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Manufacturing halal in Malaysia

Abstract

In Arabic halal literally means ‘permissible’ or ‘lawful’. Halal is no longer an expression of an esoteric form of production, trade and consumption, but part of a huge and expanding globalized market in which certification, standards and technoscience play important roles. Over the past three decades, Malaysia has become a world leader in the global expansion of halal markets. This has come about in large part because the state and government of Malaysia have taken on the role of halal-certifying authority within the country. In effect, it has certified, standardized and bureaucratized halal production, trade and consumption. Based on fieldwork in Malaysia, this article explores how manufacturing companies understand and practise halal certification, standards and technoscience. I argue that while existing studies of halal overwhelmingly explore micro-social aspects such as the everyday consumption among Muslim groups ‘the bigger institutional picture’ that frames such consumption production and regulation are not well understood. By studying halal production I provide an ethnography of the overlapping technologies and techniques of production and regulation that together warrant a product as ‘halal’ and thereby help to format the market.

Keywords Malaysia, halal, certification, standards, technoscience, manufacturers

Introduction

During fieldwork in an industrial estate in Malaysia I visited a European multinational company that produces food ingredients, enzymes¹ and bio-based solutions. The company has specialized in offering manufacturers new opportunities to meet growing consumer demand for halal-labelled products and halal certification plays a key role in this. All the company’s raw materials comply with halal requirements and thus the certification process was relatively uncomplicated. This is an example of a company in

¹ An enzyme is a substance that acts as a catalyst in living organisms, regulating the rate at which chemical reactions proceed without itself being altered in the process. Enzymes also have valuable industrial and medical applications, for example the fermenting of wine, leavening of bread, curdling of cheese, and brewing of beer are reactions understood to be the result of the catalytic activity of enzymes. Enzymes have assumed an increasing importance in industrial processes that involve organic chemical reactions (Encyclopedia Britannica Online, Academic Edition).

which the application of Islamic technoscience is essential, that is, material technology and specialized social expertise (Ong and Collier 2005: 11) shape the way in which this company as a social organization understand and practise halal. My examples from a handful of manufacturing companies in Malaysia illustrate how revivalist Islam, certification/standards and technoscience work themselves out in the individual cases.

In Arabic, halal literally means ‘permissible’ or ‘lawful’ and traditionally it signifies ‘pure food’ with regard to meat in particular. This purity is gained by proper Islamic practices such as ritual slaughter and pork avoidance. Yet in the modern and globalized industry for not only food, but also biotechnology (technology that makes use of biology) as well as care products, a number of Muslim requirements have been met, such as by an injunction to avoid any substances that may be contaminated with porcine residues or alcohol, gelatine, glycerine, emulsifiers, enzymes, flavours and flavourings. Optimistically, market players have estimated the value of the halal food market to be around \$632 billion annually (Agriculture and Agri-Food Canada 2011).

Malaysia holds a special position in the rapidly expanding global market for halal products, that is, it is one of the only countries in which a state body (Jabatan Kemajuan Islam Malaysia or the Islamic Development Department of Malaysia (JAKIM)) regulates halal products, spaces (shops, factories and restaurants) as well as work processes. Over the past three decades, Malaysia has become a world leader in the global expansion of halal markets. This has come about in large part because the state and government of Malaysia have taken on the role of halal-certifying authority within the country. In effect, it has certified, standardized and bureaucratized halal production, trade and consumption in a way that made it possible to extend these standards abroad. In shops around the world, consumers can find state halal-certified products from Malaysia that carry distinctive halal logos. The proliferation of halal is to a large extent evoked by Southeast Asian nations such as Malaysia, Singapore, Indonesia and Thailand.

This article asks and answers this research question: how is modern halal production conditioned by regulation and technoscience? In order to explore this problematic it is necessary to look at a particular form of Malaysian Islamization of knowledge that exists in the interfaces between Islamic revivalism, state regulation and secular sentiments. The methodology of this study is based on participant observation and interviews undertaken between 2009–2012 with state bureaucracies, Islamic consumer activists and manufacturers in Malaysia, but also periods of fieldwork in Malaysia undertaken since the 1990s.

What is modern halal?

The Koran and the Sunna (the life, actions, and teachings of the Prophet Muhammad) exhort Muslims to eat the good and lawful food God has provided for them, but a number of conditions and prohibitions are observed. Muslims are expressly forbidden from consuming carrion, spurting blood, pork, and foods that have been consecrated to any being other than God himself. These substances are haram ('unlawful' or 'forbidden'). The lawfulness of meat depends on how it is obtained. Ritual slaughtering, *dhabh*, entails that the animal is killed in God's name by making a fatal incision across the throat. In this process, the blood should be drained out as fully as possible. Divergences between jurists of the different schools of Islamic jurisprudence (Hanafi, Maliki, Hanbali, and Shafi'i, which is the school of thought dominant in Malaysia) on halal understanding and practice exist.

With the advent of Islam, ancient negative attitudes toward pigs and pork were reinforced. Inspired by Jewish law, the Prophet Mohammad banned the flesh of pigs as the only animal to be prohibited, and in the Koran, the ban is repeated several times (Simoons 1994: 32). Historically, it was Arab traders who spread Islam in peninsular Malaysia in the thirteenth century, leading to a considerable reduction in keeping pigs and eating pork in this region (Simoons 1994: 58). The prohibition of pork is one of the rare food taboos that live on in Islam, but the true reason for its prohibition is unknown.

Modern halal cannot be understood simply as part of a stable taxonomy. In addition to halal and haram, doubtful things should be avoided, that is, there is a grey area between the clearly lawful and the unlawful (Riaz and Chaudry 2004: 6–7). The doubtful or questionable is expressed in the word *mashbooh* (Riaz and Chaudry 2004: 7), which can be evoked by divergences in religious scholars' opinions or the suspicion of undetermined or prohibited ingredients in a commodity. The interpretation of these *mashbooh* areas is left open to Islamic specialists and state institutions such as JAKIM and Islamic science as we shall see. To determine whether a foodstuff is halal or haram 'depends on its nature, how it is processed, and how it is obtained' (Riaz and Chaudry 2004: 14). In the end, however, the underlying principle behind the prohibitions remains 'divine order' (Riaz and Chaudry 2004: 12).

