utilization, exposure to carcinogenic substances, unhealthy diet trend, overweight or obesity trend, physical inactivity trend, tobacco use trend, double burden, triple burden, and excessive alcohol consumption trend (Magrath & Litvak, 1993: 863; Rastogi, Hildesheim & Sinha, 2004: 909; WHO, 2004: 2). The overlapping social attitudes include BC awareness, negligence, cancer-related fear, fatalism, low self-efficacy, cancer-related stigma, husband's disapproval, and misinformation (Barg & Grier, 2008 : 335; El Saghir, 2008: 310; JBCP, 2010: 2; ALSC, 2006: 6, 11; Lamyian, Hydarnia, Ahmadi, Faghihzadeh & Aguilar-Vafaie, 2007: 1165; Omar, Khaled, Gaafar, Zekry, Eissa & El-Khatib, 2003: 460).

Moreover, the material constraints include themes of weak infrastructure, cost or time constraints, centralization, information and information technology, and cadres (Madanat & Merrill, 2002: 281; Magrath & Litvak, 1993: 863, 871; Rastogi, Hildesheim & Sinha, 2004: 909; Shorbaji, 2006: 14-15; WHO, 2005: 1). The weak infrastructure constitutes weak epidemiological research capabilities, lack of training for health-related information communication technologies, and a general lack of protocols and ethical rules for health-related technology (Rastogi, Hildesheim & Sinha, 2004: 909; Shorbaji, 2006: 14-15; WHO, 2005: 1). Furthermore, women do not attend to the proper screening measures because of cost or time constraints, inadequate or overcrowded health-care clinics, inadequate distribution of clinics, lack of effective physician-patient relationship, and uninformed physicians and nurses (Madanat & Merrill, 2002: 281; Magrath & Litvak, 1993: 863, 871).

Additionally, the agents face internal structural constraints, which constitute the differences in position-practice relations resulting in agents not fulfilling their role and their positioning (Giddens, 1984: 185, 198). Moreover, difference in structural principles or lack of adherence to the cluster by agents or subsystems causes internal structural constraints (Ibid). Within internal structural constraints themes of ethical acceptance and consent, bureaucracy, lack of coordination, lack of unified and strategic focus, misuse of resources, management issues, lack of community mobilization, inactivity in setting policies and plans, and lack of political support are investigated.

### *The Agency of Social Networks*

At the heart of the cluster within the social system are the CAs', the GAs', and the WHO agents' social practices or social networks and autopoiesis. Social networks constitute regular relations between a set of nodes and their set of links (Giddens, 1984: 25; Tucker, 1998: 84; Vega-Redondo, 2007: 28). The components of a network are agents, resources, and relational ties. The evaluation criteria of a network are based on elements of civic culture, social order, and social solidarity (Kearns & Forrest, 2000: 997).

Civic culture can be understood as when the group exhibits unified structural principles, cooperation, social action, social position, and social role (Alatas, 2006a: 402; Ibn Khaldûn, 2005: 102; Kearns & Forrest, 2000: 998). Unified principles are the guides or plans for cancer or BC in a specific country or region. Cooperation is the ability to seek collective solutions by including related agents through partnerships or committees to combat BC. Moreover, social action "depends upon the capability of the individual to make a difference to a pre-existing state of affairs or course of events" (Giddens, 1984: 14). The agents' capability stems from their rationality of ongoing theoretical understanding and skill of evaluative knowledge (Jones & Karsten, 2008: 132-133; Rose, 2006: 177). Moreover, freedom of action embodies the ability of agents to participate in resource-transmission and rule creation (Giddens 1984: 198; Haines, 1988: 170; Jones & Karsten, 2008: 132). Social position refers to how an agent is embedded within a network through a profile of characteristics and the occurrence in other agents' archival records (Burt, 2008: 146; Wasserman & Faust, 1994: 348). Lastly, social role is the normative rights and obligations, which refer to patterns of relations that link social positions and

actors within social order (Giddens, 1984: 282; Tucker, 1998: 82; Wasserman & Faust, 1994: 349).

Social order refer to mutual dependencies and goals between a group and its members, where they all share the resources within a network of obligations and expectations that lack internal contradiction (Ibn Khaldûn, 2005: 108, 130; Kearns & Forrest, 2000: 999). This element encompasses overlapping characteristics: rules, social power, and leadership or chieftain. Commonality of rules can be understood as the common BC screening, cancer registry, definitions, priority, and laws set to tackle BC in the region (Rose, 2006: 175; Tucker, 1998: 82). Resource transmission can be hierarchal, where power exercise is stronger. The balance of social power is represented through a cyclic resource of mutual dependencies of power exercise and power dependence between the group and its members unifying their social goal from which they share benefits (Kearns & Forrest, 2000: 999; Wellman, 1988: 45). Lastly, the leadership or chieftain is the ultimate connector that stimulates the highest level of ‘asabiyya through its high quantity and quality social networks and social capital in the group, as well its maintenance of social order and solidarity (Ibn Khaldûn, 2005: 108; Vega-Redondo, 2007: 34-36).

The social solidarity element requires a lack of internal constraints, reduction in wealth disparities, and network of solidarity. Reductions in wealth disparities includes the distribution of opportunities equally among members, whose needs are recognized, with open access to benefits and resources to aim for a common and collective economic, social, and environmental standard within ties (Ibn Khaldûn, 2005: xli; Kearns & Forrest, 2000: 1000). Relational ties are the linkages between actors that serve as channels for the

transfer or flow of resources (Burt, 2008: 148; Galaskiewicz & Wasserman, 1994: xiii; Wasserman & Faust, 1994: 5). Within this element, the network of solidarity is a network with a high degree of diverse resources and ties including strong ties, weak ties, and cross-linkages, as well as community involvement (Angelusz & Tardos, 2001: 299; Carpiano, 2008: 85; Cattell, 2001: 1507). Strong ties are defined as resource transmission and sharing of partnerships including alliances and memberships, projects including campaigns and events, training including activities, leadership, plans, sponsorship, and reports including research. Weak ties share political support, recognition including respect, and donation (Galaskiewicz & Wasserman, 1994: xiii). Cross-linkages represent transmission of the following resources: activity participation, conferences attendance, conference participation, discussions including meetings, kiosks, lectures, references including links, and media (Ibid). Arab community involvement encompasses the public's involvement through training, volunteering, and field research.

### ***The Agency of Autopoiesis***

Autopoiesis is the process of strategic use of communication to self-create or maintain a system from the internal and external complexity. Autopoiesis is evaluated by the following criteria: communicative events, historical and self-descriptive references, interactions, recursivity, internal codes and guidelines, and functional subsystems. The communicative events are the internally produced findings or reports, which include external information explicated on how and why the information is needed, and processed to reach an understanding of how this information and utterance are implanted within the system for change. The autopoietic reports and symbols include local needs

and interests and provide access to resources. Historical references that are cluster-specific are autopoietic. Moreover, the unity and the recursion of campaigns, activities, reports or newsletters, and networking are representative of autopoiesis. The optimal agents' self-descriptive references pertain to symbols and wording that describe the agents as members of the cluster. Moreover, interactions to external environment through cross-linkages should be on a need-basis. The autopoietic internal codes and guides include the participation of all health sector and politically powerful agents to establish unity. Lastly, the subsystems are the Arab countries that withhold a coded communication system that is distinct and functional according to its logic, but still adheres to and complements the regional system through structural principles (Goodman, Steckler, Allan & Alciati, 1997: 182; Luhmann, 1995: 18; Seidl & Becker, 2006: 23-24).

The process of autopoiesis refers to optimal territorial functioning and belonging element of 'asabiyya, which is when members feel that they belong to a cluster, thereby willing to participate in its social networks. A small-scale territorial functioning and belonging is indicated through the lack of access to resources and mobility of members, whereas a large-scale territorial functioning and belonging is indicated through the strained operations of members and chieftain of the group (Kearns & Forrest, 2000: 1002). Optimal territorial functioning and belonging leads to social capital, or an enabling environment.

### ***The Social Capital Structure***

Social capital is dissected into external social capital or social reproduction and internal social capital or system reproduction, as well as potential social capital from the

perspective of the agents under study. The external social capital embodies the forms of social support, social leverage, and social order. Social support is represented by screening, and social leverage is represented by reach and awareness (JBCP, 2010: 2-3; Carpiano, 2008: 85-86, WHO: 2008: 30). Meanwhile, downstaging, increased incidence, decreased incidence levels, mortality rates, weight reduction, and smoking reduction represent social order (Ibid). The internal social capital includes the four forms of social capital: social support through networking and cancer-fighting tools (plans, booklets, programs that represents tools for fighting cancer), social leverage through networking, decentralization, and cancer-fighting tools, social order through cancer-fighting tools, and organizational participation through networking, decentralization, and cancer-fighting tools (Ibid). The potential social capital is split into potential internal social capital and potential external social capital as well. Potential external social capital tackles three forms of social capital: social support through potential community empowerment and mammography units' expansion, social leverage through potential awareness and community empowerment, and social order through potential comprehensive BC coverage. Meanwhile, potential internal social capital tackles the following forms of social capital: social support through potential networking, social leverage through potential information, networking, and cancer-fighting tools, social order through cancer-fighting tools, and organizational participation through cancer-fighting and potential networking (Ibid). Social capital is one of the indicators of 'asabiyya.

### ***‘Asabiyya-Driven Structuration***

‘Asabiyya-driven structuration can be conceptualized after defining ‘asabiyya, structuration, system reproduction, and social reproduction. ‘Asabiyya is understood as a hybrid and “cohesive force of the group, the conscience that it has its own specificity and collective aspirations, and the tension that animates it” (Lawrence, 2005: xv). The five elements of ‘asabiyya by Kearns and Forrest (2005) are included within social networks, autopoiesis, and social capital, thereby indicating ‘asabiyya. Structuration is defined as the constraints, social capital, social networks, and autopoiesis driving the continuity or transmutation of structures, thereby driving the reproduction of the BC cluster and the Arab society. Moreover, system reproduction is defined as the stability and continuity of the cluster, which can constitute or lead to progressive change within the cluster that enables it to cause further social reproduction due to autopoiesis and internal social capital (Bakken & Hernes, 2003: 12). Furthermore, social reproduction is understood as the progressive change in the environment that helps control incidence and mortality rates through external social capital (Cohen, 1989: 201). So ‘asabiyya-driven structuration is the structuration driven by social networks, autopoiesis, and social capital—‘asabiyya’s three elements—for system and social reproduction of BC in the Arab region.

If weakening, ‘asabiyya leads to an increase in constraining structure, thereby leading to cluster dissolution. This weakening can be indicated through the weakening of its three elements: social networks, autopoiesis, and social capital. Absence of autopoiesis and social capital are demonstrated through the lack of their elements. In regards to weak social networks, it is presented by lack of the following: civic culture, social order, and social solidarity. The absence of power balance, leadership, and rules coupled with the

presence of inclusion and exclusion, where members experience unequal access to resources embodies the absence of social order, which results in internal contradiction and disruption within the group (Lacoste, 1984: 116). But as long as the group retains its ‘asabiyya, authority that disappears in one branch will, of necessity, pass to another branch of the same group (Ibn Khaldûn, 2005: 114).

The deficiency of civic culture is indicated when BC or cancer are not prioritized, agents are unaware of their needs or incapable, and practice-position roles are not fulfilled. Moreover, structural contradiction exists due to differences in structural principles and priorities (Giddens, 1984: 24, 185, 198). On the other hand, absence of social solidarity is indicated by unequal access to resources, excessive expansion, overwhelming cross-linkages, and unacknowledged needs. Excessive expansion causes a strain in the central node’s energy and operations or over dependence, which decreases the overall performance of the network (Vega-Redondo, 2007: 36). Similarly, this weakening stems from cross-linkages that overwhelm from reserving its autonomy and strength to its internal operations (Vega-Redondo, 2007: 34; Wellman, 1988: 42, 45, 47). This increase in constraining structure followed by cluster dissolution or the shift of power from one branch to another is a progressive move because a more highly productive cluster that learns from its predecessors develops (Arneil, 2006: 8; Fuchs, 2003: 406). Finally yet importantly, the notion duality of structure, which argues that structure is the driver to and outcome from social networks, serves as the underlying principle of the purpose of this thesis (Haines, 1988: 171; Magrath & Litvak, 1993: 869-870; Rose, 2006: 175).

## **Research Design**

In order to achieve the purpose of this study and to focus on the importance of rendering the complexity of the situation, this thesis employs a qualitative research design, which honors an inductive style (Creswell, 2009: 4). This design enables the examination of the context or “messy” natural setting with its rich details through the nonlinear, cyclical, and reiterative path (Neuman, 2006: 152-158). Since the topic remains unexplored, this research design is optimal (Denzin & Lincoln, 1998: 8).

This qualitative research design is governed by the interpretive paradigm and phenomenological strategy. Interpretive research focuses on how meanings and contexts are created, maintained, or developed by participants’ social practices (Creswell, 2009: 176; Merrigan & Huston, 2009: 87-88; O’Donoghue, 2007: 16-17). This paradigm values rich descriptions of the phenomenon under study (Merrigan & Huston, 2009: 88). Tom O’Donoghue describes the interpretive paradigm, as one that views agents and society as “mutually interdependent” inseparable units, where one cannot be understood without an understanding of the other (2007: 16). Since the focus of this thesis is to form patterns and relationships from the perspectives of the GAs, the CAs, and the WHO agents, it takes on a phenomenological strategy (Creswell, 2009: 13; Jankowski & Wester, 1991: 51-52). Describing the essences of lived experiences, phenomenology seeks a deep understanding of the phenomenon studied through a rigorous and systematic examination (Creswell, 2009: 13; Jackson, Gillis & Verberg, 2007: 439). The ‘asabiyya-driven structuration phenomenon of the environment and system layers is explored from the perspective of the institutions involved (Potter, 1996: 68, 99)

Due to the nature of this thesis and time constraints, a relevant sample is chosen through a purposive sampling method (Jackson, 2003: 164; Merrigan & Huston, 2009: 64; Neuman & Robson, 2007: 270). A series of steps are taken to filter the population to choose the most relevant sample (Appendix A). After all the countries in the Arab League are listed, the following criteria are employed: the WHO EMR countries, war-related civil unrest, and the availability of a WHO office, CA, and a website for both, as well as high expenditure on health per capita for every region. These sampling criteria enable the exploration of the topic in a rich pool of networks and resources from all sub-regions of the Arab region. The four countries under examination represent the four sub-regions in the Arab region: Central Countries, Bilad al Sham or Greater Syria, Gulf Corporation Council, and the Maghreb. A generalization is made in regards to the Arab region through inductive reasoning. The WHO offices, GAs, and the main CAs<sup>2</sup> in these four countries are studied. The WHO offices studied are the EMRO, the WHO Jordan, the WHO Morocco, and the WHO Oman, whereas the GAs examined are the MoHP Egypt, the MoH Jordan, MoH Morocco, and MoH Oman. Lastly, the most prominent CAs are BCFE in Egypt, JBCP in Jordan, ALSC in Morocco, and NACA in Oman.

### **Research Questions**

This study encompasses four research questions that explore and evaluate the environment and social system layers, as well as the ‘asabiyya-driven structuration. Hence, after exploring the context, this thesis explores the constraints, then explores and

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<sup>2</sup> If a country lacks a BC-specific agent, then the main CA was chosen.

evaluates the social networks, autopoiesis, and social capital. The following questions are answered from the perspective of the CAs, GAs, and WHO agents:

**RQ1.**

What is the context of BC's preventative and early detection measures in Egypt, Jordan, Morocco, and Oman?

**RQ2.**

What are the constraints that the CAs, the GAs, and the WHO agents face in networking for BC's preventative and early detection measures in Egypt, Jordan, Morocco, and Oman?

**RQ3.**

How do the CAs, the GAs, and the WHO agents network for BC's preventative and early detection measures in Egypt, Jordan, Morocco, and Oman?

**RQ4.**

What social capital is noted from the cluster of CAs, GAs, and WHO agents in Egypt, Jordan, Morocco, and Oman?

RQ1 explores the agents' scope of responsibility, as well as the scarce and valued resources. Additionally, RQ2 explores the precondition of 'asabiyya, environment constraints (material constraints and external structural constraints), and internal structural constraints. Moreover, RQ3 examines and evaluates social networks and autopoiesis along with their components. Lastly, RQ4 examines and evaluates the external, internal, and potential social capital. All the research questions are posed to understand whether 'asabiyya is strengthening or weakening in the region, as well as the current or potential 'asabiyya-driven structuration (including system and social

reproduction, or cluster dissolution). This thesis employs qualitative content analysis and in-depth interviews to answer all the research questions.

### **Data Collection and Analysis**

To answer the research questions, in-depth interviews are carried out as the main data collection method and qualitative content analysis as the complementary method. Data from the qualitative content analysis represent what is published, while in-depth interviews provide depth and information of what is practiced. Both data collection methods involve undergoing a reiterative and progressive process of collecting raw data, organizing and preparing data for analysis, reading through all data, coding the data, using themes or descriptions, interrelating themes or descriptions, and interpreting the meaning of the themes or description (Creswell, 2009: 185). After analyzing and reporting the information from both data collection methods, the two reports are merged and processed to answer the research questions. Before being processed and simplified for presentation, tables and figures are created on NVivo to visualize the findings.

### ***Qualitative Content Analysis***

Qualitative content analysis is defined as the technique for making inferences by systematically and objectively identifying special characteristics of messages (Berg, 2007: 250). Content analysis is a supplementary data collection method conducted first to establish an understanding of the published context before the interviews. The sampling, NVivo analysis, and various distinctions are explained in this section.

### *Sampling Strategy, Size, and Selection*

To prepare for content analysis procedures, the publications by the agents under study that include BC's preventative and early detection measures, cancer control, cancer, NCDs, and preventative measures from 2005-2011 are collected. The publications start from 2005 because most of the CAs involved were established in 2004, thus publications were released in 2005. The selected 122 documents include newsletters, activity reports, cancer registry reports, fact sheets, evaluation reports, posters, shower cards, sponsorship packages, country cooperation strategy, country's national priorities reports, action plans, research reports, plans, guidelines, campaign materials, brochures, flyers, and websites content. Since the EMRO publications rely mainly on information derived from other EMR countries other than the four chosen, they are not included. However, the EMR *Guidelines for the Early Detection and Screening of Breast Cancer* is important for the analysis because all the WHO agents use it.

