

# **Socio-Technical Transitions and Institutional Change: Addressing Obesity through Macro-Social Marketing**

## **Abstract**

Obesity, climate change and poverty are some of the most serious health, environmental and social issues of the 21st century. Current initiatives to address these wicked issues typically focus on the individual and community, with social marketing being a common tool. However, the effectiveness of social marketing in helping to combat these wicked issues has been mixed at best. We use the multi-level perspective on socio-technical transitions (MLP) to further our understanding of how macro-social marketing might be used to address the wicked problem of obesity. In doing so, we further conceptualize how formal and informal institutions might contribute to the emerging field of macro-social marketing.

**Keywords** social marketing, macro-social marketing, systems-thinking, institutional change, socio-technical transitions, social norms, systemic change, social change, macromarketing

This is an Accepted Manuscript of an article published by Sage in the Journal of

Macromarketing on June 21, 2017, available online:

<https://journals.sagepub.com/doi/abs/10.1177/0276146717715746?journalCode=jmka>

Kemper, J.A. & Ballantine, P.W. (2017). Socio-technical transitions and institutional change: Addressing obesity through macro-social marketing. *Journal of Macromarketing*, 37(4), 381-392

## **Introduction**

Obesity is one of the most serious health issues of the 21st century. By 2030, statistics suggest that 51% of the American population will be obese (Finkelstein et al. 2012). The preventable deaths related to high blood pressure, high body-mass index, and high total cholesterol can be attributed to the consumption of energy dense, ultra-processed foods and beverages (Moodie et al. 2013). The number of deaths and costs of health care attributed to obesity are also related to the extreme profitability of ultra-processed foods for those multinational corporations that produce them.

The problem of obesity has many competing perspectives and interrelated causal pathways (Shelley 2012). The two main contributing factors to obesity are food marketing practices and reductions in physical activity (McAllister et al. 2009). However, medical research on obesity and related research on interventions are still developing, and sometimes with mixed and conflicting results (Wang et al. 2013). In addition, there is still continued debate about whether the structural environment contributes greatly to obesity (Wilding and Frayling 2012), and in this regard, obesity can be considered a wicked problem.

The concept of wicked problems was first put forward by Rittel and Webber (1973), who surmised that these problems are characterized by a lack of definition and scope, and in their possible solution, each wicked problem is unique and usually a symptom of another problem. In this regard, many modern social problems are considered wicked due to their messy and interlinked nature, and that there are no straightforward causes and solutions. Further, wicked problems typically have extremely high levels of complexity, uncertainty, and divergence in worldviews, with wicked problems often relying “on political judgments rather than scientific certitudes” (Head 2008, p. 102). Moreover, deciding what behavior (or product) is associated with a wicked problem can be either straightforward (i.e. smoking) or complex (i.e. sustainability). In the case of obesity, targets could be ultra-processed foods (Moodie et al.

2013), specific ingredients in foods (e.g. trans fats) (Bech-Larsen and Aschemann-Witzel 2012) or even meat products (Wang and Beydoun 2009). This means dealing with different members in the networked exchange food system (Layton 2007).

Wicked problems require system-wide interventions due to the various causes and complex interrelations with other issues (Commonwealth of Australia 2012). Subsequently, suggestions for obesity initiatives have focused on all societal levels: the macro (society, such as taxes), meso (community, such as school policy), and micro (individual, such as obesity counseling) (Campbell 2012). Single interventions are not sufficient to solve complex problems such as obesity, and thus, multiple interventions on multiple societal levels must be instigated (Gortmaker et al. 2011; Hawkes et al. 2015; Roberto et al. 2015). In this regard, macro-social marketing has been suggested as an approach to addressing wicked problems through systemic change.

Macro-social marketing can be defined as the use of social marketing to pursue change at the societal rather than individual level (Domegan 2008; Kennedy and Parsons 2012). Specifically, through macro-social marketing, public policies and other initiatives can sabotage (or demarket) the marketing mix of undesirable products and promote desirable products (Kennedy 2016; Lefebvre and Kotler 2011). This makes macro-social marketing a much more political concept than other social marketing initiatives (Raftopoulou and Hogg 2010).

In this paper, we introduce the multi-level perspective on socio-technical transitions (MLP) to further our understanding of how macro-social marketing might be used to address wicked problems, and in doing so, further conceptualize how formal and informal institutions might contribute to this emerging field of study. While obesity is the focal context of this paper, our contribution lies in the presentation of a new framework to macro-social marketing, whereby we introduce the MLP to macromarketing, and outline a research agenda based upon this framework.

We discuss the need for macro-social marketing to develop systemic instruments and process strategies by choosing the unit (product/regime) of analysis, engaging with system actors (incumbents, challengers and governance units) and choosing how to create institutional (formal and informal) change through targeting different societal levels (micro, meso and macro) and utilizing various policy tools. Macro-social marketing is an on-going process with continual changes (Kennedy et al. 2017) to system actors and adjustments to policy tools as adaptive capacity and selective pressures change. We add further emphasis on the need to address both formal and informal institutional change, as one without the other would be fruitless. To achieve this aim, we now move to outlining the MLP and how it can be used to understand system change, after which we provide a discussion of the need to address formal and informal institutions.