Enzymes together with gelatine are used in a multitude of food and non-food processes, for example in dairy and starch industries. Traditionally, the majority of enzymes used in the food industry were from animal sources, but now there are microbial

alternatives. Enzymes from microbial sources or halal-slaughtered animals, it is argued, are halal, whereas an enzyme from a porcine source is haram (Riaz and Chaudry 2004: 21). Another significant Islamic prohibition relates to wine and any other alcoholic drink or substance, all of which are haram, whatever the quantity or substance (Denny 2006: 279). As we shall see, alcohol has become a highly controversial question in Islamic technoscience in Malaysia. Biotechnology and Genetically Modified Organisms (GMO) in particular are contested fields with regard to modern halal. Of course, there is no specific mentioning of (genetically) modified ingredients in the Koran because these scientific discoveries are recent (Riaz and Chaudry 2004: 137).

Muslim dietary rules assumed new significance in the twentieth century, as some Muslims began striving to demonstrate how such rules conform to modern reason and the findings of scientific research. Another common theme in the revival and renewal of these dietary rules seems to be the search for alternatives to what are seen to be Western values, ideologies, and lifestyles and this is reflected in globalized halal and Islamic technoscience.

Islam and the secular in Malaysia

Ironically, Islamic revivalist critiques of ‘secularism’ and the ‘secular state’ in Malaysia have helped shape and reinforce not only a unique type of authoritative Islamic technoscience, but also a highly commercialized version of Islam, in which halal plays a significant role. Constitutionally, since Malaysia gained independence from Britain in 1957, Malays, the dominant ethnic group in Malaysia, have been Malays only if they are Muslims. Malaysia is not an Islamic state, but Islam is Malaysia's official religion, professed by over 50% of the population who for the most part are ethnic Malays.² In principle, Islam's ‘official’ role was designated for ceremonial purposes and public occasions while the nation was to remain a secular state (Nagata 1994: 67). At the time of independence, the United Malays National Organisation (UMNO) played a major role in determining the constitutional position of Islam as the religion of the country – a wording believed sufficient to convey the intended notion of a secular state’ (Funston 2006: 54). With Malaysia's rapid economic development over the past three decades, the meaning of

² Of the Malaysian population of around 28 million in 2010, about 67 percent are indigenous Malays (virtually all Muslims) and tribal groups that together are labeled *bumiputera* (literally, sons of the soil); 25 percent are Chinese; and 7 percent are Indians (<http://www.statistics.gov.my>).

Islam has become ever more contested.

The rise of divergent *dakwah* groups as part of the wider resurgence of Islam in Malaysia challenged the secular foundations of the Malaysian state. *Dakwah* is an ethnic as well as political phenomenon that has transformed Malaysia for both Muslims and non-Muslims. From the 1970s onwards, Parti Islam SeMalaysia (PAS), the Islamic opposition party that still enjoys widespread popularity, together with *dakwah* groups, criticized the policies of the UMNO-led government for un-Islamic colonial traditions and secular practices separating religion from political, social and economic issues (Jomo and Cheek 1992: 85).

In order to pre-empt *dakwah* groups and PAS, the state began to ‘nationalize’ Islam in Malaysia (Author 2008). This nationalization has meant the increased centrality of Islam as a national and ethnic signifier in Malaysia; its logic is to see Islam equated with Malayness, viewing the latter as the naturalized core of the Malaysian nation. The nationalization of Islam has incited a broader fascination with the proper and correct ‘Islamic way of life,’ which, for example, entails consuming specific halal goods that are seen to have a beneficial impact on domains such as family, community, and nation. These sentiments also thrive in the economic realm as a financial nationalism that promises future prosperity. In other words, the power of the state derives from its ability to define the national body as something primarily economic and set in the future (Williamson 2002: 403). The increasing importance of halal discourses and practices is both a result of the increase in revivalism and an instrument of that resurgence; together, they lead to ever-greater involvement with Islam, which, in turn, helps to promote the movement that produced them. Thus, the nationalization of Islam subordinated the secular in Malaysia.

An essential question in Malaysian Islamization raised by political leaders and repeated in public discourse is whether the country is essentially a secular or Islamic state (Liow 2009: xi). An important point here is that the state, which is often understood to be secular in nature is itself at the ‘forefront of the Islamization process rejecting the logics of secularism’ (Liow 2009: 192). Thus, the state in Malaysia is subjected to Islamization by *dakwah* groups and political parties on the one hand and from within by political elites and bureaucrats.

After coming to power in 1981, Malaysia’s charismatic and outspoken Prime Minister, Mahathir Mohamad, set off a wave of institutionalizing and regulating halal in 1982. In this way Mahathir actively nationalized the proliferation of halal and

concentrated its bureaucratization and certification in the realm of the state where it has since remained. Reforms under PM Badawi, who succeeded Mahathir and was in office from 2003 to 2009, focused on nurturing smaller *bumiputera* (literally, ‘sons of the soil’) enterprises. This included encouragement of competitive advantage in the Malaysian economy by developing niche markets for halal and Islamic products through a vendor system in which companies were tied to Government-Linked Companies (GLCs), companies controlled by the government, and multinationals (Gomez 2012: 68). These policies were continued by PM Mohammad Najib, who succeeded Badawi in 2009, through liberalization of the economy coupled with promoting Malaysia as a hub for halal and Islamic services (Gomez 2012: 72). Arguably, Malaysia has also become a halal hub because of Islamic tourism from the Middle East in particular (Henderson 2003).