### *NVivo Analysis*

The stages for the NVivo qualitative content analysis include preparing, unitizing, categorizing, analyzing, and reporting the obtained data. After the raw data are compiled, they are converted into digital form. Digital files are imported in country-specific folders and agent-specific sub-folders in NVivo. These files are classified as a publication or website, as well as by agent type and agent name. Then the whole document is coded based on country and type of agent. To prepare for the content analysis procedure, a qualitative content analysis form (Appendix B) is created based on the concepts established from the literature review (Berg, 2007: 270; Merrigan & Huston, 2009: 154).

A pilot study on 12 documents, which represent different types of documents from various agents, is held. This pilot study undertook open coding and coding based on the preliminary coding guide from the preliminary conceptualization. Themes and subthemes experience major revisions, where subtheme additions address overflowing themes, and encompassing theme additions organize subthemes. Irrelevant themes are deleted from the content analysis form and are explored during in-depth interviews instead. Then research questions folders are set and the main folder had the main themes of strengthening ‘asabiyya, and weakening ‘asabiyya. Open nodes are continuously being organized into the nodes presented or placed in an extra folder. To unitize, all the data are divided into small and comparable units through open and axial coding, as well as the physical, categorical, and thematic distinctions in the coding form (Ibid). In this phase, the coding form is revised, as needed (Berg, 2007: 270).

In the categorizing phase, each unit of data is assigned to a particular category in the coding scheme, which is revised inductively from the data collected (Berg, 2007: 270; Merrigan & Huston, 2009: 156). If relevant, data can be coded into many categories. The nodes or themes are continuously dissected and rearranged as new data are coded and analyzed. All coding is revised halfway through the coding procedure to ensure consistency. More broad categories are added to include narrow themes. Gaps are defined and sought to be filled, if possible. If gaps cannot be filled, they are documented in memos as missing in a specific country or a specific theme. In addition, other agents are classified based on agent type, such as cancer agency including center and registry, medical center including hospital, clinics, and oncology centers, educational sector, governmental institution and official, NGO, non-profit, private sector, United Nations

(UN) agents, celebrities, community association, locality, and media. Other agents are classified by descent, such as Arab or non-Arab, locality, such as local or international, health related or non-health related, and countries as well. Relationships are used to point out agents, direction of resources, type of resources, type of ties, and aims. Cancer networking, cancer registries, and NCDs are included because these themes represent the steps preceding breast cancer.

In the analyzing phase, textual material is reviewed in the coded themes seeking patterns of emphasis and frequency, showing links of patterns to theoretical framework, offering an analysis of the findings, and relating the analysis to the literature (Berg, 2007: 270; Merrigan & Huston, 2009: 64). Analysis matrix coding, advanced coding, charts, and models are employed to visualize information and process it for findings. Tables are created in Microsoft Excel for each agent's strong ties, weak ties, and cross-linkages before creating the relationships in NVivo. Lastly, the unprocessed findings of the content analysis are reported by answering the research questions (Ibid).

#### *Physical, Categorical, and Thematic Distinctions*

Physical, categorical, and thematic distinction are used to answer research questions (Appendix B). To answer RQ1, full documents are coded by countries and agents under study, though physical distinctions. Scarce resources are coded thematically and categorically into cadres or skilled human resources, material resources including sponsorship and donation, and non-material resources of political support, recognition, reports, projects, partnerships, and references.

To tackle RQ2, thematic distinctions are employed concerning the emphasis and frequency of environmental constraints—including material constraints and external structural constraints—and internal structural constraints. In regards to material constraints, this thesis examines themes of weak infrastructure, cost or time constraints, centralization, information technology, and cadres. Moreover, external structural constraints are dissected into environmental trends and social attitudes. Environmental trends constraints are broken down by themes of BC incidence, cancer incidence, late stage discovery, inequalities in health service utilization, exposure to carcinogenic substances, unhealthy diet trend, overweight or obesity trend, physical inactivity trend, tobacco use trend, double burden, triple burden, and excessive alcohol consumption trend. This thesis explores social attitudes themes that involve lack of BC awareness, negligence, cancer-related fear, fatalism, low self-efficacy, cancer-related stigma, husband's disapproval, and misinformation. Lastly, internal structural constraints are explored through themes of ethical acceptance and consent, bureaucracy, lack of coordination, lack of unified and strategic focus, misuse of resources, management issues, lack of community mobilization, inactivity in setting policies and plans, and lack of political support.

To address RQ3, this thesis employs thematic and categorical distinctions in analyzing the content for social networks and autopoiesis. This thesis explores the content for social networks' themes of civic culture, social order, and social solidarity. Themes of social action, social position, and social role are examined for civic culture. Social action refers to agents' capability, right and responsibilities in collective action, and cross-country or national unity tools and their potential. Agents' capability is

explored by themes of rationality and skill. Additionally, agents' rationality is coded by themes of economic and health communication frameworks. Moreover, agents' skills include themes of campaign evaluation, situation analysis, performance indicators, international review, and evaluation of pilot study. In addition to social action, social position refers to the networking level measured by characteristics of nodes and the occurrence in other agents' archival records. Lastly, social role is investigated through themes of support, country-specific change, advocacy, regulation, eradicating or downstaging BC and cancer, and planning and strategizing.

Social order is studied in themes of rules, social power, and leadership. Rules are categorized as definitions, priorities, laws, cancer registry, BC screening, and laws. Social power is examined by measuring power exercise and power dependence. Finally yet importantly, the leadership or chieftain is explored by finding the central agent that shares the highest quantity and quality of resources and connections, as well as the agent that act as a coordinator in data and relationships.

Furthermore, social solidarity is broken down to themes of network of solidarity and reductions in wealth disparities. The network of solidarity includes any type of Arab community involvement includes any kind of community involvement. Most importantly, the three types of ties are examined. Strong ties are defined as resource transmission and sharing of partnerships, projects, training, leadership, plans, sponsorship, and reports. Weak ties share political support, recognition, and donation. Cross-linkages represent transmission of the following resources: activity participation, conferences attendance, conference participation, discussions, kiosks, lectures, reference, and media. This thesis categories ties by their aims as follows: cancer registry or surveillance, cancer control

unspecified, EMR cancer control, national cancer control, regional or international cancer control, early detection, awareness, screening, breast self-examination, clinical breast examination, mammograms, prevention, and networking or telecommunications. Each relationship created in NVivo specifies the type, direction, resource, and aim of ties. Lastly, reduction in wealth disparities and recognition is realized through sharing and access to resources, or recognizing needs of other agents.

Autopoietic content is categorized in themes of communicative events, recursivity, self-description, history, and internal codes and guides. The internally produced reports and findings that include external information, how and why the information will be used, and understanding or processing relating to the agent, country or region are coded as communicative events. The recursivity is examined in themes of campaigns or activities, repeated newsletters, annual reports, annual cancer registry reports, and annual events including common world events and local events related to health. The agents' self-descriptive references are categorized in themes of universal and country-specific symbols health-related, unity, ministry-related, professionalism, leadership, and representatives. Additionally, agent's history is examined in themes of the WHO history, regional history, or country-specific history. These codes are examined for an optimal territorial functioning and belonging element on the regional level, small-scale territorial functioning and belonging on the country level, or large-scale territorial functioning and belonging on the international level.

Lastly, RQ4 is answered by thematic and categorical distinctions of internal, external, and potential social capital. This thesis categorizes external social capital as increased reach and awareness (including BC, cancer, and smoking), screening (including

general screening measures, breast self-examinations, clinical breast examinations, and mammograms), decreased incidence rates, increased incidence rates, decreased mortality rates, increased downstaging rates, weight reduction, and smoking reduction. Moreover, this thesis analyzes internal social capital in themes of decentralization, networking, and cancer-fighting tools. Potential social capital includes internal and external social capital. The potential internal social capital is examined in themes of potential networking, cancer-fighting tools, and information. Additionally, the potential external social capital is explored in themes of potential mammography units, community empowerment, comprehensive BC coverage, and potential awareness. This thesis connects the four types of social capital: social support, social leverage, social order, and organizational participation in the analysis process. Overall, this thesis employs content analysis to establish a context of what themes are published and what are absent from publications, as well as to compare findings to those of the in-depth interviews.

### ***In-depth Interviews***

The qualitative interview is a joint production between the researcher and the interviewee, who actively participates with his/her insights, feelings, and cooperation, which are essential parts of the meaningful discussion process (Kvale, 1983: 174; Jackson, Gillis & Verberg, 2007: 428; Neuman & Robson, 2007: 268). Following the content analysis findings, the semi-structured interview guideline is revised (Appendix C). The guideline constitutes open and closed questions, as well as other question types examined by Neuman and Robson (2007): introducing questions, follow-up questions,

probing questions, specifying questions, direct questions, structuring questions, and interpreting questions for informants (273-275; Gillham, 2000: 6; Neuendorf, 2002: 51).

### *Sampling Strategy, Size, and Selection*

The informants are recruited based on a purposive sampling technique (Merrigan & Huston, 2009: 64; Neuman & Robson, 2007: 270-273). Due to the limited time and resources, eight informants are interviewed (Neuman & Robson, 2007: 271). From each country, two informants are interviewed: one expert from the CA and the WHO NCD focal point in the GA (Appendix D). Every WHO NCD focal point works in the MoH or MoHP, and connects the GA and the WHO for NCDs. Additionally, the most knowledgeable and available informants from each CA are pinpointed.

### *Ethical Considerations*

Since eight informants are interviewed, an ethical clearance from the Research Ethics Board at the University of Ottawa is obtained (Appendix E). Before the telephone interviews, the Arabic and English versions of the consent forms are sent by e-mail to the informants, who review, sign, and e-mail the form back. The information involving internal structural constraints are guaranteed to remain strictly confidential to obtain a level of trust and ensure that the answers are not political. The telephone interviews are digitally recorded, translated, if needed<sup>3</sup>, and transcribed into NVivo (Gillham, 2000: 87). If clarifications are needed, follow-up questions are e-mailed to the informants, or the informants send some answers by e-mail due to lack of knowledge during the interview.

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<sup>3</sup> Arabic to English translation was needed for all interviews, except for the NACA's interview.

### *NVivo Analysis*

After collecting the raw data mainly from directors and senior managers, mechanical data reduction and analytic data categorization are conducted to transform the large mass of data into manageable, retrievable, and relevant chunks of data (Neuman & Robson, 2007: 337). The transcripts follow a specific template, where the first paragraph serves as a description of the informant's position and the date of the interview, the topics of the questions are used as Heading 1, and the informants name before their answers are used as Heading 2. This template allows auto coding, where all answers for one question are organized into one node, as well as all answers of one informant are organized into one node. The template facilitated the organization and analysis of data. The interview transcripts are imported into an interview folder in NVivo. They are classified as interview transcripts by country, agent type, and agent name, as well as auto coded into nodes of agents' names. After preparations, open, axial, and selective coding are initiated (Neuman & Robson, 2007: 338-340; Neuman, 2007). This coding follows the content analysis coding with irrelevant themes removed and relevant themes added. After organizing data into themes, the themes are refined and links are drawn (Neuman & Robson, 2007: 337). Additionally, relationships with types of ties, resources, and aims are created to compare them to relationships of content analysis. In total, more than 1300 distinct relationships are studied.

### ***Overall Analysis***

Since qualitative content analysis and in-depth interviews are complementary, the findings are combined and evaluated to discover the ‘asabiyya-driven structuration of BC’s preventative and early detection measures in the Arab region. The findings are analyzed further until saturation is reached (Jackson, Gillis & Verberg, 2007: 431; Jackson, 2003: 140). During the analysis process, analytic memo writing is employed, where each coded theme or concept and its discussion is noted in a digital memo on a day-to-day basis (Neuman, 2007: 600). Significant quotes are captured as nodes to illustrate the themes in the research report (Jackson, Gillis & Verberg, 2007: 448). Furthermore, when an issue or concept represents a larger connotation, outcropping is embraced to investigate further (Neuman, 2007: 602). Lastly, the themes are analyzed by answering research questions and discussing the findings in a way that advances the theories used.

The analysis ensures validity through accuracy, reliability through consistency, dependability through auditability, transferability through confirmability, and credibility through authenticity (Creswell, 2009: 190; Jackson, Gillis & Verberg, 2007: 458; Neuman & Robson, 2007: 116-117). Additionally, bracketing is embraced to set aside personal perspectives during coding and analysis of the findings (Jackson, Gillis & Verberg, 2007: 428; Jackson, 2003: 139). This thesis undergoes a systematic method carrying deep revisions through each step in light of theoretical framework, practical information, data collection, and analysis guidelines.

## Chapter 4

### **Findings and Discussion**

The findings of the content analysis and in-depth interviews demonstrate a great deal on the dynamics of the ‘asabiyya-driven structuration of BC prevention and early detection in the Arab region. The exploration and evaluation establishes recommendations that propose agents seeking ‘asabiyya-driven structuration on the country level before seeking it on a regional level. The findings establish that the countries with a NCCP are undergoing local strengthening ‘asabiyya and ‘asabiyya-driven structuration, while the countries without a NCCP are undergoing weakening local ‘asabiyya and no progressive structuration. On the regional level, a potential exists for ‘asabiyya-driven structuration.

The qualitative content analysis represents published information and complements the in-depth interviews, which provide depth of practice. Since the two data collection methods are chosen to balance each other, and given the nature of the application, the findings of both are presented together under each theme. To cover context, constraints, social networks, autopoiesis, and social capital, this chapter encompasses themes organized by research questions. The theoretical framework guides the analysis and discussion at the end of this chapter by drawing on the relevant themes and theories previously outlined.

#### **The Contextual Scope of Responsibility and Resources**

The agents’ scope of responsibility and the perceived scarce and valued resources illuminate the contextual differences between countries with and without a NCCP.

Generally, the GA's responsibility encompasses BC amongst its national cancer or NCD responsibilities. BC remains unaddressed by the Preventative Affairs office at the MoHP Egypt because "The decision to establish a committee is at the Deputy Minister's office and it still did not go through" (Personal Communication, July 7, 2011). The most BC-specific GA office is the Cancer Prevention and Control Program in the MoH Morocco, which is responsible for BC amongst its cancer planning and strategizing responsibilities, as well as coordinating BC control with other local and international agents involved. At a wider scope, the NCD Directorate at the MoH Jordan is responsible for BC within its NCD responsibilities, through its cancer registry, as well as coordinating BC control with local and international agents involved. Similarly, the NCD Department at the MoH Oman is responsible for NCDs with a focus on cancer registry that accounts BC cases. However, another Department in Oman's MoH takes BC beyond the cancer registry.

The Family and Community Health Department in the MoH Oman is more BC-specific than its NCD Department:

Dr. Ibtihal [the WHO EMRO NCD Advisor] is coming as a consultant to the Department of Family and Community Health; they wanted to start breast cancer screening. . . . Breast cancer is covered more by the Family and Community Health Department.

(Personal Communication, July 17, 2011)

This link of BC to family health is present in other countries' GAs and WHO agents as well. This perspective drives agents, especially those in Morocco, to work on the integration of BC into reproductive health services. Moreover, the EMRO publishes: "Despite considerable social changes, women continue to be the focus of family life. The impact of breast cancer is therefore profound on both the woman diagnosed and her

family” (Khatib & Modjtabai, 2006: 5). The commonality between the WHO agents and GAs is linking BC to family health is an example of their linkage.

All the GA offices link the GAs to the WHO agents. On a community level, the NCD Directorate in the MoH Jordan links the WHO Jordan through surveys, lectures to media personnel, and community mobilization through community leaders, as well as by covering the costs of early detection and treatment for Iraqis and Palestinians in Jordan. On a regional level, the Cancer Prevention and Control Program at the MoH Morocco links the WHO Morocco through contacts or network information for EMR work. At a more basic level, the NCD Department in MoH Oman provides the link through research, guidelines, and registry training, while the Family and Community Health Department links it in regards to piloting for BC screening. Meanwhile, BC is absent in the link between EMRO and MoHP Egypt. Generally, it has been noted: “The WHO supports the program that is a priority in our country; the program that receives high political and monetary support from the country” (Personal Communication, August 13, 2011). Generally, the WHO agents’ priorities shadow the GAs’ priorities; thereby the WHO involvement signifies the different priorities of GAs. The GAs are at an advantage in their wide scope of responsibilities due to the WHO’s support, while the CA’s carry most of the weight in regards to their BC-specific efforts.

CAs carry out substantial BC work at the country level, as well as initiatives at the regional level. Although ALSC and NACA are cancer-specific agents, ALSC contains a BC-specific department—the Breast and Cervical Cancer Early Detection Program—that is an agreement with the MoH Morocco. On the other hand, the BCFE and the JBCP are BC-specific agents with different outlooks. The BCFE focuses on media coverage and

networking through its Media and External Relations office, whereas the JBCP focuses on scientific research and performance evaluation, which drives decision-making, plans, and campaigns, through its Monitoring and Evaluation office. While all CAs focus on country-specific work, some expand their focus to the regional level. On a cancer-specific regional level, the ALSC states, “[I]n 2007, we worked on unifying the work through the [EMR Alliance against Cancer] that works on combatting cancer, either in Morocco or in Arab countries, more specifically in the [EMR]. Therefore, an agreement on the alliance was set” (Personal Communication, August 5, 2011). On the BC-specific regional level, the BCFE and United States-Middle East Partnership Initiative (US-MEPI) for BC research and awareness includes Jordan, Morocco, Palestinian Territories, the UAE, and Saudi Arabia, in addition to Egypt and the United States (US). BCFE states:

This year we became the regional coordinator to this partnership in the Middle East. We, as the BCFE, start to set strategic plans to hold activities in all these countries for breast cancer awareness and projects, as well as, to apply pressure on the governments to support the cause and to improve the health facilities that are provided.