### **Systems and Socio-Technical Transitions**

The MLP is a systems theory which has not yet been introduced to the macromarketing field, but which provides a framework to analyze and address wicked problems, adding to the conceptual development of macro-social marketing. Specifically, this framework extends the previous discussions on the importance of institutions (Kennedy 2016) and system actors (Kennedy et al. 2017) and introduces three different areas to administer policy tools focusing on formal and informal institutional change, giving the opportunity to focus on the whole innovation or marketing system. The MLP organizes socio-technical systems into niches, regimes and landscapes; which refer to the collection of dominant firms in an industry which share particular general routines, the space where radical innovations emerge, and the deep structural dimension of culture (demographical trends, political ideologies, societal values, and macro-economic patterns), respectively (Geels 2010; Geels 2011). These levels refer to the micro (niche), meso (regime) and macro (landscape) and relate to the “different degrees of

stability”, specifically to the “degrees of structuration of local practices which relate to differences in scale and the number of actors that reproduce regimes (and niches)” (Geels 2011, p. 37).

The reasons why greener or healthier innovations, products or processes are not adopted by the majority of firms relates to the overarching structures of markets, institutional and regulatory systems, inadequate infrastructures for change, and patterns of consumer demand (Smith, Stirling, and Berkhout 2005). For example, these specifically relate to sunk investments, vested interests, and favorable subsidies and regulations (Unruh 2000). It is through regime shifts, involving interacting processes both within and between levels that induce systemic change (Geels 2010). Such systems thinking resonates with Layton’s (2007) work on marketing systems, providing a new body of literature to macromarketing, relevant to many different issues, and is able to analyze the “broader problem framing of innovating entire systems of production and consumption” (Smith, Voß, and Grin 2010, p. 435).

Marketing systems are the primary unit of analysis of macromarketing, instead of individual firms or consumers (Layton 2007; Mittelstaedt, Kilbourne, and Mittelstaedt 2006). Analysis of a marketing system can involve analysis of the environment of the system, system components, system attributes and properties, and outcomes of system activity (Layton 2007). In addition, marketing systems themselves can be studied at different levels of aggregation (Layton 2007). For example, as Layton (2007, p. 233) points out, “a study of fresh food marketing systems might at a high level center on the roles and relationships between retail chains, major manufacturers, wholesalers, produce markets, and producer groups. Dropping down a level, interest might center on the complex supply chains established by a major retailer”. Consequently, such systems thinking resonates well with socio-technical systems, as systems can be studied at nested levels, concentrating on the regime or systems level (Spaargaren, Oosterveer, and Loeber 2012). Specifically, in the case of obesity, we focus on

the highest level of marketing systems: the roles and relationships between retail chains, manufacturers, wholesalers, produce markets, producer groups, consumers and stakeholders. This is also known as a socio-technical perspective, involving entire innovation systems of production and consumption. We add to Layton's work by outlining innovation system levels (regime, niche and landscape) to aid in the analysis and discussion of systematic change, as well as utilize his theory on system actors to expand our knowledge of regime and niche actors, and specifically relate macromarketing theory to the MLP.

Socio-technical regimes are those that benefit the most from the status quo in innovation and marketing systems. These socio-technical regimes "are structures constituted from a co-evolutionary accumulation and alignment of knowledge, investments, objects, infrastructures, values and norms that span the production-consumption divide", which overall provide lock-in mechanisms preventing the adoption of improved (e.g. cleaner, healthier, etc.) processes and technologies (Smith, Voß, and Grin 2010, p. 441). Socio-technical niches compete with incumbent regimes (Smith, Stirling, and Berkhout 2005). These niches are not prone to the same selection pressures (landscape changes) prevailing in regimes; their norms, institutions and values are different to the rules in the regime, and as a result, niches tend to be less established and relatively unstable (Smith, Voß, and Grin 2010).

However, niches have the ability, when fully supported, to change or replace existing regimes. Such transitions can be a result of niche-innovations gaining popularity, or for example the landscape putting pressure (i.e. social trends) on the regime to change, which in turn may destabilize the regime and provide new opportunities for niche-innovations (Geels 2010). Moreover, the socio-technical landscape involves changes in society, culture, economics or politics that prompt responses from within the regime and generate opportunities for niches. These changes can be new social movements, scientific paradigms and cultural developments, and changes in general political ideology, economic structuring and in the

natural environment (Geels 2010). In the food industry, this could for example include climate change, resource scarcity, a rising population, concerns for health, rising obesity levels and food shortages (Geels and Schot 2007). It is through understanding the lock-in mechanisms and ‘rules’ which occur in regimes, and how to increase popularity and opportunity for niches to ‘break-through’, in addition to stimulating changes in the landscape (Geels 2010), that macro-social marketing can theorize how to enact and incite systematic change.

Examples for promoting niches and sabotaging regimes can be seen in Kennedy and Parsons’ (2012) outline of the Canadian anti-smoking campaign. Specifically, macro-social marketing can stimulate niches by promoting niche-innovations, such as through increased physical and monetary availability (i.e. alternatives in the case of sugar sweetened beverages such as water), ancillary services (i.e. nutrition and cooking classes in schools or communities), research, and incentivized production (i.e. subsidies). These niches may include niche-actors such as organic farmers and niche-innovations such as slow, raw or minimally processed foods. Regimes are targeted through demarketing and sabotaging regime-innovations (i.e. disturbing the marketing mix of undesirable products); in obesity this may include agriculture, highly processed foods, and multi-national conglomerates as regime-actors. Lastly, the landscape can be addressed through social marketing, education, research, supporting and mobilizing social movement, and media advocacy (including framing), which may affect change in the cultural and social landscape to increase the uptake of healthy foods and decrease the attractiveness of unhealthy food. Building upon this discussion, Figure 1 highlights how macro-social marketing can affect each system level.