In his ethnographic exploration of Islamic courts in Malaysia, Peletz (2002) sees rationalization as forms of cultural/religious changes (the proliferation of halal, for example) and rethinking to make these compatible with modern institutions and organizations (JAKIM, for example). Political variables shape the direction and content of cultural changes and legal rationalization in Malaysia (Peletz 2002, 17–18) and there are striking similarities between the way in which Islamic courts, state halal certification and Islamic technoscience, and education have been rationalized.

In the 1970s, the state launched its New Economic Policy (NEP) to improve the economic and social situation of Malays *vis-à-vis* the Chinese minority in particular. The NEP entailed a number of benefits for Malays and other indigenous groups, such as increased ownership of production and preferential quotas in the educational system. Simultaneously, Islamization in Malaysia can be seen as a strategy for the Malay majority to marginalize the Indian and Chinese minorities (Furlow 2013). More broadly, ethnic Malay identity dominates the political and social landscape of Malaysia and government development policies aim to create New Malays who are urban and entrepreneurial (Thompson 2003). The number and proportion of middle-class Malays engaged in the modern sector of the economy rose significantly as a result of these policies.

The bureaucratization and standardization of Islam and halal in Malaysia’s modern history sit uneasily between Islamic and secular interests, ideas, and practices. Interestingly, the state in Malaysia strategically employs halal as a material sign to overcome critiques of excessive secularism. In fact, halal is promoted as bridging the religious and the secular, as an example of the compatibility of the ethnicized state, modern Islam, science, business, and proper Islamic consumption.

A major food scandal in Indonesia in 2001 triggered a new phase of halal proliferation and regulation on a global scale to cover areas such as enzyme production. The Majelis Ulama Indonesia or Indonesian Ulemas Council (in English) (MUI), set up by the Indonesian state in 1975, accused a Japanese company, Ajinomoto, of using pork products in the production of the flavour enhancer monosodium glutamate and demanded that the Indonesian government take appropriate action. It was a serious accusation: if true, the company would have violated halal rules, which forbid Muslims from eating any pork or pork-derived products. As a consequence of the scandal, several of the company's employees were arrested, and a public apology was issued. It is most likely that the flavour enhancer did not contain any pork products; instead, the company conceded to having replaced, for economic reasons, a beef derivative with the pork derivative bactosoytone in the production process. Bactosoytone was used as a medium to cultivate bacteria that produce the enzymes necessary to make monosodium glutamate. As the products of the company had previously been certified as halal by the MUI, the scandal seemed to undermine or question the legitimacy of these religious scholars in the eyes of millions of Muslim consumers. The scandal also made it clear that even multinational companies can come into conflict with the rising number of Muslim consumers and organizations if they overlook or disregard religiously inspired customs. The scandal increased the global focus on third party halal certification and Islamic technoscience.

Indeed, the Indonesian scandal triggered enquiries at companies worldwide. The media hype over the scandal was massive in neighbouring Malaysia. JAKIM confirmed that Ajinomoto products in Malaysia were halal after a team inspected the company's factory. JAKIM advised Muslims to refer to the religious authority should they have any doubt over food products carrying the JAKIM halal logo. Ajinomoto Malaysia's GM assured Muslim consumers that its products were halal and that it did not use bactosoytone (*New Straits Times*³ 6 January 2001: Malaysian Ajinomoto is halal, says JAKIM). However, the Persatuan Pengguna Islam Malaysia or in English the Muslim Consumers Association of Malaysia (PPIM) with which I did fieldwork called on the authorities to conduct scientific tests on the food seasoning products from Ajinomoto to confirm products were actually halal. Its executive secretary, Nadzim Johan, said claims made by the company and JAKIM that the product was safe from pig enzymes were not enough and called on The Domestic Trade and Consumer Affairs Ministry to conduct

³ *New Straits Times* is one of Malaysia's oldest and largest newspapers.

tests and make the findings public to instil confidence among the consumers (*New Straits Times*, 9 January 2001: ‘Conduct tests to confirm Ajinomoto is halal’). A couple of days later Ajinomoto Malaysia reassured Muslim consumers that its products were halal responding to the call from PPIM (*New Straits Times* 11 January 2001: Ajinomoto reassures Muslims its product is halal). After having carried out tests on Ajinomoto flavouring powder JAKIM confirmed that it was halal (*New Straits Times* 12 April 2001: Ajinomoto is ‘halal’).

The growth of halal regulation in Malaysia is part of a larger process by the Malaysian state to nationalize Islam. Fearing the implications of the reflowering of Islam among middle-class Malays, the state began regulating halal and from this it gradually developed the vision to become the world leader in halal production, trade, and regulation and it is in this context intensified regulation and scientification of halal should be seen. Simultaneously, Malaysia is a particular halal country in which regulatory institutions and markets meet. For example, Malaysia has established a national halal assurance system that matches the country’s long-term halal strategy incorporating the standards Malaysian MS 1500 (production, preparation, handling, and storage of halal food) and MS 2200 (consumer goods for cosmetic and personal care) as an international benchmark for the state certification of halal products.

The Islamization of knowledge, standards and audit culture

There is a large and growing body of literature on Islamic banking (Maurer 2005) and even accounting in Islamic banking and finance (Maurer 2002), but little on halal production, trade and regulation. What is more, existing scholarship on the Islamization of knowledge (Iqbal 2012) and Islamic technoscience (Furrow 2009; Lotfalian 1999) does not in any systematic manner explore halal production, trade and regulation. Some studies explore debates at the religious, scientific, legal and political level sparked by the introduction of new biomedical technologies (Atighetchi 2007) while others argue that Islamic orthodoxy impedes scientific enquiry in the Muslim world (Hoodbhoy 1991).

Rudnycky’s (2010) research conducted in Krakatau Steel, a state-owned steel enterprise in Java, Indonesia, explores training sessions and the methods known as ‘Emotional and Spiritual Quotient’ (ESQ) developed by spiritual reformers. These motivational speakers fuse economic progress with spiritual reform. This study on the entanglements of capitalism, Islam and the state show how moderate Islamic ‘spiritual

reform' movements in Indonesia combine business management principles and techniques from popular life-coaching seminars with Muslim practice.