(Personal Communication, July 5, 2011)

To understand the weight of these regional and national responsibilities, the value and supply of resources in this context are explored.

In the Arab region, the most valued resources are political support, sponsorship, training, reports, conference participation, and media coverage. In Jordan, the MoH Jordan values training, while the JBCP values political support from King Hussein Cancer Foundation and Princess Dina Mired, its leader. On the contrary, the MoH Morocco values the political support from the ALSC, whereas the ALSC values reports and cadres from the MoH Morocco. In Oman, the NACA values political support and sponsorship from private companies, while the MoH Oman values training, and

sponsorship for conference participation. Egypt presents a different case, where the MoHP Egypt's Preventative Affairs office values the political support from the MoHP itself, and the BCFE values the US government's support, as well as local training and media coverage. As the in-depth interviews and content analysis demonstrate, political support is weighted heavily in the region.

GAs reference scarce resources the least, whereas CAs reference them the most. Although content analysis demonstrates that all agents declare scarce resources, except for EMRO, some agents such as the JBCP and ALSC regard no scarce resources in in-depth interviews. The JBCP explains, "We try to work with high efficiency because the resources in general are limited. So we try as much as we can to utilize the networks available" (Personal Communication, July 13, 2011). This maximum utilization of scarce resources explains the discrepancy in data. In the region, the themes of scarce resources are material resources, non-material resources, and cadres. A highly prominent issue in the Arab region, especially for CAs, is the scarcity of material resources, such as sponsorship and equipment donation. CAs in Egypt and Oman are the most agents with a prominent scarcity in material resources. On the other hand, the WHO agents mention material resources only from a contextual perspective. Although the MoH Morocco refers to the lack of solidarity in monetary resources and deficiency in centers, it is the least country to address scarce material resources. Additionally, the in-depth interviews reveal that some GAs cannot fundraise. The MoH Jordan illustrates, "[O]ur benefit from the foundation [King Hussein Cancer Foundation], since it is a non-profit organization, it is able to work on the fundraising, which is forbidden for the Ministry of Health or any

public sector institution” (Personal Communication, July 19, 2011). Nevertheless, the political power the GAs is needed to drive the fundraising power of CAs.

The content analysis demonstrates the scarcity of material resources as a driver and driven by non-material scarce resources such as political support, recognition, reports, projects, partnerships, and references. The CAs and the WHO agents<sup>4</sup> emphasize the scarcity of political support and recognition. However, the GA along with the CA in Morocco addresses cooperatively the need for political support by stating, “The Ministry of Health must assume leadership” (ALSC & MoH Morocco, 2010: 50). The scarce political support and recognition is highlighted in Oman on the basis of the underlying cultural theme of lack of prioritization. Additionally, Oman’s publications focus on scarcity of reports. Generally, the WHO agents and the GAs highlight the scarcity of reports. All agents address partnerships for national unity. Jordan and Morocco perceive partnerships for national unity and project for community mobilization and integration as scarce resources. Moreover, the GAs are the only agents to accentuate the scarcity of projects of community mobilization and integration. At a more basic level, Egypt finds references for networking information, then reports and recognition equally as scarce resources. In addition to non-material scarce resources, agents point out shortages of cadres or skilled human resources because of scarce conference participation, training, and references. Cadres are highly scarce in Oman and Egypt; however, in Morocco and Jordan, these cadres are scarce from the regional or international expertise such as the shortage of national and international conference participation discussed by the MoH

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<sup>4</sup> The WHO Oman address recognition regarding improving its facilities within the MoH Oman: “Alternatives for improving the premises of the WHO country office need to be identified, acknowledging the value of being near the Ministry of Health” (WHO Oman, 2005: 58).

Morocco. Additionally, the MoH Morocco highlights the absence of a regional internet-based network to enable exchange of expertise. Similarly, the MoH Jordan highlights the shortage of international conference participation thereby lack of exchange of expertise. Overall, agents underline that the reason for these shortages are the scarce material resources and low prioritization of BC.

Scarce resource match valued resources. The scarce valued resources begin with non-material resources of political support followed by material resources of sponsorship and training, and non-material resources of reports, conference participation, and media coverage. The political support and sponsorship are the most emphasized scarce and valued resources. Nevertheless, these highly valued and scarce resources do not present constraints in all countries.

### **The Progressive and Hierarchal Constraining Structure**

Not only do constraints come in many shapes and sizes, but they are highly interrelated as well. Constraint identification represents the first step to moving towards structuration, and presents the relationship hierarchy in the region. Generally, countries without a NCCP witness constraints more than countries with a NCCP. In content analysis, CAs in countries with a NCCP identify constraints the most. Meanwhile, WHO agents in countries without a NCCP identify them the most. However, the in-depth interviews offer a completely different story. The CAs in countries without a NCCP lead the way in constraint identification, whereas agents in countries with a NCCP differ on this issue. The CA still takes the lead in Jordan, whereas the GA takes the lead in Morocco. Jordan

is the least to mention constraints in content analysis, while Egypt<sup>5</sup> is the least to mention constraints in in-depth interviews.

### ***The Commonality of Harsh Environmental Constraints***

The most frequent constraints in the region are environmental constraints including external structural and material constraints. As the environment shifts to the worse, agents scurry to understand and stabilize it. The MoH Morocco says, “The cancer registry came as a preparing process to the national plan. . . . So that we can have an idea about the number of cases happening in Morocco” (Personal Communication, August 13, 2011). After results of cancer registries, activists or political figures create the CAs, the GAs develop programs, and the WHO agents draft strategies and plans. More importantly, agents begin clustering. The results and findings of cancer registries and field research identify environmental constraints, which represent the main step to cancer control thereby driving clustering and action. Within environmental constraints, agents remark external structural constraints the most. Furthermore, within external structural constraints, environmental trends are referenced more than social attitudes.

In the Arab region, all agents identify cancer and BC incidence as a burden before identifying other trends. ALSC illustrates, “Breast cancer is the first cancer in all the EMR countries; Breast cancer is a public health problem in all the EMR countries. . . . I know that breast cancer is the sworn enemy of cancers in the region” (Personal Communication, August 5, 2011). GAs highlight BC incidence and cancer incidence the most, followed by the double burden. The CAs covers BC incidence and cancer incidence

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<sup>5</sup> Although Egypt presents less frequent constraints, those constraints are profound because they pertain to the absence of GA’s approval to start a BC committee.

the most, which present the reason for its existence. However, WHO agents remark smoking trends before BC and cancer incidence, followed by overweight or obesity trend, excessive alcohol consumption<sup>6</sup>, and inequalities in health service utilization. Overall, agents acknowledge the burden of cancer and BC the most.

Although incidence is highly associated with the late stage discovery because more than 60% of reported BC cases are detected at a late stage, late stage discovery is the third focus in the region. The late stage discovery rates remain uncovered in MoH Oman because “The information missing: we do not have the mortality data or survival analysis” (Personal Communication, July 17, 2011). Despite the lack of scientific data, NACA covers late stage discovery by field observations, which is often the basis of decision-making of CAs in countries without a NCCP. Overall, the missing scientific data results in agents discussing risk factors such as tobacco use and overweight or obesity more frequently than late stage discovery.

Although risk factors are covered frequently in the Arab region, there has been no Arab-based research to identify the correlation between the risk factors and BC or cancer incidence. Countries with and without a NCCP acknowledge the lack of research. The MoH Jordan illustrates, “We look at risk factors and we deduce that the risk factors increase then these diseases increase” (Personal Communication, July 19, 2011). The WHO agents gather available data from different EMR countries and generate regional and global inferences. Additional risk factors that are discussed after late stage discovery, and inequalities in health service utilization are physical inactivity, unhealthy diets, and exposure to carcinogenic substances.

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<sup>6</sup> Alcohol consumption is covered by the WHO only through reports, which reveal limited and unsubstantial results in the four countries under study.

An issue of high importance is the inequalities in health service utilization. The centralization of screening services results in the absence of these services for women in villages or faraway places. The NACA adds that convenience of services is crucial after awareness sessions: “it is easy when we bring the service to the people, but if you expect them to go they will never go” (Personal Communication, August 9, 2011). Moreover, the double burden of communicable diseases and NCDs, and the triple burden of NCDs, communicable diseases, and prenatal conditions and injuries can impact issues of access greatly. The WHO agents and GAs highlight these burdens. However, CAs do not cover them due to their limited cancer-specific or BC-specific scope. Overall, double and triple burdens impact resources and prioritization, as well as social attitudes.

The in-depth interviews demonstrate that the public and health care providers regard NCDs as a lower priority than communicable diseases and prenatal conditions and injuries in the region. Ultimately, social attitudes of NCDs, cancer, and BC concern agents especially CAs, which cover all types of social attitudes constraints. Some GAs perceive social attitudes as the most prominent constraint. The MoH Jordan illustrates, “we have not reached the awareness level that we want. Even the places we provided equipment to, did not achieve our aspirations” (Personal Communication, July 19, 2011). These aspirations are hindered by misinformation, which is the most frequent type of constraint of social attitudes.

CAs address misinformation the most. In Morocco, ALSC perceives misinformation as the most prominent constraint. In Egypt, BCFE illustrates, “When we run campaigns, some women don’t want to hear about it or do not want to know, they are afraid. Amongst them are people, who are highly educated. It has nothing to do with

social class or education in Egypt at all” (Personal Communication, July 5, 2011). The misinformation and myths of BC and screening can lead to many constraints that follow like cancer-related fear, which is most covered by GAs. A study in Morocco, conducted by MoH Morocco and ALSC, found out that people feared cancer “they don’t say cancer disease, they say that traitor disease, that terrifying disease, that disease that kills” (Personal Communication, August 5, 2011). Cancer-related fear is closely tied to low self-efficacy, which is covered by CAs only like negligence. Negligence is mostly covered in Jordan, where “The highest incidence is between the ages of 40 to 49 years, which has social and economic consequences since these women are relatively young, still raising children and contributing to economic growth” (Personal Communication, July 13, 2011). Negligence emanates from cancer-related stigma.

Cancer-related stigma is covered by all types of agents. BCFE focuses on cancer-related stigma as a result of the husband-wife relationship. The BCFE illustrates, “the husband does not support the woman in her treatment, or when he knows she has the disease, he either leaves her or divorces her. . . . This makes women from the start not undergo early detection” (Personal Communication, July 5, 2011). The BCFE adds that Arab women are unaware of their health and more specifically breast health. On the contrary, Jordan covers cancer-related stigma in regards to young unmarried women’s general low breast health knowledge and practices. Despite the differences, a general commonality in perceived social attitudes and environmental trends constraints exists in constraints. On a regional level, some agents highlight the presence of “the similarity in the conditions and similarity sometimes in the statistics and numbers and the context” (Personal Communication, July 13, 2011). The commonality serves as a great platform

for the existence of ‘asabiyya on a regional scale. Moreover, these types of constraints, along with material constraints, drive the fight against BC in the region.

The material constraints pertain to equipment issues and lack of funding. A shortage of equipment exists in Egypt, Jordan, and Morocco. The MoH Jordan illustrates, “the mammogram equipment, the analog, is approximately [CAD \$72,000]<sup>7</sup> so we are obliged to look for support from other institutions, other than governmental institutions in these worldly financial conditions” (Personal Communication, July 19, 2011). After low public awareness levels, the MoH Jordan describes the equipment fee as the most prominent barrier because it limits most activities. Moreover, the issue of obsolete machinery exists in Egypt and Oman. BCFE describes that the very few obsolete machines undergo failure when a high number of women are screened. The BCFE adds that Egypt witnesses government health facilities that are lacking in quantity and quality. Similarly, the NACA highlights the old mammograms in regional hospitals. Equipment issues often boil down to low funding. Egypt and Oman witness low funding<sup>8</sup> the most. BCFE and NACA, as well as the NCD Department in MoH Oman have insufficient funds for operations, as well as describe the lack of funding for public hospitals and screening centers. The BCFE adds, “I do not have sufficient funds to be able to cover all the projects that I need to run” (Personal Communication, July 5, 2011). Overall, material constraints, especially those driven by internal constraints, constrict agents work.

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<sup>7</sup> Based on November, 28, 2011 currency rates.

<sup>8</sup> Agents in Jordan and Morocco receive sufficient funding from the King Hussein Cancer Foundation in Jordan, and the ALSC in Morocco.

### *The Web of Political Internal Constraints*

Although agents do not discuss them frequently, internal constraints<sup>9</sup> are regarded as the most prominent constraints. In publications and website content, the WHO agents and GAs cover internal constraints more frequently than CAs. In in-depth interviews, two CAs do not experience internal constraints. The findings demonstrate that within one country, internal constraint-definition is inconsistent, and is dependent on the type of agents and its perspective. Generally, the themes of internal constraints by frequency are the lack of unified and strategic focus, bureaucracy, lack of community mobilization, management issues, lack of coordination, ethical acceptance and consent, misuse of resources, lack of political support, and inactivity in setting policies and plans. Although WHO agents work closely with the GAs, some are caught in the GAs' bureaucracy, which is the most frequent internal constraint covered by WHO agents. The only uncovered constraints by the GAs are bureaucracy and inactivity in setting policies and plans, which are attributed to them by other agents. More importantly, GAs are the only agents that refer to internal constraints within their own agency. Lastly, the CAs emphasize bureaucracy, lack of community mobilization of specific sectors, and lack of political support. In general, some CAs are forced to comply with politically powerful agents locally or internationally on guidelines and screening measures due to lack of coordination, as well as the need for funding.

Generally, the countries without a NCCP witness lack of community mobilization, and lack of funding due to the bureaucracy, lack of coordination, lack of unified and strategic focus, management issues, and lack of leadership. Political interest

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<sup>9</sup> Due to the confidentiality of informants' answers, the findings in this section are generalized.

of BC is absent in countries without a NCCP except if an international partner is involved. Overall, in countries without a NCCP the most prominent internal constraints are local ones especially those resulting from GAs. On the contrary, the countries with a NCCP witness political commitment, WHO's expertise, and NGO's BC work. This leads the countries with a NCCP to witness a general lack of prominent internal constraints and their focus shifts to regional constraints. The in-depth interviews findings establish that countries without a NCCP are facing internal constraints that countries with a NCCP faced in the past because of lack of prioritization by the GAs and WHO agents. Although the most frequent theme of internal constraints is the lack of unified and strategic focus, the most emphasized one is lack of political support, which is present in countries without a NCCP. Ultimately, internal constraints give rise or worsen environmental constraints, thus hinder progress. Nevertheless, agents' social network and autopoiesis offer a way forward.

### **The Optimal and Weak Social Networks**

The autopoietic and optimal social networks represents the engine that applies tensions on the constraining structure. Some agents are planting seeds on the regional level, where country-specific subsystems get together to form a larger or comprehensive regional system. However, this engine is mainly on the country level. The findings establish that each system or country requires a local optimal social network and its protective shield of autopoiesis, to set the platform for regional network. Before autopoiesis, the core of the process—optimal social networks—needs to flourish. While some countries witness nearly optimal social networks, others are still far from it. The research explores and

evaluates the social networks on the country and regional level based on the building blocks for an optimal social network.

### *The Civic Culture*

The civic culture along with its subthemes—unified principles, cooperation, social action, social position, and social role—is promising in countries with a NCCP, while ones without a NCCP lag behind. The in-depth interviews demonstrate that some degree of unified principles on the country level is required to create a successful NCCP. In countries with a NCCP, the GAs work on strategy building and setting guidelines in coordination with CAs, which focus on research, planning, and implementation, and WHO agents for expertise and tools; thus, agents in countries with a NCCP complement each other. At a more basic level, CAs in countries without a NCCP focus on field work including awareness, screening, training, and support, while the GAs and WHO agents disregard cancer and BC as a priority. As the JBCP and the ALSC are more involved with the GAs in strong partnership and principle building, the NACA and the BCFE follow GA protocols or create their own. Therefore, countries with a NCCP witness unity of principles, but countries without a NCCP's agents lack this element.

Similarly, cooperation on the country level is present in countries with a NCCP and absent in ones without a NCCP. On the regional level, some seeds are planted for the EMR alliance and the US-MEPI's alliance coordinated by the BCFE. Although the BCFE plans for a collective solution on the regional level, it witnesses no cooperation on the country level. Similarly, the MoH Oman and NACA do not cooperate for collective cancer control. Agents in countries without a NCCP tend to cooperate for solutions with

agents outside their country, e.g., BCFE cooperates with Susan G. Komen for campaigns and activities like the Race for the Cure. On the contrary, the two countries that witness a high level of cooperation on the country level are Jordan and Morocco. However, Jordan surpasses Morocco because all local health sector agents are involved in creating the *Breast Cancer Screening and Diagnosis Guidelines* in Jordan, but in Morocco, the ALSC-MoH Morocco partnership dominates the platform. Overall, countries with a NCCP witness a platform for cooperation, while ones without a NCCP seek international platforms due to the absence of local ones driven by social action.

The social action of countries with a NCCP differs strongly in quantity and quality than that of ones without a NCCP in regards to unity tools, agents' capability, freedom of action, and agreed-upon rights and responsibilities. Unity tools come in all shapes and sizes on the regional and country level. In Egypt and Morocco, CAs initiate regional initiatives, like the US-MEPI for BC research and awareness and the EMR Alliance against Cancer, along with international or local WHO agents to form cross-country unity tools. The regional cooperation platforms are present but their production of unity tools depends heavily on the national unity tools. At a more basic level, the national unity tools are present in Jordan and Morocco only. The JBCP "succeeded in coordinating all the efforts towards the common aim, which is the aim of combating breast cancer in Jordan" (Personal Communication, July 13, 2011). Similarly, in Morocco, the ALSC embodies the catalyst to Morocco's NCCP and the guiding booklet on screening and early detection through its Breast and Cervical Cancer Early Detection Program. Once more, the JBCP surpasses the Breast and Cervical Cancer Early Detection Program in Morocco due to the inclusion of all health sector agents. The in-depth

interviews and content analysis demonstrate that the creation of national unity tools depends on the GAs' actions. CAs are not included in the screening protocols that are created by the GA in Oman, while a GA decision for a BC committee is awaited in Egypt, thus, GAs in countries with a NCCP's do not lead unity tools. On the other hand, the GA drives unity tools in Morocco and Jordan by establishing or supporting the establishment of an NGO capable of creating national unity tools.