< Figure 1. >

## **Inducing Change in Socio-Technical systems**

Socio-technical transitions research focuses on the replacement of old technology with new technology. Although macromarketing frequently references the potential of new technology (Reppel 2012), we stipulate that niches and regimes can center around innovations in the broadest sense. These innovations can be technological or social, as long as the innovation is socially desirable and challenges the dominant regime (its practices, infrastructure, institutions, etc.) (Witkamp, Raven, and Royakkers 2011). We utilize and expand the MLP to examine and discuss how macro-social marketing can either (a) *replace* old innovations with new innovations, (b) *eliminate* the use of certain innovations, or (c) *reduce* the use of certain innovations. In the context of obesity, this could involve the replacement of meat products with meat substitutes (replace), the elimination of trans fats in food (eliminate), and the reduction of sugar in products (reduce).

Transitions result from the interaction between niches, regimes and landscapes, wherein niche-innovations gain momentum, the landscape puts immense pressure on the regime to change or the destabilization of the regime provides opportunities for niche-innovations (Geels 2010). Macro-social marketing can intervene to articulate and create landscape pressure(s) which are favorable to the niche(s) and unfavorable to the regime. Landscape pressures can be articulated through civic and informed debate (i.e. showing public concern) and must be presented in a coherent and explicit way (Smith, Stirling, and Berkhout 2005). Creating landscape pressure may include increasing the public, government and business knowledge to change the actual landscape (i.e. supporting a social movement), or providing these parties with voices in the marketplace.

Helping to coordinate the resources necessary for regime adaptation or replacement (adaptive capacity) involves promoting niches and sabotaging regimes through formal institutional change (i.e. subsidies, taxes), but may also involve more informal institutions



internal in the organization (i.e. capacity to learn, culture) (Smith, Stirling, and Berkhout 2005). Macro-social marketing can encourage greater, or lesser, adaptive capacity through public R&D and education and training policy, regulatory changes, fiscal policy, grants, lobbying, publicity, and public procurement (Smith, Stirling, and Berkhout 2005). Specifically, niches are supported through Strategic Niche Management (SNM) (see Raven, van den Bosch, and Weterings 2010), providing favorable regulatory conditions (i.e. government funding or grants for organic farming processes or community farmers markets and events) to experiment and innovate, while regimes are actively sabotaged through increased public policy (i.e. regulation) and demarketing (such as involving public campaigns). However, to implement such initiatives, political and public support must be garnered. So, in addition to mapping, identifying and categorizing system actors (Kennedy et al. 2017), macro-social marketing must coordinate with system actors to identify possible supply chain targets and policy tools working across and within the regime(s) and niche(s). We discuss these three areas next.

### **System Actors, Exchanges and Policy Tools**

In socio-technical transitions, bottom-up and top-down approaches can be utilized. In the bottom-up process of transformation, only niche-innovations are nourished and protected. This is based on the SNM approach, which argues that to foster a niche, so it can replace the regime, there must be: shared expectations by actors to gain legitimacy for the niche, social networks established to create stakeholder interaction and resources, and a good learning process that is reflexive so there is an alignment between the technical aspects of the innovation to the social (i.e. user preferences and cultural meaning) (Raven, van den Bosch, and Weterings 2010). However, SNM research lacks detail on how to move a niche to a regime; focusing primarily on building a niche *innovation* via inter-stakeholder effort (Caniëls and Romijn 2008), rather than a niche *market* (thus failing to consider wider consumer adoption). A macro-

social marketing approach focused only on a niche(s) would lobby for favorable policy to help foster and adopt innovation, and focus on social marketing that introduces and encourages adoption of the innovation. However, focusing on all three system ‘levels’ provides a greater, and arguably only, chance of systemic change (Raven, van den Bosch, and Weterings 2010).

We argue that macro-social marketing should develop a more top-down approach which addresses the landscape whereby influencing public opinion, and changing policy and the structure and mechanisms of markets to induce change at the micro (niche) and meso (regime) levels (Jørgensen 2012). This can be achieved by developing ‘systemic instruments’ and process strategies, which includes participant selection, framing the problem or transition message (i.e. obesity is a social not individual problem), and using a wide variety of policy instruments (i.e. public policy, social marketing, education) (Loorbach and Rotmans 2010).

Mapping stakeholders, or system field actors, is an important part that follows both before and after selection of what policy tools to use in addressing a wicked problem. System actors will need initial identification and then dialogue about appropriate policy tools. Identification of groups, individuals and entities usually involves the consumer, supplier, producer, retailer, etc. (Kennedy et al. 2017), and will be unique in the case of each wicked problem. In relation to obesity, this includes all supply chain members (producers of (un)healthy food, suppliers of the ingredients, food retailers) and consumers. It is important for macro-social marketing to have community involvement and co-creation (Domegan et al. 2016; Kennedy 2016). System actors will play an important part in the adoption and support of initiatives, thus consultation, coordination and cooperation among them is essential, as can be seen in the cases of fatty acids regulation in Denmark (Bech-Larsen and Aschemann-Witzel 2012), and in obesity initiatives in New York (Sisnowski, Street, and Braunack-Mayer 2016) and Mexico (Barquera, Campos, and Rivera 2013). Such a positional analysis must consider

the interest or ideological profiles of key players (Kilbourne, McDonagh, and Prothero 1997), including the shared narratives (Kennedy et al. 2017; Layton 2015).