I see halal and the vision to globalize it as a form of standardization – an attempt by the state to standardize production, trade and consumption. This process of standardization is apparent in state halal certification, but standardization is also market driven. I take halal standards and standardization to mean several things. First, they can refer to the design and qualities of products as well as proper conduct of states, organizations, and individuals, for example with regard to the production, preparation, handling, and storage of halal. Standards and standardization can be seen to be instruments of control and forms of regulation attempting to generate elements of global order (Brunsson and Jacobsson 2000: 1). Unlike non-state certifying bodies around the world, the Malaysian state can impose legal sanctions on companies that do not live up to standards. What is more, standards can also refer to persons with certain qualifications, knowledge, or skills (Brunsson and Jacobsson 2000: 5). An example of this, as we shall see, is the mandatory requirement that companies set up what is called a Halal Committee in Malaysia. The purpose of this committee is not only to ensure the halalness of products, but also to reduce the risk of non-halal contamination, that is, the committee is a form of standardized Muslim risk management. Hence, standards can generate and reinvigorate social norms and directives (Brunsson and Jacobsson 2000: 14). At the same time, the meanings of standards may evoke ideas of similarity and uniformity – the standardized is that which supposedly is similar and follows rules (Brunsson and Jacobsson 2000: 14). Such rules also specify what is proper behaviour so that ideas of appropriateness become associated with standardization. Thus, the standard way of doing things is often understood as the most usual, generally accepted, normal, or 'best way' (Brunsson and Jacobsson 2000: 15). Standards set by International Standards Organization (ISO), for example, provide states and large companies with rules about how to organize what policies to pursue, what kind of services to offer and how to design products.

An important theme in this article is the emergence and expansion of an audit culture around halal practice. The state in Malaysia regulates halal by performing 'on site' audits and inspections in shops, restaurants, and factories. There is a large body of literature on the rise of an 'audit society' but there is need for further scholarship on the ways in which audits and inspections are understood and practiced in locally specific contexts. The pervasiveness of an audit culture within and around halal practices is not

well understood, but, as I will show, it links Islam, regulation, and technoscience.

Audit and inspection systems are a feature of modern societies. They exist to generate comfort and reassurance in a wide range of policy contexts (Power 1999: xvii). To a large extent auditing is about cultural and economic authority granted to auditors (Power 1999: xvii), based of course on the assumption that those auditors are competent and their practices effective. Auditing includes independence from the matter being audited; technical work in the form of evidence gathering and the examination of documentation; and the expression of a view based on this evidence (Power 1999: 5). A central aspect of audit culture that is also highly relevant to the market for halal is the pushing of control and self-control further into organizations to satisfy the need to connect internal organizational arrangements to public ideals (Power 1999: 10). The state in Malaysia has become increasingly and explicitly committed to an indirect supervisory role in halal and audit is both a solution to a technical problem as well as ways of redesigning the practice of government. Staff policies such as setting up a Halal Committee to handle halal properly as well as establishing sections in companies that specialize in halal compliance are examples of the increasingly prominent role of internal control systems that can be audited. Food scares and scandals relating to Bovine Spongiform Encephalopathy (BSE) and salmonella for example have increased the public role of (halal) audits and inspections to control internal organizational arrangements and systems. Organizations and their procedures have become more auditable and in practical terms this involves formalized procedures of application and negotiation with a certifier, for example.

Audit culture has been explored from an anthropological perspective focusing on consensus endorsing government through economic efficiency and good practice. In this form of modern accountability the financial and the moral converge to form a culture of what are deemed acceptable forms (Strathern 2000: 1). Audits and audit practices are discussed as descriptors applicable to all kinds of reckonings, evaluations and measurements and as distinct cultural artefacts in the market that works as a platform for both individual interest and national politics (Strathern 2000: 2). As we shall see in the ethnography below audits/inspections seem to take on lives of their own. This point is comparable to Cobett's (2011) analysis of Islamic finance in South Africa. This study concludes that the representation of Islam by banks and financial institutions are not necessarily shared by Muslims in their everyday lives. Similarly, my own research shows that while some Malay Muslims are fastidious about halal consumption others find the

stress on piety through this form of consumption to be excessive and unnecessary (Author 2008; 2011).

A key question I explore is to what extent audit culture is compatible with the point made above that the underlying principle behind halal remains ‘divine order’ and that the ‘halalness’ of products is not easily verifiable: smell, texture, or taste cannot fully determine whether a product is halal or not. The Islamization of knowledge impacts on emergent technologies and techniques across Asia. Technologies/techniques are linked to state power, markets and Islamic revivalism. While the compatibility of religion/Islam and science is well documented in both academic arguments and empirical studies the question of how halal fits into a whole range of modern Islamic technoscientific and secular processes and discourses has not been explored empirically.

Halal biotech

I understand manufacturing companies to be types of sociological laboratories with histories, cultures, structures, hierarchies and values to observe and analyse (Mitchell 1998, 34). These business organizations possess shared characteristics such as explicit rules, division of labour, aims that involve acting on or changing everyday life and have governing ethos (making money or a management principle, for example) (Gellner and Hirsch 2001). My ethnography recognizes that companies are comprised of (Malay) individuals who are themselves the products of the state nationalization of Islam. My study on halal in companies in Malaysia is comparable to ethnographies that explore the complexities of bureaucratic practice and corporate practitioners in China (Kipnis 2008) and Japan (Miyasaki 2013). Similarly, Mazzarella (2003: 4) shows how ‘the people who make advertising’ in Indian advertising agencies adapt to complex cultural politics of mass consumerism in a globalized marketplace. However, corporate employees are to a large extent part of teams – for example Halal Committees, as we shall see. Ideally, team members complement each others’ capacities, they should be productive, high-functioning, make great decisions, resolve conflict, gain consensus, and communicate/collaborate fluidly. Thus, the team as a paradigm of productivity and organizational control is internalized through the reconstitution of expertise and redistribution of worker responsibility in small, impermanent teams (Urciuoli 2008: 219).