Capability is the core of social action and the driver to unity tools and cooperation platforms. Capability is explored in themes of proactivity, skill, and rationality. In-depth interviews demonstrate that proactive agents are CAs, WHO agents, and international agents. In regards to networking, the JBCP says, "We are actively and proactively working on getting everybody into combating BC in Jordan and in the region" (Personal Communication, July 13, 2011). At a more basic level, the NACA's President, who is frustrated at the lack of a screening program in Oman, declared, "I decided to take matters in my own hand, and build the mobile unit<sup>10</sup>" (Personal Communication, August 9, 2011). On the other hand, the MoH Oman and BCFE perceive international agents, like the International Agency for Research on Cancer, the WHO, and the Susan G. Komen, as proactive agents in giving training and guidelines, and strategizing for BC in Egypt and Oman. This proactivity does not necessarily coincide with skills.

Content analysis and in-depth interviews demonstrate agents' skill more frequently than agents' rationality. The most frequent skills are situation analysis followed by campaign evaluation, pilot study evaluation, and international review. All countries reference situation analysis through the WHO agents followed by GAs and

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<sup>10</sup> The NACA's mobile unit is equipped with a mammogram and an ultrasound, and travels to all regions in Oman.

CAs. Jordan is the most country to demonstrate skill, especially situation analysis. The JBCP conducts situation analysis on BC, while the MoH Jordan conducts it on risk factors. For skill, the BCFE employs the EMRO's health questionnaire tool for its awareness sessions, as well as surveys for each Arab country involved in US-MEPI. More specifically, CAs are the most to undergo scientific research, especially the JBCP and the ALSC. The GA-released reports are employed by BCFE, NACA, and partially by ALSC and JBCP, which conduct their own research as well. The JBCP employs behavioral research, content analysis, and latent content analysis. The ALSC's work with university hospitals in regards to scientific research, and establishing an institute for scientific research in the cancer domain illustrates its skill. Moreover, ALSC represents skill through its scientific committee made up of local experts that gather, conduct, and approve all the scientific data and research.

Situation analysis is followed by evaluation of campaigns and performance indicators, which is conducted by CAs only. ALSC combines campaign evaluation and performance indicators through field research and operations research to evaluate whether "it addresses the needs of the Moroccans. . . . the Ministry, and the [ALSC]" (Personal Communication, August 5, 2011). CAs in countries with a NCCP, as well as WHO agents and GAs in ones without a NCCP take on evaluation of pilot studies, e.g., the Family and Community Health Department in MoH Oman and the EMRO are running an evaluation of a screening pilot study in Oman. Additionally, all WHO agents undertake international review, which represents the second focus of GAs after situation analysis. Sometimes the international review relates to an international scientific committee that undertakes theoretical knowledge. Jordan's second skill is international

review because of the recommendations from its international committee of experts. In addition to skill, content analysis demonstrates agent's rationality in themes of health communication by the WHO agents and economic frameworks by the JBCP. Overall, the rationality, skill, and proactivity present the core of social action. The findings demonstrate that countries with a NCCP witness more capability than countries without one. While GA offices work within their limited scope of responsibilities, CAs and WHO agents present high capability.

Capability tools require freedom of action. The findings demonstrate two types of freedom of action: one of strong cooperation that fosters capability in countries with a NCCP, and one of lack of cooperation that constricts capability of GA offices and CAs in countries without a NCCP. Within countries without a NCCP, further differences are present. In Egypt, the BCFE is forced to change its scope according to its partner or sponsor, whereas in Oman, the NACA is obliged to follow outdated GA protocols. However, the BCFE expects to pressure Arab governments to prioritize BC and improve the health facilities provided through the US-MEPI for BC research and awareness, hence, international agents empower the BCFE. On the other hand, the Preventative Affairs office in the MoHP is not empowered because it is awaiting the approval of a BC committee from the Deputy Minister's office. Similarly, the MoH Oman's office is not empowered due to the shortage of resources. On the contrary, the cases of freedom of action are similar in countries with a NCCP, where internal guidelines provide freedom of action to CAs, along with other involved agents. Additionally, local agents embody the deciding committee, while international agents represent the advisory committee. The

dynamics of the local and international platforms enable agreed-upon rights and responsibilities.

Content analysis and in-depth interviews demonstrate that only countries with a NCCP present agreed-upon rights and responsibilities. The most powerful political agent—not necessarily the GA—is central to the agreed-upon rights and responsibilities. The most agreed-upon rights and responsibilities are presented by the MoH Jordan in Jordan and the ALSC in Morocco. The MoH Jordan recalls, “In the last two years, we noticed commitment from all the partners whether it is financial commitment or commitment in terms of project execution” (Personal Communication, July 19, 2011). Similarly, BC came into the spotlight for the first time in Morocco after the ALSC was established in 2005. This historical insight of countries with a NCCP resembles the present of the countries without a NCCP.

This resemblance implies that social action undertaken by countries with a NCCP can promote agreed-upon rights and responsibilities in countries without it. In Egypt, the BCFE witnesses a lack of agreed-upon rights and responsibilities in collective action. While the MoH Oman collaborates for agreed-upon rights and responsibilities with the WHO Oman through its two departments, the NACA is left out. The NACA’s president illustrates, “if only they recognize that if we [NACA, MoH Oman, and WHO Oman] work together, you get better results” (Personal Communication, August 9, 2011). The GAs and the WHO agents do not harness the capability of the CAs in countries without a NCCP. Overall, the CA and the WHO agents are the most capable agents. The scope and priority of political power drives the GA offices’ strategies and plans expanding CAs and WHO agents’ capabilities on a national scale. Additionally, driven by freedom of action,

this capability drives unity tools, cooperative platforms, and agreed-upon rights and responsibilities. Ultimately, social action, along with its components, requires advantageous positioning within the progressive web of underlying cultural structures.

In the Arab region, agents (especially CAs) are positioned mostly within local Arab networks. Additionally, the CAs in Egypt and Oman have prominent US networks. Similarly, the WHO agents are embedded in UN networks. On the other hand, the GAs are positioned in mostly Arab local networks. In regards to health sector networks, WHO agents and GAs are positioned within them, but CAs present positioning within non-health and health-related networks. The positioning of the WHO agents, the GAs, and some CAs—JBCP and NACA—aim at local cancer control, however, BCFE aims for Arab cancer control, and ALSC aims for EMR cancer control. The ALSC's aim is more reasonable than the BCFE's aim because Morocco witnesses local cancer control measures, whereas Egypt does not. Local positioning in countries with a NCCP surpasses that of ones without a NCCP in quantity and quality. Overall, countries with a NCCP witness strong country-specific positioning, whereas the countries without a NCCP seek international positioning due to the lack of strong local political positioning. Ultimately, the MoH Jordan is the only agent implanted mainly in the cancer domain network thereby witnessing optimal positioning for country-specific change.

All agents have country-specific change as their number one role, except for the WHO. As discussed in context, the WHO agents act as supporters and middle-agent between GAs and international agents. Therefore, the WHO agents' roles of country-specific change, planning, and strategizing roles follow its supportive one. On the other hand, after country-specific change, the CAs undertake the role of eradicating and

downstaging BC. Similarly, the GAs present BC eradicating, downstaging, and regulation after country-specific change. On the country level, all countries witness roles of country-specific change followed by support, however, Jordan's second role is to eradicate cancer. Moreover, Jordan and Morocco have planning and strategizing amongst their roles, whereas Oman exhibits local advocacy, and Egypt exhibits regional advocacy. Egypt's regional advocacy is stronger than its local advocacy due the EMRO's regional cancer control efforts, and BCFE's involvement with the US-MEPI for BC awareness and research. Although the roles of countries with and without a NCCP match their positioning, the positioning is maximized within progressive underlying cultural structures and roles are more focused in countries with a NCCP. Overall, the unified principles, cooperation, social action, social position, and social role of countries with a NCCP surpass the civic culture of countries without a NCCP, which yearn for social order.

### ***The Social Order***

The exploration and evaluation of this second element defines some of the major power struggles and hierarchal issues in the region. Similar to civic culture, social order is present in countries with a NCCP and absent in those without a NCCP. This element requires balance of power, leadership or chieftain, and commonality of rules.

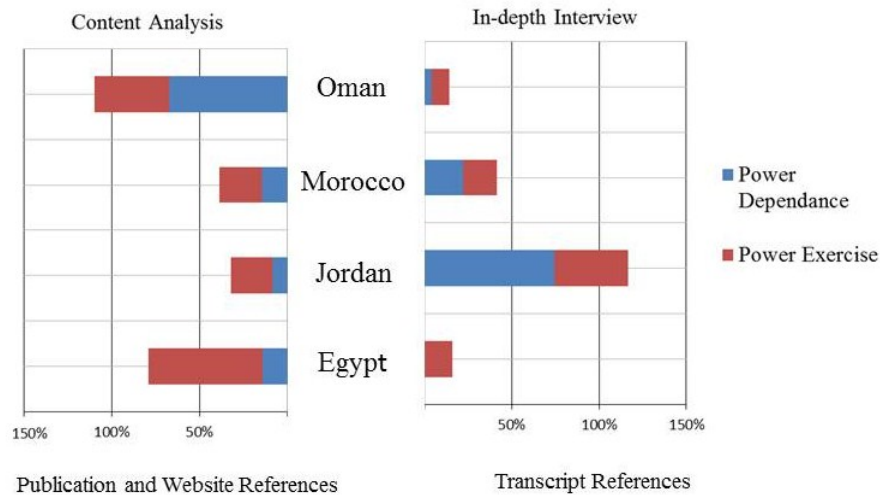
A tension exists between power exercise and power dependence in the region, where power exercise is stronger as *Figure 1<sup>11</sup>* presents. The findings demonstrate that GAs exercise power on CAs, except in Morocco, where the ALSC exercises power by

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<sup>11</sup> This figure is created through NVivo then processed and simplified for the purposes of this thesis.

unifying the guidelines and distributing the booklet to all health centers through training and campaigns. However, for the most part mutual dependencies exist in Morocco, as well as in Jordan, where the JBCP embodies a partnership between the MoH Jordan and the King Hussein Cancer Foundation. The MoH Jordan illustrates, “This is a new kind of partnership in management, meaning partnership in everything, a real partnership, not just a partnership on paper” (Personal Communication, July 19, 2011). This partnership enables the tensions of power to balance out in Jordan.

**Figure 1: Power Tensions in Social Networks**



On the other hand, Egypt and Oman present similar situation, where power exercise is stronger. All agents in Oman witness power exercise by having to follow GA protocols. Moreover, the MoH Oman is dependent on hospitals for its annual cancer registry report, which explains the high power dependence of content analysis in *Figure 1*. However, power dependence is almost non-existent in Egypt, where GAs exercise power by not approving a BC committee and international agents exercise power by facilitating regional projects in regards to government approvals, media coverage, and capacity

building. Overall, power is unbalanced in the Arab region, especially in countries without a NCCP, where political powers or chieftains restrain power dependence.

Chieftain-identification presents different cases in the region. In Jordan, the MoH Jordan and the JBCP acknowledge the King Hussein Cancer Foundation as the effective chieftain. Similarly, the MoH Oman's office and the NACA perceive the MoH Oman as the chieftain. However, the NACA perceives it as an ineffective chieftain in coordinating and rallying agents for combatting cancer. While Oman struggles with its ineffective local chieftain, Egypt finds a way out by perceiving the US Government as the chieftain because it ties agents in the Arab region together through the US-MEPI. The BCFE illustrates, "When there is a [US] political sponsorship or support in something, that thing is facilitated" (Personal Communication, July 5, 2011). Again, international political bodies empower the BCFE. On the other hand, in Morocco, the ALSC perceives itself as the chieftain because it leads the EMR alliance, and fights all types of cancer in all axes locally and regionally, while the MoH Morocco perceives itself as the chieftain because of its medical role and cadres; hence, an internal conflict is present. Overall, the King Hussein Cancer Foundation represents the chieftain in Jordan, Morocco witnesses an inconsistency of chieftain-identification, Oman's chieftain is deemed ineffective, and the US government represents Egypt's chieftain. These chieftains set and drive rule creation.

Priorities, BC screening procedures, definitions, cancer registries, and laws embody the rules in the region. GAs along with the WHO's expertise and support prioritize cancer registries. Moreover, GAs prioritize comprehensive coverage of cancer, health systems, and campaigns, whereas CAs prioritize early detection and screening followed by awareness and early diagnosis. Lastly, the WHO agents prioritize health

systems and campaigns followed by comprehensive coverage of cancer. A general regional agreement exists in regards to clinical breast examination and breast self-examination, as well as the definition of cancer control measures, causes, risk factors, and early detection measures. Nevertheless, some details such as mammogram age requirements are different due to the different rule creation procedures. In Jordan and Morocco, the unified definitions are created based on national and international advisory committees. While CAs and GAs set definitions together in countries with a NCCP, it is a different story in countries without a NCCP. In Oman, the MoH Oman set the definitions without the CA, and in Egypt, each agent sets their own definitions. BCFE sets its own definitions based on limited observations of cases seen by one doctor in the National Cancer Institute in Egypt, and US standards. While no Egyptian rules exist, rules focusing on BC treatment are set without the involvement of local actors in Oman. The NACA perceives the MoH Oman's protocols as outdated. Nevertheless, it follows them.

Although a law of free early detection measures exists in Jordan's public hospitals and health care centers, laws are often ineffective if unenforceable or inefficient to health care providers, e.g., the MoH Oman's Ministerial Decision regarding hospital notification of cancer cases. The WHO rallies countries in the EMR region under framework convention or laws. The countries under study share the WHO Framework Convention on Tobacco Control, which is "the first global health treaty" and are expected to undertake anti-tobacco measures<sup>12</sup> (WHO Oman, 2006: 2). Regarding cancer "The World Health Assembly has adopted in 2005 a resolution (WHA 5822) recommending to all members states to strengthen the actions against cancer, by developing or strengthening

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<sup>12</sup> The Parliament in Morocco passed an anti-smoking law.

the existing cancer control programs” (ALSC & MoH Morocco, 2010: 2). This quote sheds light on the supporting role of the WHO in the region and the social order element within the WHO system. Effective rules are ones based on scientific reasoning including health sector agents led by the chieftain. Overall, social order is mostly hierarchal (especially in countries without a NCCP) due to skewed mutual dependencies, rule creation, and chieftains, which are needed for social solidarity.

### ***The Social Solidarity***

Similar to the first two elements, social solidarity—along with its sub-themes of lack of internal constraints, network of solidarity, reduction in wealth disparities—witnesses a divergence between countries with and without a NCCP. A consensus exists in one country with a NCCP regarding the lack of constraints<sup>13</sup>, whereas a contradiction exists in the other, where one agent does not experience internal constraints and another regards minor internal constraints (that are acknowledged and being addressed). Overall, agents from countries with a NCCP present lack of internal constraints coupled with community involvement.

Community involvement is one of the pillars of a network of solidarity. No community involvement exists on the regional level yet. On the country level, CAs represent the bridge between the GAS and WHO agents on the one hand, and Arab communities on the other. Jordan witnesses the highest community involvement, where the JBCP leads the community networks with NGOs to reach Jordanian women. The MoH Jordan adds that community involvement is better than before with the community

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<sup>13</sup> The countries and agents are not identified due to the confidentiality of internal constraints.

outreach program: “Some midwives and female health providers were trained to visit women in underprivileged areas” (Personal Communication, July 19, 2011). In each country, two agents collaborate for community involvement, but the BCFE works alone on community involvement through networking and capacity building in Egypt. In Oman, the WHO agent presents community involvement for risk factors only, while the BC awareness and screening community involvement occurs in the NACA’s network.

A complex BC and cancer network exists in the Arab region. The region witnesses strong ties followed by cross-linkages and weak ties. The CAs undergo stronger networks than other agents do because they have the strongest ties, followed by weak ties and cross-linkages. In countries with a NCCP, the CAs have the most ties in countries without a NCCP, while the GAs have the highest number of ties. Oman experiences the highest number of ties; however, this does not indicate the presence of a network of solidarity. To evaluate the complex network, this thesis breaks it down into ties between agents under study, centrality, CAs’ ties, GAs’ ties, and WHO agents’ ties.

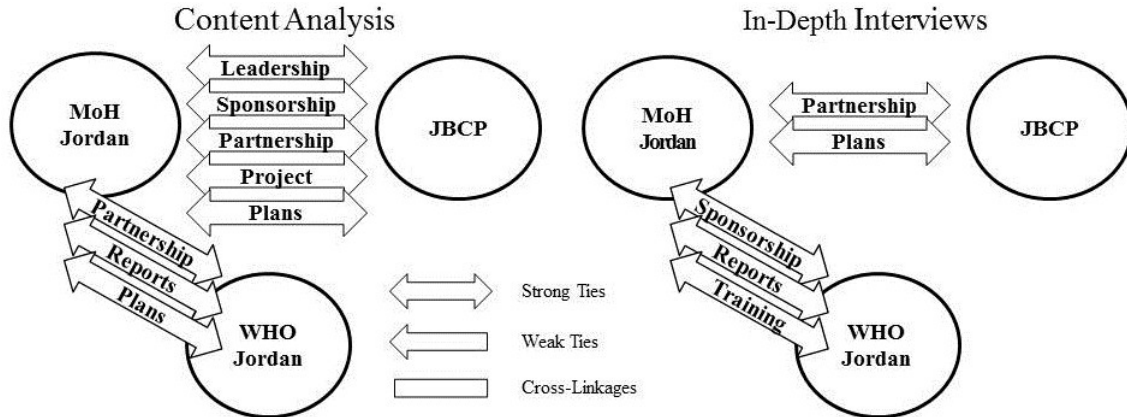
The exploration of agents’ ties on the country and regional level demonstrate major findings. As seen in *Figure 2*<sup>14</sup> and *Figure 3*<sup>15</sup>, the three agents in Morocco, as well as the three agents in Jordan, are highly connected to each other mostly in partnerships and plans.