The interactions between and within each level have their own social mechanisms (their beliefs and bundle of practices) and their own narratives (the reasons for their beliefs and practices dominating). These social mechanisms and narratives are institutional logics. Institutional logics coordinate and guide actors' actions; the emergence of new field logics decreases the overall coherence and thus strength of the regime (Fuenfschilling and Truffer 2014). The mapping of actors and their opinions on field logic elements enables "identification of the relative importance that actors attribute to specific issues as well as the dominance of an actor in a particular discourse" (Fuenfschilling and Truffer 2014, p. 782). Such identification and dialogue is also a gradual process, each step supporting the next. First coordinating all niche actors (i.e. consumers, organizations, governance units, etc.) and networks, creating a shared vision and resources, then incorporating regime actors who have an interest in the new innovation, and lastly engagement with more conservative regime actors (Rotmans and Loorbach 2008).

Layton (2015) suggests system actors can be mapped as incumbents, challengers and governance units. Incumbents dominate and seek to preserve the status quo as they largely benefit from existing social mechanisms and structure; these are involved in the socio-technical regime(s). Challengers seek to alter the status quo and operate within socio-technical niches. Governance units (e.g. regulatory agencies, commercial associations, and voluntary groups) usually form in response to pressures exerted by both the incumbents and challengers and would operate in (or entirely outside of) socio-technical regimes and niches. In the context of obesity, incumbents (regimes) could be producers, manufacturers, retailers, government, citizens and the media. Usually the challengers would be academics and experts, but could also be citizens who become dissatisfied with the status quo, and producers, manufacturers and

retailers (niche) that produce and sell (healthier, sustainable, etc.) alternatives. Governance units include the macro-social marketer as an institutional entrepreneur, which in the case of socio-technical transitions, support niches and sabotage regimes. As such, other government units, such as voluntary, commercial or citizen agencies that demand changes in the status quo are further encouraged, supported, and may be even mobilized by the macro-social marketer. The role of macro-social marketing is to address, leverage and change the power imbalances between challengers and incumbents.

After identifying and mapping system actors, macro-social marketing must determine the appropriate exchanges of marketing and regulatory systems to address (Bech-Larsen and Aschemann-Witzel 2012; Hunt 1981; Layton 2007). The level of the supply chain which is targeted depends on the best possible way to intervene – usually this involves all levels in the supply chain: production, distribution, and consumption. Food marketing can be characterized by the coexistence of parallel, structurally different supply channels (Layton 2007). Therefore, in the food arena, different types of exchanges, in various supply chains, must be regulated using a variety of instruments/tools; of course, social marketing (and associated services) being one of them (Bech-Larsen and Aschemann-Witzel 2012).

The choice of tools used is also heavily influenced by stakeholders, as incumbents, but also challengers seek to have their opinions heard. There are seven policy/intervention tools available to the macro-social marketer, these are: fiscal (e.g. taxes on sugar sweetened beverages), communication/marketing (e.g. communicating the “new” normal family meal, child’s snack), service provision (e.g. cooking and nutrition classes), legislation (e.g. banning trans fats), regulation (e.g. advertising restrictions), guidelines (e.g. school canteen), and environmental/social planning (e.g. fresh fruit in all neighborhoods) (Michie, van Stralen, and West 2011). To implement these different interventions, a combination of downstream,

midstream and upstream social marketing must take place (French and Gordon 2015; Gordon 2013; Kennedy et al. 2017).

In addition to these policy tools, we also suggest media advocacy, social movement mobilization and support, and coordination of partnerships and coalitions. The latter initiative addresses the need to leverage actor networks and combine power, establishing transition arenas which facilitate creativity, interaction, learning and discussion among niche (challenger) actors (Raven, van den Bosch, and Weterings 2010), while the former two initiatives address the landscape. While landscape change is gradual and long-term, and has been stated to be beyond niche and regime influence (Raven, van den Bosch, and Weterings 2010), we argue that landscape (social, cultural and political) change is difficult, but possible, through combined macro-social marketing efforts.

Media advocacy is part of a broader strategy of social change (Wallack 2002). Media advocacy includes choosing a policy goal, framing the issue, and developing a media advocacy plan to deliver the message (Wallack 1994). Through understanding journalism, media advocacy involves such activities as monitoring the news media, pitching stories, and holding news events (Wallack 2002). Reframing media and marketing messages aims to create awareness, shift institutional norms in favor of government intervention, and mobilize the public to participate in policy debates. Macro-social marketing and media advocacy are well paired together, as both assume the environment plays a large role in social issues and believe in power imbalances. Consequently, media advocacy can be the medium where the framing of issues (i.e. individual responsibility) are addressed, through which community voices are heard and raised, and appropriate policy makers are targeted (Wallack 1994; Wallack and Dorfman 1996), utilizing downstream, midstream and upstream social marketing.