I am in an industrial estate to visit a European multinational company that produces food ingredients, enzymes, and bio-based solutions. The company has specialized in offering manufacturers new opportunities to meet growing consumer

demand for halal-labelled products and halal certification plays a key role in this. All the company's raw materials comply with halal requirements and thus the certification process was relatively uncomplicated. This is an example of a company in which the application of Islamic technoscience is essential, that is, material technology and specialized social expertise shape the way in which this company as a social organization understand and practise halal.

I am discussing halal in the work of the company with two representatives from the Halal Committee that is mandatory for halal approved companies to set up. The first representative is a man who has been working for the company for 19 years. He is a chemistry graduate who was initially involved in production and then shifted to work on implementing system requirements on safety and health and ISO standards on environmental management. The company chose to focus on the Good Manufacturing Practices and food safety, which is internationally recognized instead of the local Malaysian standard for halal MS 1500 (production, preparation, handling, and storage of halal food). The Halal Committee member is responsible for managing halal compliance and certification including application for and renewal of certificates with JAKIM. Encouraged by JAKIM he has also participated in trainings to enhance knowledge of halal technology and management. In his own words, he is the plant's 'Halal Manager'. His colleague is a woman who has worked for the company for 13 years. For example, she handles JAKIM halal online registration and certification as well as quality control, product services, product specification, and customers' requirements.

The company is also kosher⁴ certified by the largest global kosher certifier, Orthodox Union (OU). Therefore, the company frequently has visits from both JAKIM and OU inspectors. Inspections often target the introduction of new raw materials and their religious status. For both types of inspections the tendency is that they have changed from being announced to unannounced and my ethnography shows that companies use many resources on constantly being prepared for many types of inspections and audits. Thus, unannounced inspections that in most cases take about a couple of hours almost exclusively occur when halal certificates are about to expire and renewal is due. A standard inspection or audit is not very detailed, but far stricter if a new raw material or ingredient is animal based. Hygiene and containing risk of cross contamination is another

⁴ The Hebrew term kosher means 'fit' or 'proper' and it signifies foods that conform to Jewish dietary law (*kashrut*)

aspect looked into during inspections. Before or during inspections the company provides JAKIM with documentation in the form of production flowcharts and lists of ingredients used and combined. Flowcharts, a type of diagram that represents a process indicating the steps as boxes of various kinds and their order by connecting these with arrows, play an important role in giving inspectors a quick overview. They are important technologies for communicating about halal processes in different stages of production.

When we discuss the company's Halal Committee, I learn that it comprises five Malays, who are 'appointed from executive level'. JAKIM informs the company about training seminars and Halal Committee staff members have attended a few, but mostly they do not. The focus in most of these seminars is on the process of application for halal certification and the company has more than 18 years of experience with this. The cost of certification has been stable over the years.

One of the major challenges for a company such as this one is that it takes 'too long' for JAKIM to process an application, approximately 4–6 months. When a new product is introduced, the company has to wait another 4–6 months to obtain the halal certificate for that new product, the Halal Committee members explain. Another crucial aspect is to control the halalness of raw materials from a wide range of suppliers. Using the same supplier for longer periods of time simplifies this process. The company is faced with two groups of officers from JAKIM: firstly, a group specializing in technical knowledge with particular reference to food. Secondly, another group with an Islamic background is more focused on religious aspects such as the binary halal-haram. In connection with inspections or more informal visits these two groups accompany each other and divide tasks between them. One of the halal committee members is occasionally invited by JAKIM to discuss about technical developments with regard to flavours and emulsifiers, for example. In this way JAKIM tries to keep up with industry innovation and companies can discuss potential innovations with JAKIM before these are finally implemented in production. An important aspect is that company representatives and JAKIM officers not only exchange knowledge, but also develop rapport that helps smoothen cooperation.

JAKIM's halal logo can be found on boxes and bags with raw materials around the plant. Due to requirements from MUI and other halal certification bodies it is compulsory to put the halal logo on product labels. To sum up, a company such as this one is on the one hand subjected to increasingly strict halal requirements by JAKIM, but they also develop more refined processes to comply with such requirements. Even if the

underlying principle behind halal remains a system of religious precepts and beliefs, Islamic technoscience is a privileged domain that highlights the interplay and compatibility standardized forms of halal compliance, for example with regard to training, establishing the Halal Committee and raw materials traceability.

Halal in a food manufacturing company

I also did fieldwork in a food manufacturing company, which is a joint venture between a European and a Malaysian company. The General Manager and the Head of the company's Halal Committee explain that in 1995 the company first applied for JAKIM halal certification. At the time, there were no actual halal 'standards', but merely localized halal understandings – JAKIM representatives simply inspected the premises to ensure that it was free of alcohol, raw materials were halal, and that hygiene in the form of toilets and washing facilities were in order. JAKIM inspectors wanted to know if the company was using any non-halal products such as brushes made out of pigs' hair or alcohol. Moreover, inspectors wanted to know if any 'harmful' chemicals were part of production. All that has changed and today halal is far more regulated and linked to the Malaysian MS 1500 standard and a whole range of management practices. These changes parallel those in the consumer behaviour among the Malays and the General Manager and the Head of the Halal Committee tell me that this fastidiousness has made it impossible to sell any food product to Muslims in Malaysia that is not fully halal certified. Even for non-Muslims in Malaysia halal has come to represent a form of wholesome, clean, and state regulated consumption.