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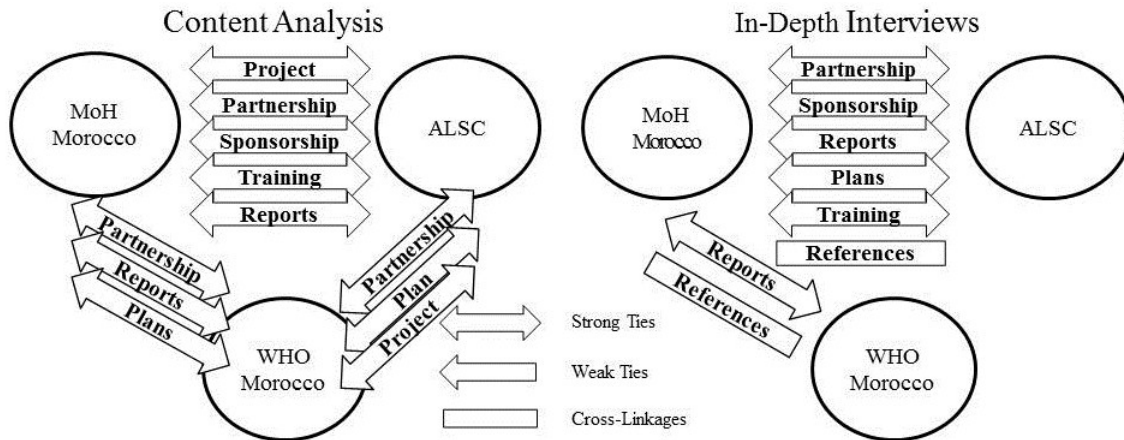
<sup>14</sup> This figure is created through NVivo then processed and simplified for the purposes of this thesis.

<sup>15</sup> This figure is created through NVivo then processed and simplified for the purposes of this thesis.

**Figure 2: The Social Network in Jordan**



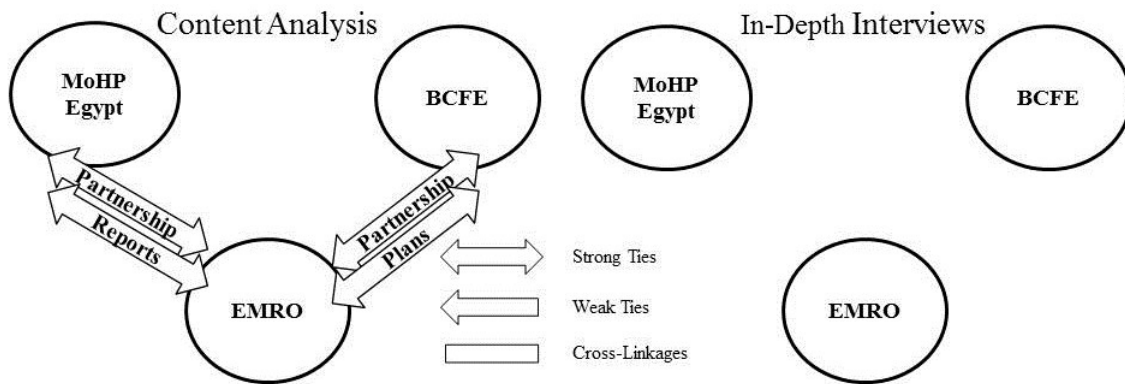
**Figure 3: The Social Network in Morocco**



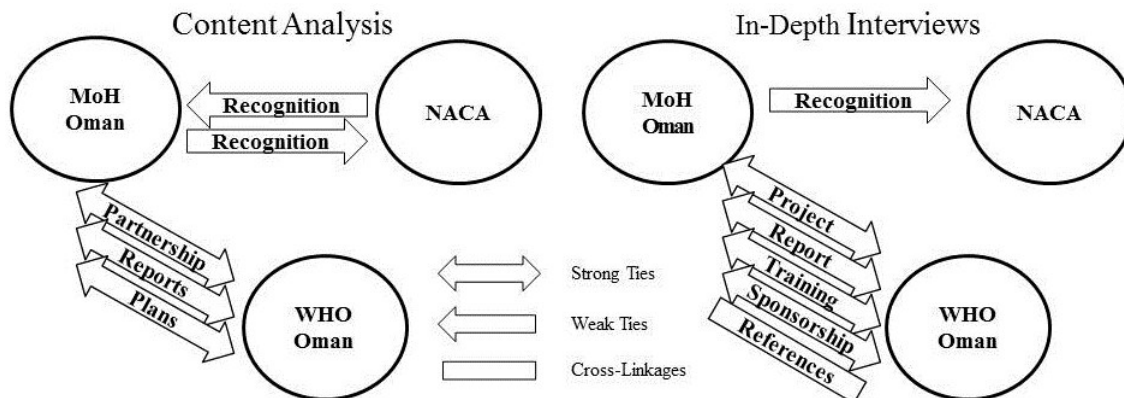
Generally, the CAs are highly connected to GAs in countries with a NCCP. GAs represent the ultimate connector locally between the CAs and WHO agents. The ties between CAs and WHO agents are almost non-existent in Jordan and Morocco. However, the WHO Morocco and ALSC have strong ties as demonstrated by the content analysis. The in-depth interviews demonstrate that most resources shared are provided by the ALSC in Morocco and the King Hussein Cancer Foundation in Jordan.

Similarly, as seen in *Figure 4*<sup>16</sup> and *Figure 5*<sup>17</sup>, the GAs in countries without a NCCP have the strongest ties with WHO agents, while CAs are barely connected to the other two main agents.

**Figure 4: The Social Network in Egypt**



**Figure 5: The Social Network in Oman**



In regards to CAs, the MoH Oman shares weak ties of recognition and respect with NACA, and MoHP Egypt does not share any ties with the BCFE. In-depth interviews demonstrate that WHO agents in Egypt and Jordan provide most shared resources. However, in-depth interviews demonstrate no ties between EMRO and local Egyptian

<sup>16</sup> This figure is created through NVivo then processed and simplified for the purposes of this thesis.

<sup>17</sup> This figure is created through NVivo then processed and simplified for the purposes of this thesis.

agents, whereas the WHO Oman presents strong ties with the MoH Oman. In addition to its NACA and WHO Oman, the MoH Oman has strong ties, weak ties, and cross-linkages with EMRO. While the ALSC has an alliance with the NACA, the NACA has weak ties of recognition and respect with the ALSC. Moreover, the NACA has cross-linkages discussions and references with the EMRO, while the BCFE shares plans with it. While the EMRO is connected more than the WHO Oman, Oman's GAs and CAs are connected more than Egypt's. Egypt witnesses a fragmented network because of the low connectivity and absence of an effective central agent.

On the regional level, the JBCP takes on strong ties with EMRO and cross-linkages with BCFE, while the ALSC undertakes strong ties with the EMRO, BCFE, King Hussein Cancer Foundation, and NACA. Therefore, ALSC is the most highly connected CA internally and externally, followed by the JBCP. Additionally, the EMRO takes on strong ties with the BCFE, the MoHP Egypt, the WHO Jordan, the WHO Morocco, the WHO Oman, the JBCP, the MoH Jordan, the MoH Oman, and the ALSC, as well as cross-linkages to the MoH Morocco and the MoH Oman. Therefore, the EMRO is the most central agent regionally followed by the ALSC.

All CAs take on local Arab networks followed by Swiss networks (ALSC and NACA) and US networks (JBCP and BCFE). Moreover, all CAs undertake private sector ties more than health sector ones, except for the JBCP that is embedded in a health sector network. CAs in countries with a NCCP embraces other ties before strong ones, such as cross-linkages for BCFE and weak ties for NACA, while CAs in countries with a NCCP undertake strong ties of partnerships the most. ALSC shares its strongest ties with the MoH Morocco, the JBCP share them with the King Hussein Cancer Foundation, and the

BCFE strongest tie is with the Susan G. Komen, whereas Oman presents a different story. The content analysis demonstrates that the NACA has the strongest relationship with Oman Qatar Insurance Company and National Bank of Oman; however, in-depth interviews demonstrate that the NACA lacks strong ties and undertakes cross-linkages and weak ties only. Generally, all agents present weak ties of donations except the JBCP, which presents weak ties of political support. Furthermore, references are the most exchanged resource in cross-linkages for CAs.

The CAs in countries with a NCCP witness strong political support from their leaders, Princess Dina Mired (JBCP) and Princess Lalla Salma (ALSC). Moreover, the JBCP receives political support from Queen Rania, Princess Muna Al-Hussein, and Prime Minister Nader Al-Dahabi. On the other hand, content analysis demonstrates that the BCFE receives political support from the Egyptian Ministry of Finance, Ministry of Housing, and Suzanne Mubarak—the deposed first lady—whereas the NACA receives political support from the Sultan of Oman Qaboos bin Said. However, in-depth interviews demonstrate that the BCFE and NACA do not witness any kind of local political support. On the other hand, politicians support WHO agents. The EMRO receives political support from the Moroccan Minister of Health and the WHO Oman’s political support comes from the Dutch Ambassador in Oman. Apart from Morocco, where ALSC is the political agent, political support (if any) for agents in countries with and without a NCCP is provided by the GAs.

Most GAs’ ties embrace Arab, local, and health sector agents, except for MoH Morocco, which takes on ties with non-Arab, local, and non-health sector agents. The GAs’ strong ties, which exceed other ties in quantity, differ in quality. The strongest ties

of GAs in countries with a NCCP include partnerships with the involved CAs. Meanwhile the strongest ties of GAs in countries without a NCCP include reports with WHO agents. The common trend of countries with and without a NCCP changes in regards to weak ties. The MoH Oman and MoH Jordan receive recognition the most, whereas MoHP Egypt and MoH Morocco do not undertake any weak ties. While countries with a NCCP are at the references, conference attendance, and conference participation level of cross-linkages, countries without a NCCP are at the lectures level. Some lectures and conferences are held by WHO agents, led by EMRO, for EMR cancer control by EMR member countries.

The WHO ties breaks the common trend of countries with and without a NCCP. The WHO agents in Oman and Morocco embrace cross-linkages the most, while WHO agents in Jordan and Egypt<sup>18</sup> embrace strong ties the most. The WHO Jordan and the EMRO present ties mostly with Arab agents, whereas the WHO Oman and the WHO Morocco present ties mostly with non-Arab agents. In regards to locality and health-relatedness, all WHO agents undertake local and health sector ties the most, except for WHO Morocco. The WHO Morocco takes on more international and non-health sector ties. After local ties, WHO agent share ties with UN agents in Switzerland followed by US ties. The strongest ties for the WHO Morocco and the EMRO<sup>19</sup> are ones with the UN agents, whereas the strongest ties for WHO Oman and WHO Jordan are those with university hospitals and the GAs. Generally, the WHO agents share the strongest ties with the EMRO, because it leads all the WHO offices. All the WHO agents undergo strong ties of partnerships except for the EMRO, which shares mostly plans.

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<sup>18</sup> Evidently, the EMRO has the most ties.

<sup>19</sup> Even the EMRO's second strongest relationship is not with the MoHP Egypt.

Additionally, recognition is the most exchanged resource in weak ties, while references and discussions are the most exchanged in cross-linkages. Overall, these complex networks of WHO agents, GAs, and CAs require reductions in wealth disparities and open access to resources for social solidarity.

The content analysis demonstrates that the WHO agents practice reductions in wealth disparities and recognition the most, followed by CAs and GAs. However, the in-depth interviews present a different story. In Morocco, the ALSC's NGO status, political status, and community work address the needs of the MoH Morocco. Quite the reverse, in Jordan King Hussein Cancer Foundation and Princess Dina Mired recognize the JBCP's needs to combat BC. The MoH Jordan perceives the JBCP as an effective model for a GA-NGO partnership that maximizes the political and NGO statuses. In countries with a NCCP, the NGO status and political power are fulfilled. Meanwhile, in countries without a NCCP, both CAs witness recognition of needs from international organizations or volunteers only. The two agents illustrate:

The WHO hasn't helped us in anything to do with BC unfortunately. . . .  
The [GA] hasn't helped us in a penny. . . . because they do not feel it as a  
priority. . . . They are supposed to facilitate things. . . . I do not have the  
sufficient funds to do everything.

(Personal Communication, July 5, 2011; August 9, 2011)

The MoH Oman adds that needs of cadres and efficient telecommunication networks with hospitals remains unrecognized, while the Infectious Diseases Department in MoH Oman receives recognition for these needs from the GA. Similarly, the Deputy Minister's office at the MoHP Egypt receives no recognition for the dire need of a BC committee. Overall, political and NGO statuses lead to reductions in wealth disparities and recognition of

needs in countries with a NCCP, while it is lacking in countries without a NCCP. This trend resembles that of access to benefits and resources.

Jordan and Morocco witness open access to political benefits and resources because of the recognition of needs and reduction in wealth disparities. The JBCP has open access to all the benefits and resources of the King Hussein Cancer Foundation; “There is no difficulty in receiving resources at all because we receive all resources from the King Hussein Cancer Foundation” (Personal Communication, July 13, 2011). Similarly, ALSC has open access through its leader, Princess Lalla Salma. Consequently, the ALSC provides access to resources to the MoH Morocco’s office. In Jordan, the MoH Jordan’s office witnesses “an allocation on the ministerial level given to the NCDs. This has not been done before” (Personal Communication, July 19, 2011). This allocation assists the NCD-related programs, which lose investors’ funding to infectious diseases. On the other hand, Egypt and Oman witness lack of access to benefits and resources. Again, BCFE witnesses open access to benefits and resources from international agents only, while the NACA lacks access to resources and benefits and undergoes fundraising on its own. Moreover, no plans are set in MoHP Egypt to allocate benefits and resources. Meanwhile, the MoH Oman presents limited access due to the telecommunication barriers, shortage in cadres, and most importantly double burden and prioritization of the Infectious Diseases Department. Therefore, local access to benefits and resources exists in countries with a NCCP only.

Overall, the similar trends in social solidarity—lack of internal constraints, network of solidarity including Arab community involvement, reduction in wealth disparities including recognition and open access to resources—demonstrate that

countries with a NCCP almost fulfill the social solidarity element, while countries without a NCCP are far behind. The findings from the three elements of an optimal social network—civic culture, social order, and social solidarity—demonstrate that none of the countries witnesses an optimal social network yet. Nevertheless, efforts of an optimal and autopoietic social network are underway (especially in countries with a NCCP).

### **The Strong and Vulnerable Shields of Autopoiesis**

Autopoietic subsystem boundaries on the country level embody the potential success of a large-scale autopoiesis on the regional level. This thesis explores and evaluates autopoiesis based on communicative events, history and self-description of identity, recursivity, and internal codes and guidelines. Like social networks, the shield of autopoiesis is strong in countries with a NCCP, but vulnerable in countries without a NCCP. Nevertheless, the WHO has a highly autopoietic social network

### ***The Communicative Events***

Content analysis and in-depth interviews demonstrate that the WHO agents take on the highest quality and quantity of communicative events in the region. The WHO processes local data yearly to come up with global reports on cancer through the EMRO, where all the regional data pools. Moreover, the findings demonstrate that as a country Jordan—specifically the JBCP—embraces the most communicative events. The JBCP processes scientific research findings for internal decision-making and plans that drive action. Overall, the EMRO leads regional communicative events, while other agents, e.g., JBCP,

undertake country-specific communicative events. Similarly, the EMRO and the JBCP have different historical and self-descriptive references.

### ***The Historical and Self-Descriptive References***

Historical and self-descriptive references are covered by all agents under study. The WHO agents and GAs are the most to discuss history. By recalling how the WHO office started and its work developed in each country, WHO agents establish local and regional attachment. Additionally, the MoH Jordan recalls the leading role of the King Hussein Cancer Foundation and the national committee in establishing the JBCP. Similarly, the MoH Morocco recalls how 2005, when the ALSC was established, was a major turning point because the ALSC “pushed everyone to prepare this national plan” (Personal Communication, August 13, 2011). The GAs of countries with a NCCP recall historical references to demonstrate unity and the importance of NGOs. On the other hand, other historical description demonstrate the importance of international experts, e.g., the MoH Oman recalls how the WHO’s expertise transformed the hospital-based registry into population-based registry. Overall, historical references demonstrate unity (similar to self-descriptive references) and the importance of specific agents on the country level by GAs, as well as regional attachments on the regional level by WHO agents.

CAs and GAs in the Arab region present country-specific symbols, but CAs merge country-specific symbols with world-renowned symbols (Appendix F) like the color pink and/or ribbon. Even cancer-specific CAs have BC-specific symbols for their BC campaign e.g., the ALSC’s Moroccan green star on a pink ribbon symbol, the NACA’s Omani dagger in the middle of the ribbon symbol, the JBCP’s pink hatta—

traditional Arab headdress—as a ribbon symbol, and BCFE’s pyramid with a pink ribbon logo. Furthermore, in the BCFE annual Race for the Cure, the pyramids are lit in pink as a symbol of support and unity.

Country and regional unity is apparent largely in self-descriptive wording. The ALSC describes itself as an association that unifies work in Morocco then the EMR in all axes of cancer. More specifically, the BCFE and JBCP present BC wording the most since they are BC-specific agents. On the country level, the BCFE describes itself as the only association fighting BC in Egypt with no local unity. Furthermore, agents describe themselves as chieftains like MoH Morocco and MoH Oman, or a hierarchal agency like the MoHP Egypt’s Preventative office that awaits an approval from the Deputy Minister’s office. Lastly, the WHO agents describe themselves as the representatives of the WHO by employing unity themes to link the WHO to the EMR region. Overall, the findings demonstrate that regional historical and self-descriptive references are embraced by WHO agents, whereas country-specific ones are embraced by GAs and some CAs, agent-specific ones are embraced by CAs and WHO agents, health-specific ones are embraced by CAs, and power-specific ones are embraced by GAs. All these agents embrace interactions differently as well.