Social movements can be mobilized through new coalitions, partnerships and networks which apply pressure to the political and market arena, especially through cultural framing

(Geels 2010; Loorbach and Rotmans 2010). Therefore, macro-social marketing needs to understand power and politics (Geels 2010), which means its role is also enlisting political support, reducing opposition and participating in discursive struggles (e.g. in the media, public opinion). Indeed, discursive struggles between niches and regimes play out when tensions or changes in a landscape occur. The ways through which the problem of obesity, for example, is framed (i.e. an economic, personal or social problem) provides regulatory and non-regulatory solutions palatable to the public and state (Campbell 2012). Consequently, macro-social marketing must “engage in cultural framing actions” (Geels 2010, p. 506) to legitimize new ways of thinking, social practices, and technologies to break away from regime dominant discourses. In addition, while consumer and individual power in markets remains uncertain and usually weak (Schwarzkopf 2011), we see a fruitful area for macro-social marketing to mobilize consumers and shift discourses for public support of issues and policies.

Macro-social marketing can also leverage community groups and the public to co-create interventions and innovations. Interventions that are co-created and delivered by the community embed collaborative and emancipatory values (Gordon et al. 2013). Through participatory research, macro-social marketers can carefully frame and target messages to the public regarding social issues. For example, researchers can hold public meetings and focus groups in communities with a high obesity populace to find out what services are and are not available to them, map the fast and fresh food shops in the vicinity, and examine the culture of food at school and at home.

Socio-technical transitions are heavily dependent on institutions (Geels 2004). Specifically, ‘rules’ or institutions can be divided into: regulative rules (regulation, laws), normative rules (role relationships, values, behavioral norms), and cognitive rules (belief systems) (Geels 2004). Consequently, these institutions must be shifted or changed in a

regime(s) and stabilized within a niche(s) to initiate transition. We now turn our attention to understanding the role of institutions in systems change.

## **Institutions**

Outlining the innovation system as niches, regimes and landscapes provides the macro-social marketer three different areas to administer policy tools focusing on formal and informal institutional change. In doing so, macro-social marketing offers public health and social marketing the opportunity to truly integrate both environmental and individual behaviour change perspectives.

Overall, macro-social marketing is an on-going process with continual changes (Kennedy et al. 2017) to system actors and adjustments to policy tools as adaptive capacity and selective pressures change. Some social actions or trends may need to be in place before formal institutions can be implemented, or vice versa, and as such, it will need to be a constant negotiation between when to implement certain policy tools depending on organizational, political and public support. Figure 2 outlines the interaction between system actors, institutions, supply chains and policy tools which we previously discussed. Specifically, the model summarizes the need for macro-social marketing to develop systemic instruments and process strategies by choosing the unit (product/regime) of analysis, engaging with system actors (incumbents, challengers and governance units) and choosing how to create institutional (formal and informal) change through targeting different societal levels (micro, meso and macro) and utilizing various policy tools, and how all these policy tools address adaptive capacity or landscape pressures through down-, mid- and up-stream social marketing.

< Figure 2. >

In macromarketing, institutions have a long history (Mittelstaedt, Kilbourne, and Mittelstaedt 2006) and are shown, for example, to affect globalization, quality of life, protection of the natural environment (Kilbourne 2004a), and perpetuate the consumption ideology (Assadourian 2010), among others. Institutional theory is used to explain why and how macro-social marketing attempts to solve wicked problems (see Kennedy 2016). Institutions consist of norms and values supported by societal consensus and provide frameworks for appropriate or acceptable behavior (Dixon 1984; Kennedy 2016). Marketing influences institutions through perpetuating and communicating social norms, values and beliefs (Dixon 1984; Kilbourne 2004b). Institutions can evolve, as they are shaped and created through social interactions and contexts, which are constantly changing (Lach, Ingram, and Rayner 2004).

Competing worldviews, an inherent property of wicked problems, can destabilize and challenge traditional arrangements, and institutional norms and practices (Lach, Ingram, and Rayner 2004), which in turn destabilize the regime. When deinstitutionalization occurs within the regime, it can shift existing norms and practices (Dacin, Goodstein, and Scott 2002) providing space for the niche(s). Consequently, Kennedy (2016) stipulates that macro-social marketing seeks to express new institutional norms (specifically economic-task norms and cultural-moral institutional norms), which in turn stabilizes the niche.

Formal institutions are explicit rules and standards enforced by law, while informal institutions are systems of shared meanings and values (North 1990). Moreover, formal institutions are created to solve problems in society, and their development and maintenance is dependent on informal institutions (Holmes et al. 2013). Therefore, the logic and rationale for formal institutions is embodied in informal institutions (North 1990). Macromarketing can scrutinize institutions and their changes during upheavals (Kilbourne 2004a), and the role of institutions is one of the future challenges in macromarketing (Layton and Grossbart 2006).



Macro-social marketing through shifting the environment (e.g. policy change), may help shift informal institutional norms (North 1990). Specifically, regulative systems “are also cultural-cognitive frameworks that define the nature of actors, their interests, and their rights” (Dacin, Goodstein, and Scott 2002, p. 51). Conversely, new informal institutional norms support new, and sometimes radical, public policy changes.

There is a place for incremental changes in the form of formal institutional changes (e.g. restrictions on ingredients such as trans fats), which usually restricts production and distribution, and which usually treats the symptoms; not the root causes. While critics may be dubious of the ability to incite change within the political system, and thus classify this type of approach as reformist instead of transformative (Kilbourne, McDonagh, and Prothero 1997), we argue that actions for obesity reduction and prevention, and other such issues which are directly related to the production and consumption of products, will need a form of formal institutional change which will help incite and support informal institutional change. In addition, informal institutional change, such as a change in food culture, is also supported by formal institutional change, such as the addition of taxes to foods classified as ‘unhealthy’ (i.e. high in sugar, fat or salt), creating a complementary and symbiotic relationship. In the next section, we discuss briefly, in relation to obesity, how both formal and informal institutions can be addressed.