The company's products started carrying the JAKIM logo in 1998 and over the years the logo has changed a number of times. We look at different generations of designs of the company's label on their products and how the JAKIM halal logo has also been redesigned. Today, even the logo also has to be halal in itself, the company representatives explain to me, in that products can only be halal if no haram glue is used for labels or packaging altogether. The Head of the Halal Committee learns about these requirements and many other types of new standards when he attends JAKIM training. The latest of these changes is JAKIM's focus on halal logistics and transport. The company is ISO 9002 (Quality Management) certified and it is also complying with food safety regulations by the Malaysian Ministry of Health. When you have this kind of certification JAKIM inspectors tend to be more 'confident' to issue halal certificates. If not, inspectors will ask for much more information, the representatives explain. Thus,

certification standardized individualized halal understandings.

The company has formed the mandatory Halal Committee comprising at least two Muslim staff involved in the production process – previously it was any Muslim member of staff, but now JAKIM insists that it has to be Muslim staff directly involved in the production process. Establishing the Halal Committee was not very resource demanding as about half of the company's staff are Muslims. Regarding the cost of certification JAKIM charges the company when renewing certificates. Previously, JAKIM wanted to charge companies for each product, but protests from this and other companies changed this procedure. Now the certification process has been streamlined. Similarly, the General Manager and the Head of the Halal Committee recall that previously when imported raw materials were not formally halal certified and the mother company in Europe was not halal certified either this was a major challenge because of problems with customs clearance in Malaysia. The mother company in Europe is now certified by IFANCA that does inspections at the plant in Europe and is on JAKIM's list of recognized certifying bodies.

A particular case caught my attention during fieldwork with this company when we discussed ingredients that may or may not be recognized by JAKIM. The company decided to remove a colouring agent from one of its products. While IFANCA recognizes this colouring agent, JAKIM was unclear about this point. There are always ongoing debates in Malaysia over issues such as this one and clearly the company was uninterested in becoming subject of debate in the media or elsewhere so they removed the colouring agent from the product, which is problematic, as this cannot be replaced with a colouring agent that adds a comparable colour. The company has other similar debates with JAKIM, for example over colouring agents in other products that resulted in the replacement of various ingredients, but this was not possible in the case of this particular colouring agent. However, after some negotiation JAKIM issued a *fatwa* stating that it agreed to the use of the colouring agent as long as the content did not exceed a certain quantity. Hence, halal certification can be a process of personalized and routinized negotiation that hinges on the social relations between the certifier and the certified.

Once JAKIM approves ingredients normally the decision is not changed and this is extremely important for companies. Today such procedures are more formalized and the company representatives feel that JAKIM is also interested in setting standards for decisions such as the one on the colouring agent. While the company took out the colouring agent to avoid it becoming an 'issue' they now rest assured that its acceptance

in certain quantities is a new form of standard they comply with. One thing that puzzles the General Manager, however, is that there does not seem to be a shared 'standard' on an issue such as this one among various certifiers: IFANCA accepted the colouring agent all along while JAKIM was much harder to convince. This is an example of regional and theological differences among certifiers and the *ulamas* they often consult in cases such as this in and across global halal zones.

An issue such as the one above can also be discussed when the Head of the Halal Committee attends halal training arranged by JAKIM and HDC.⁵ In the last seminar he attended Standards and Industrial Research Institute of Malaysia was also present and a woman asked about JAKIM's stand on colouring. The Head of the Halal Committee then explained about JAKIM's *fatwa* and how the company now complied with that particular 'standard'. During my stay with this company we looked at JAKIM's written regulations on halal. It is mentioned that *najis* (filth), alcohol, and a whole range of haram ingredients cannot be part halal production, but other issues that are important for this company's production are not listed and this testifies to the fact even if halal has become standardized there are still areas that are open to divergent types of interpretations, and, thus, negotiation.

Once a year an unannounced JAKIM inspection takes place in the company. This inspection is carried out by a *ulama* or *ustaz* (religious teacher) together with a food technologist coming from Kuala Lumpur. The local state Islamic authorities also visit the factory, but these visits are separate. Different people carry out inspections so the company does not have the opportunity to establish a personal relationship with these inspectors. The inspection normally takes about an hour and inspectors are especially 'confident' about the production process when they see the company's food safety certificate. When the company applied for halal certification and was JAKIM approved JAKIM inspectors first came to the factory after the office was closed and staff responsible for halal had to rush to the factory to participate in the inspection. Since then, inspections have become 'standardized' and there are no real surprises even if inspections are unannounced.

⁵ The Halal Industry Development Corporation (HDC) was established on September 18, 2006. Its main purpose was to take over JAKIM's responsibilities and co-ordinate the overall development of the industry with its main focus being the development of halal standards, audit, certification, capacity building for halal products and services, as well as to promote and facilitate growth and participation of Malaysian companies in the global halal market (www.hdcglobal.com).

The company representatives recall how shifting agencies have been involved in regulating halal over the years. For example, in 1998 the government privatized halal certification and inspections and outsourced responsibilities to a company called Ilham Daya that was criticized for excessive fees. Ilham Daya's involvement in halal was also felt in the company, that is, there were excessive fees for individual products and unclear rules more generally. Hence, the state looked into the level of fees companies had to pay and eventually JAKIM took over all these responsibilities.

The placement of the JAKIM logo begins with JAKIM sending the logo electronically to the company together with a certificate. JAKIM is not very specific about the colour and size of the logo. Thereafter the company places this logo in the final design at labels and in advertisements. The General Manager stresses that 'the halal logo has become very important to customers, without it we can't sell our products.' In most factories halal logos are not ubiquitous: they are mostly found on certificates and in some instances on raw materials such as sugar. However, in this company the JAKIM logo could be seen on the large amount of packaged products on the conveyor belts around the factory. I could observe this when I was shown the parts of production that halal inspectors often want to see. However, there is no fixed route during inspections and while some inspectors are focused on particular production processes others are more interested in the equipment used.

This factory is a good example of a food manufacturing company that has adapted to rising halal requirements by applying and adapting to localized forms of Islamic technoscience and regulation. The case with the colouring agent shows how a company such as this one can negotiate sensitive issues with religious authorities. This discussion also shows how the standardization of halal products, production processes, people, and setting up the Halal Committee, for example, has taken place. From being a religious injunction left to individualized interpretation among Islamic bureaucrats and inspectors halal is now centrally regulated and more simple to comply with.