### ***The Interactions***

In regards to interactions, CAs such as the JBCP and ALSC choose the meetings to attend or participate in based on their information, research, and strategy needs. On the other hand, the BCFE and NACA take on interactions whenever invited or approached with funding (especially by international agents). Additionally, the MoH Morocco seeks

recognition by presenting its model, while the MoH Jordan seeks interaction based on similarity of focus. However, the MoH Oman receives interactions whenever the WHO or International Agency for Research on Cancer sends a consultant or holds workshops. Overall, countries without a NCCP seek interaction based on invitation or funding due to their constraints, while countries with a NCCP seek interaction on a need-basis. Interaction trends are similar to recursivity trends, where a divergence of findings in regards to countries with and without a NCCP exists.

### ***Recursivity***

Routine work is absent on the regional level in the EMR Alliance against Cancer and the US-MEPI for BC research and awareness. However, country-specific recursivity occurs through campaigns, activities, annual events, reports, newsletters, and networking. Campaigns are a specialty of CAs. Campaigns that follow the walk or race concept are held by the BCFE in partnership with Susan G. Komen yearly in October and by the NACA in October after its BC awareness program open day. On a larger scale, the JBCP and ALSC hold annual campaigns. However, the JBCP's campaign is a yearly BC-specific campaign; whereas the topic of the ALSC's yearly campaign depends on the results of the previous one. The campaigns in countries with a NCCP are larger than of those without a NCCP.

Most campaigns consist of various activities that are routine as well. The most common activity in the region is the routine prevention and early detection work of a

medical vehicle that goes to faraway and underprivileged areas<sup>20</sup>. The NACA's mobile unit started in 2009, and works throughout the year. Similarly, the BCFE has been running a free medical caravan for a year. Furthermore, the MoH Jordan foresees future routine activities in regards to the mobile unit recently purchased in partnership with the King Hussein Cancer Foundation. Additionally, the MoH Jordan holds routine training activities, which include teams visiting specified places like schools, associations, and villages on a weekly basis to train female doctors and midwives. Similarly, the ALSC runs an ongoing health awareness program for doctors and nurses in health centers on a routine-basis in partnership with Moroccan GAs. At a more basic level, the NACA<sup>21</sup> holds free clinical breast examinations on the first Tuesday of every month. Overall, the GAs in countries with a NCCP lead routine activities, while CAs are the leaders in countries without a NCCP.

Routine campaigns and activities coincide usually with annual events. The World Health Day is the most covered annual health event since it is the focus of GAs and WHO agents. The World Cancer Day is the third focus of WHO agents, whereas GAs do not cover any cancer-specific world event. The CAs take a different route and focus on BC Awareness Month followed by World No Tobacco Day and World Cancer Day. Generally, Jordan and Oman are the most to cover BC Awareness Month, while Egypt and Morocco cover World No Tobacco Day the most. At a higher recursive level, November 22 became the National Day against Cancer in Morocco after an agreement by King Mohammed VI of a petition presented by Princess Lalla Salma, thereby making

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<sup>20</sup> Medical vehicles aim to overcome the inequalities in health service utilization constraint because of centralization.

<sup>21</sup> NACA is registered as a clinic for clinical breast examination.

Morocco the only country in the region with a local cancer-specific event. Overall, annual events shed light upon recursivity and priorities in the region. CAs are the only agents that focus on BC and cancer as an issue of top priority.

The information regarding annual events is presented in routine newsletters, cancer registry reports, and annual reports. Although the WHO agents and GAs publish newsletters more frequently than CAs, CAs publish the most BC-specific newsletters. Agents lacking a newsletter are the WHO Jordan and MoHP Egypt, as well as all agents in Morocco. Another type of report is the annual cancer registry report that is covered by the GAs only. The MoH Jordan and the MoH Oman release an annual cancer registry report. However, Oman's report lacks important data like mortality rates and survival analysis. The MoH Morocco releases one registry report every couple of years and plans to reach the point where it releases a report annually. Similar to MoH Morocco, MoHP Egypt lacks an annual cancer registry report, and released four reports in 2008 and 2009 for data in Aswan, Damietta, and El-Minia only. In addition to newsletters and cancer registry reports, some agents release annual reports, which are a specialty of CAs in countries with a NCCP. The ALSC and the JBCP release quarterly and yearly reports to measure their performance and networks. Overall, Jordan publishes all kinds of routine reports and newsletters, while an annual cancer registry report and newsletters are absent in Morocco. On the other hand, Oman lacks specific data for its cancer registry report, while annual cancer registry reports, annual reports, and GA newsletters are non-existent in Egypt. In general, routine reports and newsletters imply the responsibility scopes of agents: GAs for country-specific registry, CAs for annual reporting and BC-specific newsletters, and WHO agents for agent-specific and country-specific reports. All routine

reports are agent-specific except for the country-specific cancer registry reports, which involve routine networking.

Aiming for successful routine campaigns or activities, routine networking involves country-specific agents and in some instances international agents. On a yearly basis, the BCFE collaborates with Susan G. Komen for the Race for the Cure event, whereas the NACA writes companies annually to request sponsorship of campaign materials e.g., t-shirts. At a more advanced level, the ALSC and the JBCP work with all agents in the health sector for the yearly campaign. The JBCP describes routine networking for the annual BC campaign, where “everyone working in the health sector participates. . . . its idea is based on research and evaluation of past campaigns. . . . We lead it and coordinate the work of our partners through the campaign” (Personal Communication, July 13, 2011). Similarly, the ALSC networks routinely with partners of the MoH Morocco including the Ministry of National and Higher Education and Ministry of Social Affairs, Family, and Solidarity Development for the ongoing awareness program for health care providers. Other than its routine networking with ALSC, the MoH Morocco views recursivity in its program collaboration with the WHO Morocco every two years. Overall, these findings demonstrate how routine networking of countries with a NCCP involves national bodies on a larger scale than those of countries without a NCCP, which involve international bodies or national bodies at a small-scale. Generally, recursivity is country-specific for country-specific change. The CAs tend to be more agent-specific (except in the national campaigns) than GAs. Nevertheless, GAs are the most agents lacking in routine BC work, except the MoH Jordan. The region witnesses the most routine work, which is WHO- and region-specific, by the WHO agents.

### ***The Internal Codes and Guidelines***

Internal codes and guidelines were created either by the WHO for the EMR region, or by each country to combat BC within its borders. The EMR Alliance against Cancer is working on assisting countries create their “internal principles and action plan” (Personal Communication, August 5, 2011). CAs and GAs refer to country-specific guidelines more than WHO codes. Jordan and Morocco witness a consensus on their NCCP and BC guidelines. However, Jordan’s consensus is at a higher level because of its adaptability and inclusion of all health sector agents:

[A] national committee and an advisory committee have been utilized. . . . There is no opposition or objection from the experts after presenting the [scientific] proof to apply the necessary modifications. The last edition was months ago, the age of the mammogram has been modified.

(Personal Communication, July 19, 2011)

This quote demonstrates how local agents in Jordan participate to create internal codes and guidelines that are flexible and progressive, based on local scientific information and international recommendations. Like Jordan’s agents, two committees are established in Morocco. Although the MoH Morocco got all the ministries, the NGOs, and the educational sector on board to create the NCCP, the BC guideline booklet, which is not distributed in Morocco yet, involves expert doctors and professors only.

On the other hand, absent or outdated guidelines exist in Egypt and Oman, where WHO and international guidelines are influential. The NACA follows the MoH Oman’s protocols, which it perceives as outdated, while the BCFE decides to follow the American guidelines after reviewing the British and US guidelines, as well as cancer cases seen by one doctor in the National Cancer Institute in Egypt. Overall, agents in

countries without a NCCP rely on outdated guidelines or international ones, whereas ones with a NCCP rely on more advanced guidelines, especially in Jordan. However, the WHO agents follow the WHO guidelines. Ultimately, on the country level, autopoiesis—internal codes and guidelines, recursivity, interactions, historical and self-descriptive references, and communicative events—are vulnerable in countries without a NCCP and nearly optimal in countries with a NCCP.

### **The Presence and Absence of Social Capital Momentum**

Social capital relies on optimal and autopoietic social networks efforts of combatting BC and cancer. On the regional level, social capital is absent because regional networks are not formed yet. On the country<sup>22</sup> level, CAs document social capital—especially internal and potential social capital—the most. Similarly, in countries without a NCCP, external, internal, and potential social capital are lacking.

### ***The External Social Capital***

The findings demonstrate that external social capital is the aim of all social capital including internal and potential social capital. External social capital is evaluated based on its forms of social support through screening, social leverage through reach and awareness, and social order<sup>23</sup> through downstaging, increased incidence, weight reduction, smoking decrease, decreased incidence levels, and decreased mortality rates.

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<sup>22</sup> Jordan notes the most social capital, where the JBCP and the MoH Jordan include each other in their social capital references.

<sup>23</sup> No decreased incidence levels or decreased mortality rates have been noted for social support.

The themes of external social capital in the region by frequency are reach and awareness, screening, downstaging, smoking decrease, increased incidence, and weight reduction.

All CAs note BC reach and awareness through the turnout of national activities and campaigns. Nevertheless, the results of the ALSC's 2008 campaign were the greatest: "We had a great turnout from the Moroccan public. . . . In the same month, more than 120,000 women underwent clinical breast examinations, and a big number of mammograms were done" (Personal Communication, August 5, 2011). This quote merges reach and awareness with screening. On a more basic level, the NACA notes that its mobile unit screened over 2,500 women. Like reach and awareness, only CAs document screening capital. General screening measures are noted in Jordan and Morocco, and at a more basic level in Egypt, but other than the NACA's mobile unit and its clinical breast examination sessions, screening measures are non-existent in Oman. Generally, mammograms undertaken are the most screening capital noted. The JBCP and the BCFE take it to the next level and hold workplace-screening programs, where women in corporations and ministries get training on breast self-examination and clinical breast examination. Moreover, the breast self-examination taught was reported in BCFE and JBCP; however, the JBCP takes it to the next level and reports the breast self-examination undertaken as well. In addition to screening capital, increased national incidence is noted in Jordan and Morocco but is still lacking in Oman. The NACA illustrates, "there should be an increase in incidence rate. People should not be dying of this disease" (Personal Communication, August 9, 2011). At a higher level, national downstaging is revealed scientifically by the JBCP, whereas ALSC reveals a national

smoking decrease and smoking reach along with the MoH Morocco. Lastly, only the MoH Oman notes a national weight reduction.

Overall, the networking and autopoietic efforts of agents in countries with a NCCP lead to external social capital—social support including downstaging, weight reduction, and decrease in smoking, as well as social leverage including reach and awareness, screening, and increased incidence—in a short amount of time. These countries surpass ones without a NCCP again due to their larger and BC-focused efforts. Overall, external screening measures match the focus of each agent and the scope of their work, which resembles the trend of internal social capital as well.

### ***The Internal Social Capital***

Internal social capital follows the divergence of countries with and without a NCCP. The internal social capital includes the following forms of social capital: social support through networking and cancer-fighting tools, social leverage through networking, decentralization, and cancer-fighting tools, social order through cancer-fighting tools, and organizational participation through networking, decentralization, and cancer-fighting tools. While WHO agents are the most to note internal social capital in the region, the ALSC notes internal social capital more than WHO Morocco does. Similarly, whereas WHO agents in Oman and Jordan note decentralization the most, the ALSC notes decentralization the most in Morocco.

Morocco has the highest networking capital, where all of its agents embrace strong local networks and seek further networks regionally and internationally. Unlike Morocco and Jordan, the BCFE takes on international US networking to fill the void of

local ones by being the coordinator of the US-MEPI for BC research and awareness and a Race Affiliate for the Susan G. Komen. Similarly, while the MoH Oman notes that it is easier for breast cancer patients to be referred for screening (when a lump is present) in Oman, the NACA states that referrals take a long time leading women to go through the NACA's mobile unit to get a quicker appointment. The NACA notes recognition and community networks through volunteers as networking capital. Additionally, the NACA notes networking recognition of winning second prize of the 2011 UN Population Award for the public service category. CAs are the most to note networking capital.

While WHO agents are the most to note WHO cancer-fighting tools, national cancer-fighting tools weigh more especially in Jordan and Morocco. In Jordan, the BC-fighting tool is embodied in national unity through the JBCP: "The success of the program in this short period of time is based on the collective unified efforts of all the sectors or working bodies in the country towards one goal" (Personal Communication, July 13, 2011). Similarly, the ALSC notes capital of the early detection and screening booklet, as well as the Breast and Cervical Cancer Early Detection Program created to combat BC. For institutional capacity building, Jordan holds community outreach programs to train midwives and female doctors in Jordan, whereas Morocco's non-health sector associations and specialized doctors reach out to the ALSC for assistance in campaigns and workshops regarding BC. The ALSC and the EMRO take these national tools to the next level by establishing the EMR Alliance against cancer.

Despite all the networking capital by all agents, it is important to note that ALSC and the EMRO have the strongest network capital noted. The EMR Alliance against Cancer led by the ALSC and the EMRO embodies a regional cancer-fighting and

networking tool. Some members of this alliance—BCFE, JBCP, and NACA—have different perspectives of this alliance. The BCFE’s president, Dr. Mohammed Shalaan, participates in the alliance’s meetings as an expert. Meanwhile the JBCP is associated with it through the King Hussein Cancer Foundation, which is a member of the alliance. The NACA sheds more light on the alliance: “We are members but not the board members, we are not invited to everything, we do not make decisions. There was one meeting in Morocco; normally we have to pay our own fairs” (Personal Communication, August 9, 2011). The findings demonstrate that this alliance secludes some members. Furthermore, no internal social capital is noted from this alliance.

However, on the national level, the countries with a NCCP note more internal social capital than ones without a NCCP in social support, social leverage, social order, and organizational participation. Moreover, the WHO agents have the highest internal social capital given its highly optimal and autopoietic network, followed by the ALSC. On the regional level, the ALSC explicates that the EMR Alliance against Cancer “will find a solution for Morocco and the Arab countries” (Personal Communication, August 5, 2011). This quote sheds light on the potential of the EMR Alliance against Cancer.

### ***The Potential Social Capital***

Potential social capital sheds light on the future direction of social networks and autopoiesis in the region. On the regional level, a research on the genetic background causes and risks factors of Arab cancer genes was suggested in the last Riyadh conference of the Arab Association against Cancer. On the country level, CAs take the lead in potential social capital in Jordan and Morocco, while WHO agents lead the

potential social capital in Egypt and Oman. Potential social capital consists of potential external and internal social capital. Potential external social capital tackles three forms of social capital: social support through potential community empowerment and mammography units' expansion, social leverage through potential awareness and community empowerment, and social order through potential comprehensive BC coverage.

CAs explore potential external social capital the most, except in Oman where the EMRO and the MoH Oman are starting a pilot BC screening program. Potential awareness is the most noted capital in all countries, especially in Jordan and Morocco. An example of potential awareness is the planned mobile unit in Morocco, which will hold campaigns and take health care providers to women. Generally, any awareness measures attempts to plant potential community empowerment, which is discussed by all agents (except Morocco's agents). The NACA defines potential Omani community involvement of university graduates to become active members of the association. Additionally, while the NACA and BCFE plan to focus on palliative care training and raising funds for it, CAs in Jordan and all agents in Morocco discuss potential mammography units' expansion. Overall, countries with a NCCP carry more potential external social capital than ones without a NCCP because of the larger BC-focused social support, social leverage, and social order. Nevertheless, Oman has great potential with the BC screening pilot project, which can lead to great potential internal social capital for involved agents.

The findings demonstrate that potential internal social capital represents the stepping-stone to potential external social capital, thereby discussed more frequently than potential external social capital. Potential internal social capital tackles the following

forms of social capital: social support through potential networking, social leverage through potential information, networking, and cancer-fighting tools, social order through cancer-fighting tools, and organizational participation through cancer-fighting and potential networking. The CAs are taking the lead in countries with a NCCP, whereas the WHO agents lead the way in countries without a NCCP. The most discussed potential internal social capital by countries with a NCCP (especially Morocco) and WHO agents is cancer-fighting tools. The ALSC's BC guideline booklet represents a potential cancer-fighting tool on the country level, whereas the EMRO's regional cancer plan represents a potential on the regional level. In addition to cancer-fighting tools, informational and research potential are presented by WHO agents in countries without a NCCP through research-based recommendations to GAs. It is presented by CAs in countries with a NCCP as well, e.g., a research on the barriers leading to late stage discovery of BC in Jordan. In Morocco, the potential internal social capital is present in setting a national program involving all local health sector agents. On the other hand, the MoH Jordan aspires to mobilize the Jordanian community. Additionally, the MoH Jordan and MoH Morocco foresee regional potential in exchanging experiences and facilitating the sharing of resources. Overall, potential networking is present mostly in Morocco, which has the potential for more links and has not reached local health-care saturation like Jordan. At a more basic level, the NACA is going to publish the results of its activities on its website for easier access of information for researchers.

Overall, the potential internal social capital demonstrates that countries with a NCCP have more potential than ones without a NCCP due to the larger BC-focused presence of social support, social leverage, social order, and organizational participation.

Ultimately, the CAs carry most of the potential social capital in countries with a NCCP, while WHO agents have the most potential in the countries without a NCCP. Countries with a NCCP note stronger levels of social support, social leverage, social order, and organizational participation. Overall, Morocco and Jordan have more potential for advancement, whereas Egypt<sup>24</sup> and Oman do not. Most importantly, as the enabling structure accumulates more capital is built, which is illustrated in the discussion.