### **Formal/Regulatory Institutions**

While public policy which restricts the marketing activities of unhealthy products has been favored by researchers (e.g. Hawkes et al. 2015; Roberto et al. 2015), governments have been slow to adopt such formal policy which targets obesity prevention (Roberto et al. 2015). Additionally, enacting one or two policies will remain insufficient; a whole systems approach must be taken to avoid contradicting another’s effectiveness (Lang and Rayner 2007).

Several formal institution initiatives have been suggested by researchers, but have only been implemented by a few countries. The three most cost-effective obesity initiatives are a ten percent tax on unhealthy food and beverages, front of pack traffic light labeling, and a reduction in the levels of advertising of unhealthy food and beverages to children (Gortmaker et al. 2011). A meta-analysis on the effects of taxing sugar sweetened beverages found a decrease in consumption but some mixed results on BMI measures (Cabrera et al. 2013), but while regulations for nutritional content have been adopted by most countries, much less require nutrition labeling on the front of packages (Hamlin 2015). Moreover, the UK and South Korea have implemented a food advertising ban to children, and the effectiveness of such regulation has been modeled to be very cost-effective in reducing weight gain in children aged 5-14 years (Galbraith-Emami and Lobstein 2013; Magnus et al. 2009). However, despite the effectiveness of interventions such as these, public and policymaker support must still be garnered, as discussed in the previous section.

Changing the institutional environment requires more than just a focus on formal institutional norms; it also needs to include informal institutions. Even with the passing of new regulations, such as food labeling and sugar taxes, there will always remain the situation “where he/she must make choices among hundreds of products” (Kolodinsky 2012, p. 203). Moreover, despite product labeling and relative price reduction gaps (through taxes), the sheer task of asking consumers to evaluate products for nutritional content is enormous. Consequently, formal institutional changes will be needed alongside informal ones which provide the motivation (Duhaime, McTavish, and Ross 1985), social pressure and culture to switch products and diets. Indeed, informal institutions not only provide support for new formal institutions (so these policies can be passed and implemented by government), but provide the ‘backbone’ to formal institutions themselves (North 1990). We now turn our discussion to more fully understanding the role of informal institutions.

## **Informal Institutions**

Informal institutions, such as cultural and social norms, underlie and supplement formal institutions (Chavance 2008). Informal institutions are culturally derived and are notoriously hard to change as they have become part of habitual behavior (North 1990). Marketing systems can be changed by “shifting norms and shared understandings” (Layton 2015, p. 314), and as institutions change, so do the marketing, social, and cultural systems (Kennedy 2016). The expansion of changing social and cultural norms to induce systematic change in cultures and social systems provides the need to split informal institutions into two: normative institutions and cognitive institutions (Geels 2004).

Identifying and understanding the cultural underpinnings of behavior is important to macro-social marketers. Increasing research and interest in the social environment or social influence also show its important effect on eating behaviors and norms (Hammond 2010). Normative rules consist of values, norms, role expectations, duties, rights, and responsibilities, which are internalized through the socialization process (Geels 2004). As an example, Font, Fabbri, and Gil (2010) found that when the social environment is not controlled for, 27-42% of the overall Spain-to-Italy overweight and obesity gap is explained (eating habits and education are the main predictors). However, when the social environment (peer effects and regional BMI) is controlled for, 76-92% of the overweight and obesity gap is explained, and the effect of eating habits is eliminated. This implies that obesity prevention also needs to target social norms (Font, Fabbri, and Gil 2010).

However, changing the social and cultural norms with regard to obesity poses some serious stigmatization issues (Gurrieri, Previte, and Brace-Govan 2013). Research has already shown that obese individuals feel stigmatized, and much research has covered the media’s influence on eating disorders (Walls et al. 2011). Given this, a less controversial avenue to

addressing food norms may be through external cues (i.e. school policy, portion sizes) that can be easily manipulated (e.g. through regulation).

The consumption of food includes the decision about what to eat and how much to eat; both decisions being influenced by cues and norms. Environmental cues include normative and sensory cues; normative cues are environmental indicators of what or how much to eat (e.g. portion size), while sensory cues are the properties of the food itself that make it more or less enjoyable to eat (e.g. palatability) (Herman and Polivy 2005, 2008). Normative cues, or consumption norms, can be influenced by social (e.g. social facilitation and social matching) and visual (e.g. portion sizes and packaging) cues (Wansink and Chandon 2014). Specifically, research on social norms and eating has shown that women will choose food that they believe other women have also chosen (Burger et al. 2010). Unfortunately, much research has failed to take into account consumption norms, and consequently, the environmental interventions that can affect these norms (Wansink and Chandon 2014). However, suggestions have been made regarding how to present descriptive norm information about healthy eating behavior. For example, through limiting choices in school cafeterias, and thus having the opportunity to see other students eating healthily (Burger et al. 2010).