The world leader in halal

Nestlé Malaysia exports its products to more than 50 countries worldwide with export sales of over RM 1Billion in 2011 and the company was the first multinational to 'voluntarily request' halal certification of all its food products in 1994. Certification of Nestlé Malaysia products provides assurance that these are manufactured, imported, and distributed under the strictest hygienic and sanitary conditions in accordance with the

Islamic faith. Moreover, products and premises for manufacturing have been inspected and have earned halal certification by recognised Islamic bodies. The halal logo on packagings testifies to the fact that products are prepared according to 'stringent Islamic requirements'

(http://www.nestle.com.my/AboutUs/Nestle_in_Malaysia/Pages/halal_policy.aspx). An important insight from Nestlé's engagement with halal is that with regard to food, global capitalism has made peace with cultural diversity (Wilk 2006, 197).

On 26 March 2010 I was in the audience for *The 4th International Halal Food Conference* held at the Sheraton Hotel in Brussels, Belgium. From around the world Islamic organizations, halal certifiers, and companies had come to attend this conference entitled *Establishing a Halal Quality Assurance System*. Nestlé's unique position and history in the global market for halal make the company's presence at halal network events such as the one held in Brussels evident. In his Brussels speech, the Committee Chairman of Nestlé Halal Committee Regulatory Affairs explains that the company has come a long way having taken halal to its global position today. He joined the company in 1988 where he has worked since. He is educated in food technology from Universiti Putra Malaysia. He started in the production of noodles and moved on to research and development at the company's headquarters in Switzerland to learn about pasta.

Nestlé established its halal policy in 1992 in close cooperation with the Malaysian state represented by JAKIM. Prior to state institutionalization of halal in Malaysia a plethora of Islamic revivalist groups produced halal products without a proper certification process, the Committee Chairman argues. Islamic revivalism and Malay ethnicity in Malaysia since the 1970s have been major factors behind pushing halal to become a global market force, which Nestlé has a deep knowledge of and expertise in marketing. The Committee Chairman recalls that he visited Pusat Islam or the Islamic Centre in Kuala Lumpur (set up primarily to reduce vice and upgrade Muslim morality instead of regulating halal in a systematic manner) to ask for halal certification.

As a 'human company' with 'social responsibility' Nestlé started to produce halal seriously on a global scale. In 1997 the company implemented a plan that would give customers 'global access' to halal. Nestlé has 86 halal certified factories globally, the Committee Chairman shows on his slides, and several standards are in place and to be implemented to increase halal reliability. The company also set up its Halal Committee comprising senior Muslim executives from various disciplines to be responsible for all matters pertaining to halal certification and training workers on complying with halal

standards and auditing Nestlé factories worldwide. What is more, over 1200 small and medium-sized companies have enrolled in a Nestlé Corporate Social Responsibility mentoring program that aims to build halal knowledge and skills of productivity, marketing, quality assurance, and efficiency measurement. The Company's production is certified by JAKIM in Malaysia while other credible halal certification bodies certify products manufactured outside Malaysia.

The Committee Chairman explains that 'knowledge' is key in Nestlé's handling of halal and that the following aspects are essential: cooperation with JAKIM; learning from global experience in settings such as the UK; commitment and sincerity; knowledge of raw materials and ingredients; utensils; sanitation/hygiene; food safety; cross contamination; critical Muslim consumers and consumer groups in Malaysia that claim their rights; as well as training of non-Muslims involved in halal. The Committee Chairman ends by stating that third party assurance or certification is essential concerning all the points he raised. As a Muslim he always checks labels for halal logos and if no proper logo is to be found on products in stores, especially outside Malaysia, he looks for 'sensitive' ingredients on the labels. All this testifies to how Nestlé as a multinational company has helped shape halal as a global assemblage. Simultaneously, it is also clear how Nestlé as an organization adapted to rising halal requirements historically, that is, the story of standardization in this particular company.

After the Committee Chairman's presentation, a company representative in the audience wanted to know if it is advisable to have logos printed on raw materials? The Committee Chairman answered that it is often a good idea in order to avoid contamination, especially in connection with the certification of batch production. He passed this question on to the JAKIM representative in the audience, as he would perhaps be better qualified to answer this question. Halal logos are the visual manifestation of how the company's history of certification and standardization.

Another company representative asked: why is there no global harmonization of halal standards? The representative suggested that a harmonization of standards would make it easier for his company to comply with often conflicting or overlapping understandings of halal. The Committee Chairman answered that future harmonization could become a key element, but that it is not yet possible due to multiple approaches to halal understanding and practice.

A last question concerned the accepted level of alcohol in industrial processes. The Committee Chairman replied that alcoholic beverages are not allowed at all and if a

company needs to use ethanol only as a processing aid (for example to extract flavour) it must not come from alcoholic beverages. Based on scientific evidence and techniques from labs in Malaysia, the residual limit must not exceed 0.5 percent and as a 'best practice' Nestlé Malaysia does not use alcohol in its products.

During my fieldwork in Malaysia I visited Nestlé's headquarters, which is located in a suburban setting about 15 kilometres west of Kuala Lumpur. The headquarters are not far from the suburb where I did my doctoral research on Islam, consumer culture, and halal among Malay Muslim middle-class families and the headquarters of HDC. I discuss Nestlé's involvement in halal with the Committee Chairman and a staff who works in halal production. He is educated in food science in Malaysia and joined the company in 2000. Since his appointment he has been sitting on the Halal Committee and he is currently involved in developing new halal chocolate products.

One of the topics we discuss is the Halal Committee. It is a requirement for halal products manufacturers to set up the committee and it comprises 16 Muslim staff representing various departments in the company including the factories and supply chains. Besides the fact that now this Committee has become a legal requirement, it predominantly acts as a focus for sharing halal knowledge and commitment enhancing halal practices within the manufacturing sites. The two representatives explain that the company set up the Halal Committee on its own initiative long before it became mandatory. Similarly, Nestlé also developed its halal policy before other companies, which gave the company a global advantage.