### **Discussion: The Networking Struggle for Breast Cancer Structuration**

The theoretical framework outlined at the end of the literature review guides this discussion by drawing on the relevant themes and theories previously outlined. The discussion involves themes of context, constraints, social networks, autopoiesis, social capital, ‘asabiyya, and structuration. In this thesis, the social system under study embodies the hybrid cluster of CAs, GAs, and WHO agents. The scopes of responsibility for the fight against BC in the Arab region present common themes of structural principles (Giddens, 1984: 195). While agents in countries with a NCCP realize that prevention and early detection are more cost-effective, agents in countries without a NCCP focus mainly on treatment (Magrath & Litvak, 1993: 863). Another structural principle is relating BC to family planning, which increases venues to reach women and sponsors thereby expanding networks in Arab countries. However, this principle constricts countries without a NCCP, e.g., at the MoH Oman the Family and Community Health Department’s and the EMRO’s screening pilot program does not involve the NCD

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<sup>24</sup> MoHP Egypt has not noted any potential social capital due to the political uncertainty in Egypt and absence of approval for a BC committee.

Department at the MoH Oman. Most agents carry a country-specific scope of responsibility only except for the EMRO, the ALSC, and the BCFE. Additionally, the CAs carry most of the weight of BC responsibility, regardless of the GAs' support. Nevertheless, political support is the most valued and scarce resource driving major constraints (especially in countries without a NCCP).

Information and research is generally lacking in regards to environmental constraints, which present the pre-condition to 'asabiyya. However, prominent internal constraints transform the environmental constraints into barriers rather than drivers, which is the case in countries without a NCCP (Giddens, 1984: 25, 185, 198). Nevertheless, the precondition of 'asabiyya is met in countries with a NCCP because of the strong presence of environmental constraints and almost absent internal constraints (Ibid). The main internal constraint in the region is the lack of political support, bureaucracy, and unfulfilled position-practice relations. Since the countries with a NCCP witness political support through its nearly optimal social networks, most internal issues—similar to ones of countries without a NCCP—disappeared.

The main ingredients in the journey to optimal networks are civic culture, social order, and social solidarity (Kearns & Forrest, 2000: 997). In regards to the civic culture, countries without a NCCP lack cooperation, while ones with a NCCP witness unity of principles but differ on platform inclusion, where many health sector agents are not included in national BC efforts in Morocco (being addressed by MoH Morocco). Meanwhile, countries without a NCCP lack cooperation platforms so agents seek platforms abroad. Social action is present when CAs and WHO agents maximize their community and regional potential, as well as GAs that maximize their potential in

spearheading the unity of making a difference to a pre-existing state of affairs, which is optimal in Jordan (Giddens, 1984: 14). Countries without a NCCP witness social action from CAs, which maximize their social positioning, only. However, these countries lack local political positioning. By taking on regional and international roles thereby spreading their resources too thinly, countries without a NCCP fall behind on unified principles, cooperation, social action, social position, and social role, while countries with a NCCP nearly fulfill civic culture.

Like the civic culture element, the social order element is not fulfilled completely. However, balance of social power is present in Jordan and Morocco through a cyclic resource transmission where group members share the resources within the network of obligations and expectations of mutual dependencies, but the hierarchal resource transmission in the other Egypt and Oman calls for power balance (Ibn Khaldûn, 2005: 108, 130; Kearns & Forrest, 2000: 999). On a regional level, the most central agents are the EMRO followed by the ALSC because they serve as the ultimate connector for the EMR Alliance against Cancer. On the country level, a consistent local chieftain that combats cancer actively and proactively is present in Jordan only, other countries present issues of inconsistency, absence, or ineffective chieftains that leads to lack of optimal rule creation. Although a general commonality of rules exists, Jordan is the only country witnessing full participation and unity for its scientifically driven and flexible rules.

Although social order is present, Jordan lacks community mobilization. On the other hand, community mobilization exists in Morocco despite the limited participation of health sector agents. Nevertheless, agents in countries with a NCCP are aware of these shortages, while most agents in ones without a NCCP are unaware of the dire shortages,

which result in the absence of diversity and solidarity in their network. Agents in countries without a NCCP seek regional partnerships in the absence of country-specific networking and unity thereby spreading their limited resources too thinly. Similarly, agents in Morocco seek regional alliances when not completely fulfilling its network of solidarity. Overall, none of the countries under study fulfills social solidarity, social order, and civic culture for an optimal social network yet but countries with a NCCP are way ahead of ones without a NCCP.

Similar trends are demonstrated when evaluating autopoiesis, or the strategic use of communication to self-create or maintain a system from internal and external complexity on the country level (Giddens, 1995). On the regional level, autopoiesis potential lies in the four countries distinct coded communication systems on the country level that have the potential to adhere and complement a regional system (Luhmann, 1995: 18; Seidl & Becker, 2006: 23-24). On the local level, GAs lack in autopoiesis the most, whereas WHO agents present WHO-specific autopoiesis. Currently the process of autopoiesis in the Arab region represents cases of small-scale and large-scale territorial functioning and belonging. Small-scale territorial functioning and belonging result from CAs that carry out agent-specific autopoiesis, which leads to a lack of access to resources and mobility of members. Moreover, large-scale territorial functioning and belonging exist in Morocco and Egypt where agents seek regional and international positioning before fulfilling internal position leading to strained operations of members and chieftain of the group (Kearns & Forrest, 2000: 1002). Ultimately, optimal social networks and its shield of autopoiesis require dire developments and changes to create an enabling structure.

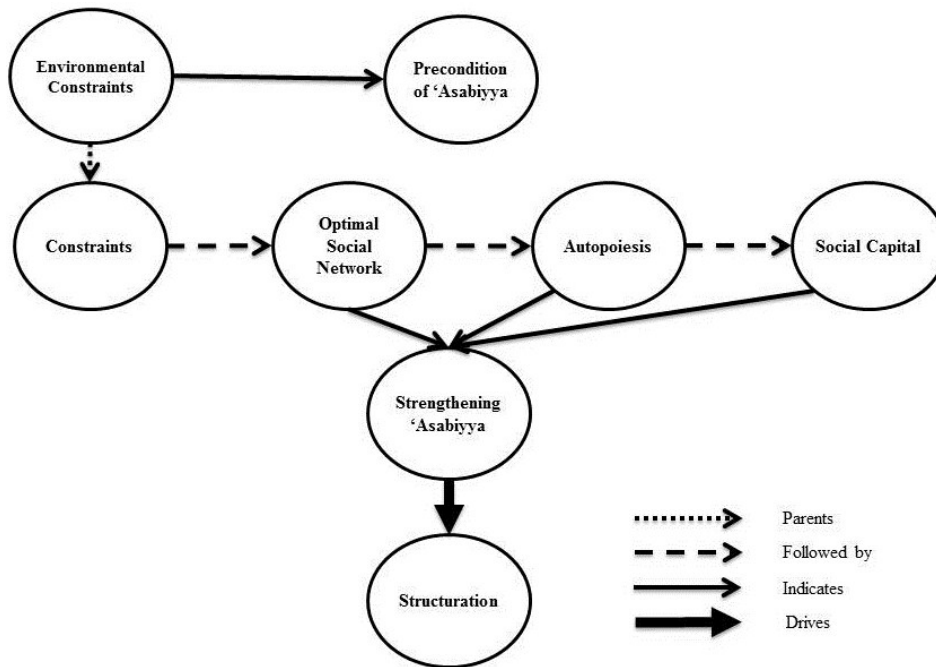
At the regional level, social capital remains at the potential phase. However, on the country level, countries with a NCCP present more internal social capital and external social capital than countries without a NCCP. More specifically, the WHO agents in the four countries note the most internal social capital given their highly optimal and autopoietic network. Nevertheless, the CAs carry most of the potential social capital in countries with a NCCP, while WHO agents note the most potential in countries without a NCCP. Overall, countries with a NCCP, as well as WHO system, witness more capital on all levels: social support, social leverage, social order, and organizational participation. Countries with a NCCP present more potential for advancement due to their external and internal social capital than countries without a NCCP. Most importantly, external and internal social capital builds more potential social capital.

The momentum in social capital accumulation along with nearly optimal and autopoietic social networks—‘asabiyya’s element—drive social and system reproduction or structuration for countries with a NCCP as *Figure 6*<sup>25</sup> shows.

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<sup>25</sup> This figure is created through NVivo then processed and simplified for the purposes of this thesis.

**Figure 6: The Countries with a National Cancer Control Program Model**

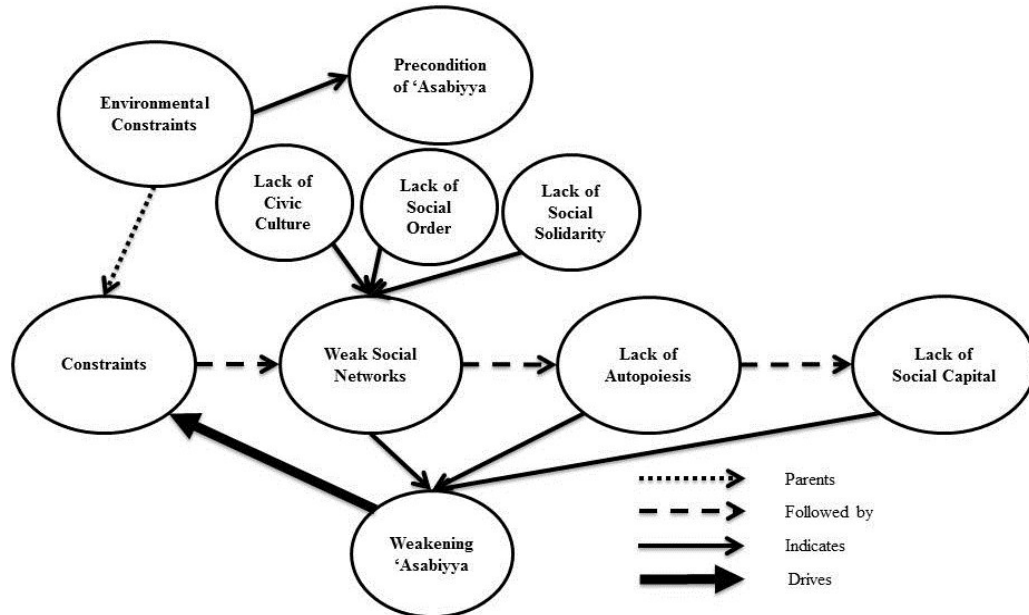


The model presents how countries with a NCCP are driving local BC structuration by their strengthening 'asabiyya, which will enable them to fulfill autopoietic and optimal social networks. To overcome the shortages presented in these countries and accelerate their local BC structuration, some changes and development need to take place.

Countries without a NCCP present a different story as *Figure 7<sup>26</sup>* shows. Agents are leading a downhill battle facing BC and lack political support with weak social networks, vulnerable autopoiesis, and non-existent social capital.

<sup>26</sup> This figure is created through NVivo then processed and simplified for the purposes of this thesis.

**Figure 7: The Countries without a National Cancer Control Program Model**



They present lack of mutual dependencies, leadership, and optimal rule creation in regards to inclusion and exclusion, which presents lack of social control (Lacoste, 1984: 116). Moreover, most agents in countries without a NCCP lack capability, fulfillment of practice-position roles, and awareness of the magnitude of BC thereby BC is not a prioritized, topped with an absence of freedom of action. This situation presents lack of civic culture leading to structural contradictions (Cohen, 1989: 272; Giddens, 1984: 24, 185, 198). Furthermore, the countries without a NCCP witness excessive expansion straining the central node's energy and overall performance of the network, and overwhelming cross-linkages (GAs excepted) leading to weakening autonomy for internal operations, as well as unacknowledged needs and unequal access to resources and benefits. Thus social solidarity is absent in countries without a NCCP (Vega-Redondo, 2007: 34, 36; Wellman, 1988: 42, 45, 47). Overall, countries without a NCCP witness a weak social networks coupled with a lack of autopoiesis (Bakken & Hernes, 2003: 12; Bhandari & Yasunobu, 2009: 488-490; Lin, 2001: 8). Additionally, autopoiesis

is agent-specific, non-recursive, and lacks local, inclusive, scientific, and modifiable internal guidelines. Countries without a NCCP witness small-scale territorial functioning and belonging or large-scale territorial functioning and belonging. Lastly, the absence of an optimal and autopoietic social network leads to a lack of momentum in social support, social leverage, social order, and organizational participation, hence social capital is absent.

This discussion indicates that countries without a NCCP witness a weakening ‘asabiyya facing the increasing BC constraints in the region. In countries without a NCCP, the increasing constraining structure followed by cluster dissolution is progressive because a new aware and productive cluster learns from its predecessors and the harsher environment. Although both models demonstrate different outcomes, the ultimate outcome is similar, where struggle and agency leads inevitably to BC structuration in the region.

## Chapter 5

### Conclusion

#### Significant Findings

By exploring and evaluating agents' strength in applying tensions on the constraining BC structure, this thesis provides insight on the current and future networking struggle for BC structuration in the Arab region. The previous discussion provides a rich understanding of the topic and establishes that changes and developments are needed to accelerate 'asabiyya-driven structuration at the country level. After structuration is reached on the country level, a regional 'asabiyya-driven structuration can be sought. Before proposing some recommendations, the significant findings of the 'asabiyya-driven structuration evaluation are presented.

Countries without a NCCP are limited because of their focus on treatment, and lack of coordination where the CAs carry all the weight. Nevertheless, the precondition of 'asabiyya is met because of the presence of common environmental constraints on the country and regional level as the driving force. However, the internal constraints of countries without a NCCP present the absence of the most valued and scarce resource in the region—political support—that hinders the driving force of social networks.

Social networks remain at the country level with an absence of some important local ties. Nevertheless, seeds of regional networks have been planted. These seeds will not blossom until the countries under study reach an optimal local social network. The countries with a NCCP witness nearly optimal social networks, while countries without a NCCP are far behind. The vulnerable autopoietic shield results in small-scale and large

scale territorial functioning and belonging because CAs reach for alternatives due to GAs' weak leadership of maintaining the system in the face of environmental complexity. On the other hand, the nearly autopoietic and optimal social network in countries with a NCCP lead to social capital.

The autopoietic and optimal social networks in countries with a NCCP lead to substantial internal and external social capital resulting in a progressive momentum of potential social capital. This momentum fosters an enabling structure for countries with a NCCP to keep moving forward for further social and system reproduction. Meanwhile, local social and system reproduction is absent in countries without a NCCP. Therefore, a regional network remains unattainable unless extensive changes and developments take place in each country to accelerate 'asabiyya-driven structuration locally. Based on the discussion and significant findings, some strategic recommendations are proposed.

The overall goal of the strategic recommendations is to foster regional strengthening 'asabiyya to combat BC successfully in the Arab region. This thesis proposes that agents embrace two phases of change locally and regionally. On the country level, the first phase establishes optimal social networks for countries with and without a NCCP. In the first phase, it is proposed that Jordan mobilizes the community by involving the non-health sector, while Morocco develops a partnership with other health sector agents with ALSC as the main leadership. Generally, it is advised that agents in countries with and without a NCCP maximize scarce resource by adopting scientific thinking, collaborating with academic bodies, and developing scientific committees. More specifically, it is suggested that CAs in countries without a NCCP approach a local political figure seeking political recognition (preferably someone with

family-based or personal experience with cancer) to adopt cancer or BC. It is proposed that this political figure leads the unity and maintain mutual dependencies through its institution by involving the GAs, NGOs, private sector, and WHO agents for the cause. Additionally, it is proposed that CAs and WHO agents employ their capability for community work and expertise. After social roles are fulfilled, it is recommended that agents in countries without a NCCP develop a local cluster by maximizing local positioning. This thesis suggests that Egypt forms weak ties first, and then Egypt and Oman strengthen their ties through local projects and alliances. It is advised that agents in countries without a NCCP employ international and regional ties as cross-linkages only to remain focused locally. These recommendations for optimal social networks set the stage for autopoietic work.

The second phase aims at autopoiesis or optimal territorial functioning and belonging on the country level. It is advised that agents seek interactions on a need-basis. This thesis recommends that agents in countries without a NCCP undergo communicative events by processing information internally from interactions and utterance into understanding. It is proposed that agents develop their own modifiable internal guidelines based on local scientific data or internally processed external recommendations. This thesis advises that all local health-related agents under the umbrella of the chieftain follow local routine scientific research to create these guidelines. It is recommended that GAs in countries with and without a NCCP present routine BC work more often. Meanwhile, it is advised that CAs present country-specific recursivity more often. Moreover, this thesis suggests that CAs in Egypt, Jordan, and Oman propose an annual and local cancer-specific event to the political figure for approval. Overall, the optimal

and autopoietic social networks recommendations for countries with and without a NCCP are proposed to build strategies for ‘asabiyya-driven structuration on the country level.

After local structuration is reached in Arab countries (as well as countries in the regional alliance), it is suggested that the first regional phase harnesses and expands upon the potential and current networks for regional goals of combatting BC. Since the EMR Alliance against Cancer includes almost all CAs in Arab countries with a focus on combating cancer in the region, this alliance can be harnessed. It is proposed that the network include strong ties, weak ties, and cross-linkages with the necessary political support specific to regional health and cancer domain. This thesis suggests that this alliance creates a regional committee and an international advisory committee. It is advised that these committees begin by compiling and processing research from each country and develop a regional cancer registry as the first step to utilizing social positioning and establishing social roles. It is necessary that this alliance include local leadership, or politically powerful agents from each country. This thesis advises that all chieftains participate in creating regional plans and guidelines based on scientific data under the umbrella of the EMRO and ALSC, the main chieftains of this alliance. It is suggested that the main chieftains ensure the power is balanced and all agents are involved in the creation of a common framework of definitions, rules, priorities, and laws. This thesis advises that the leadership ensures no reduction in wealth disparities, as well as recognition of members’ need if country-specific needs arise. Additionally, it is recommended that agents ensure open access to resources for the ultimate goal of networking to eradicate BC on the regional level. Overall, the first phase

recommendations propose that the EMR Alliance against Cancer fulfills an optimal social network, which requires autopoiesis to be maintained.