While culture has long been part of the social marketing and public health literature, most only acknowledge the effect of culture on individual behavior, but fail to focus on culture itself (Spotswood and Tapp 2013). The problem of significant societal change is largely due to social paradigms, or cognitive rules, that constitute the nature of reality and the frames through which we see the world or how sense is made; it is these frames map up of symbols (words, concepts, myths, signs, gestures) that need to be addressed (Geels 2004; Olsen, Lodwick, and Dunlap 1992). Mittelstaedt, Kilbourne, and Mittelstaedt (2006) term this type of institution, philosophic, such as the ideology of consumption. Consequently, macromarketing is well placed to reflect on and create alternative frames and cultures, such as for sustainability or

nutrition, “macromarketing discourses can examine how alternative cultures can be reproduced and modified and how these alternative meaning, value, and ethical systems are connected to particular social groups and alliances within larger social formations” (Dolan 2002, p. 180).

## **Discussion**

We have discussed how research on socio-technical transitions and its multi-level perspective can inform macro-social marketing research and implementation. Reflecting on niches, regimes and landscapes provides the macro-social marketer three different areas to administer policy tools focusing on formal and informal institutional change and the whole innovation or marketing system (production, distribution and consumption). As such, shifting the institutionalized Western diet will require both a shift in laws and a shift in values and food culture. Public health has tended to focus on the need to change the environment in which the individual lives, while social marketing has tended to focus on the individuals’ capacity for change. Macro-social marketing offers public health and social marketing the opportunity to truly integrate these two perspectives. Changing formal institutions without the corresponding informal institutions may result in conflict, and a lack of policy support. Conversely, changing informal rules without the assistance of formal institutions may cause contradictions, and take too much time to encourage population level behavior change.

Research in macro-social marketing must understand and guide systems innovation to facilitate more sustainable or healthier practices in both production and consumption (Smith, Stirling, and Berkhout 2005). Despite regimes being relatively stable, they are not resistant to change (Smith, Voß, and Grin 2010). Indeed, macro-social marketing is uniquely positioned to potentially affect production, distribution and consumption systems, via education, social marketing, product innovations, mobilizing and supporting social movements, media advocacy and public policy changes, through downstream, midstream and upstream social marketing.

Niche-innovations are supported by articulating landscape pressures or external landscape developments. Struggles between niches and regimes occur on multiple dimensions (e.g. markets, regulations, cultural meanings, infrastructure) (Geels 2010). Consequently, macro-social marketing can affect socio-technical transitions by developing supportive regulatory, infrastructure and institutional environments for niche-innovators (challengers); a hostile environment for the regime; build and coordinate coalitions (across niches and between organizations) and social movements; and shift cultural meanings (Geels 2010; Smith, Stirling, and Berkhout 2005).

Macromarketing is needed to extend research to the system surrounding wicked problems (Wooliscroft 2016). Previous social marketing research in the macromarketing discipline has been addressed with a more macro and systems focus (e.g. Dholakia 1984; Duhaime, McTavish, and Ross 1985; Gurrieri, Previte, and Brace-Govan 2013; Krisjanous 2014). However, we hope that with increased interest and knowledge in macro-social marketing, macromarketing can offer more unique insight to address wicked problems at both the societal and systems levels: the micro-level (the individual and niche-innovation level), meso-level (community and regime level), macro-level (society/landscape level), through formal and informal institutional change.

Since macro-social marketing is entangled within the political sphere, public policy acceptance becomes a large part of systemic change. Political and corporate resistance are large barriers towards the implementation of macro-social marketing instruments, and managerial marketing will also have plenty to add to the policy debate around consumers' rational decision making (Witkowski 2007). Further, macro-social marketing, as it has currently been devised, can only be implemented when consumer goods are involved in the wicked problem. Indeed, current macro-social marketing initiatives, ours included, only examines problems which are caused or can be addressed through products and services (Kennedy 2016; Kennedy and

Parsons 2012; Truong 2016). Consequently, research is warranted into issues of poverty, for example, which are not easily or primarily addressed through the limiting (demarketing) or promotion of products and services. Furthermore, socio-technical transitions research usually overemphasizes technology's ability to problem solve, and as such, research is needed on transitions which are based on social innovation (e.g. grassroots social innovations, new business models) (Witkamp, Raven, and Royakkers 2011).

To address such wicked problems as obesity we must break down the specific behaviors and associated institutions (including social and cultural practices) which promote and inhibit that (un)desirable behavior, or more specifically, collective behavior. By breaking down these wicked problems into smaller pieces we hope future research will tackle each issue with new and insightful research. Obesity is related to both consumption and production practices, and in turn, these are related to the characteristics of products/services which are produced, promoted and consumed, and affected by institutions. Food consumption, like so many other wicked consumption and production issues, relates to both availability (pricing, distribution and promotion) and social/cultural practices and norms.

Macromarketing has yet to incorporate research from socio-technical transitions and sustainable transitions. We suspect each field has much to offer each other. While past research on slow food (Chaudhury and Albinsson 2015) and sufficiency movements (Gorge et al. 2015) has provided interesting and inspiring accounts of those rejecting the dominant social paradigm, systematic changes to the regimes in which these niches exist (or exist outside of) will require more than mobilization and communicative action. Subsequently, past research on slow fashion (Ertekin and Atik 2015) and organic food (Thøgersen 2010) could be analyzed using the MLP framework, as both a historical (descriptive) and management/policy (prescriptive) tool. Since socio-technical transitions originated from innovation studies, much of the focus has been on technological innovations (i.e. SNM and focus on experimentation)

(Caniëls and Romijn 2008) rather than on marketing systems. New markets for innovations, including associated consumer wants, user practices and institutions should provide fruitful areas of research. In addition, past research on SNM on alternative fuels and electric cars, among others, provide areas for macro-social marketing to expand upon.