Nestlé is pleased with the Halal Act. The Halal Act came into being on November 1, 2011 and it contained amendments to the Trade Description Act 1972 and provided stiffer penalties for those using fake halal certificates or logos. The representatives argue that in the global market for halal the old Trade Description Act of 1975 is far from effective in protecting halal integrity and that is it unsatisfactory that 'anyone' can declare that their products are halal without serious legal regulation and enforcement. Because Nestlé has such a long history of halal policy and compliance, the company also possesses in-depth knowledge about how the state and JAKIM in particular, have understood halal over the years, that is, how the leadership has stressed the importance and possibilities in promoting Malaysia as a 'halal hub' on a global scale. The former PM Tun Abdullah Haji Ahmad Badawi, for example, was the driving force behind setting up the HDC and promoting Malaysian halal more generally.

In collaboration with stakeholders, Nestlé's status as a leader in halal globally has

made the company more resilient and thus the company did not really experience major difficulties during the shifting of authority from HDC back to JAKIM. The present PM Datuk Seri Najib Tun Razak has taken halal to greater heights with the establishment of halal parks creating initiatives for industries and especially small and medium enterprises to grow.

Around the world, consumers can find Nestlé products with halal logos on them and the company's design department has great influence on how the JAKIM logo fits in with the design of packaging of products. JAKIM is very flexible about the placement of the logo and its colour, as long as this is put in a 'proper place', that is, where consumers can notice the logo that should live up to a 'minimum size' and not be placed in any 'obscene' contexts. Over the years, there have been many versions of the JAKIM logo and this has followed more general trends in the design of wrappings for the vast number of Nestlé products. Nestlé's design department also considers how the JAKIM logo fits together with other types of logos on individual wrappings.

Nestlé is experienced when it comes to handling inspections by JAKIM. These inspections, in line with tightened regulation of halal in Malaysia, take place 'very frequently' at the company's factories and their duration is about a day or less. Inspectors and JAKIM have the 'power to do what they find necessary during inspections', that is, there is not really a standard route inspectors might take. 'We are open and have nothing to hide', the Committee Chairman says. Normally there is rotation of new inspectors who visit Nestlé so there is no 'personal relationship' between the company and inspectors. Nestlé maintains a good collaboration and on-going work with JAKIM directly or via the Federation of Malaysian Manufacturers and other Malaysian government agencies to further improve the certification process.

What is more, for each application for having a new product certified there would be an inspection. While inspections normally were unannounced they are now 'moving to announced'. However, what the Chairman calls unannounced 'enforcement audits' occasionally take place. The Nestlé representatives approve of this form of audit culture and they explain that it exists because of a general lack of halal understanding among companies and specific instances where companies purposely or accidentally have failed to comply with halal regulation. This, in turn, has created a form of 'surveillance audit' culture that should be in place, the representatives agree, for companies that have limited knowledge of halal. Conversely, Nestlé as a 'respected' and 'trusted' company that has 'internal halal assurance, logistics management and a Halal Committee' has 'disciplined'

the company to be ‘outstanding’ in ‘instilling’ halal ‘discipline’ within the company.

Nestlé is a good example of a global company that has adapted to increasing halal requirements in Malaysia and then taken these experiences to a global level. Nestlé’s history of standards and certification is also the history of the emergence and consolidation of global halal. So since 1992 Nestlé has not only standardized halal production through JAKIM certification, the company adapted to modern halal production and regulation.

Conclusion

I have explored halal in the histories and cultures of companies and also webs of interpersonal networks linking different people in different constellations for different intents and purposes. Within the last decade or so JAKIM has ‘disciplined’ companies as one company representative explained and all these companies are confronted with this fact. In other words, in Malaysia regulatory institutions are disciplining companies with regard to halal understanding and practice, but companies have also become more skilled in negotiating standardized halal requirements. Hence, compared to standards set by International Standards Organization (ISO), for example, halal standards qualify as part of ‘global assemblages’, that is, they are products of multiple and emergent determinations that are not reducible to a single logic (Collier and Ong 2005: 12). One reason for this is that halal standardization in Malaysia is part of the particular history of the country with its Islamic revivalism, state regulation and secular sentiments. This means that a company such as Nestlé has played an important role in standardizing halal in Malaysia.

A central aspect of audit culture is the pushing of control and self-control further into companies to satisfy the need to connect internal organizational arrangements to public ideals. Many companies argue that even if requirements and control have intensified halal is more professionally regulated and standardized today compared to unclear and confusing requirements of the past. Simultaneously, these companies have developed and refined (Islamic) technoscientific solutions to comply with halal requirements. It is clear from the above that a multitude of divergent halal understandings are now being overshadowed by processes of standardization and that companies themselves are rationalized to deal with these challenges. The case of the colouring agent in the food producing company highlights several of the points raised in this article. The company decided to remove the colouring agent due to JAKIM requirements and then

after some negotiation JAKIM issued a *fatwa* stating that it agreed to the use of the colouring agent as long as the content did not exceed a specified amount. This case shows that halal understanding and practice is open to negotiation between state and market. It is clear that halal as an Islamic injunction influences the social organization of businesses, that is, how companies understand and practice halal requirements as social organizations. Both religious authorities and companies that increasingly are relying on technoscience in the regulation of halal give evidence that halal training is important for them.

Even if the underlying principle behind halal remains a system of religious precepts and beliefs, technoscience is a privileged domain that highlights the interplay and compatibility between regulation and audit culture. The more halal proliferates as a globalized religious market, the more technoscientific modes and methods of production and traceability become important for producers, traders, and certifiers. The increased focus on such methods to verify commodities as halal based on technoscience constantly expands the requirements to cover new types of commodities and practices.

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