In phase two, it is proposed that the optimal territorial functioning on the regional level fulfill communicative events, historical and self-descriptive references, recursivity, and internal guidelines similar to that of the WHO agents, when establishing roots in Arab countries. Overall, the recommendations for reaching optimal and autopoietic social networks on the country level are proposed to provide the platform for the ultimate goal of optimal and autopoietic social networks on the regional level. These recommendations seek to achieve the overall goal, which is to foster regional strengthening ‘asabiyya to combat BC successfully in the Arab region

### **Limitations and Implications**

In regards to scholarly work for combatting BC in the Arab region, this research presents merely the tip of the iceberg. Many hurdles are present to study this topic including but not limited to: lack of information and disinterested informants. Furthermore, the instability caused by the Arab uprisings during 2011 made it challenging to get ahold of the informants and convince them to participate in the interview. Additionally, the lack of digital informational databases made it challenging to collect publications for content analysis. These challenges provide insight on many constraints and research opportunities in the region. This thesis overcame these challenges and rich data was collected and analyzed. This research is unique in its nature, as it is the first research that aims to tackle BC from a non-medical, regional, and preventative and early detection perspective, hence, each theme explored can be investigated further.

This research presents the situation in four Arab countries only, thus, it represents an introduction to a comprehensive research project on all Arab countries. In addition, the Arab countries not included in the EMR region need to be explored in regards to their region. The research would be more beneficial by conducting visits to the concerned countries and agents involved because that can provide additional insight on the condition of BC in each country. The expanded upon research would need sufficient resources, including a research team, time, and funding. Other researchers can work closely with agents to co-produce recommendations and build specific strategies based on the examined themes. The themes of the two models presented can be modified to fit countries or regions that present different conditions. Another researcher can explore and evaluate the perspectives of non-major agents or agents from different sectors as well. This comprehensive research can tackle men's BC cases as well. In the case of Egypt, another research project can probe further to understand why the Deputy Minister's office did not pass the decision for a BC committee by interviewing a member from that office. Overall, this study serves as a foundation for other studies that can cover one of the themes or concepts further in non-medical and medical<sup>27</sup> approaches in the region or other regions with similar conditions. In addition to fulfilling its purpose, this research seeks to contribute to the scholarly movement towards eradicating BC in the Arab region or other regions.

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<sup>27</sup> The medical component cannot be ignored because of the importance of clinical research and cancer epidemiology.

## **Thesis Summary**

Although the main purpose of this thesis is to explore and evaluate the ‘asabiyya-driven structuration in the Arab region, the exploration and evaluation is mainly at the country level due to the lack of substantial regional networks. This thesis establishes an understanding of the strength of agents in applying tensions through BC preventative and early detection measures on the constraining structure within the four countries, as well as their potential in the Arab region. More specifically, this thesis explores and evaluates the context, constraints, social networks, autopoiesis, and social capital of BC in the Arab region, thereby covering a plethora of information on this topic.

The introduction establishes that BC is a prominent issue in the Arab region because of the increasing incidence and mortality rates. The focus on preventative and early detection measures is rationalized because of the context of scarce resources in the region, where BC treatment results in a substantial economic burden. This thesis demonstrates that combatting BC relies on the networks of GAs, CAs, and WHO agents against the constraints. The introduction of the three types of agents in Egypt, Jordan, Morocco, and Oman, along with their political relations to cancer and BC establishes that involved politicians seek public and political recognition. Due to the importance of NCCP, Jordan and Morocco are established as countries with a NCCP, while Egypt and Oman are referred to as ones without a NCCP. The context of the topic and concepts from theoretical framework give rise to the purpose of this thesis, which is to explore and evaluate the ‘asabiyya-driven structuration in order to reach an understanding of agents’ strength in applying tensions on the constraining BC structure.

This topic is theorized through the literature review, where this thesis establishes the theoretical framework by employing the relevant epistemological roots of ‘asabiyya, and theoretical foundation of social systems theory, structuration theory, social network perspective, and social capital theory. This theoretical framework is reached after discussing how other perspectives are inappropriate for the topic under study. Ibn Khaldûn’s philosophy is chosen rather than Émile Durkheim’s philosophy because his hybrid concept illustrates the powerful hybrid agency—that drives and is driven by structure—of the WHO, which is a developed country institution, and the local CAs and GAs. Similarly, structuration and duality of structure is followed, instead of interpretative sociologies, functionalism, structuralism, and dualism, because they lent equal importance to agents combatting BC and the constraining and enabling structure underlying the issue of BC. Lastly, since this thesis highlights networks, resources, duality and contexts, this thesis employs Bourdieu’s social capital rather than normative social capitalists e.g., Robert Putnam, to be interwoven in the theoretical framework (Eid, 2008). The theoretical framework demonstrates that ‘asabiyya is indicated by optimal social networks, autopoiesis, and social capital, which are drivers to structuration. Therefore, ‘asabiyya drives structuration, hence the term ‘asabiyya-driven structuration is created. Weakening ‘asabiyya is founded as a progressive phenomenon, where a more productive cluster arises.

The research design and methodology establishes the relationships and links amongst the concepts in this thesis, which are adopted from the literature and qualitative findings, with the duality of structure as the soul of the conceptualization. This thesis rationalizes the use of a phenomenological strategy and interpretive research because of

the focus on forming patterns of meanings and contexts from the perspectives of agents. Due to the topic and research limitations, relevant countries and agents are chosen through purposive sampling. All the research questions are posed to indicate the strengthening or weakening ‘asabiyya, the ‘asabiyya-driven structuration, and the current and future system and social reproduction or cluster dissolution. Additionally, this thesis rationalizes how the qualitative content analysis and in-depth interviews complement each other by providing the context and depth. This thesis demonstrates the systematic method embraced in data collection and analysis, as well as the deep revisions taken in light of theoretical framework, practical information, and data collection and analysis guidelines. Lastly, the chapter establishes how validity, reliability, dependability, transferability, and credibility are ensured through bracketing, accuracy, consistency, auditability, confirmability, and authenticity in the analysis of findings.

The findings of both data collection methods are merged and presented together to demonstrate a great deal on the dynamics of the ‘asabiyya-driven structuration for BC prevention and early detection in the Arab region on the country and regional level. This thesis demonstrates that despite the existence of the precondition of ‘asabiyya in countries with and without a NCCP, ones without a NCCP witness many internal constraints driven by the scarcity of the most valued resource: political support. This thesis reaches an understanding that the regional seeds of change will not blossom until the countries under study reach an optimal social network. The countries with a NCCP are much closer to this network than countries without a NCCP. Additionally, it is demonstrated that countries without a NCCP witness vulnerable shields of autopoiesis leading to small-scale and large scale territorial functioning and belonging. Meanwhile,

in countries with a NCCP nearly optimal autopoiesis on the country level leads to social capital. This thesis establishes that the momentum of social capital will create an enabling structure for countries with a NCCP to keep moving forward towards further social and system reproduction. On the contrary, the lack of social capital in countries without a NCCP leads to an increase in constraining structure and thereby cluster dissolution followed by the development of a more productive cluster. Overall, this thesis reaches the purpose by demonstrating that ‘asabiyya, along with its elements of social networks, autopoiesis, and social capital, is strengthening in countries with a NCCP and weakening in ones without a NCCP. Meanwhile, a potential exists for ‘asabiyya on the regional level. The discussion gives rise to the recommendations proposed.

In general, this thesis provides a plethora of findings on BC networking in the region. This research establishes an understanding of agents’ strength in applying tensions on the constraining structure through BC preventative and early detection networking measures in the Arab region, which await the autopoietic and optimal social networks on the country level to blossom. Politically, the recent upheavals in the Arab region, which seek democratic and fair political systems, can change the context of the main constraint: lack of political support. Ultimately, this thesis follows a positive and progressive outlook where cluster dissolution and constraining structure drive strength and productivity of agents, which can be accelerated through the recommendations proposed. These recommendations can strengthen the ‘asabiyya on the country and regional level to successfully change the BC phenomenon and save lives simply through networking.

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## Appendices

**Appendix A: Country Sample Selection Table**

Arab League Countries	World Health Organization Eastern Mediterranean Countries	War-Related Civil Unrest	World Health Organization and Cancer Agency (Office and Website)	Sub-Regions	Total Expenditure on Health per capita <sup>28</sup>
Algeria	x	x	x	<i>Central Countries</i>	
Bahrain	Bahrain	Bahrain	x	Djibouti	x (88)
Comoros	x	x	x	<b>Egypt</b>	124
Djibouti	Djibouti	Djibouti	Djibouti		
Egypt	Egypt	Egypt	Egypt	<i>Bilad Al Sham</i>	
Iraq	Iraq	x	x	<b>Jordan</b>	277
Jordan	Jordan	Jordan	Jordan	Syria	x (79)
Kuwait	Kuwait	Kuwait	x		
Lebanon	Lebanon	Lebanon	x	<i>Gulf Corporation Council</i>	
Libya	Libya	Libya	x	<b>Oman</b>	458
Mauritania	x	x	x		
Morocco	Morocco	Morocco	Morocco	<i>The Maghreb</i>	
Oman	Oman	Oman	Oman	<b>Morocco</b>	144
Palestine	Palestine	x	x		
Qatar	Qatar	Qatar	x		
Saudi Arabia	Saudi Arabia	Saudi Arabia	x		
Somalia	Somalia	x	x		
Sudan	Sudan	x	x		
Syria	Syria	Syria	Syria		
Tunisia	Tunisia	Tunisia	x		
United Arab Emirates	UAE	UAE	x		
Yemen	Yemen	Yemen	x		

<sup>28</sup> World Health Organization (WHO). (2010). *EMRO Country Profiles*. Retrieved December 10, 2010, from <http://www.emro.who.int/emrinfor>.

**Appendix B: Content Analysis Form (Short Version<sup>29</sup>)**

Publication Title: _____		
Publication's Country: _____		
Publication's Agent: _____		
<b>Variable</b>	<b>Unit of Analysis</b>	<b>Categories</b>
<b>Context (RQ1)</b>	Physical Categorical Thematic	Agents Under Study
		Scarce Resources Human Resources Material Resources Nonmaterial Resources
<b>Constraints (RQ2)</b>	Categorical Thematic	Environmental Constraints Material Constraints Cadres Centralization Cost or Time Constraints Inadequacy of Health Centers Information Technology Weak Infrastructure
		External Structural Constraints Environmental Trends Social Issues
		Internal Structural Constraints
<b>Social Networks (RQ3)</b>	Categorical Thematic	Civic Culture Social Action Agents Capability Rationality Skill National or Regional Unity Tools Rights and Responsibility in Collective Action Social Position Other Agent's Occurrence (Locality and Descent) Aims Cancer Control Early detection Prevention Social Role
		Social Order Power Exercise Power Dependence

<sup>29</sup> The original content analysis form (more than ten pages) is too extensive, so a short version is included to keep this thesis within length requirements.

		<p>Rules</p> <ul style="list-style-type: none"> <li>Breast Cancer Screening</li> <li>Definitions</li> <li>Laws</li> <li>Priority</li> </ul>
		<p>Social Solidarity</p> <ul style="list-style-type: none"> <li>Arab Community Involvement</li> <li>Locality and Health-Relatedness of Ties</li> <li>Reductions in Wealth Disparities</li> <li>Type of Ties</li> </ul>
<b>Autopoiesis (RQ3)</b>	Categorical Thematic	<p>Self-Description of Identity</p> <ul style="list-style-type: none"> <li>Symbols or codes</li> <li>Wording</li> </ul>
		<p>Historical References</p> <ul style="list-style-type: none"> <li>Country-Specific References</li> <li>Regional References</li> <li>World Health Organization Historical References</li> </ul>
		<p>Recursivity</p> <ul style="list-style-type: none"> <li>Campaign or Activity</li> <li>Cancer Registry Report</li> <li>Event</li> <li>Report and Newsletter</li> </ul>
		<p>Internal Codes and Guides</p> <ul style="list-style-type: none"> <li>Country-Specific</li> <li>World Health Organization</li> </ul>
		<p>Communicative event</p>
		<p>Interactions</p>
<b>Social Capital (RQ4)</b>	Categorical Thematic	<p>External Social Capital</p> <ul style="list-style-type: none"> <li>Decreased incidence</li> <li>Decreased mortality rates</li> <li>Downstaging</li> <li>Increased Incidence</li> <li>Reach and Awareness</li> <li>Screening</li> <li>Smoking Decrease</li> </ul>
		<p>Internal Social Capital</p> <ul style="list-style-type: none"> <li>Cancer-Fighting Tool</li> <li>Decentralization</li> <li>Networking</li> </ul>
		<p>Potential Social Capital</p> <ul style="list-style-type: none"> <li>Potential External Social Capital</li> <li>Potential Internal Social Capital</li> </ul>

## **Appendix C: Semi-Structured Interview Guideline**

Good Morning/Good Evening (*participant's name*). As you know, my thesis explores and evaluates the role of the World Health Organization (WHO), health ministries, and cancer agencies at networking for breast cancer's preventative and early detection measures within the constraints of the Arab region. This interview will take approximately one-hour of your time, during which we will discuss the context, constraints and the network's system. Please feel free to openly discuss the topics, interrupt the discussion of a specific topic, or interrupt the interview at any time.

### **Warming-up:**

- Could you start by describing your responsibilities and work for the (agency/ Ministry of Health and WHO and how do you link them)?
- In a general sense how would you describe the existing networks that tackle breast cancer within the Arab region and (Country)?

### **Context:**

- What are the main principles and priorities of your networks? Are they unified or different depending on the countries or institutions within them?
- How would you describe the resources being exchanged and their value?

### **Constraints:**

- What are the material constraints in terms of infrastructure, cost, technology etc.?
- What are the environmental constraints in terms of lifestyle trends, social attitudes?
- The answer to this question is strictly confidential: What are the internal problems or differences and contradictions amongst the agents within the network (in terms of commitment, preferences etc.)?
- What would you say is the most prominent type of constraint on breast cancer networking in the region?

### **Social Networks:**

- Describe the material resources, human resources ,and non-material resources (like information, contacts, money, initiatives, campaigns, plans etc.) that you give or obtain from your network or other agents?
- Who is the leading agent in terms of the one with the scarce resources and most connections in and out of the Arab region that other organizations rely on? Why?
- Do the agents' have the freedom of choice in terms of activities and guidelines for screening or prevention without pressure?
- How would you describe the ability of agents within the network to participate and cooperate in defining problems and constructing solutions?
- What are the expectations in terms of agents' fulfilling duties and obligations in the networks? And how active are agents and networks in fulfilling them?
- How would you describe the access to benefits and resources within the network?
- Could you describe how your needs and interests are being recognized by the network and the network's leader?

**Autopoiesis:**

- What are the routine campaigns, activities, and networking practices of your agency/WHO in (country) and Ministry? What is the extent of the routine activities in terms of function or region?
- What are the routine practices campaigns, activities, and networking practices in the Arab region?
- What are the guidelines for prevention and screening (and cancer registry)? How did your agency/office reach them?

**Social Capital:**

- In regards to the network, what are the internal positive outcomes noted (in terms of support, information, repeated collective activities, and collaboration)? What are the potential networks that you can embark on in the coming years?
- I understand that you are a member of/ associated with the Eastern Mediterranean Regional Alliance against cancer, can you describe the alliance? What is your role within it?

OR

Are you associated with the Eastern Mediterranean regional alliance? Can you describe it and the link your agency/office has with it?

## Appendix D: In-Depth Interview Informants

<b>Date of Interview</b>	<b>Name</b>	<b>Title</b>	<b>Organization/ Country</b>
<b>July 5, 2011</b>	Ghada Mostafa	Media and External Relations Director	Breast Cancer Foundation of Egypt
<b>July 7, 2011</b>	Eman AbdelKreem Hassan Ali	Director of Field Epidemiology Training Program of the Preventative Affairs & World Health Organization Non-Communicable Disease Focal Point	Ministry of Health and Population Egypt
<b>July 13, 2011</b>	Hana Taha	Senior Monitoring and Evaluation Officer	Jordan Breast Cancer Program
<b>July 17, 2011</b>	Najla AbdulAmeer Al-Lawati <sup>30</sup>	Supervisor of the Cancer Registry at the Non-Communicable Diseases Department	Ministry of Health Oman
<b>July 19, 2011</b>	Mohammed Tarawneh	Director of Non-Communicable Diseases Directorate & World Health Organization Non-Communicable Diseases Focal Point	Ministry of Health Jordan
<b>August 5, 2011</b>	Youssef Chami Khazraji	Coordinator of BC and Cervical Cancer Early Detection Program	Association Lalla Salma against Cancer Morocco
<b>August 9, 2011</b>	Yuthar Al Rawahy	President	National Association for Cancer Awareness Oman
<b>August 13, 2011</b>	Latifa Belakhel	Manager of the Cancer Prevention and Cancer Control Program & World Health Organization Non-Communicable Diseases Focal Point	Ministry of Health Morocco

<sup>30</sup> Najla AbdulAmeer Al-Lawati is knowledgeable on the work of the Director of the Non-Communicable Disease Department and World Health Organization Non-Communicable Disease Focal Point—Jawad Al-Lawati—who is on annual leave.

## Appendix E: Approval from University of Ottawa Research Ethics Board

File Number: 05-11-02

Date (mm/dd/yyyy): 06/10/2011



**Université d'Ottawa**  
Bureau d'éthique et d'intégrité de la recherche

**University of Ottawa**  
Office of Research Ethics and Integrity

### Ethics Approval Notice

#### Social Science and Humanities REB

#### Principal Investigator / Supervisor / Co-investigator(s) / Student(s)

<u>First Name</u>	<u>Last Name</u>	<u>Affiliation</u>	<u>Role</u>
Mahmoud	Eid	Arts / Communication	Supervisor
Arwa	Luqman	Arts / Communication	Student Researcher

**File Number:** 05-11-02

**Type of Project:** Master's Thesis

**Title:** The Struggle for Preventative Networking: Cultural and Social Structuration of Women Breast Cancer in the Arab

<b>Approval Date (mm/dd/yyyy)</b>	<b>Expiry Date (mm/dd/yyyy)</b>	<b>Approval Type</b>
06/10/2011	06/09/2012	Ia

(Ia: Approval, Ib: Approval for initial stage only)

**Special Conditions / Comments:**

N/A

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## Appendix F: Cancer Agents' Self-Descriptive Symbols

### Egypt



### Jordan



### Morocco



### Oman