Lastly, given that the food system has many implications on both health and sustainability (both in terms of food supply and climate change), macromarketing has yet to fully delve into the food system (Beverland 2014). Greater research on food systems, especially focused on sustainability (e.g. food crises, food security and carbon emissions), nutrition and health (e.g. food deserts), in macromarketing are welcomed. Macromarketing can offer unique insight into the socio-cultural environment which is lacking in public health and nutritional research, such as the rituals, identities, and social practices, wrapped up in eating.

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Figure 1. Figure 1. The multi-level perspective of socio-technical transitions, system actors and macro-social marketing.

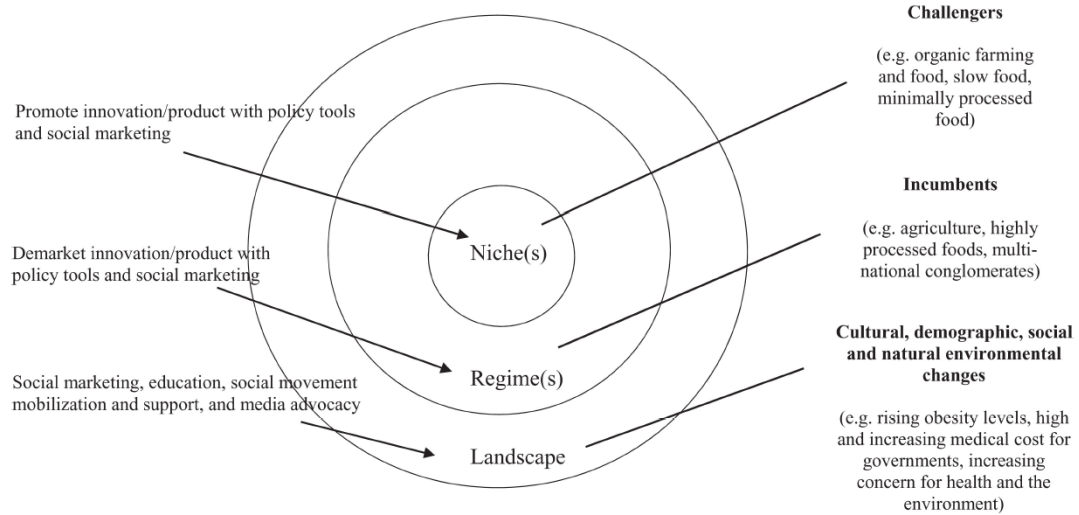
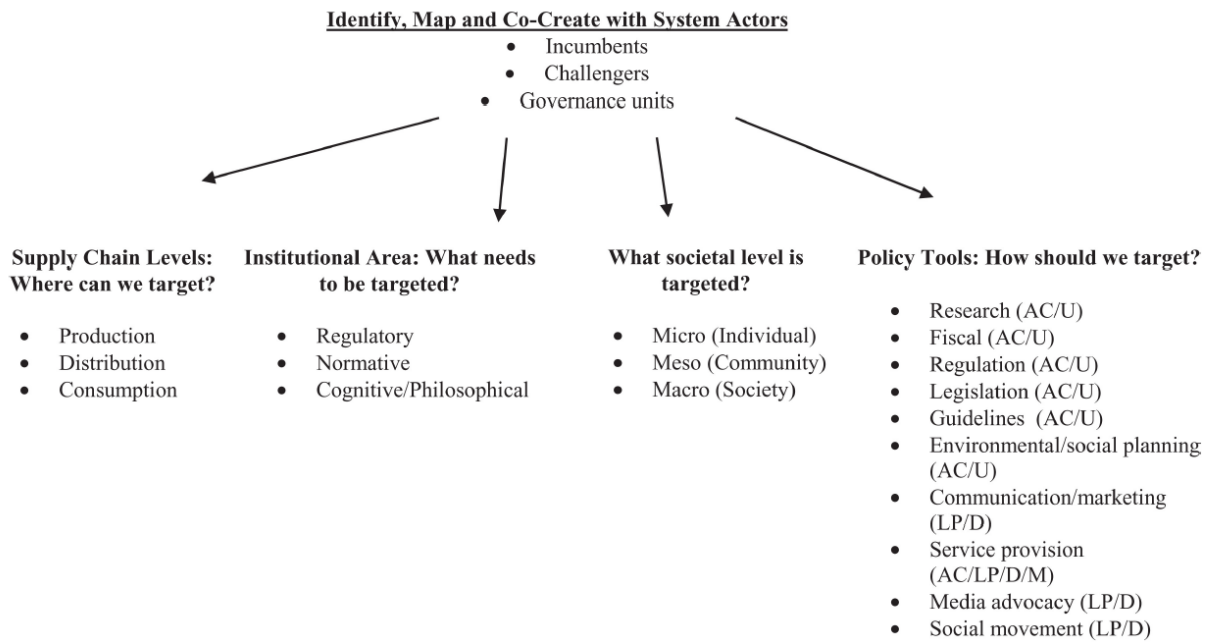


Figure 2. Figure 2. A macro-social marketing approach informed by the MLP.



Key: AC – Adaptive Capacity   LP – Landscape Pressures   D – Downstream Social Marketing  
M – Midstream Social Marketing   U – Upstream Social Marketing